Title

First- and Second-Generation Womens Economic Assimilation: An Analysis of Longitudinal Earnings Records.

Journal

Social Forces, 103(2)

ISSN

0037-7732

Authors

Villarreal, Andrés
Tamborini, Christopher

Publication Date

2024-12-01

DOI

10.1093/sf/soae078

Peer reviewed

HHS Public Access

Author manuscript

Soc Forces. Author manuscript; available in PMC 2025 January 31.

Published in final edited form as:

Soc Forces. 2024 December ; 103(2): 655–680. doi:10.1093/sf/soae078.

First- and Second-Generation Women's Economic Assimilation: An Analysis of Longitudinal Earnings Records

Andrés Villarreal[1,*], **Christopher R. Tamborini**[2]

[1]University of California, Los Angeles

[2]U.S. Social Security Administration

Abstract

Research on the economic assimilation of immigrants and their descendants has dispropor tionately focused on men. In this study, we examine the life-course employment and earnings trajectories of first- and second-generation women using a restricted-use dataset linking individual respondents of the Current Population Survey (CPS) to their tax earnings records We compare the age-specific probability of employment and annual earnings of women of each immigrant generation by race and ethnicity from early to middle adulthood covering a span of 20 years. We consider alternative explanations for observed disparities including differences in the level of education and the timing and response to childbearing. Our analyses reveal distinct patterns across immigrant generations and ethnoracial groups. We find that first- and second-generation women are assimilating economically at a fast pace although significant ethnoracial differences remain. First-generation Hispanic women in particular experience low employment and earnings growth. Second-generation women have higher employment rates than later-generation Whites and avoid the dip in employment trajectories in early and middle adulthood experienced by the latter group. The higher employment rates of second-generation women cannot be fully explained by differences in educational attainment or the presence of young children.

Keywords

Immigrant economic assimilation; Immigrant women's employment; Immigrant women's earnings

A large body of research has examined the economic integration of immigrant groups in the United States (e.g., Bean, Brown, and Bachmeier 2015; Borjas 1995, 2015; Farley and Alba 2002; Waters and Pineau 2015; White and Glick 2009). Achieving economic parity with the native born population is considered both a measure of successful assimilation in its own right, and an important factor contributing to other forms of assimilation since economic status affects a variety of outcomes including marital and fertility patterns, health and mortality, and child wellbeing, among others (Brooks-Gunn and Duncan 1997;

[*]Corresponding author. Department of Sociology, University of California, Los Angeles, 264 Haines Hall, Los Angeles, CA 90095, United States. avilla@soc.ucla.edu.

Supplementary Material

Supplementary material is available at Social Forces online.

Duncan, Magnuson, and Votruba-Drzal 2014; Hummer and Hamilton 2019; Schwartz 2013). Researchers have found persistent ethnora cial and source country disparities in the economic progress made by foreign-born individuals and their children who form the second generation (Borjas 1995; Cadena, Duncan and Trejo 2015; Villarreal and Tamborini 2018, 2023). However, the vast majority of this research has focused on the socioeconomic outcomes of men, even though women's migration rates have increased considerably in recent years (Donato et al. 2006; Fry 2006).

Women often migrate for family reasons rather than for employment (Cerrutti and Massey 2001), which lowers the probability that they will seek work outside the home once they arrive. Moreover, recent immigrants come from countries with a more traditional gender division of labor in which women are less likely to participate in the labor force (Blau, Kahn and Papps 2011; Blau et al. 2013; Blau 2015). Evidence indeed suggests that foreign-born women continue to work at lower rates than those who are native born (Waters and Pineau 2015), and that their rates of participation are correlated with those of women in their countries of origin (Antecol 2000; Blau et al. 2011). Second-generation women born in the US reduce the gaps in both employment and earnings, which may be seen as indicators of economic assimilation. Yet, important differences in labor market outcomes remain within second-generation women by race and ethnicity and source country (Waters and Pineau 2015; Blau et al. 2013). These differences have been attributed at least in part to the intergenerational transmission of traditional gender roles (Apgar and McManus 2019; Blau et al. 2013; McManus and Apgar 2019).

Despite increasing scholarly and policy interest, the extent to which women's labor market outcomes vary by immigrant generation is still insufficiently understood. Studies exploring how first- and second-generation women's work patterns evolve over the life course are especially scarce. This is largely because existing research is often confined to cross-sectional survey data. While valuable, estimates from these studies fail to capture how labor-market differences between immigrant generations evolve over the course of their lives, especially as women enter their childbearing years. Existing work has also failed to characterize the intersection of immigrant generation and ethnoracial groups in shaping women's economic trajectories. Synthetic cohort analyses using repeated cross-sectional data can provide insights into long-term patterns but ignore the effects of circular and return migration across waves and reflect aggregate rather than individual-level changes over the life course (Cheng et al. 2019; Lubotsky 2007).

In this study we use nationally-representative data linking women from multiple years of the Current Population Survey (CPS) to their longitudinal earnings histories based on annual tax records. This novel dataset contains women's earnings histories that span an unusually long period of their lives (20 years), making it possible for us to estimate models that compare the life-course employment and earnings trajectories of first- and second-generation women of different race and ethnicity to those of later generations. We consider alternative explanations for observed age-specific disparities across immigrant generations and ethnoracial groups, including differences in the level of education and the timing and response to childbearing.

Our study contributes to broader debates on economic assimilation by considering how women's patterns of economic integration may differ from those of men found in earlier studies. We provide a rare longitudinal view of women's economic progress across immigrant generations in the United States. This unique perspective reveals distinctive life-course work patterns for women of different immigrant generations and race-ethnicity. Such patterns, we argue, have been obscured by cross-sectional analyses which tend to examine group variation in women's employment by grouping together women in large age ranges (e.g., 25–54). Our study also contributes to a wider discussion about the changing pattern in women's employment and earnings over their life cycle (Goldin and Katz 2018; Goldin and Mitchell 2017). Although researchers have documented important changes in women's labor supply in recent years including a sagging in employment during young adulthood (Goldin and Mitchell 2017), the literature has largely overlooked heterogeneity in the experiences of women by immigrant generation and race-ethnicity.

Ethnoracial and Immigrant Generation Differences in Women's Employment

Prior research has found significant ethnoracial differences in women's employment (Bureau of Labor Statistics (BLS) 2021; Juhn and Potter 2006; Toossi 2007). Despite a large increase in the rate at which White women join the labor force since the 1970s, African American women of working age continue to participate in the labor market at slightly higher rates. Asian and Hispanic women participate at lower rates, although their participation varies significantly by detailed ethnic group (BLS 2021; Juhn and Potter 2006; Lee 2009; Toossi 2007). However, labor force participation rates do not tell the whole story. For example, because African American women are more likely to be unemployed, they sometimes have lower overall employment rates than White women even though they have higher labor force participation rates (Lee 2009).

Comparatively less is known about differences in women's employment by immigrant generation. The small body of literature on the topic generally finds lower employment rates for immigrant women of all ethnoracial groups relative to native-born women (BLS 2021; Donato et al. 2014; England et al. 2004; Read and Cohen 2007; Waters and Pineau 2015). By the second-generation, women appear to nearly converge with their later-generation counterparts, although differences in employment status by parents' country of origin remain (Blau et al. 2013; Fernández and Fogli 2009). Yet, these overall patterns in employment by race and ethnicity and immigrant generation do not capture differences in employment over the life course as women of different race and ethnicity and immigrant generation differ in the timing of life events.

Several theoretical explanations have been proposed to account for differences in women's employment. The first explanation relies on human capital theory and emphasizes differences in women's educational attainment and work experience as key predictors of their current employment status. Higher levels of education and a greater number of years of work experience increase women's earnings potential and therefore create an incentive to join and remain in the labor force. Women with higher education are indeed significantly more likely to work (BLS 2021; Juhn and Potter 2006), and to do so with less interruptions (Lu et al. 2017).

Educational differences have been found to explain a large part of the ethnoracial disparities in women's employment (England et al. 2004; Read and Cohen 2007). Studies have also found that differences in educational attainment account for the gap in employment status between immigrant and native-born women (Schoeni 1998; Read and Cohen 2007). Using data from the CPS, Waters and Pineau (2015:268) find that the employment gap between Hispanic immigrant women and later-generation White women is reduced from 17 to 5 percentage points after accounting for the former group's lower level of education. They also find virtually no difference in employment rates between second-generation minority women and later-generation Whites after controlling for education.

A second set of explanations for differences in women's employment emphasize the importance of family arrangements. Women often assume the role of caregivers in the traditional division of labor within the household, which increases the likelihood that they will exit the labor force upon childbearing. Overall, the presence of children has been shown to reduce women's likelihood of working full time (BLS 2021; Cohen and Bianchi 1999; Waldfogel et al. 1999), even though the effect of children has decreased over the years (England et al. 2004:495). African American women are less likely to leave the labor force upon childbearing than White women (Killewald and Zhuo 2019; Lu et al. 2017). By contrast, Hispanic and Asian women appear to be less attached to the labor force after giving birth (Han et al. 2008). However, in a recent study Lu et al. (2017) find that Hispanic and Asian women are actually more likely to continue working after childbirth than White women once other social and demographic characteristics are controlled.

The timing of career interruptions following childbirth may also vary by race and ethnicity given the known differences in the age at which women give birth. Black and Hispanic women have been shown to give birth at younger ages than White women (Martin et al. 2021; Sweeney and Raley 2014; Manlove et al. 2013), so they are likely to face pressure to leave the labor force due to work-family conflicts earlier in life. Instead of the traditional decline in employment in middle-adulthood years observed for the population of women as a whole (Goldin and Katz 2018; Goldin and Mitchell 2017), Black and Hispanic women may therefore experience lower employment rates at younger ages.

