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DIVERSITY AND DISPARITY?: MOTHERHOOD WAGE GAPS, ATTAINMENT  
AND ASSIMILATION LEVELS FOR FIRST- AND SECOND-GENERATION  
IMMIGRANTS

By

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William M. Rodgers III

and approved by

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## ABSTRACT OF THE DISSERTATION

Diversity and Disparity?: Motherhood Wage Gaps, Attainment and Assimilation Levels  
for First- and Second-Generation Immigrants

By

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This dissertation examines gender- and immigrant nativity-based inequalities in educational and occupational attainment, earnings and wages. It uses an intersectional theoretical framework. The first chapter asks whether mothers have lower wages than women without children, and whether any disparities vary by mothers' nativities. The second chapter asks how second-generation immigrants' educational and occupational attainment and earnings compare to their parents' generation, and to a group of their nonimmigrant peers. Findings are that both first-generation immigrant and nonimmigrant mothers experience wage gaps. Corrections for additional characteristics that might differ between mothers and nonmothers reduce the sizes of gaps. Corrections for characteristics linked to decisions to immigrate increase gaps for a group of recent immigrants. Within most second-generation pan ethnic Latino and Asian groups and country of origin groups

from Mexico, Cuba, the Dominican Republic, the Philippines, China and India, women's outcome attainment levels exceed those of their mothers by more than men's outcome attainment levels do compared to their fathers. However, gender earnings gaps persist, with men having higher earnings than women across pan ethnic groups. Additionally, despite some assimilation across generations, many disparities remain between second-generation immigrants and nonimmigrants.

## **Dedication**

For my parents, Om Srivastava, who came to the U.S. to pursue a Ph.D. and Joan Srivastava, who encouraged this achievement of one.

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## Introduction

Relative to men's wages falling due to de-unionization and industrial restructuring during the 1980s, women's wages have risen. (Blau and Kahn 1997) While women have gained, and in cases such as college degree completion, surpassed men in attainment rates, gender-based inequality disadvantaging women persists. (Hess et al 2015) One form of gender inequality is in paid work. Women earn 81.8% of men's weekly earnings. While this gap has narrowed over time, there has been a reduced rate of progress in closing the gap during the 2000s. Current projections are that there will not be equality in pay until 2059. (Institute for Women's Policy Research, 2017, 2018)

Disparities in pay between mothers and women without children contribute to gender inequality in wages and earnings. Mothers may take time away from work to care for children, thus decreasing their accumulation of work experience and related skills. This may lower their wages. (Becker 1985; Byker 2016; Institute for Women's Policy Research 2017) Theory suggests that increased gender role specialization may occur after the birth of a child. (Becker 1985) Differences in pay between mothers and women without children may also be due to discrimination. (Budig and England 2001; Becker 1985; Gough and Noonan 2013; Grimshaw et al 2015; Ridgeway and Correll 2004; Self 2005) Since men do not experience lower pay associated with fatherhood, any disparity created by motherhood among women might widen gender wage gaps. (Weeden et al 2016; Killewald 2012; Glauber 2008, Lundberg and Rose 2000)<sup>1</sup>

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<sup>1</sup> While mothers may experience wage gaps, fathers experience wage premiums. (Weeden et al 2016; Killewald 2012; Glauber 2008; Lundberg and Rose 2000)

Feminist theorists argue that gender is experienced differently across racial and ethnic groups. Inequality based on race and ethnicity is experienced differently by varying groups and is interconnected with gender and class in economic outcomes. (Amott and Matthaei 1996, pp. 11-28) The theory of intersectionality is a lens through which systemic patterns of power imbalances, discrimination and disadvantage become visible. (Crenshaw 1989; Hill Collins 2015) It adds valuable insights that outcomes may vary simultaneously by gender, race, ethnicity, and nativity among other dimensions. (Hill Collins 2015)<sup>2</sup> As an example of intersectional analysis, the gender gap in median weekly earnings is 81.9% for White women of any ethnicity compared to White men of any ethnicity, 87.4% for Latino<sup>3</sup> women compared to Latino men, and only 62.1% for Latino women compared to White men of any ethnicity. (Institute for Women's Policy Research, 2017)

Preceding intersectionality, and analyzing two dimensions of inequality within labor markets, immigration scholars conceptualize a double disadvantage facing immigrant women due to gender and nativity. (Boyd 1984) Researchers test the double disadvantage in the U.S. and elsewhere with various outcome variables. Previous studies find a double disadvantage for labor force participation, underemployment and earnings. (Donato et al, 2014; DeJong and Madamba 2001; Lopez 2012) Among immigrant women, outcomes vary by marital status and skill levels, including English language speaking ability. (Donato et al 2014; Le and Miller 2010)

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<sup>2</sup> While every intersectional application does not consider all possible dimensions of inequality, the theory covers multiple dimensions. This dissertation follows other researchers (Park et al 2015; Stone et al 2006; England et al 2004) and uses intersectionality as a lens for analysis when there are at least two dimensions of quantitative study.

<sup>3</sup> This dissertation uses the terms Latino and Hispanic interchangeably, with the recognition that some individuals prefer to identify with a particular country of origin, or with one pan ethnic term over the other. (Taylor et al 2012; Acuna 2017)



The chapters in this dissertation pose intersectional questions. The first chapter asks whether first-generation immigrant women experience motherhood wage gaps, defined as gaps between immigrant mothers and immigrant women without children, and whether these gaps differ from any gaps that all mothers might be experiencing relative to all women without children. The second chapter asks whether second-generation immigrant women and men have different intergenerational mobility, defined as a change in status from one generation to the next. It reveals differences in attainment levels in education, occupations and earnings by gender and between Latino and Asian second-generation immigrants and the U.S. born White, non-Latino population whose parents are not first-generation immigrants. It captures differences by race and ethnicity, class as might be measured by disparities in ethnic groups' relative resources, and countries of origin.

Ethnic groups are identified throughout this dissertation. Authors in literature reviews may be using terms according to their own definitions. However, there is some general consistency in terms as they are used in the U.S. In this dissertation, Latino and Hispanic are interchangeable. While there are differences in the groups, such as Latinos are from Latin America and include Brazilians and not people from Spain, and Hispanics speak Spanish and include people from Spain but not Brazil, the terms overlap. (World Atlas 2018) Some researchers in the U.S. use the terms interchangeably. (Taylor et al 2012) Census questions ask a single question that covers identification as Spanish,

Hispanic or Latino in one category. (National Bureau of Economic Research 2003, IPUMS USA<sup>4</sup>) People who identify as Hispanic or Latino may be of any race.

This dissertation uses the term Asian broadly to include individuals who identify their backgrounds as being from anywhere in Asia, and thus covers both East Asians, such as individuals from China and Japan, as well as South Asians, such as those from India and Pakistan, as well as other parts of Asia. As noted, for data in Chapter 2, the term Asian is restricted to only individuals who identify as Asian and not Hispanic or Latino so as to avoid overlap in categories. In Chapter 2, data analysis for Filipinos as a subgroup of Asians includes only those who identify as non-Hispanic Asian.