A third explanation for disparities in women's employment across ethnoracial and immigrant status groups emphasizes the importance of cultural factors, and specifically gender norms and attitudes about women's work and their role in the family (Cunningham 2008). Previous research has found significant ethnoracial differences in attitudes toward the employment of married women and mothers. For example, African Americans have been found to be more approving of women's employment following childbirth (Kane 2000). By contrast, Hispanic women are sometimes thought to hold more familistic orientations and less gender egalitarian views that inhibit their labor force participation upon marriage and childbearing (Kane 2000; Segura 1994).

Cultural differences may also account for disparities in women's employment across immigrant generations. Recent immigrants disproportionately come from countries with more traditional expectations regarding women's role in the household division of labor and women's participation in the labor force (Antecol 2000; Fernandez and Fogli 2009; Blau

2015). Over time and across generations, women are exposed to more liberal views which could potentially lead to a convergence in attitudes toward women's employment. Blau et al. (2011) find that immigrant women from countries with low female labor force participation rates are less likely to work upon arrival. They attribute this disparity to women's exposure to different cultural norms growing up (see also Blau 2015). He and Gerber (2020) find that the influence of cultural norms from countries of origin is smaller for those who are unmarried and migrate for work.

Consistent with this assimilationist perspective, studies also find that immigrant women who have spent more time in the US reduce the employment gap with native women (Read and Cohen 2007). The employment gap is further reduced by the second generation as daughters of immigrants work at rates similar to those of later-generation White women (Waters and Pineau 2015). Yet, even in the second generation, differences in social norms may play a role. Blau et al. (2013) find that second-generation women whose parents were born in low female labor supply countries continue to have lower employment rates (see also Fernández and Fogli 2009).

Ethnoracial and Immigrant Generation Differences in Women's Earnings

Similar explanatory factors have been proposed to account for differences in women's earnings over the life course as those outlined in the previous section on women's employment. In addition to emphasizing differences in human capital, research on women's earnings highlights the importance of family arrangements, and in particular the wage penalty that women face when becoming mothers (Budig and England 2001; Budig and Hodges 2010; Gangl and Ziefle 2009; Jee et al. 2019). Motherhood has been shown to reduce women's wages by about 5–10 percent for each additional child (Gough and Noonan 2013). This motherhood penalty is only partly explained by the loss of work experience that results when some women take time off after childbearing (Budig and England 2001; Waldfogel 1997). Other potential explanations for the motherhood penalty include mothers' choice of jobs with lower pay but more flexible hours, and employer discrimination (Correll, Bernard and Paik 2007).

Given the importance of motherhood in determining women's earnings, differences in the effect and timing of childbirth across ethnoracial and immigrant generation groups may partly drive disparities in earnings trajectories. Some studies suggest a larger motherhood wage penalty for White women than for non-White women (Glauber 2007; Van Winkle and Fasang 2020; Waldfogel 1997; but see Budig and England 2001). As noted earlier, Black and Hispanic women also give birth at younger ages than White women (Manlove et al. 2013; Martin et al. 2021; Sweeney and Raley 2014). The lower age at birth may lead to slower earnings growth in young adulthood.

Differences in women's earnings trajectories by immigrant generation have been greatly understudied. Researchers using cross-sectional data have found an overall pattern in earnings differences across immigrant generations that resembles that for employment. First-generation women of different race and ethnicity have lower earnings than native White women (Waters and Pineau 2015). However, the earnings deficit, which is particularly large

for foreign-born Hispanic women, is substantially reduced after controlling for educational attainment. By the second generation, women of all ethnoracial groups catch up with or exceed the earnings of later-generation White women once their education is taken into account.

These overall comparisons of women's earnings by immigrant generation ignore changes that occur during the course of women's lives. By contrast, a large research literature has analyzed immigrant men's earnings over the life course (e.g., Borjas 1995, 2015; Duleep and Dowhan 2002a Lubotsky 2007; Villarreal and Tamborini 2018). These studies find that immigrant men generally experience substantial earnings growth after arrival that often exceeds that of their native-born counterparts. Yet, important differences by race-ethnicity and country of origin persist (Borjas and Katz 2007; Schoeni 1997). Black and Hispanic immigrant men in particular are less able to catch up with the earnings of native-born Whites (Villarreal and Tamborini 2018). Similar ethnoracial disparities in earnings trajectories have been found among second-generation men. Villarreal and Tamborini (2023) find that second-generation Hispanic men fall behind during the course of their lives. These ethnoracial disparities have been interpreted as being consistent with segmented assimilation theory which argues that minority immigrants and their children are at greater risk of downward assimilation (Portes and Zhou 1993; Portes and Rumbaut 2001).

The few available studies examining immigrant women's earnings trajectories suggest that recent cohorts of immigrant women also experience high earnings growth during their lifetimes (Duleep 2015; Duleep and Dowhan 2002b). However, these studies do not distinguish the earnings of immigrant women of different race and ethnicity. The ethnoracial pattern of women's earnings assimilation may differ from that found for men in earlier studies. Because Hispanic women are more likely to migrate for family reunification and other non-work-related reasons, they may have lower employment rates upon arrival, which may in turn lead to a slower pace of earnings growth over time. On the other hand, because Hispanic immigrant women who are employed may be selected based on their higher educational attainment and earnings potential, they may experience high earnings growth.

In sum, previous research suggests that first-generation women make significant progress reducing the employment and earnings gaps with native-born women, although differences by race and ethnicity remain. Less information is available for second-generation women; yet, they appear to make further progress catching up with the employment rate and earnings of later-generations. Previous studies have largely relied on cross-sectional information or short-term longitudinal surveys to assess the economic progress made by immigrant and second- generation women. In the analysis below, we use long-term, longitudinal data obtained from confidential individual tax records to compare the employment and earnings of first- and second-generation women to those of their later-generation counterparts throughout their early and middle adulthood. We test whether differences in human capital and in the timing and effect of childbearing can account for observed disparities in employment and earnings trajectories.

Data and Methods

Data for this study are drawn from multiple years of the Annual Social and Economic Supplement (ASEC) of the CPS. Individuals in each CPS sample have been matched with their longitudinal earnings records available through special agreements between the Social Security Administration (SSA) and the Census Bureau (Davies and Fisher 2009; Duleep and Dowhan 2002a). The CPS is well-suited for our analysis of women's employment and earnings by immigrant generation because it contains key information regarding the country of birth of respondents and their parents (Schmidley and Robinson 2003). This information allows us to identify first- and second-generation women as described below. The CPS also contains other key sociodemographic characteristics used in our analysis, including women's age, their race and ethnicity, and educational attainment.

The linked administrative data contain CPS respondents' annual earnings from 1980 to 2019 based on the SSA's Detailed Earnings Records file. Annual earnings include a person's salary, wages, and other forms of compensation in a given year as reported in W-2 forms submitted by employers. Taxable self-employment earnings are also included and derived from a separate form (IRS Form 1040 Schedule SE). We add up all these sources to compute women's total annual earnings for each year in the specified age range. Once a woman is linked to her administrative records, we can extract her total annual earnings at any time before or after the year in which she was interviewed by the CPS between 1980 and 2019. The earnings file therefore provides both retrospective and prospective earnings relative to the CPS year which allows us to obtain women's earnings from ages 25–45 as described below.

The linked administrative records provide several advantages to using the CPS survey data alone or relying on other household surveys. Most importantly, the respondents' linked tax records are longitudinal which allows us to follow the same individual's employment and earnings over a large part of their adult lives. Other longitudinal datasets either do not follow individuals' earnings for a sufficiently long time (e.g., Survey of Income and Program Participation) or do not contain large enough samples of women of different immigrant generations and ethnoracial categories to compare their employment and earnings trajectories (e.g., Panel Study of Income Dynamics). Second, earnings from the administrative tax records have been found to be more accurate than self-reported earnings available from standard surveys (Kim and Tamborini 2014; Tamborini and Kim 2013). Finally in contrast to long-term longitudinal surveys, the matched administrative data provide observations on an annual basis and contain no missing values or sample attrition over long periods of time once women are matched with their tax records (Cheng et al. 2019).

Analytical Sample

We create our sample by first selecting women in the CPS ASEC files from 1996 to 2018.[1] We then impose several additional restrictions. First, we restrict our sample to women born between 1970 and 1979. This birth cohort corresponds approximately with that used to define the "new second generation" comprised of children of immigrants that arrived after the Immigration and Nationality Act of 1965 when immigration flows to the US became

more diverse. Second, we limit our sample to women ages 25 and older at the time of each CPS survey. This lower age limit ensures that most women have completed their formal education. Finally, after matching these women with their longitudinal administrative records based on Census and SSA linkages, we examine their employment and earnings for ages 25–45. The upper age limit is necessary because many women in the selected birth cohort will not exceed 45 years of age by 2019, the last year for which we extract earnings from the administrative records.[2] Our selected age range corresponds with a crucial period in women's working lives when they experience important events such as marriage and childbearing. Previous studies have also demonstrated that most lifetime earnings growth occurs during this initial phase in individuals' careers (Alon and Haberfeld 2007:370; Bernhardt et al. 2001).

We impose the same birth cohort and age restrictions on our samples of first, second and third- plus generation women to make our analyses fully comparable across immigrant generations. In addition, we further restrict our sample of first-generation women to only those who arrived in the US as adults between the ages of 24–30. The lower-bound age restriction (24) ensures that most immigrant women have completed their formal education abroad, while the upper-bound age restriction (30) is necessary to make sure that we can still observe women's earnings after arriving in the US for a substantial number of years. The relatively short span in the age of arrival also reduces the risk of differences in employment and earnings trajectories for women who migrate at different points in their lives. The restriction of our sample to immigrant women who arrived at ages 24–30, along with the restriction of our sample to women born 1970–1979 also implies that first-generation women arrived in the country between 1994 and 2009.