The term “mainstream” is used specifically in Chapter 2 to follow Park et al (2015) as referring to U.S. born, non-Hispanic individuals who identify their race as White. While the chapters do not include specific analysis for African Americans as a single group, literature may include first-generation African or Afro-Caribbean immigrants as African Americans. (Mason 2016)

Findings about immigrants are important for general knowledge about U.S. population outcomes. Currently, immigrants compose 13.2%<sup>5</sup> of the U.S. population. Although there has been a small recent decline in their numbers, they are projected to continue trends as a growing part of the U.S. (Lopez and Bialik 2017) Between 2006-2012, the size of the second-generation immigrant population grew by 14%, twice the rate of the U.S. general population of adults. (Pew Research Center 2013, p. 20)

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<sup>4</sup> <https://usa.ipums.org/usa-action/variables/HISPAN#us2015a> and <https://usa.ipums.org/usa-action/variables/HISPAN#us2000a>

<sup>5</sup> U.S. Census Bureau population estimate for July 1, 2017  
<https://www.census.gov/quickfacts/fact/table/US/PST045217>, accessed April 13, 2018

Immigrant women contribute to the U.S. economy and society by participating in the labor market, earning wages across occupations, attaining education, and raising children. (Strum and Tarentolo 2002)

Since the 1965 Hart Celler Act, immigrants are changing the U.S. racial and ethnic composition. (Waters and Ueda 2007; Bean and Stevens 2005) By pan ethnicity, Asian immigrants are the fastest growing immigrant group since 2010, when Latinos were the fastest growing group. (Lopez and Bialik 2017) The majority of Asians in the U.S. are first-generation immigrants. (Pew Research Center 2012) Over one-third of U.S. Latinos are foreign born. (Flores et al 2017)

Classic theories about immigration suggest that immigrants will assimilate over time. (Park and Burgess 1969; Gordon 1964) This dissertation defines straight-line assimilation as a process through which groups become increasingly similar to each other through social interaction. (Park and Burgess 1969; Hirschman et al 1999) Segmented assimilation differs from straight-line theory to predict that not all groups necessarily assimilate, and if assimilation occurs, it may vary in direction and by group. (Portes and Zhou 1993)<sup>6</sup> Classic theory discusses that assimilation may occur along different dimensions. (Gordon 1964; Hirschman et al 1999) This dissertation defines assimilation only as measured by convergence in status attainment and social mobility as measured by wages, earnings, and educational and occupational attainment.

The most relevant studies upon which this dissertation builds are two studies estimating motherhood wage gaps that do not account for characteristics linked to

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<sup>6</sup> When asking questions about either straight-line or segmented assimilation, this dissertation limits definitions to the quantitative variables of study in regression models. It is possible that assimilation occurs for some, but not all, outcomes.

immigrants' migration decisions (Srivastava and Rodgers 2013; Pal and Waldfogel 2016) and an earlier study of second-generation immigrant outcomes. (Park et al 2015) The estimates of motherhood wage gaps in this dissertation account for potential selection into immigrant status for a recent group of immigrants as well as selection into motherhood and employment bias associated with wage gaps.<sup>7</sup> This dissertation also adds a recent time-period to a limited number of intersectional studies of second-generation immigrants. (Park et al 2015)

Chapter 1 contains six hypotheses. They are: 1) U.S. mothers have lower wages than women without children; 2) U.S. immigrant mothers<sup>8</sup> have lower wages than U.S. immigrant women without children; 3) motherhood wage gaps amongst immigrant women will differ from those amongst all U.S. women; 4) accounting for fertility endogeneity narrows motherhood wage gaps; 5) correcting for employment selection changes motherhood wage gaps; and 6) immigrant mothers' wage gaps will change after controlling for immigrant selectivity.

Chapter 2 also has six hypotheses. These hypotheses are about status attainment in education, occupations and earnings. They are that: 1) when comparing the period from 2012-16 with either 1980 or 1990, women continue to have greater intergenerational mobility than men within each of the broader racial and ethnic groups of immigrant Latinos, immigrant Asians and non-immigrant White, non-Latinos; 2) second-generation immigrant Latinos experience less intergenerational mobility and

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<sup>7</sup> Fertility endogeneity can occur if there is correlation between becoming a mother or having additional children and wage levels that is unaccounted for in statistical models. Employment selection can create bias if mothers who remain out of the labor market have different characteristics than those who participate in the labor market. Immigrant selection can create bias if those who immigrate to the U.S. from a country have different characteristics than those who remain in that country of origin.

<sup>8</sup> In Chapter 1, the term immigrant refers to first-generation immigrants only. Chapter 2 differentiates first- and second-generation immigrants.

assimilation from either 1980 or 1990 to 2012-16 than from 1980 to 2003-07; 3) straight-line assimilation continues for Asian second-generation immigrants from either 1980 or 1990 to 2012-16 for education and occupations but not for earnings; 4) patterns of greater intergenerational mobility by women compared to men remain within country of origin groups; 5) there is country of origin level segmented assimilation among Latinos; and 6) straight-line assimilation within countries of origin among second-generation Asians occurs in education and occupations but not in earnings.

The data for this dissertation comes from the U.S. Census Bureau's decennial Censuses, American Community Survey (ACS), and Current Population Surveys (CPS). The Census Bureau collects CPS data jointly with the U.S. Bureau of Labor Statistics. Chapter 1 uses three additional data sets to construct instrumental variables. Child Care Aware of America collects child care cost data. The World Bank (2018) provides Gini coefficients from several sources. The United Nations Development Programme's Gender Inequality Index (GII) measures the effects of gender inequality on human development as a single measure composed of indicators within the three dimensions of health, empowerment and labor market. (United Nations Development Programme 2018)

This dissertation uses methods to estimate motherhood wage gaps that begin with Ordinary Least Squares (OLS) equations. Following previous studies (Srivastava and Rodgers 2013; Glauber 2007), I construct OLS equations to estimate wage gaps between mothers and women without children. A variable for whether a woman is a first-generation immigrant and interaction terms allow for separate estimates of gaps between immigrant mothers and immigrant women without children. Full models include

measures for human capital, family structure, work and occupation characteristics and attributes specific to immigrants.

In Chapter 1, I use several methods to account for potential biases in OLS estimates. Median regression allows for corrections for potential biases due to endogeneity in variables identifying mothers as well as differential selection into employment between mothers and women without children. I construct two stage least squares (2SLS) and Heckman correction models to test for fertility endogeneity and employment selectivity bias. Models correcting for fertility endogeneity and employment selection use probits as first stages and OLS as second stages. Generalized Methods of Moments models<sup>9</sup> (Baum et al 2003) correct for possible bias due to selection into immigration.

Models correcting for biases, other than median regression, require at least one instrumental variable. An instrumental variable is an independent variable that is not correlated with the error term in an equation but is correlated with the endogenous independent variable. Two of the possible causes for endogeneity in models are omitted explanatory variables and selection bias.<sup>10</sup> I use the natural logarithm of center-based child care costs with a weighted average for each state as an instrumental variable for

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<sup>9</sup> Using the `ivreg2` command in Stata

<sup>10</sup> If there is an explanatory variable left out of an equation that is correlated with another variable in the equation, the included variable will be correlated with the error term. Selection bias occurs if there are unmeasured characteristics of individuals that make them more likely to appear in a sample of observations than people who do not appear in the sample. Instrumental variables can correct for the problem of endogenous variables. To correct for multiple endogenous variable at a time, there must be at least one unique instrumental variable per type of endogenous variable. Important properties for instrumental variables are that they are not correlated with the error term in an equation, but that they are correlated with the endogenous variable for which they are correcting. The instrumental variable technique requires two stages of equations. In the first stage, an instrumental variable and explanatory variables are used to explain an endogenous variable. In the second stage, information from the instrumental variable estimation is included with variables explaining the final dependent variable. (Kennedy 2008, pp. 139-141)

bias for both selection into motherhood and selection into employment. A previous study used number of child care centers as an instrumental variable for fertility endogeneity. (Winder 2008) In this dissertation, I calculate population proportions by children's ages and then adjust center-based child care costs by population proportions. To correct for fertility endogeneity, I use the natural logarithm of child care costs in first stage equations to predict numbers of children. Literature finds that child care may be predictive of fertility. (Blau and Robbins 1989; Winder 2008) Child care costs may also be predictive of women's employment. (Michalopoulos and Robins 2000; Powell 2002; Han and Waldfogel 2001) With a separate first stage equation, I use the natural logarithm of child care costs as an instrumental variable to explain whether a woman is employed. Second stage equations are full model equations with wages as dependent variables.

I use country-level Gini coefficients and GII indicators as instrumental variables for selection into immigration.<sup>11</sup> Literature finds that relative inequality levels between immigrants' countries of origin and destination are associated with immigrant selectivity. (Borjas 1987, Cobb-Clark 1993; Huh 2017) The Gini index measures income or consumption expenditure inequality among either individuals or households. (Milanovic 2016) The United Nations Development Programme's Gender Inequality Index (GII) measures the effects of gender inequality on human development. The GII is a single measure composed of indicators within the three dimensions of health, empowerment and labor market. (United Nations Development Programme 2018)

In Chapter 2, I use the intergenerational cohort method developed by Park and Myer (2010) and Park et al (2015) to study generations at two different time-periods.