Finally our analytical sample of first-generation women is limited by the exclusion of undocumented immigrants from administrative tax records. Because undocumented workers are ineligible to apply for social security, they will be absent from the SSA's files used to match survey respondents to their tax earnings (Favreault and Nichols 2011). Since undocumented immigrants have lower earnings than those with documentation status (Bean et al. 2015), our analysis provides an upper bound estimate for the earnings trajectories of foreign-born women, particularly those of Hispanic origin.

Measurements

The main dependent variables in our analysis are women's employment and the natural loga-rithm of their annual earnings. To exclude marginal earners, we define as employed any woman who earned at least $5,000 in a given year (Villarreal and Tamborini 2018). Similarly our earnings models exclude years in which women received less than that amount. We carried out sensitivity tests using other threshold levels, including positive earnings. The results were consistent with those presented below. Immigrant women who

1. Cases from the 2001 CPS sample are not matched with administrative records and are therefore excluded from our analysis. To avoid duplicate cases, we only keep respondents who are in their last four of the eight interviews, except in the last CPS year since there is no risk of duplication.

2. Women in the latter half of the selected birth cohort (those born 1975–1979) will not be old enough to be observed through age 45 by 2019 and will therefore be excluded from some years in the regression models. Ancillary models in which we limited our sample to women ages 25–40 lead to essentially the same results for those years.

meet the selection criteria described above are included in our earnings models in any year in which they earned $5,000 or more regardless of the age at which they arrived. All earnings are converted to 2020 dollars using the CPI-U series. To reduce the effect of extreme outliners at the top of the income distribution we also cap earnings at the 99.5 percentile.

The other measures in our study are drawn directly from the CPS. We define as immigrant any woman who was born outside the United States and is not a child of a US citizen. We classify as immigrants individuals who were born in Puerto Rico and other US territories but who are living in one of the 50 states or the District of Columbia. Although women born in US territories are US citizens, they often encounter some of the same obstacles to economic integration as immigrants from foreign countries. Defining women born in Puerto Rico and other territories as immigrants also makes our results more comparable to those of previous studies that use this definition (e.g., Cadena et al. 2015; Hirschman 2001). We define as second generation any US-born woman with at least one parent born outside the 50 states and the District of Columbia. Women who are neither first nor second generation are defined as third-plus generation.

We distinguish four ethnoracial categories based on women's responses to the CPS questionnaire: non-Hispanic Whites, non-Hispanic Blacks, non-Hispanic Asians or Pacific Islanders, and Hispanics of any race.[3] American Indians are excluded from our analysis because there are insufficient cases of American Indians who belong to the first and second generations. Women's educational attainment is obtained from the CPS and assumed to be constant throughout their adult lives. As discussed below, we test separate models for women with and without a college degree.

It is important to note that some women in the CPS are not successfully matched with their administrative records. Fortunately, the rate of successful matches for the CPS samples used in our study is high, averaging 81 percent for all years combined. Previous studies have demonstrated no substantive selectivity problems using data matching survey respondents to Social Security files (Czajka, Mabli, and Cody 2008; Davis and Mazumder 2011). Nevertheless, following previous studies, we created weights that adjust for differences in the probability that a woman will be matched with her tax records (Cheng et al. 2019; Villarreal and Tamborini 2018). The adjusted weights for each CPS year were constructed by estimating a logistic regression model of a successful match using individuals' characteristics as predictors. The sampling weights provided by the CPS were then multiplied by the inverse of the predicted probability of a match.[4] We tested models without weights and with the unadjusted CPS sample weights leading to similar results as those presented below.

[3] The CPS allows individuals to identify their race using more than one category after 2002. We included multiracial individuals in the largest non-White category in which they identified. Multiracial individuals make up less than 2.5 percent of women in each CPS year.

[4] The logistic regression used as a predictor of a match individuals' age and age squared, gender, educational attainment, race and ethnicity, immigrant status, and log household income. We also computed alternative adjusted weights in which we fully interacted immigrant status with the remaining predictors in the logistic regression predicting a match with administrative records. The descriptive statistics for women in our sample and the results of our random effects models predicting women's earnings (shown in Tables A1 and A2 in the online Appendix) were nearly identical to those presented below.

Table 1 presents descriptive statistics for the sample of women that were successfully matched with their earnings records using the adjusted weights, and for the full sample of women in the CPS file using standard sampling weights. We observe that the average years of education, ethnoracial composition and immigrant generational status of women in the matched sample are remarkably close to those of the full sample. The self-reported earnings in the CPS are also similar in the full and matched sample, and in the tax earnings for the same year.

Methods

We model women's employment over time using random-effects models of the form:

$$y_{it} = \alpha + \boldsymbol{\beta}' \boldsymbol{age}_{it} + \boldsymbol{\gamma}' \boldsymbol{genrace}_i * \boldsymbol{age}_{it} + \boldsymbol{\delta}' \mathrm{X}_{\mathrm{it}} + \nu_i + \varepsilon_{it}$$

where y_{it} is a binary variable indicating whether a woman i was employed in a given year t; $\boldsymbol{age}_{it}$ is a set of seven binary variables corresponding to age intervals (25–27, 28–30, 31–33, 34–36, 37–39, 40–42, and 43–45); $\boldsymbol{genrace}_i$ is a set of binary variables indicating a woman's immigrant generation and race and ethnicity using third-plus generation Whites as the reference category (e.g., second-generation Hispanic, third-generation Hispanic, etc.); X_{it} are a set of control variables including an indicator for self-employment, and dummy variables for calendar years and for the CPS year from which a woman is extracted; ν_i is an individual-level error term and ε_{it} is an individual-time specific error term. Using the seven discrete age categories allows greater flexibility in the estimation of employment and earnings trajectories than imposing a specific function of age such as a quadratic or higher order function. To simplify the interpretation of the results, we sequentially compare first- and second-generation women to their third-plus generation White counterparts rather than include all generations together. Similar models are used to examine differences in log earnings over women's lives.[5] We also tested individual-level fixed effects models leading to similar results.[6]

To examine the effect of educational attainment on differences in women's employment and earnings trajectories we test separate models for women with less than a college degree and those with a college degree or more. Testing separate models allows us to explore the time-varying effect of education over the course of women's lives. Models that simply control for women's educational attainment assume a constant effect of education over time.

[5] Women are excluded from our earnings models in any year in which they are not employed. Differences in the earnings trajectories between women of different immigrant generation and race-ethnicity could therefore partly reflect differential selectivity into employment. We tested additional earnings models in which we include all years for which women meet the birth cohort and age restrictions regardless of whether they are employed or not. Women who are not working are assigned values of zero for their earnings instead of being excluded and we do not use a log transformation of earnings. As shown in the graphs in Figure A2 of the online Appendix, the earnings trajectories for first- and second-generation women using this alternative specification are consistent with those presented below.

[6] Fixed-effects models allow us to control for the time-invariant effect of individual characteristics. However, they only allow us to estimate differences in the growth in employment and earnings, not differences in the starting point. Figure A1 of the online Appendix compares the results of our random and fixed effects earnings models when the ratio of predicted earnings from the random effects models is re-scaled relative to the ratio of earnings at age 25–27 to only capture earnings growth. Once rescaled the random and fixed effects models lead to nearly identical results.

We also test separate models to examine the effect of children on women's employment and earnings trajectories. Unfortunately, the CPS does not gather women's entire childbirth history. However, the survey contains information about all the children currently living in the household, including their current ages. We use this information to reconstruct the number of children who were less than 6 years old in the household in any given year prior to the survey. Having preschool children living at home is expected to increase a woman's parental responsibilities and reduce her probability of employment and her earnings. For this portion of the analysis, we limit our sample to women less than 40 years of age at the time of the CPS interview. This age limit is necessary because women interviewed at older ages may have children who are no longer living in the household. We further restrict this part of our analysis of women's administrative earnings to the years up to and including the year a woman was interviewed in the CPS, but not after the survey year, to avoid the possibility of excluding children born after the interview and hence not recorded.

Results

We begin by plotting the labor market trajectories of women in our sample. Figure 1a-d show the employment rate and median annual earnings of first- and second-generation women of different race and ethnicity from ages 25 to 45 using a three-year moving average to smooth out yearly fluctuations. For comparative purposes, we also include the employment rate and earnings of third-plus generation White women using a dashed line.

Figure 1a shows that first-generation women begin their adult lives with much lower employment rates than third-plus generation Whites. However, they experience a sharp increase in employment in subsequent years such that by age 40 they nearly catch up to, or in the case of first-generation Black women, exceed the employment rates of third-plus generation Whites. By the second-generation (Figure 1b), women of nearly all ethnoracial categories surpass third-plus generation White women's employment rate throughout their early and middle adulthood years. Third-plus generation White women exhibit a clear sagging in employment during young adulthood, which likely reflects the effects of life transitions including childbearing. Of all the other ethnoracial and immigrant generation groups, only second-generation White women, and to a lesser extent second-generation Asian women, exhibit a similar sagging pattern in employment.

Figure 1c shows substantive differences in the age-specific earnings trajectories across immigrant generations and ethnoracial groups of employed women. First-generation women begin with lower annual earnings than their third-plus generation White counterparts. However, contrary to the pattern observed for employment, not all ethnoracial categories of first-generation women make progress catching up with third-plus generation Whites over the twenty-year observation window. Asian immigrant women experience earnings growth that far exceeds that of third-plus generation White women, while Black and Hispanic immigrant women fail to catch up during the entire age span considered. These differences in earnings trajectories among first-generation women of different race and ethnicity are similar to those found by previous researchers for immigrant men (Villarreal and Tamborini 2018). However, in the case of first-generation women, those who are Asian or White not

only match but actually surpass the earnings of the reference category made up of third-plus generation Whites by age 45.

By the second generation, the earnings of employed women of all ethnoracial groups have essentially caught up with or exceeded those of third-plus generation Whites (Figure 1d). The earnings of second-generation Asian and Black working women in particular far exceed those of third-plus generation Whites. At age 44 second-generation Asian working women earned 42 percent more than third-plus generation Whites, while second-generation Black working women earned 23 percent more. Overall, these descriptive findings suggest that first- and second-generation women are making significant progress in the labor market during their lifetimes. However, the employment and earnings trajectories also reveal large disparities by immigrant generation and by race and ethnicity. To further examine these differences, we turn to our regression models.

Multivariate Models of Women's Employment

Table 2 shows the results of the random-effects models comparing the probability of employment of first-generation women at different ages. The top panel shows the coefficients for first-generation women and the bottom panel displays the coefficients for third-plus generation women using third-plus generation White women as a reference category. Overall, the findings are consistent with a process of economic assimilation whereby first-generation women approach or even surpass the employment rates of third-plus generation White women during the course of their adult lives. Yet, there are important differences across ethnoracial groups. First-generation women of all ethnoracial categories start off with significantly lower employment rates in young adulthood, but they experience a greater increase in the probability of employment as they age such that by age 40 first-generation Asian women fully catch up, and first-generation Black women exceed the employment rate of third-plus generation Whites. Only first-generation Hispanic women are slightly less likely to be employed by age 40 compared to their third-plus generation White counterparts. When compared to their third-plus generation counterparts of the same ethnoracial group, Hispanic first-generation women have a lower probability of employment in later adulthood, while Black first-generation women have a higher probability of employment in the same life stage.

Table 3 shows the result of our random-effects models comparing the probability of employment for second-generation women. The results of our random-effects models comparing second- and third-plus generation women's probability of employment at different ages are starkly different from those for first generation women. In contrast to their first-generation counterparts, second-generation women have significantly higher employment rates through nearly the entire 20-year age span compared to third-plus generation Whites. The only exception is the youngest age category (25–27) in which second-generation Hispanic women are less likely to be employed than third-plus generation Whites. As noted earlier, Hispanic women have children at younger ages, which could potentially explain their lower employment levels in young adulthood. Second-generation Black women stand out for their extremely high employment rates. In fact, their probability

of employment exceeds that of every other ethnoracial and immigrant generation group at nearly every age category.

Taken together, our results show a narrowing of the employment gap. First-generation women make enormous progress catching up with the employment rates of their third-plus generation peers over their adult lives. By the second generation, the employment rates exceed those of third-plus generation White women. However, we also observe large ethnoracial differences in the employment trajectories of first- and second-generation women.

To examine whether these generational and ethnoracial differences in life-course employment can be explained by differences in educational attainment, we tested separate models for women without a college degree and those with a college degree or more. The results of these separate models by level of education are presented in graphical form for ease of interpretation. Figure 2 shows the difference in the predicted probability of employment for first- and second-generation women relative to third-plus generation White women for college and non-college graduates. Overall, we find important differences by level of education. The difference in the employment trajectories for immigrant Hispanic women with and without a college degree are particularly striking. Whereas first-generation Hispanic women without a college degree have a probability of employment that exceeds that of most other immigrant women throughout the entire age span, first-generation Hispanic women with a college degree lag behind their similarly educated immigrant peers.

Education also matters for the second generation. The employment trajectories for non-White second-generation women in Figure 2a and c show a distinctive hump in the employment rate relative to third-plus generation Whites during the early- to middle-adulthood years. This hump in part reflects the sagging of third-plus generation White women's employment noted earlier, since they are used as the reference category. The hump is more clearly defined and occurs at slightly older ages for second-generation women with a college degree, possibly indicating that higher-educated third-plus generation White women are more likely to leave the labor market due to transitions that occur later in life. However, the relative differences between second- generation women of different race and ethnicity remain essentially the same across levels of education. Just like their first-generation counterparts, second-generation Black women stand out for their consistently higher levels of employment at all ages. The probability of employment among second-generation Black women exceeds that of third-plus generation White women by 12 percentage points in their mid-30s.

Overall, our separate analyses of employment among women with and without a college degree suggests variation by educational attainment but also reveals that educational disparities do not fully account for the observed differences in employment trajectories by immigrant generation and race and ethnicity. We next turn to an analysis of whether the differences in employment among first- and second-generation women can be explained by the presence of children. To do so, we tested models including a time-varying indicator of children under age 6 living in the household in the person-year. As noted in the methodological section, these models are limited to the matched administrative earnings

data in the years up to the CPS interview and for women less than 40 years of age to ensure that our time-varying indicator for the presence of children is as accurate as possible. We allow the effect of children to vary for women of different immigrant generation and race-ethnicity by including interactions with the number of children. These models also control for women's educational attainment.

Figure 3 shows the results of the models examining the effect of children on women's employment trajectories. Each graph shows the predicted race/ethnic-specific difference in employment relative to third-plus generation White women in the models with and without controlling for the number of children under age 6. The graphs indicate that controlling for the number of young children reduces the estimated gap in employment rates for first- and second-generation women relative to third-plus generation Whites. Interestingly, having children in the household appears to have a noticeably larger effect on second-generation women than on first-generation women. That is, after controlling for the presence of young children in the household, the higher employment rates of second-generation women that produce a hump in the mid-30s in earlier graphs are substantially reduced (Figure 3d-f). This suggests that part of the reason women in the reference category of third-plus generation Whites have lower employment rates is that they are more likely to have children at slightly older ages. The results of our interactions between women of different race and ethnicity and the number of children further indicate that having a child under age 6 in the household has a significantly larger negative effect on third-plus generation White women's employment.

Multivariate Models of Women's Earnings

We now turn to our examination of the earnings trajectories of first- and second-generation women. Figure 4 shows the ratio of predicted earnings of women in each immigrant generation and ethnoracial category relative to third-plus generation Whites based on the results from our random effects models. We graph the results of models for all women in each immigrant generation as well as those for women with and without a college degree (results in tabular form are available in Tables A3 and A4 of the online Appendix).[7] The results of the first models show that both first- and second-generation women are making enormous progress in earnings during their prime-age working years. With the exception of first-generation Hispanic women, all other first-generation women either reach or exceed the earnings of third-plus generation Whites (shown with a dotted line) by age 45 (Figure 4a). Second-generation women continue to advance in earnings relative to their third-plus generation White counterparts (Figure 4d). In fact, the earnings of Black and Asian second-generation women as a whole exceed those of third-plus generation Whites by 30 and 47 percent, respectively, by ages 43–45.

Many of the ethnoracial disparities in the earnings trajectories of first- and second-generation women are explained by differences in their level of education. For example, the substantially higher earnings of first-generation Asian women appear to be largely driven by their higher educational attainment. First-generation Asian women without a college degree have earnings that reach parity but do not exceed the earnings of third-plus generation

[7]·Results in tabular form are available in Tables A3 and A4 of the online Appendix.

Whites, while the large earnings disadvantage of first-generation Hispanic women is limited to those with more education (Figure 4b and c). The lower earnings growth of second-generation Hispanic women is entirely explained by their low educational attainment. After accounting for their education, both non-college- and college-educated second-generation Hispanic women earn more than third-plus generation Whites throughout almost the entire age span (Figure 4e and f).

Finally, to examine whether ethnoracial disparities in the earnings assimilation of first- and second-generation women can be at least partly explained by differences in the number of children in the household we once again tested models in which we control for the time- varying number of children under age 6. Figure 5 shows the ratio of earnings of first- and second-generation women in each ethnoracial category relative to the earnings of third-plus generation White women from models that include and exclude the predictors for the number of children. These models also control for the level of education.

The results show that the disadvantage of first-generation Hispanic women and the advantage of first-generation Black women are both substantially reduced once their respective levels of education are taken into account. The results also suggest that differences in the presence of children in the household account for a very small part of the ethnoracial disparities in earnings found in earlier models. The fact that the disparities in earnings trajectories between second-generation women of different race and ethnicity and third-plus generation Whites are relatively unaffected by the inclusion of a predictor for the number of young children suggests that there is little variation in the motherhood penalty across ethnoracial groups (Budig and England 2001).

Conclusions

Our study has examined differences in women’s employment and earnings trajectories by immigrant generation and race-ethnicity. We were able to overcome some important limitations of previous studies based on cross-sectional data by leveraging a novel dataset that links respondents of nationally-representative surveys with longitudinal earnings records. Our findings demonstrate that first- and second-generation women are assimilating economically at a fast pace overall. Immigrant women begin their adult lives with lower employment rates than their later generation counterparts, but they experience a greater increase in employment in later years. By middle adulthood they have mostly caught up to or surpassed the employment rate of third-plus generation Whites. Yet significant differences within first generation women are evident across ethnoracial groups. For instance, whereas first-generation Black women exceed the employment rate of third-plus generation Whites, first-generation Hispanic women still lag behind in their mid-40s. Second-generation women also experience considerable employment growth during their own lifetimes such that by the end of the age range we study second-generation women of all ethnoracial categories exceed the employment rate of third-plus generation Whites.

We considered whether the disparities in employment trajectories among first- and second-generation women and across ethnoracial groups could be attributed to differences in educational attainment and the timing and response to childbearing. Neither explanation

fully accounted for all the observed differences, with one notable exception. The lower employment growth of first-generation Hispanic women during their prime working years appears to be largely explained by their lower educational attainment. After controlling for education, immigrant Hispanic women exceeded the employment rate of third-plus generation Whites by middle adulthood. Yet differences in educational attainment did not account for the greater employment growth experienced by other first-generation groups nor differences among second-generation women. The presence of young children in the household also only partly explained the observed disparities in employment over the life course. The higher employment rates of second-generation women in early and middle adulthood (i.e., the hump in their employment trajectories relative to third-plus generation Whites), were substantially reduced but not eliminated after controlling for the number of young children.