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<sup>11</sup> As noted in Chapter 1, results for additional models, including those that control for distance are available from the author upon request.

Chapter 2 contains two sets of OLS models. All models control for whether an individual is a parent and individual's age. The first set of models compare outcomes between women and men within the same ethnic or racial group, estimating changes in mobility between generations. I use models to generate mobility estimates for pan ethnic racial and ethnic groups between 1980 and 2003-05; 1980 and 2012-16; and 1990 and 2012-16. I also estimates mobility for immigrants from six countries of origin and a comparison mainstream group consisting of a U.S. born, non-Latino White group for 2003-15. The second set of models compare immigrant and mainstream intergenerational mobility differences within gender groups. I construct new models to estimate whether significantly different intergenerational mobility changes occur depending on whether the first-generation is from 1980 or 1990 and on whether estimates are for the 2003-07 or 2012-16 second-generation.

Intersectional analysis reveals that outcomes differ by immigrant nativity, parental status, gender, and race and ethnicity. Immigrant mothers have significantly different wage gaps than nonimmigrant mothers with two or more children in year 2000 but not in 2015. Accounting for characteristics specific to decisions to migrate and age and time spent in the U.S. as well as English language skills are important for estimating immigrant mothers' outcomes. While similar gendered patterns in educational and occupational attainment and earnings occur for second-generation immigrants as for nonimmigrants in the U.S., outcomes vary by race, ethnicity and parents' country of origin groups.

Key findings from Chapter 1 are that with OLS models, both immigrant and native mothers experience wage gaps in 2000 and 2015. By numbers of children, gaps range from



4.1% to 14.4% for all mothers and from 3.4% to 10.2% for immigrant mothers in 2000. In 2015, gaps range from 2.4% to 12.3% for all mothers and 2.3% to 12.0% for all immigrant mothers. The differences between immigrant mothers and all mothers are statistically significant for 2, 3 and 4 or more children in 2000 and not statistically significant in 2015.

Correcting for biases in the full 2015 sample shows that fertility may be endogenous in OLS models, while employment selection does not change most estimates by more than tenths of percentage points. Median regression can correct for both fertility endogeneity and employment selection. For 2015, wage gaps are smaller with median regression than with OLS for both all mothers and immigrant mothers. Median regression results for all mothers range from 0.1%, not measured with precision,<sup>12</sup> to 7.5%, measured with precision. For immigrant mothers, gaps range from 1.4% to 4.7%, all measured with precision at the 5% level at a minimum. With median regression, differences between immigrant and all mothers' wage gaps are significant at the 5% level for 2 and 4 children with immigrant mothers having larger gaps for 2 children and smaller gaps for 4 children, compared to all mothers. This means that there are nonrandom differences between mothers in the labor market and mothers not in the labor market.

While there is little evidence of bias due to employment selection alone in the 2015 full study sample, fertility endogeneity alone reduces wage gaps. With a model correcting for fertility endogeneity in 2015 for all women, gaps are 0.0% for 3 children and 2.1% for 4 or more children. Neither of these numbers are measured with precision. Gaps are measured with precision for all women at the 0.1% level with a gap of 0.9% for one child

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<sup>12</sup> Throughout this dissertation, measured with precision refers to statistical significance levels where  $p < .05$ . P values less than .05 meet criteria for a test to reject a null hypothesis. Larger p values do not support rejecting a null hypothesis.

and 1.3% for two children. Gaps for immigrant mothers are measured with precision with all numbers of children after correcting for fertility endogeneity and range from 0.7% for two children to 1.8% for four or more children. Differences between all mothers and immigrant mothers are statistically significant with this model. Immigrant mothers have larger gaps by 0.2% for one child and by 1.1% for three children and smaller gaps by 0.6% for two children and 0.4% for four or more children compared to all women.

Wage gaps for immigrant mothers may be biased due to selection into immigration. Recent immigrant mothers' wage gaps are larger after correcting for immigrant selectivity bias than before. With OLS, recent immigrant mothers' gaps range from 4.3% to 7.5%, all measured with precision. After correcting for immigrant selection, they range from 6.2%, not measured with precision to 12.4%, measured with precision at the .001 level with both the United Nation's Development Programme's (2018) Gender Inequality Index and Gini coefficients (World Bank 2018) as instruments.<sup>13</sup>

Chapter 2 finds that groups have different social mobility patterns. For second-generation cohorts in 2003-07 and 2012-16, across all broad racial and ethnic groups, women have greater educational and occupation attainment than men. Despite this greater intergenerational mobility, men continue to earn more than women for pan ethnic groups across decades. There is some evidence of less intergenerational mobility among Latinos relative to the mainstream in 2012-16 than in 2003-07. Racial and ethnic disparities persist, and in some cases, widen for Latinos after the Great Recession. Between 1980 and both 2003-07 and 2012-16, straight-line assimilation continues for second-generation Asians for education and occupations but not for earnings as Park et al (2015) find for 2003-07.

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<sup>13</sup> Models with distance as a variable do not change the substantive finding that recent immigrant mothers' wage gaps are larger after correcting for immigrant selectivity.

Between 1990 and 2012-16, Asians maintain relatively high educational and occupational attainment as well as earnings when compared to nonimmigrant, non-Latino White individuals.

Country of origin analysis demonstrates that important differences occur with smaller levels of analysis within pan-ethnic groups. The three Latino countries of origin from which the most U.S. second-generation immigrants' parents were born, Mexico, Cuba and the Dominican Republic, represent immigrants with varying education levels and country of origin relationships with the U.S. (Arboleya 1996, Acuna 2017) For example, between 1959 and the 1990s, Cubans benefitted from U.S. government programs and shortened time periods for naturalization when compared to other Latinos. (Arboleya 1996, Acuna 2017, pp. xviii-xxv) Immigrants from the three most populous Asian countries during the study time-period, the Philippines, China and India, are relatively high skilled compared to the general immigrant population. Varying relationships between the U.S. and these Asian countries of origin also impact immigrant demographics. The history of U.S. colonialism in the Philippines, support for public health and training and policy supporting migration of nurses affected Filipino immigrant gender and occupational compositions. (Posadas 1999; Rodriguez 2010) Country of origin analysis adds that country of origin may change conclusions about gender and broader group racial and ethnic comparisons. However, the majority of evidence from country level groups supports broad conclusions about pan ethnic groups.

Chapter and dissertation conclusions discuss study limitations, areas for future research and policy implications.

## Chapter 1: Motherhood Wage Gaps

Mothers earn less than women without children across years and populations after accounting for human capital, family structure, and job characteristics. Recent estimates for gaps in wages find a disparity of 1-3% per child. (Pal and Waldfogel 2016; Yu and Kuo 2017) The size of the gap varies by numbers of children. By children, the gap ranges from an insignificant gap for one child to a gap over 6% for three or more children. (Pal and Waldfogel 2016) These estimates are smaller than those for earlier time periods which include 6% per child in 1967-68 (Pal and Waldfogel 2016); 18% in 1980 (Buchman and McDaniel 2016); and 3% for one child in 1968-1988 and 2006-10. (Budig and England 2001; Buchman and McDaniel 2016) Motherhood wage gaps vary by race and ethnicity, educational attainment, profession, timing of birth and wage level. (Waldfogel 1997; Budig and England 2001; Glauber 2007; Taniguchi 1999; England et al 2016; Yu and Kuo 2017; Buchman and McDaniel 2016) This chapter asks whether they also vary by U.S. nativity.<sup>14</sup>

Disparities in pay by motherhood affect large numbers of women. In 2015, nearly seventy percent (69.9%) of mothers are in the labor force in the U.S. They include married (67.6%), never married, divorced, separated and widowed mothers (74.8%). Mothers are in the labor force with young children (64.2%)<sup>15</sup> as well as older children. (74.4%).<sup>16</sup> (United States Department of Labor 2016) Whether they are working for reasons of current economic necessity, insurance against possible future needs, personal

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<sup>14</sup> Variables for number of children include any biological, adopted or stepchildren in a household. Foster children are not included.