The second part of our analysis examined differences in earnings trajectories by immigrant generation and race-ethnicity. First-generation women were found to make enormous progress catching up with third-plus generation women's earnings during their lifetimes. But once again, we observed large differences by race and ethnicity, particularly among women with higher educational attainment. With the exception of first-generation Hispanic women with a college degree, first-generation women fully catch up to or exceed the earnings of third-plus generation Whites with similar levels of education. The progress made by first-generation women in fact surpasses that found among men in earlier studies (e.g., Villarreal and Tamborini 2018).

By the second generation, women of all ethnoracial categories had significantly higher earnings than their third-plus generation White counterparts with similar levels of education. Second-generation minority women are therefore not only successfully assimilating economically but are overachieving. Second-generation Asian women stand out for their extremely high earnings growth from early- to mid-adulthood. By their mid-40s second-generation Asian women have earnings that are nearly 50 percent higher than third-plus generation Whites. While differences in educational attainment partly explain ethnoracial disparities in earnings among first- and second-generation women, the presence of young children in the household does not. These results suggest that the earnings penalty paid by mothers does not vary substantially by race and ethnicity within immigrant generations.

The remarkable economic progress made by first- and second-generation women in both employment and earnings is inconsistent with the worst predictions of segmented assimilation theory. With the exception of first-generation Hispanic women with a college degree, minority women are essentially catching up with later-generation Whites during the course of their lives, while second-generation minority women are exceeding the economic status of later-generation Whites. There is therefore little evidence of a downward assimilation process for each ethnoracial group as a whole. Of course, the socioeconomic paths may be bifurcated within each group in ways that are not fully captured by educational attainment. The concerns that immigrant women could experience slower assimilation rates than men because they migrate for non-work-related reasons and because they often come from countries with more traditional gender roles also appear to be largely unfounded.

Methodologically our analysis highlights the value of using long-term longitudinal information obtained from administrative records to study women's economic assimilation. Past studies have generally found lower employment rates and earnings among immigrant women of different ethnoracial groups relative to the native born (BLS 2021; England et al. 2004; Read and Cohen 2007; Waters and Pineau 2015). But such findings ignore the enormous progress made by immigrant women during the course of their lives. Using a long-term longitudinal perspective, our analysis shows how immigrant women often catch up to or surpass the native reference group by mid-adulthood.

Despite the advantages of using data linking CPS respondents to their longitudinal earnings records, there are also some limitations. First, although we find evidence of women's economic assimilation across generations, our data are not well-suited for examining intergenerational progress. Second-generation women in our sample have higher earnings than their first-generation counterparts of the same race and ethnicity. This intergenerational progress seems to stall afterwards since third-plus generation women receive lower earnings than their second-generation co-ethnoracials. However, second-generation women in our sample are not the daughters of the first generation we analyze but are instead the daughters of immigrants that arrived a generation earlier who had different employment and earnings trajectories. A proper analysis of mobility across immigrant generations requires matching children of this cohort to their parents (Villarreal and Tamborini 2024).

Second, we found that the presence of young children in the household only partly explained the observed disparities in women's employment. However, we are unable to explore how other family characteristics affect women's probability of working. Specifically, because the CPS does not collect retrospective information regarding women's marital history, we cannot create a time-varying indicator of marital status, nor can we estimate the income of any domestic partners in years prior to the interview. In contrast to childbearing, marriage on its own appears to have an inconsistent effect on women's likelihood of working in previous studies (e.g., England et al. 2004; Kahn and Whittington 1996). Yet, the earnings of partners have been shown to create a disincentive to work (Blau and Kahn 2007), and may vary by immigrant generation.

Third, the earnings of second-generation minority women may be higher than those of third-plus generation Whites because second-generation women who work are those with greater earnings potential. Our data do not allow us to fully examine the effect of women's selectivity into employment on earnings. However, the higher overall employment rates for second-generation minority women suggest less rather than more selectivity into employment. Moreover, in individual fixed-effects models of women's earnings presented in the online Appendix we found consistently higher earnings growth for minority second-generation women. These models control for the time-invariant effect of any individual characteristics, including characteristics that lead to a greater probability of employment. Our models also controlled for the time-varying effect of childbearing. Further research is required to fully account for the effect of time-varying selectivity into employment on first- and second-generation women's earnings.

Finally, because undocumented immigrants are generally not matched with W-2 forms they are omitted from our sample. Previous research has shown that undocumented status disadvantages individuals in the labor market (Bean et al. 2011, 2015). The earnings growth for first-generation women we present therefore likely constitutes an upper-bound estimate. Given the higher rate of undocumented status among first-generation Hispanic women in particular, the employment and earnings growth we find for this group would probably be lower if undocumented immigrants were included in our sample. Similarly, we are unable to identify second-generation women whose parents were undocumented. Previous research has demonstrated the detrimental effect that parental unauthorized status may have on children's socioeconomic outcomes (Bean et al. 2015; Dreby 2015). Part of the ethnoracial differences in earnings assimilation we observe among the second generation may be attributed to differences in the rates of undocumented status among their first-generation parents.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Biographies

Andrés Villarreal is a Professor of Sociology at the University of California, Los Angeles, and Faculty Fellow at the California Center for Population Research. He conducts research in the areas of international migration, race and ethnicity, social stratification, and health in social context. The research presented here is part of a collaborative project with Christopher R. Tamborini examining the long-term economic assimilation of immigrants and their descendants in the United States using administrative records.

Christopher R. Tamborini is a senior researcher in the Office of Research, Evaluation, and Statistics at the US Social Security Administration and adjunct faculty member in the Department of Sociology at the Catholic University of America, Washington, D.C. and University of Mary-land, College Park. His research interests include aging and the life course, social stratification and inequality, immigrant incorporation, labor markets, health, and public policy. Recent work appears in the *American Sociological Review* and *Demography*.

Data Availability

Access to the data used in this study in which respondents of the CPS are linked to their tax earnings based on agreements between the SSA and the Census Bureau are subject to restrictions imposed by Title 13 of the US Code. The data are accessible at secured sites including Federal Statistical Research Data Centers for approved projects. For researchers with access to these data, the programs used in our analysis are available upon request.

References

Alon Sigal and Haberfeld Yitchak 2007. “Labor Force Attachment and the Evolving Wage Gap between White, Black, and Hispanic Young Women.” Work and Occupations 34(4):369–98. 10.1177/0730888407307247.

Antecol Heather 2000. “An Examination of Cross-Country Differences in the Gender Gap in Labor Force Participation Rates.” Labour Economics 7(4):409–26. 10.1016/S0927-5371(00)00007-5.

Apgar Lauren and Patricia A. McManus 2019. “Cultural Persistence and Labor Force Participation among Partnered Second-Generation Women in the United States.” Social Forces 98(1):211–44. 10.1093/sf/soy104.

Bean Frank D., Brown Susan K. and Bachmeier James D. 2015. Parents without Papers: The Progress and Pitfalls of Mexican American Integration. New York: Russell Sage.

Bean Frank D., Leach Mark A., Brown Susan K., Bachmeier James D. and Hipp John R. 2011. “The Educational Legacy of Unauthorized Migration: Comparisons across U.S.-Immigrant Groups in How Parents’ Status Affects Their Offspring.” International Migration Review 45(2):348–85. 10.1111/j.1747-7379.2011.00851.x. [PubMed: 22069771]

Bernhardt Annette, Morris Martina, Handcock Mark S. and Scott Marc A. 2001. Divergent Paths: Economic Mobility in the New American Labor Market. New York: Russell Sage Foundation.

Blau Francine D. 2015. “Immigrants and Gender Roles: Assimilation Vs. Culture.” IZA Journal of Migration 4(1):1–21 10.1186/s40176-015-0048-5.

Blau Francine D. and Kahn Lawrence M. 2007. “Changes in the Labor Supply Behavior of Married Women: 1980–2000.” Journal of Labor Economics 25(3):393–438. 10.1086/513416.

Blau Francine D., Kahn Lawrence M., Yung-Hsu Liu Albert and Papps Kerry L. 2013. “The Transmission of Women’s Fertility, Human Capital, and Work Orientation across Immigrant Generations.” Journal of Population Economics 26(2):405–35. 10.1007/s00148-012-0424-x.

Blau Francine D., Kahn Lawrence M. and Papps Kerry L. 2011. “Gender, Source Country Characteristics, and Labor Market Assimilation among Immigrants.” The Review of Economics and Statistics 93(1):43–58. 10.1162/REST_a_00064.

Borjas George J. 1995. “Assimilation and Changes in Cohort Quality Revisited: What Happened to Immigrants Earnings in the 1980s?” Journal of Labor Economics 13(2):201–45. 10.1086/298373. [PubMed: 12291239]

Borjas George J. 2015. “The Slowdown in the Economic Assimilation of Immigrants: Aging and Cohort Effects Revisited Again.” Journal of Human Capital 9(4):483–517. 10.1086/676461.

Borjas George J., and Katz Lawrence F.. 2007. “The Evolution of the Mexican-born workforce in the United States.” In Mexican Immigration to the United States, edited by Borjas George J., pp. 13–56. Chicago: University of Chicago Press.

Brooks-Gunn Jeanne, and Duncan Greg J.. 1997. “The Effects of Poverty on Children.” The Future of Children 7(2):55–71. 10.2307/1602387. [PubMed: 9299837]

Budig Michelle J. and England Paula 2001. “The Wage Penalty for Motherhood.” American Sociological Review 66(2):204–25. 10.1177/000312240106600203.

Budig Michelle J. and Hodges Mellissa 2010. “Differences in Disadvantage: Variation in the Motherhood Penalty across White Women’s Earnings Distribution.” American Sociological Review 75(5):705–28. 10.1177/0003122410381593.

Bureau of Labor Statistics (BLS) 2021. Women in the labor force: A Databook BLS Report 1092. Washington, D.C.: Bureau of Labor Statistics.

Cadena Brian C., Duncan Brian, and Trejo Stephen J.. 2015. “The Labor Market Integration and Impacts of US Immigrants.” In Handbook of the Economics of International Migration, edited by Chiswick Barry R., Miller Paul W., Vol. 1A, pp. 1197–1259. Amsterdam: Elsevier/North-Holland. 10.1016/B978-0-444-53768-3.00022-9.

Cerrutti Marcela and Massey Douglas S. 2001. “On the Auspices of Female Migration from Mexico to the United States.” Demography 38(2):187–200. 10.1353/dem.2001.0013. [PubMed: 11392907]

Cheng Siwei, Tamborini Christopher R., Kim ChangHwan and Sakamoto Arthur 2019. “Educational Variations in Cohort Trends in the Black-White Earnings Gap among Men: Evidence from

Administrative Earnings Data." Demography 56(6):2253–77. 10.1007/s13524-019-00827-w. [PubMed: 31792875]

Cohen Philip N. and Bianchi Suzanne M. 1999. "Marriage, Children, and Women's Employment: What Do We Know?" Monthly Labor Review 122:22–31.

Correll Shelley, Bernard Stephen and Paik In 2007. "Getting a Job: Is There a Motherhood Penalty?" American Journal of Sociology 112(5):1297–339. 10.1086/511799.

Cunningham Mick 2008. "Influences of Fender Ideology and Housework Allocation on Women's Employment over the Life Course." Social Science Research 37(1):254–67. 10.1016/j.ssresearch.2007.01.003. [PubMed: 19255608]

Czajka John L., Mabli James and Cody Scott 2008. Sample Loss and Survey Bias in Estimates of Social Security Beneficiaries: A Tale of Two Surveys, Final Report, contract no. 0600-01-60121. Washington, DC: Mathematica Policy Research, Inc.

Davies Paul L. and Fisher Lynn T. 2009. "Measurement Issues Associated with Using Survey Data Matched with Administrative Data from the Social Security Administration." Social Security Bulletin 69(2):1–12.

Davis Jonathan, and Mazumder Bhashkar. 2011. An analysis of sample selection and the reliability of using short-term earnings averages in SIPP-SSA matched data. US Census Bureau Center for Economic Studies Paper No. CES-WP-11-39. U.S. Census Bureau, Washington, D.C.

Donato Katharine M., Piya Bhumika and Jacobs Anna 2014. "The Double Disadvantage Reconsidered: Gender, Immigration, Marital Status, and Global Labor Force Participation in the 21st Century." International Migration Review 48(1):335–76. 10.1111/imre.12142.

Donato Katharine M., Gabaccia Donna, Holdaway Jennifer, Manalansan Martin and Pessar Patricia R. 2006. "A Glass Half Full? Gender in Migration." International Migration Review 40(1):3–26. 10.1111/j.1747-7379.2006.00001.x.

Dreby Joanna. 2015. Everyday Illegal: When Policies Undermine Immigrant Families. Oakland, CA: University of California Press. 10.1525/9780520959279.

Duleep Harriet Orcutt 2015. "The Adjustment of Immigrants in the Labor Market." In Handbook of the Economics of International Migration, edited by Chiswick Barry R., Miller Paul W. Vol. 1A, pp. 105–82. Amsterdam: Elsevier/North-Holland. 10.1016/B978-0-444-53764-5.00003-7.

Duleep Harriet O. and Dowhan Daniel J. 2002a. "Insights from Longitudinal Data on Earnings Growth of U.S. Foreign-Born Men." Demography 39(3):485–506. 10.1353/dem.2002.0026. [PubMed: 12205754]

Duleep Harriet O. and Dowhan Daniel J. 2002b. Revisiting the Family Investment Model with Longitudinal Data: The Earnings Growth of Immigrant and U.S.-Born Women, IZA Discussion Paper No. 568. Bonn, Germany: Institute for the Study of Labor.

Duncan Greg J., Magnuson Katherine, and Votruba-Drzal Elizabeth. 2014. "Boosting Family Income to Promote Child Development." The Future of Children 24(1):99–120. [PubMed: 25518705]

England Paula, Garcia-Beaulieu Carmen and Mary Ross 2004. "Women's Employment among Blacks, Whites, and Three Groups of Latinas: Do More Privileged Women Have Higher Employment?" Gender & Society 18(4):494–509. 10.1177/0891243204265632.

Farley Reynolds and Alba Richard 2002. "The New Second Generation in the United States." International Migration Review 36(3):669–701. 10.1111/j.1747-7379.2002.tb00100.x.

Favreault Melissa, and Nichols Austin. 2011. "Immigrant Diversity and Social Security: Recent Patterns and Future Prospects." CRR Working Paper 2011-8. Center for Retirement Research, Boston College, Boston, MA.

Fernández Raquel and Fogli Alessandra 2009. "Culture: An Empirical Investigation of Beliefs, Work, and Fertility." American Economic Journal: Macroeconomics 1(1):146–77. 10.1257/mac.1.1.146.

Fry Richard. 2006. Gender and Migration. Pew Hispanic Center Report. Washington, D.C.: Pew Hispanic Center. [https://www.pewresearch.org/wp-content/uploads/sites/5/reports/64.pdf]

Gangl Markus and Ziefle Andrea 2009. "Motherhood, Labor Force Behavior and Women's Careers: An Empirical Assessment of the Wage Penalty for Motherhood in Britain, Germany and the United States." Demography 46(2):341–69. 10.1353/dem.0.0056. [PubMed: 21305397]

Glauber Rebecca 2007. “Marriage and the Motherhood Wage Penalty among African Americans, Hispanics, and Whites.” Journal of Marriage and Family 69(4):951–61. 10.1111/j.1741-3737.2007.00423.x.

Goldin Claudia and Katz Lawrence F. 2018. “Women Working Longer: Facts and Some Explanations”. In Women Working Longer: Increased Employment at Older Age, edited by Goldin Claudia, Katz Lawrence F., pp. 11–54. Chicago: University of Chicago Press.

Goldin Claudia and Mitchell Joshua 2017. “The New Life Cycle of Women’s Employment: Disappearing Humps, Sagging Middles, Expanding Tops.” Journal of Economic Perspectives 31(1):161–82. 10.1257/jep.31.1.161.

Gough Margaret and Noonan Mary 2013. “A Review of the Motherhood Wage Penalty in the United States.” Sociology Compass 7(4):328–42. 10.1111/soc4.12031.

Han Wen-Jui, Ruhm Christopher J., Waldfogel Jane and Washbrook Elizabeth 2008. “The Timing of Mothers’ Employment after Childbirth.” Monthly Labor Review 131(6):15–27. [PubMed: 21701695]

He Qian, and Gerber Theodore P.. 2020. “Origin-Country Culture, Migration Sequencing, and Female Employment: Variations among Immigrant Women in the United States.” International Migration Review 54(1):233–261. 10.1177/0197918318821651.

Hirschman Charles 2001. “The Educational Enrollment of Immigrant Youth: A Test of the Segmented-Assimilation.” Demography 38(3):317–36. 10.1353/dem.2001.0028. [PubMed: 11523261]

Hummer Robert A. and Hamilton Erin R. 2019. Population Health in America. Oakland, CA: University of California Press.

Jee Eunjung, Misra Joya and Murray-Close Marta 2019. “Motherhood Penalties in the US, 1986–2014.” Journal of Marriage and Family 81(2):434–49. 10.1111/jomf.12543.

Juhn Chinhui and Potter Simon 2006. “Changes in Labor Force Participation in the United States.” Journal of Economic Perspectives 20(3):27–46. 10.1257/jep.20.3.27.

Kahn Joan R. and Whittington Leslie A. 1996. “The Labor Supply of Latinas in the USA: Comparing Labor Force Participation, Wages, and Hours Worked with Anglo and Black Women.” Population Research and Policy Review 15(1):45–77. 10.1007/BF00156742.

Kane Emily W. 2000. “Racial and Ethnic Variations in Gender-Related Attitudes.” Annual Review of Sociology 26:419–39. 10.1146/annurev.soc.26.1.419.

Killewald Alexandra and Zhuo Xiaolin 2019. “U.S. Mothers’ Long-Term Employment Patterns.” Demography 56(1):285–320. 10.1007/s13524-018-0745-9. [PubMed: 30644043]

Kim ChangHwan and Tamborini Christopher R. 2014. “Response Error in Earnings: An Analysis of the Survey of Income and Program Participation Matched with Administrative Data.” Sociological Methods and Research 43(1):39–72. 10.1177/0049124112460371.

Lee Sunhwa 2009. “Racial and Ethnic Differences in Women’s Retirement Security.” Journal of Women, Politics & Policy 30(2):141–72. 10.1080/15544770902901890.

Lu Yao, Wang Julia Shu-Huah and Han Wen-Jui 2017. “Women’s Short-Term Employment Trajectories Following Birth: Patterns, Determinants, and Variations by Race/Ethnicity and Nativity.” Demography 54(1):93–118. 10.1007/s13524-016-0541-3. [PubMed: 28054253]

Lubotsky Darren 2007. “Chutes or Ladders? A Longitudinal Analysis of Immigrant Earnings.” Journal of Political Economy 115(5):820–67. 10.1086/522871.

Manlove Jennifer, Steward-Streng Nicole, Peterson Kristen, Scott Mindy, and Wildsmith Elizabeth. 2013. “Racial and Ethnic Differences in the Transition to a Teenage Birth in the United States.” Perspectives on Sexual and Reproductive Health, 45(2):89–100. 10.1363/4508913. [PubMed: 23750623]

McManus Patricia A. and Apgar Lauren 2019. “Parental Origins, Mixed Unions, and the Labor Supply of Second-Generation Women in the United States.” Demography 56(1):49–73. 10.1007/s13524-018-0736-x. [PubMed: 30456733]

Martin Joyce A., Hamilton Brady E., Osterman Michelle J.K. and Driscoll Anne K. 2021. “Births: Final Data for 2019.” National Vital Statistics Reports 70(2):1–51.