<sup>15</sup>For those with children under age 6

<sup>16</sup> For those with children 6 to 17 years old

fulfillment or a combination of reasons (Crittendon 2001), it is common for women in the U.S. to combine paid work with motherhood.

To the extent that motherhood wage gaps exist, they contribute to gender inequality. While mothers may experience wage gaps, fathers may experience wage premiums. (Weeden et al 2016; Killewald 2012; Glauber 2008; Lundberg and Rose 2000) These differences widen gender wage gaps. Variations in motherhood wage gaps highlight that gender inequality might vary across demographic groups.

Resources and opportunities vary by demographics of class, race, ethnicity, and nativity. (Grusky 2014; Massey 2008) Particularly for those mothers who are immigrants, shifting family dynamics and employer demands may occur alongside processes of assimilation, settlement, and adjustment. (Hondagneu-Sotelo 1994) Within a theoretical framework of social and economic structures, human capital, gender role specialization, migration and intersectionality, this chapter asks whether immigrant<sup>17</sup> mothers experience pay inequities and how they compare to the general population of U.S. women. With estimates for 2000 and 2011-15,<sup>18</sup> this chapter adds demographics specific to immigrants such as English language speaking ability, whether immigrated as an adult or child, decade of immigration and a proxy for immigrant networks to other demographic variables such as education and marital status. To my knowledge, this is the first work that considers possible biases due to immigrant selection within a motherhood wage gap study. Two previous studies compare U.S. immigrant women's motherhood wage gaps to the general population without accounting for immigrant selection bias. (Srivastava and

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<sup>17</sup> In Chapter 1, the term immigrant refers to first-generation immigrants only. Chapter 2 differentiates first- and second-generation immigrants.

<sup>18</sup> This chapter refers to 2011-15 averages as 2015 data.

Rodgers 2013; Pal and Waldfogel 2016) One study, with findings relevant to motherhood wage gap studies, adjusts for immigrant selection in a study of married immigrant women's wages and includes variables for presence of children under age 5 and numbers of children age 5 and older. (Cobb-Clark 1993)

Current estimates for motherhood wage gaps exist in a context of family demographics that have changed over the last 50 years. Average family sizes in the U.S. have declined since the 1970s. Women had over three children on average in the late 1970s, compared to 2.4 in 2012-2014. Between the mid-1990s and 2012-14, family sizes remained relatively constant compared to declines between the mid-1970s and mid-1990s. (Livingston 2015) Immigrant women may have different family sizes and structures than U.S. native born women. For 2011-15, average family size for U.S. born individuals was 3.12, while it was 3.83 for first-generation immigrants. (U.S. Census 2018) Immigrant women are more likely to have children living in their households than U.S. born women, with estimates for 2013 of 52% of immigrant women and 28% of nonimmigrant women living with own children in a household. (Ruiz et al 2015) Among women ages 15 to 50, 6% of immigrant women and 5% of native women had given birth during the previous year. (Ruiz et al 2015)

This chapter also addresses possible biases due to fertility endogeneity and employment selection. While not all studies find evidence of bias or bias in the same direction, recent literature suggests that the two forms of bias created by fertility endogeneity and employment selection will work in opposite directions. Previous work leads to expectations that differences between mothers and nonmothers will create an upward bias in the wage gap and selection into employment, a downward bias.

(Korenman and Neumark 1992; Neumark and Korenman 1994; Taniguchi 1999; Budig and England 2001; Anderson, Binder, and Krause 2002; Baum 2002; Avellar and Smock 2003; Glauber 2007; Amuedo-Dorantes and Kimmel 2008; Winder 2008; Pal and Waldfogel 2014; Pal and Waldfogel 2016) This chapter adds child care costs as a new instrument to the literature that uses instrumental variables to assess whether motherhood wage gap estimates might be affected by women's characteristics linked to fertility or employment. It also estimates motherhood wage gaps using median regression.

This chapter finds that both the general population of U.S. women<sup>19</sup> and immigrant women experience motherhood wage gaps in 2000 and 2015. In 2000, U.S. native born women's motherhood wage gaps range from 4.1% with one child to 14.4% with four or more children. Immigrant mothers' gaps are 3.4% to 10.2%. The differences in magnitudes of gaps between U.S. native and immigrant women are significant for 2 or more children. Immigrant mothers' wage gaps are not significantly different in 2015 from the general population of women. In 2015, native mother's gaps range from 2.6% for one child to 12.3% for four or more children and immigrant mother's gaps are 2.3% for one child and 12.0% for four or more children. After correcting for biases due to fertility endogeneity,<sup>20</sup> motherhood wage gaps range from 0-2.1% for U.S. native- born women and 0.7-1.8% for immigrant mothers. Among a group of recent immigrants, correcting for selection into immigration increases gaps from 4.3% for one child and 7.5% for four or

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<sup>19</sup> This chapter uses the terms "all women" and "native women" interchangeably because immigrant women are a small percentage of all women in summary statistics and ordinary least squares regressions include immigrant interactions to distinguish immigrant women.

<sup>20</sup>Fertility endogeneity can occur if there is correlation between becoming a mother or having additional children and wage levels that is unaccounted for in statistical models.

more children to 6.4% not measured with precision for one child to 12.4% for four or more children.

## Literature Review

### *Labor Market Theory*

Theoretically, women's labor market participation and earnings are conceptualized through human capital, structural conditions in the labor market, societal values, and gender roles in household divisions of labor and social policies. (Becker 1985; Gough and Noonan 2013; Grimshaw et al 2015; Ridgeway and Correll 2004; Self 2005) According to the economic theory, mothers may lose human capital in the form of education, training and work experience when they are caring for children in place of spending time in the paid labor force. While gender norms may have changed in recent decades and there are fewer women who leave the labor force completely within 6-8 months after giving birth, there is evidence that women's patterns of leaving the labor market between a year prior to and two years after a birth have not changed considerably between the 1980s and 2000s. (Byker 2016) Byker (2016) finds a 26% decline in women's labor force participation after a birth between 2000 and 2008.

Economic theory also suggests that women with children may specialize in work at home more so than women without children. (Becker 1985) In addition to differing time investments, mothers may have less energy to invest in the labor market. Becker (1985) theorizes that married women spend less effort in the labor market than married men due to greater effort with child care and housework. Mothers may trade wages for other job characteristics more helpful balancing work and child care. (Budig and England 2001) Statistical discrimination might affect hiring, promotions and pay increases if



employers discriminate against mothers as a group without knowing their individual productivity levels. (Budig and England 2001)

Several sociological theories also underlie motherhood wage gap research. (Grimshaw and Rubery 2015) Expectations states theory underlies work on status discrimination. Status discrimination is related to societal devaluation of women, and mothers in particular. Similar to statistical discrimination, this may cause employers and co-workers to expect that mothers will be less competent at work than women without children and men. (Ridgeway and Correll; Self 2005) Some sociologists discuss child care and work conflicts as a market failure. (Grimshaw and Rubery 2015) Self (2005) discusses both expectation states theory and conflicts between child care and employers.

Guided by a combination of theories, motherhood wage gap researchers use statistical models to estimate earnings by human capital measured through educational attainment and work experience as well as family structure, resources, and job characteristics. (Waldfogel 1997; Budig and England 2001; Anderson et al 2003; Amuedo-Dorantes and Kimmel 2005; Glauber 2007; Winder 2008; Pal and Waldfogel 2016) Where unexplained gaps in wages exist, theory explains inequities in terms of productivity differences or discrimination. (Gough and Noonan 2013)

While these theories often successfully explain motherhood wage gaps for a single demographic group, in comparing demographic groups, scholars find the theory of intersectionality a useful analytic tool for understanding diverse women's experiences in the labor market. (Browne and Misra 2003; England et al 2016; Glauber 2007; Stone et al 2006)

### *Intersectionality and Double Disadvantages*

Crenshaw (1989) developed intersectionality theory when studying the experiences of Black women who experienced employment discrimination. Crenshaw (1989) argued that Black women may be discriminated against because of a combination of race and gender discrimination. If neither White women nor Black men are discriminated against, intersectionality allows for analysis of discrimination against Black women as a group. With this approach, the experiences of more privileged members of a social category, such as all women, do not obscure those of less privileged members, such as Black women. (England et al 2004) The framework is useful in studying various experiences of discrimination and oppression by less privileged individuals.

Some scholars theorize that migration is a dimension of intersectionality. Bastia (2014, p. 244) and Anthias (2014) use intersectionality as a framework to analyze migrant women's experiences. Herrera (2013) discusses a move toward intersectionality in gender and migration studies. Intersectional approaches may see how migration itself results from systems of oppression. (Herrera 2013, p. 472) Hill Collins (2015) recently defined it as "the critical insight that race, class, gender, sexuality, ethnicity, nation, ability, and age operate not as unitary, mutually exclusive entities, but as reciprocally constructing phenomena that in turn shape complex social inequalities." (Hill Collins, 2015, p. 3)

Preceding intersectionality, in 1984, Monica Boyd developed an influential thesis, coining the term "double disadvantage" to describe immigrant women's lower occupational status in comparison to native women and immigrant men in Canada. Her theory is that immigrant women experience differences in the labor market through

structural occupational segregation and gender roles that may affect their assimilation. Possible reasons for the double disadvantage are: discrimination by sex or birthplace; presence of ethnically or linguistically bounded labor markets; and employer recruitment of certain types of workers for certain types of jobs. According to her article, double disadvantages might be institutionalized if immigrant women are seen as desirable as workers; there are ethnically and linguistically bounded economies; and core-periphery country class exploitation exists. She notes that the double disadvantage may be tested with earnings and hourly wages, which she finds to be lower among immigrant women than other gender and nativity groups. (Boyd 1984, p. 1101)

This chapter uses intersectionality theory to ask whether first-generation immigrant women in the U.S have motherhood wage gaps, and if so, whether they are different than those of U.S. native born women.

An intersectional approach has the potential to reveal any existing double disadvantages. Theories and empirical study findings in the area of gender and migration highlight that immigrant women's experiences are different from immigrant men's and focus attention on the insight that both women's and men's experiences occur within gendered systems and institutions. Feminist research has highlighted how unequal power dynamics create diverse experiences and inequities in opportunities and resources. This knowledge provides a more accurate reflection of migration, labor markets, households and networks than one skewed towards the experiences of only men, especially as individual actors without gendered relationships.

Scholarship on gender and migration has flourished over the past 40 years. Beginning with sex role theory and currently taking an intersectional approach, feminist

theorists have critiqued migration theories and research for lack of attention to gender. These critiques are well documented in several reviews of the field (Hondagneu-Sotelo 1999 and 2011; Nawyn 2010; Herrera 2013) With agreement as to trends, they trace progression from an androcentric bias, still present in some research today, to research incorporating static sex categories comparing women and men, to studies of gendered relationships, institutions, and macro level dynamics. (Nawyn 2010, p. 750) They find that scholars are continuing gender inclusive developments with a current approach simultaneously viewing multiple dimensions of inequality. (Herrera 2013, p. 472) These trends are important because empirical findings show that migration processes and life outcomes vary by gender.

Trends in migration research reflecting gender mainstreaming occur in its subfields to varying degrees. Within subfields of migration research, some areas, such as those of family migration, have paid considerable attention to gender while others, such as assimilation, have paid less. (Nawyn 2010) Within the area of labor market studies, gender has been a prominent analytic distinction in research about family, households and networks as they relate to employment. (Nawyn, 2010) However, at certain points, scholars have found inadequate attention to gender with labor market topics.

(Hondagneu-Sotelo 1999)

### *Immigration Theory*

Immigration theory adds factors of social networks, ethnic enclaves and assimilation, which includes English language speaking abilities, to studies of women in the labor market. (Read and Cohen 2007; England et al 2004; Stone et al 2006; Kulkarni 2015) As understood by immigration scholars, in social capital theory, social networks

may facilitate immigration and provide access to resources after arriving in a destination country. (Massey 1999) Ethnic enclaves may develop. (Portes and Bach 1985)

Assimilation is a core concept in immigration studies. It is the idea that over time, groups become increasingly similar to each other through social interaction. (Park and Burgess 1969) Segmented assimilation modifies the original theory to predict that not all groups necessarily assimilate, and assimilation may occur in different directions for different groups. (Portes and Zhou 1993) Assimilation can include converging social and economic outcomes. (Hirschman et al 1999; Park and Burgess 1969)

The remainder of this section reviews literature. Motherhood wage gap research falls under the broader topic of work, family and gender literature. Research in this area shows how lost human capital, gender role specialization, and labor market structural barriers might impact mothers. Motherhood wage gap studies estimating the magnitudes of gaps find different wage inequities by race, ethnicity and education levels. Some work, family and gender literature includes immigrant women as a subset of American women. Additional literature highlights different labor market outcomes between ethnic groups which have large numbers of first-generation immigrants.

#### *Influential Work, Family and Gender Literature*

Common themes from the work, family and gender literature include the extent to which there are separate spheres for a mostly male work world and mostly female home world; societal and individual expectations for time investments in raising children; and racial, ethnic and class differences in situations and resources.

Crittendon (2001) effectively captures both gender and economic inequality as experienced by mothers. With both theory and evidence, she questions an economic

system that does not value the skills needed to care for children (Crittendon 2001, p. 4) and policies that do not support mothers in cases of divorce and in old age. Through interviews and analysis of secondary sources, Crittendon (2001) finds that those who do unpaid work at home do not acquire the type of human capital that is valued by employers, are not legally entitled to half the earned income within a marriage in the event of a break up and are not provided the social policy benefits of Social Security. (Crittendon 2001, pp. 4-6) This inequality exists at a time when some sociologists and economists find that raising children has become a more time-consuming part of life than for previous generations (Crittendon 2001, p. 20) and many workplaces remain inflexible towards parents' needs. (Crittendon 2001, p.4) Crittendon (2001) traces the feminist movement's support of women's paid work as a strategy while contrasting these experiences to those of providing unpaid labor as a parent and the resulting low status given to mothers both socially and economically. The human capital differences in accumulated work experiences and educational attainments that Crittendon (2001) discusses are one of the factors that motherhood wage gap researchers use to explain disparities.

Studies discussing gender roles and motherhood are also relevant to motherhood wage gap research because theory predicts that wage gaps will be greater when there is greater role specialization. Hochschild (1989) studies gender strategies as action plans women and men use to solve problems given their cultural beliefs about gender. (Hochschild 1989, p. 15) She argues that individuals develop gender ideologies in adolescence based on what they perceived their opportunities to be given their resources and situations. (Hochschild 1989, pp. 15-17) This is in response to a "stalled gender

revolution”. (Hochschild 1989, p. 16) One of the by-products of the stalled revolution is a gender “leisure gap” at home. (Hochschild 1989, pp. 4, 219-221) Excerpts from interviews show evidence of traditional, transitional and egalitarian gender ideologies and class and ethnic differences in beliefs and economic necessities for two incomes.

While it has been decades since Hochschild’s (1989) research on a “second shift”, some scholars find that mothers continue to face some of the same inequities. Blair-Loy et al (2015) review Hochschild’s 1989 argument that women perform a second shift of housework and child care at home, employers structure workplace without regard to family responsibilities, and public policies do not provide adequate support for parents. The authors contend that in addition to the conditions Hochschild finds, many mothers in a more current labor force face additional job insecurity as economic inequality is higher. (p. 436) The authors note that her book includes a diverse group of study respondents, with African American, Latino and Asians among them. (Blair-Loy et al 2015, p. 437) They argue that gender inequality still exists. Social class divides occur with issues of flexibility, stigma, family structure and temporary, contract work. (Blair-Loy et al 2015, p. 445) Flexibilization in the workplace is increasingly a problem for working class mothers leading to unpredictable work schedules and inadequate child care. (Blair-Loy et al 2015, p. 446)

Stone (2007) discusses gender roles, however, she finds mothers’ decisions about employment to be related to structural factors in labor markets and discrimination to a large extent. The research is relevant to motherhood wage gaps because it discusses both gender roles and labor market structures which mothers experience when they do not leave employment after births of children. Her sample consists of White, married women

who worked as professional or managers with husbands supporting them financially when they were not in the paid labor force. Among these women, she finds that most women left their jobs due to reasons related to their employment rather than their families. Rather than mothers making choices, she finds a “choice gap”. (Sone 2007, p. 19). Women cited job conditions as reasons to leave including long hours and travel (Stone 2007, p. 82), lack of schedule control (Stone 2007, p. 86), lack of available part time work, (Stone 2007, p. 87) burnout, and being “mommy tracked” with increased vulnerability during times of economic restructuring. Analyzing both these women’s home and work situations, Stone (2007) conceptualizes a “choice gap” as the differences between the choices mothers could have made without their care giving responsibilities and the constraints they face as mothers.