Portes Alejandro, and Zhou Min. 1993. “The New Second Generation: Segmented Assimilation and its Variants.” The Annals of the American Academy of Political and Social Science 530(1):74–96. 10.1177/0002716293530001006.

Portes Alejandro and Rumbaut Rubén G. 2001. Legacies: The Story of the Immigrant Second Generation. Berkeley: University of California Press.

Read Jen'nan Ghazal and Cohen Philip N. 2007. "One Size Fits All? Explaining U.S.-Born and Immigrant Women's Employment across 12 Ethnic Groups." Social Forces 85(4):1713–34. 10.1353/sof.2007.0077.

Segura Denise A. 1994. "Working at Motherhood: Chicana and Mexican Immigrant Mothers and Employment." In Ideology, Experience, and Agency, edited by Glenn Evelyn N., Chang Grace, Forcey Linda R., pp. 211–236. New York: Routledge.

Schmidley A. Dianne and Robinson J. Gregory 2003. Measuring the foreign-born population in the United States with the Current Population Survey: 1994–2002. Washington, DC: US Bureau of the Census.

Schoeni Robert F. 1997. "New Evidence on the Economic Progress of Foreign-Born Men in the 1970s and 1980s." Journal of Human Resources 32(4):683–740. 10.2307/146426.

Schoeni Robert F. 1998. "Labor Market Outcomes of Immigrant Women in the United States: 1970 to 1990." International Migration Review 32(1):57–77. 10.1177/019791839803200103. [PubMed: 12321472]

Schwartz Christine R. 2013. "Trends and Variation in Assortative Mating: Causes and Consequences." Annual Review of Sociology 39:451–70. 10.1146/annurev-soc-071312-145544.

Sweeney Megan M. and Raley R. Kelly 2014. "Race, Ethnicity, and the Changing Context of Childbearing in the United States." Annual Review of Sociology 40:539–58. 10.1146/annurev-soc-071913-043342.

Tamborini Christopher R. and Kim ChangHwan 2013. "Are Proxy Interviews Associated with Biased Earnings Reports? Marital Status and Gender Effects of Proxy." Social Science Research 42(2):499–512. 10.1016/j.ssresearch.2012.11.004. [PubMed: 23347491]

Toossi Mitra 2007. "A New Look at Long-Term Labor Force Projections to 2050." Monthly Labor Review 129(11):19–39.

Van Winkle and Zachary, and Anette Eva Fasang. 2020. "Parenthood Wage Gaps across the Life Course: A Comparison by Gender and Race." Journal of Marriage and Family 82(5):1515–33. 10.1111/jomf.12713.

Villarreal Andrés and Tamborini Christopher R. 2018. "Immigrants' Economic Assimilation: Evidence from Longitudinal Earnings Records." American Sociological Review 83(4):686–715. 10.1177/0003122418780366. [PubMed: 30555169]

Villarreal Andrés and Tamborini Christopher R. 2023. "The Economic Assimilation of Second-Generation Men: An Analysis of Earnings Trajectories Using Administrative Records." Demography 60:1415–40. 10.1215/00703370-10924116. [PubMed: 37602473]

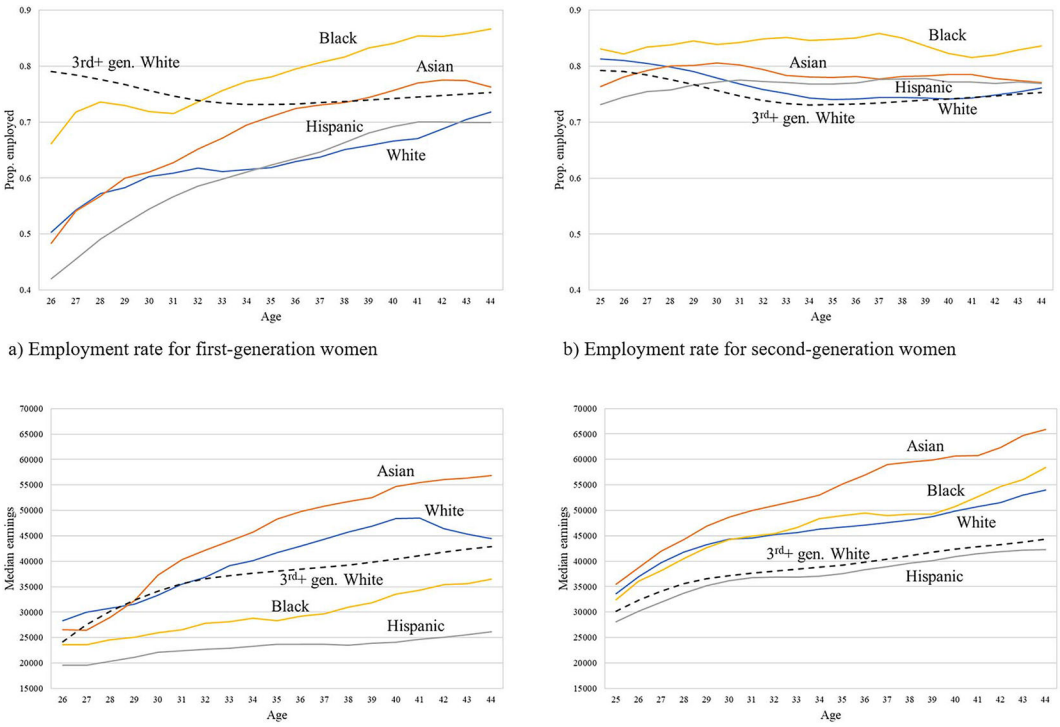
Villarreal Andrés and Tamborini Christopher R. 2024. "Hispanic Men's Earnings Mobility across Immigrant Generations: Estimates Using Tax Records." Social Forces 102:1484–504. 10.1093/sf/soad128.

Waldfogel Jane 1997. "The Effect of Children on Women's Wages." American Sociological Review 62(2):209–17. 10.2307/2657300.

Waldfogel Jane, Higuchi Yoshio and Abe Masahiro 1999. "Family Leave Policies and Women's Retention after Childbirth: Evidence from the United States, Britain, and Japan." Journal of Population Economics 12(4):523–45. 10.1007/s001480050112.

Waters Mary C. and Gerstein Pineau Marisa (eds.) 2015. The Integration of Immigrants into American Society. Washington, DC: The National Academies Press.

White Michael J. and Glick Jennifer E. 2009. Achieving Anew: How New Immigrants Do in American Schools, Jobs, and Neighborhoods. New York: Russell Sage Foundation.



a) Employment rate for first-generation women

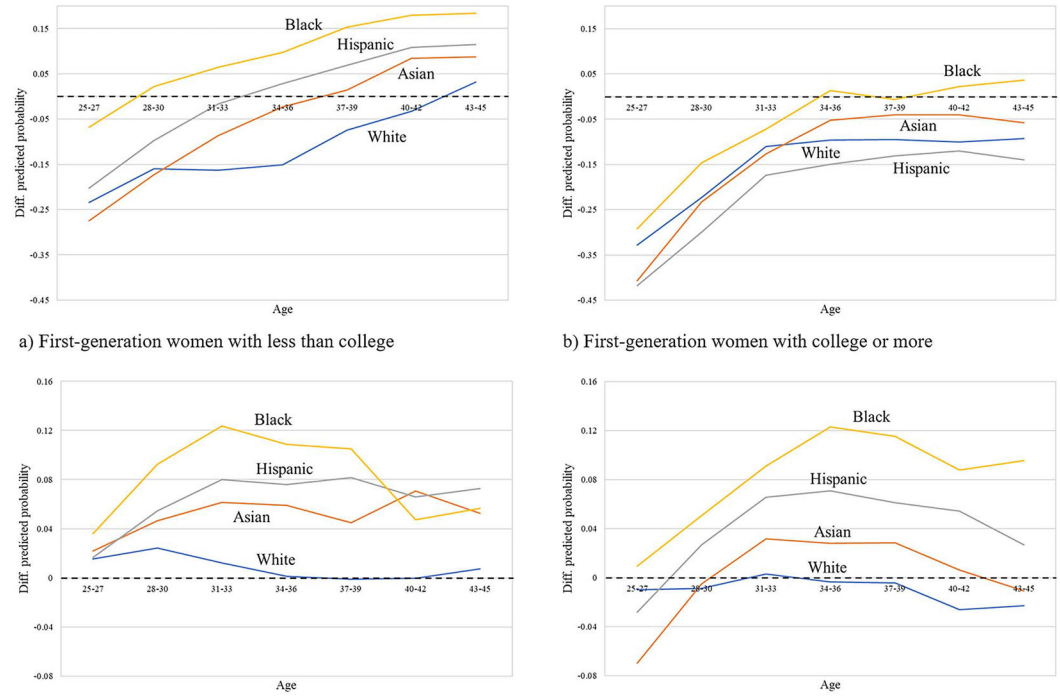
b) Employment rate for second-generation women

c) Median annual earnings for first-generation women

d) Median annual earnings for second-generation women

Figure 1.

Employment and median earnings trajectories for first- and second-generation women by race and ethnicity (three-year moving average).



a) First-generation women with less than college

b) First-generation women with college or more

c) Second-generation women with less than college

d) Second-generation women with college or more

Figure 2.

Difference in the predicted probability of employment for first- and second-generation women relative to third-plus generation White women by level of education based on results from random-effects models.