#### *Previous Motherhood Wage Gap Research*

In context of theory and evidence about labor market valued human capital levels, gender role specialization and labor market structures, motherhood wage gap studies for the most recent years of data estimate the gap for one child to be 1-3%. Pal and Waldfogel (2016) find a 1% gap per child for 2011-2013. Yu and Kuo (2017) find motherhood wage gaps of 2.8% per child for years 1997-2014. Buchman and McDaniel (2016) find a gap of 3% in 2006-2010.

The size of the gap varies over some time-periods. Pal and Waldfogel (2016) find that a 1% gap in 2011-13 is smaller than a 6% gap in 1968-69. This change occurs over a longer period of study than an earlier finding by Pal and Waldfogel (2014) that between 1977 and 2007, a time when the gender gap in pay decreased, the motherhood wage gap remained relatively constant after controlling for human capital and demographic



differences. Avellar and Smock (2003) find that the motherhood wage gap did not change between the mid-1970s through 1980s when compared to the mid-1980s through 1990s. Buchman and McDaniel (2016) find that the motherhood wage gap changed from 18% in 1980 to 3% in 2006-2010. (Buchman and McDaniel 2016, p. 139)

The gap varies by number of children. Motherhood wage gaps increase with numbers of children. (Pal and Waldfogel 2016; Yu and Kuo 2017; Glauber 2007; Budig and England 2001) Those studies using models that allow the effects of children to vary by numbers, find that gaps change nonlinearly. (Budig and England; Glauber 2007) Budig and England (2001) find gaps of 2.6% for one child, 5.1% for two children and 3.4% for three children with Ordinary Least Squares (OLS), and 3.2% for one child, 8.9% for two children and 12.1% with a fixed effects model for 1968-1988.<sup>21</sup> Glauber (2007) finds gaps of 2%, 8%, 12% and 9% with an OLS model for one, two, three and four or more children in 1982-2004. With fixed effects, Glauber (2007) finds that gaps are insignificant for one child and 6% for two, 9% for three and 6% for four or more children.

While some studies find that gaps are largest among the highest educated and highest skilled mothers, others find that these mothers have the lowest gaps. With methodology that is later debated (Killewald and Bearak 2014; Budig and Hodges 2014; England 2016), Budig and Hodges (2010) find that mothers with lower wages have larger gaps than mothers with higher wages. England et al (2016) find that mothers with high skills and high wages have wage gaps of 10% per child before controlling for work experience, tenure and hours, and 4% with these controls. Mothers with either lower

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<sup>21</sup>Effects are constant across individuals or years in fixed effects models (Budig and England 2001) I do not use fixed effects in this chapter because models would require longitudinal data.

skills or lower wages or both, have gaps of 4-7% without these controls and close to 0%-3% with controls. (England et al 2016, pp. 1175; 1179). Ellwood, Wilde and Bachelor (2004) find larger gaps among more skilled women. Anderson et al (2003) find the largest gaps among women with education at a middle level. Taniguchi (1999), Todd (2001) and Budig and England (2001) find that highly educated women have smaller motherhood wage gaps. Ameudo-Dorantes and Kimmel (2005) find that women with a college degree have a wage boost. Anderson et al. (2002) find motherhood wage gaps among all women who have completed high school. Pal and Waldfogel (2016) find that mothers with college degrees have smaller gaps than those with less education.

Some studies find that motherhood wage gaps vary by professions and occupations. Yu and Kuo (2017) find that mothers in occupations with greater autonomy, less need for teamwork, and less competitive pressure have smaller gaps than those in other occupations. Buchman and McDaniel (2016) find that for women with college degrees and higher educational attainment in professional occupations, the gap is 22% in 1980 and 2% in 2010. (Buchman and McDaniel 2016, p. 139) Studying gaps by profession, they conclude that in 2010, there is not a motherhood gap in business and postsecondary education while there is a wage boost in science, technology, engineering, math, medicine and law. Findings for these professions do not vary by race and ethnicity, in comparison to professions with large numbers of women.

Motherhood Wage gaps may vary by race and ethnicity. White women have the largest gaps in most studies that find racial or ethnic differences. (Budig and England 2001; Glauber 2007; Parrott 2014; Pal and Waldfogel 2016) Glauber (2007) finds that while White mothers have wage gaps with one or more children, Black women have

wage gaps with only two or more children, and Latino mothers do not have wage gaps. Parrott (2014) does not find motherhood wage gaps for Black or Latino women between 1985-2011 but does find a gap of 4.4% per child for White women. Increases in hours spent in housework are associated with an increase in White mothers' gap. Winder (2008) does not find wage gaps for either White or Black women for 1985-98 after adjusting for fertility endogeneity. Budig and England (2001) find that motherhood wage gaps for Latino and non-Latino Black mothers do not vary from those for non-Latino White mothers until women have three or more children, when White mothers have larger gaps. Pal and Waldfogel (2016) find that non-Hispanic White mothers have larger gaps than non-Hispanic Black mothers until 1993-95; close to the same size gaps in 2001-04 and 2005-07 and then smaller gaps through 2011-13. Hispanic mothers do not have significant gaps for many years between 1969-71 and 2011-13, with gaps that are both significant and smaller than non-Hispanic White women in 1975-86; 1996-98 and 2005-07. Pal and Waldfogel (2014) find that for each decade between 1977 and 2007, Latinas do not experience penalties, except in 1997, while non-Latino White and Black women have penalties in all years.

In a study that adds Asian women to motherhood disparity research, Stone et al (2006) compare annual earnings levels for Filipina, South Asian Indian and non-Latino White women in New York, Chicago and Los Angeles in 2000. Their study varies from many wage gap studies because they use earnings rather than hourly wages as a dependent variable. They include native born women within all three ethnic categories as a reference group and control for decade of immigration. They find that there is a motherhood earnings gap, but it is measured with precision for White women only, with a

4% gap per child, and a smaller in magnitude gap for Filipina women with a 1% gap and South Asian Indian women with a 2% gap. (Stone et al 2006, pp. 274-275)

Motherhood wage gaps may vary by marital status. Pal and Waldfogel (2016) find that married mothers in 2011-13 have a small wage boost, in contrast to a continued wage gap among unmarried mothers. Married mothers had wage gaps from 1967-68 until 2008-10. Budig and England (2001) find that married mothers experience a larger gap than never married mothers.

Motherhood wage gaps also vary by the age of the mother at the time of a first child. Taniguchi (1999) finds that mothers who have a first or only child in their 20s have larger gaps than those who have children at later ages. Ameudo-Dorantes and Kimmel (2005) find that mothers who do not have children before age 30 have smaller gaps than those who have children at younger ages.

Motherhood wage gaps may vary by either ages of mothers or ages of children. There are some findings that the motherhood wage gap may decrease over the life course. Kahn et al (2014) estimate gaps for women from their 20s through age 54 for years 1968-2003, asking whether the size of gaps change over the life course. They find an overall gap of 1.1%, not measured with precision for one child, and 3.1% for two children and 3.3% for three or more children, both measured with precision. Compared to mothers in their 20s, mothers in their 30s have larger gaps, while those in their 40s and 50s have larger gaps with only three or more children. (Kahn et al 2014, pp. 55-56) Pal and Waldfogel (2016) find that mothers with children only under age 6 do not have penalties in recent years, while those with older children continue to face wage gaps. Anderson,

Binder and Kraus (2003) find evidence of smaller motherhood wage gaps for mothers with older children among some education groups.