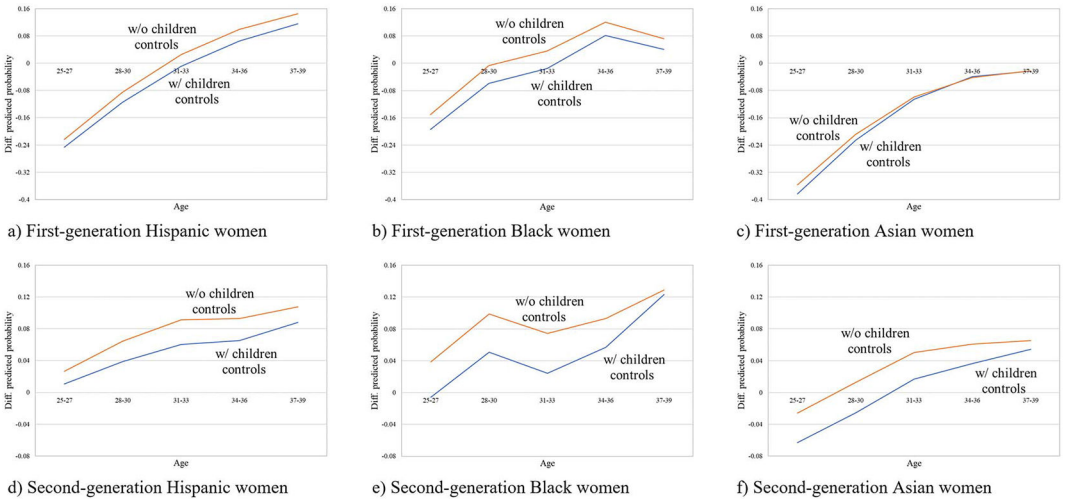


Figure 3.

Difference in the predicted probability of employment for first- and second-generation women relative to third-plus generation White women based on results from random-effects models with and without controls for children under age 6 in household.

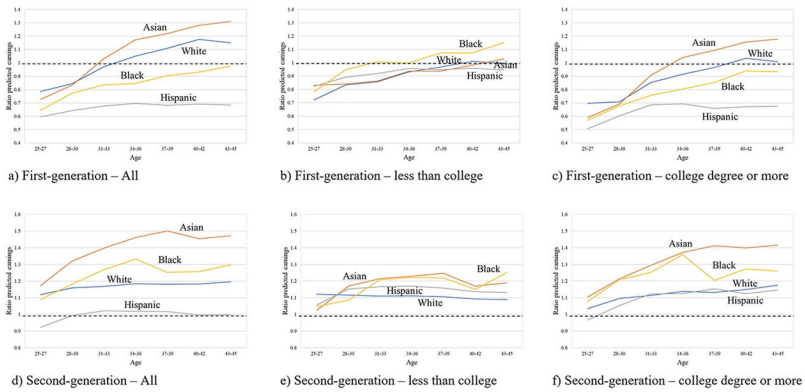


Figure 4.

Ratio of predicted earnings relative to third-plus generation White women for first- and second-generation women by level of education based on random-effects models.

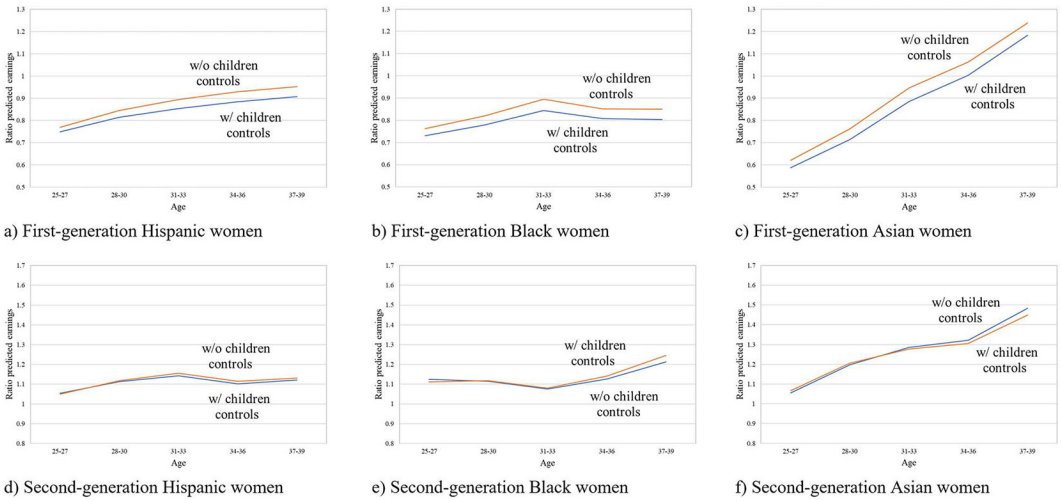


Figure 5.

Ratio of predicted earnings of first- and second-generation women relative to third-plus generation White women based on results from random-effects models with and without controls for children under age 6 in household.

Table 1.

Selected Characteristics of the CPS Sample and CPS-SSA Matched Sample with Adjusted Weights

	All	Matched
Race and ethnicity		
White	68.9	69.2
African American	15.1	15.3
Asian	4.0	3.9
Hispanic	11.9	11.7
Average years of education	14.2	14.3
Immigrant generation		
First generation	7.3	6.5
Second generation	9.3	9.5
Third and later generation	83.5	84.0
Mean earnings		
Self-reported CPS	49,073	49,974
From SSA records		47,321
Median earnings		
Self-reported CPS	39,454	40,355
From SSA records		37,973
N (individuals)	114,686	95,811

Note: Earnings are measured only for employed persons.

Table 2.

Random Effects Linear Probability Model Predicting Probability of Employment for First-Generation Women Ages 25–45

	Third-plus generation White (ref)	First generation			
		White	Hispanic	Black	Asian
Age categories (baseline 25–27)					
25–27		−0.260** (0.030)	−0.356**b (0.019)	−0.175**b (0.035)	−0.327**b (0.018)
28–30	−0.024** (0.002)	−0.169** (0.018)	−0.243**b (0.013)	−0.063**b (0.022)	−0.179**b (0.013)
31–33	−0.045** (0.003)	−0.105** (0.016)	−0.143**b (0.012)	−0.007b (0.021)	−0.090**b (0.011)
34–36	−0.051** (0.003)	−0.097** (0.016)	−0.098**b (0.012)	0.045* (0.019)	−0.024*b (0.011)
37–39	−0.048** (0.003)	−0.071** (0.016)	−0.062**b (0.011)	0.076** (0.018)	−0.005b (0.011)
40–42	−0.045** (0.004)	−0.057** (0.016)	−0.031**b (0.012)	0.102**b (0.017)	0.019 (0.011)
43–45	−0.043** (0.004)	−0.025 (0.018)	−0.033** (0.013)	0.109**b (0.018)	0.014 (0.013)
			Third-plus generation		
			Hispanic	Black	Asian
25–27			−0.056** (0.007)	−0.030** (0.004)	0.003 (0.016)
28–30			−0.021** (0.006)	0.024** (0.004)	0.040** (0.014)
31–33			0.011 (0.006)	0.048** (0.004)	0.055** (0.014)
34–36			0.026** (0.006)	0.059** (0.004)	0.055** (0.014)
37–39			0.022** (0.007)	0.051** (0.004)	0.056** (0.015)
40–42			0.015* (0.007)	0.043** (0.004)	0.040* (0.016)
43–45			−0.009 (0.008)	0.031** (0.005)	0.046* (0.019)
Year fixed effects	yes				
CPS year fixed effects	yes				
Constant	0.773** (0.008)				
Persons	86,857				
Person-years	1,689,179				

*$p < .05$

**$p < .01$ (two-tailed tests relative to third-plus generation Whites).

a$p < .05$

[b] $p < .01$ (two-tailed tests relative to third-plus generation co-ethnoracials).

Table 3.

Random Effects Linear Probability Model Predicting Probability of Employment for Second-Generation Women Ages 25–45

	Third-plus generation White (ref)	Second generation			
		White	Hispanic	Black	Asian
Age categories (baseline 25–27)					
25–27		0.019** (0.007)	−0.040** (0.007)	0.035b (0.018)	−0.001 (0.012)
28–30	−0.024** (0.002)	0.022** (0.007)	0.005b (0.007)	0.082**b (0.017)	0.044** (0.011)
31–33	−0.042** (0.002)	0.018* (0.008)	0.040**b (0.006)	0.114**b (0.018)	0.065** (0.011)
34–36	−0.047** (0.003)	0.008 (0.008)	0.042** (0.006)	0.120**b (0.017)	0.058** (0.012)
37–39	−0.042** (0.003)	0.006 (0.008)	0.044**a (0.007)	0.115**b (0.016)	0.053** (0.012)
40–42	−0.037** (0.004)	−0.003 (0.008)	0.029** (0.007)	0.074** (0.020)	0.051** (0.012)
43–45	−0.034** (0.004)	0.003 (0.010)	0.025**b (0.008)	0.084**a (0.024)	0.037* (0.015)
		Third-plus generation			
		Hispanic	Black	Asian	
25–27		−0.056** (0.007)	−0.030** (0.004)	0.002 (0.016)	
28–30		−0.021** (0.006)	0.024** (0.004)	0.040** (0.014)	
31–33		0.011 (0.006)	0.048** (0.004)	0.055** (0.014)	
34–36		0.026** (0.006)	0.059** (0.004)	0.055** (0.014)	
37–39		0.022** (0.007)	0.051** (0.004)	0.056** (0.015)	
40–42		0.015* (0.007)	0.043** (0.004)	0.040* (0.016)	
43–45		−0.009 (0.008)	0.031** (0.005)	0.046* (0.019)	
Year fixed effects	yes				
CPS year fixed effects	yes				
Constant	0.767** (0.008)				
Persons	90,937				
Person-years	1,784,482				

*$p < .05$

**$p < .01$ (two-tailed tests relative to third-plus generation Whites).

a$p < .05$.

[b] $p < .01$. (two-tailed tests relative to third-plus generation co-ethnoracials).