To my knowledge, only Srivastava and Rodgers (2013) and Pal and Waldfogel (2016) estimate motherhood wage gaps comparing U.S. native born and immigrant women. Srivastava and Rodgers (2013) find that motherhood wage gaps for the general population are 1.3%, 3.5%, 6.9% and 10.8% for numbers of children from one to four or more. These gaps are smaller for immigrant mothers by 1, 2, 3 and 5 percentage points respectively. Pal and Waldfogel (2016) use a methodology similar to Srivastava and Rodgers (2013) when estimating gaps for U.S. native born and immigrant women, finding that immigrant mothers have wage gaps from 1993-95 through 2005-2007 and higher wages than immigrant nonmothers from 2008-10 through 2001-13. Immigrant mothers have wage differentials from a low of less than 2% in 1993-95 to a boost of 4% in 2011-13. (Pal and Waldfogel 2016, p. 120) U.S. native born mothers have wage gaps throughout this time-period. (Pal and Waldfogel, p. 120) Neither of these studies adjust for selection into immigration.<sup>22</sup>

### *Immigrant Women in the Work, Family and Gender Literature*

Work, family and gender and women's labor market studies provide support for the continued direction of studying immigrant mothers in the U.S. labor market. These studies provide theory and evidence supporting hypotheses about immigrant women's motherhood wage gaps when they include and distinguish immigrant women. Differences occur in the areas gender role specialization and experiences with labor markets. (Gary 2011; Roos 2009) Women's labor market studies find that social capital and time to

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<sup>22</sup>Selection into immigration occurs when a population that immigrates has different characteristics than the general population in a country of origin. (Borjas 1987)

assimilate are important immigrant-specific factors affecting outcomes. (England et al 2004; Read and Cohen 2007; Kulkarni 2015)

Finding that immigrant women may have less conflict between concepts of motherhood and employment than nonimmigrants, Garey (2011) includes immigrant women as participants in her study of health service workers. Her work supports research questions that differentiate the experiences of immigrant women in analysis. In particular, her findings relate to theory about gender role specialization and household division of labor. Substantively, her analytic categories include whether mothers are working part time, full time, on night shifts or sequencing work; whether they have reliable affordable child care; choices of jobs so they can be available for children; the levels of support from fathers; and stability of their marriages. Her respondents are racially and ethnically diverse. Theoretically, she contrasts her findings to what she sees as the prevailing view that women are either work or family oriented. Working fathers are not seen as having this conflict because part of their roles as fathers is to be economic providers. She uses the metaphor of weaving as a process and product. She finds that in order to talk about work and motherhood in non-oppositional terms, the women use three main types of conceptualizing: 1) not talking about their work as part of careers 2) distributing motives across time, either between when they are at work or home or at different times in their lives and 3) seeing “breadwinning” as part of being a mother either because they are providers or because they are role modeling for their children. (Garey 2011, p. 45)

African American and immigrant women are more likely, although not the only women, to talk about being providers and role modeling themselves as workers for their children. (Garey 2011, p. 51) While there are only a small number of respondents in this study, the

immigrant women do share a commonality of highlighting their roles as workers as parts of their roles as mothers. This suggests that immigrant women's experiences within families and in the labor market may be different from native born women, possibly due to their own conceptualizations of motherhood and to the resources and supports for paid work within their families.

In contrast to Garey's (2011) finding of more overlap between work and motherhood among immigrant women, Roos (2009) finds that immigrant women hold more traditional views about potentially negative effects of mothers' paid work on their preschool children. This suggests that immigrant women may be more likely to see paid work and motherhood as being at odds, at least when they have young children. The small samples of both studies lead to the question of whether immigrant women have different ethnic or class backgrounds across the studies and whether a larger study of immigrant women would find more diversity of views. Roos (2009) discusses women's increased labor force participation, increased percentages in traditionally male dominated occupations, and separate spheres theories that women, men and employers' cultural beliefs that work in the labor market and family are at odds. Other studies find that African American, working class, poor, immigrant and single mothers do not hold views to the same extent that the spheres are separate. Roos (2009) looks at race differences in labor force participation and attitudes towards working mothers and then further differentiates her respondents by class and immigrant status. Data are from the General Social Survey from years 2000 to 2006 and attitude questions ask about whether preschool children suffer when their mothers work, and whether mothers in the labor force are able to have as secure relationships with the preschoolers as those who are not

in the labor force. She finds race and class differences, with African America and working-class women more likely to work. Immigrant women and working-class women as groups are more likely to believe that labor market participation may affect preschoolers.

Landivar (2016) begins to explore the opting out discussion by ethnicity, categorizing mothers as either Asian, Black, Hispanic or White. She studies both mothers leaving the labor force and those reducing their hours. She finds that White mothers are more likely to leave the workforce than those of other races and ethnicities and that White and Asian mothers are more likely than Black mothers to reduce hours with children. Immigrants are more likely to participate in the labor force with greater time after migration. Higher education is associated with greater odds of opting out for Asian women while the opposite is the case for women of other races and ethnicities. For all groups, higher education is associated with reducing hours as mothers. At the same time, those with higher earnings levels are less likely to opt out. Among Asian women, a household member over age 65 is associated with labor force participation. Landivar's findings add diversity to the discussion of opting out. Given that nativity itself is a differentiating factor in experiences, and that categories of Asian and Hispanic consist of diverse groups of women within them, her findings suggest that further analysis by countries and nativities may provide additional insights.

Some quantitative studies of women's labor force participation find that motherhood is a relevant factor. Women's labor force participation studies of ethnic groups that differentiate women by nativity status and include children as parts of their analyses also suggest that immigrant women may have different outcomes from U.S.



native born women. Studies find that assimilation affects outcomes (England et al 2004; Read and Cohen 2007; Kulkarni 2015). Social capital affects labor market participation. (England et al 2004) Gender role specialization varies by immigrant groups. (Read and Cohen 2007; Kulkarni 2015) One study (Cobb-Clark 1993) under this dissertation's selection bias subheading, studies married immigrant women's wages in the U.S and includes variables related to motherhood.

England et al. (2004) hypothesize that more recent immigrants' barriers to speaking English and lower resource levels and lesser local job experience will result in lower labor force participation rates than their co-ethnic native-born counterparts. (England et al 2004, p. 497) Across Mexican, Cuban and Puerto Rican Latinas, African American and White women, they find that higher rates of education are associated with higher rates of labor force participation, while motherhood is associated with lower rates. Marital status is not predictive. Different education and fertility levels across groups explain parts of the differences in the labor force participation rates. (England et al 2004, p. 495) Motherhood impacts employment less for African American than for other women. (England et al 2004, p. 497) White women work more hours than any of the Latina groups or African Americans. Timing of immigration is significant with those who have been in the U.S. longer being more likely to work. (England et al 2004, p. 503) Latina women have lower employment rates than non-Latina White women. Gaps are smaller for Puerto Rican and Cuban women than for Mexican women. Immigrants have lower employment rates than native-born women. Education levels predict group outcomes with higher educational attainment being correlated with employment. Mexican women's gap with non-Latina White women is mostly explained by education levels, but

also by higher numbers of immigrants and higher numbers of children. Some of White women's gaps with Puerto Rican women remains unexplained after accounting for these factors. Cuban women's small gap is explained by older ages, slightly lower educational attainment and more numbers of immigrants. Each additional child is associated with fewer weeks of employment for all groups. These findings suggest that Latina immigrant women are more likely to work in the labor market given time to assimilate in the U.S. Motherhood has different effects of employment for women by race.

Adding a more diverse group to women's labor force participation studies, Read and Cohen (2007) use Census 2000 data to compare the same model of labor force participation for women from 12 Hispanic, Asian and Middle Eastern ethnic groups. While human capital and nativity are important for all groups, these factors explain employment gaps with White women for Hispanic women much more than for Asian and Middle Eastern women, especially immigrants. The models explain differences between Middle Eastern, Japanese and Hispanic women when compared to White women more than they do for Asian Indian women. (Read and Cohen 2007, p. 1713) Across groups, higher education predicts employment and for those who are immigrants, greater time spent in the U.S. is associated with employment. When compared to White women, it is not education levels, but rather returns to education that affect Chinese and Filipina women. For Japanese and Arab women, education and language skills do not explain differences with White women, and so the authors discuss the need for alternative explanations. Marital status affects employment among Asian Indian, Arab, Mexican and Chinese women. Areas for future research include additional work conceptualizing

assimilation and understanding variations in women's cultural gender roles across ethnic groups. (Read and Cohen 2007, p. 1730)

Findings show that marriage and education are interrelated with work in different ways for different groups of women and that time to assimilate in the U.S. affects work participation. Within the study, the authors discuss their research in context of diversity of immigrant women and needs for more research on their labor force participation. Their finding of a relationship between marital status and employment contrasts with the England et al. (2004) study of Latina ethnic groups, suggesting that family structure may have different effects for Asian and Middle Eastern women.

Kulkarni (2015) estimates married women's earnings as proportions of household earnings for Asian Indian, Chinese, Filipino, Japanese, Korean, and Vietnamese women as compared to native born non-Hispanic White women. Her analysis contrasts immigrant and U.S. native born women within each of these ethnic groups. She uses American Community Survey data for 2009-2011 and estimates models using variables to measure human capital, family structure and assimilation. Theoretically, she contrasts gender role specialization theory with economic independence. (Kulkarni 2015, p. 541)

Across ethnic groups, the gender role specialization prediction that immigrant wives would decrease earnings with husband's labor force participation and higher earnings supports gender role specialization theory. At the same time, higher education among women predicts their own labor force participation. She finds that women's high human capital predicts high earnings less for immigrant Asian Indian and Japanese women than for immigrant and native-born Filipina women relative to White women. Being U.S. native-born or an immigrant does not have the same effect across groups. (Kulkarni 2015,

p. 540) All immigrants except Asian Indians' earnings are higher percentages of their household incomes than White women. Among native born women, Filipino, Japanese and Vietnamese women contribute greater percentages than White women. (Kulkarni 2015, p. 552) Having children below age 5 is positively associated with women having higher earnings as a proportion of household income among Chinese, Asian Indian and White women. The reference group for this finding is married couples who do not have children under age 5, which could include both those without children and those with older children only. (Kulkarni 2015, p. 544)

Kulkarni's (2015) contrast between immigrant and native-born women provides evidence that assimilation occurs across generations since native born women in these ethnic groups are more like U.S. native born White women than are immigrant women. According to Kulkarni, Asian women's labor market participation has not been studied as much as Hispanic and White women. (Kulkarni 2015, p. 540) Kulkarni speculates that Asians have relatively stable marriages, so women may be less likely to enter the labor force as insurance against divorce than other women. (Kulkarni 2015, p. 540) The author interprets her results as supporting the gender role specialization hypothesis over economic independence among Asian married women. (Kulkarni 2015, p. 553) It raises a question for additional analysis as to how similar or different specific Asian ethnic groups of immigrant and native-born women's earnings are to native born White women with single and divorced marital statuses.

Greenman (2011) finds that among scientists and engineers in 1993-1999, Asian American mothers are less likely to take time out of the labor force after child birth and, if they reduce their time out of the labor force, they do so by fewer hours. Asian

American women experience higher earnings growth than White women during this time period, and the difference can be explained by their lower amounts of time out of the labor market.

Lu et al (2017) study mother's employment up to three months before and one year after childbirth covering the time period between 1996-2008. The study uses two measures for extended family, one is whether relatives lived in the household and the other is from SIPP questions about childcare. For family economic conditions, they use other family income, poverty status and homeownership. They control for how long immigrants have been in the U.S. They find that Hispanic and Asian women had stronger labor force attachment after birth of a child than White women. White mothers more likely than others to withdraw or work part time. More recent immigrants are more likely than natives to drop out. Those who immigrated recently, within 5 years, were more likely to work part time, but less recent longer immigrants were less likely to withdraw or work part time than native women. Presence of relatives was associated with both staying employed and with reducing time in employment. The lowest income and the highest income women were more likely than those in between to withdraw from the labor market or reduce hours.

#### *Extended Family and Child Care*

One of the factors that distinguish immigrant women from the general population of U.S. women is the likelihood of varying family structures that include extended family in households. (Sarkinson 2007; Van Hook and Glick 2007) Findings about relationships with extended family are particularly important for motherhood wage gap research because grandparents and other relatives may provide childcare.

Sarkisian et al (2007) find that Mexicans in the U.S. have higher rates of relatives living with them or near them than Euro Americans. Mexican women are also more likely to help relatives with housework or child care. Euro Americans are more likely to give financial support. There are studies cited that support contradictory views of whether Mexican Americans have more or less family integration.

Van Hook and Glick (2007) find that compared to native born Mexicans in Mexico and Mexican Americans in the U.S., recent Mexican immigrants in the U.S. are more likely to be living with extended family or unrelated adults and co-residing family members are more likely to be from the same generation. These living arrangements change over time. They explain Mexican immigrants' differing household structures as due to structural factors linked with immigration.

According to Xie and Goyette (2005), Asian American adults are more likely to have elderly parents living in a household, at 17% in 2000, than White Americans, at 7%. They contrast this demographic to Black families, where parents also are more likely to live in a household. Compared to Black families, Asian Americans are more likely to live in married couple households, so grandparents may provide additional rather than replacement child care resources. The prevalence of multigenerational households among Asian Americans vary by country of origin groups. Reasons for higher prevalence of this family structure are cultural, economic, and due to the greater likelihood of recent immigrants living with family members. (Xie and Goyette 2005, pp. 434-435)

Having reviewed literature that elaborates, applies and builds upon theories of human capital, gender role specialization, intersectionality and migration, the section below discusses literature as it relates to issues surrounding estimating unbiased

motherhood wage gaps. Issues of selection and endogeneity have the potential to affect estimates of the sizes of wage gaps. A number of studies have discussed this possibility.

*Potential Fertility and Employment Selection Biases*

It is possible that the data in this chapter from OLS models are affected by selection bias. OLS itself does correct for some forms of bias, such as that due to varying educational attainments, when those variables are in the wage equation. (Pal and Waldfogel 2016) However, if there is observed or unobserved heterogeneity that is unmeasured in OLS equations, specific variables may be endogenous, or biased, due to correlation between independent variables and the error term in the wage equation. (Kennedy 2008, p. 139-140) This chapter addresses three types of bias that may occur when estimating motherhood wage gaps for all U.S. women and immigrant women, that of women's selection into childbearing, employment and immigration. Several previous motherhood wage gap studies address at least one of the first two types. Techniques include one or more of instrumental variable, including Heckman selection, fixed effects and propensity score matching approaches. (Korenman and Neumark 1992; Neumark and Korenman 1994; Taniguchi 1999; Budig and England 2001; Anderson, Binder, and Krause 2002; Baum 2002; Avellar and Smock 2003; Glauber 2007; Amuedo-Dorantes and Kimmel 2008; Winder 2008; Pal and Waldfogel 2014; Pal and Waldfogel 2016) This chapter uses instrumental variables and median regression to assess whether wage gap estimates are biased.

The first type is bias associated with motherhood. Women who become mothers or have additional children may have different skills, preferences for wealth or perspectives about childbearing, either observed or unobserved, from women without

children. (Budig and England 2001; Pal and Waldfogel 2016) Researchers using longitudinal data use person and time specific fixed effects models to eliminate bias resulting from unmeasured heterogeneity associated with motherhood. (Korenman and Neumark 1992; Budig and England 2001; Anderson, Binder, and Krause 2002; Avellar and Smock 2003; Amuedo-Dorantes and Kimmel 2008; Winder 2008) Budig and England (2001) find that fixed effects models reduce the penalties in OLS models with a greater reduction from a single year than with pooled data. In addition to using fixed effects, Winder (2008) uses an instrumental variable approach with number of weeks spouse was unemployment lagged 4-5 years and child care centers per capital within state interacted with urban residence (Winder 2008, pp. 14-15). She finds that her instrumental variables, chosen to account for possible time varying economic effects on fertility, eliminate motherhood wage gap estimates among women continuously employed for the length of the study. In an earlier instrumental variable approach, Korenman and Neumark (1992) use family background and attitude variables, finding that they do not reduce the gap. Pal and Waldfogel (2014 and 2016) are the first, to their knowledge, to use propensity score matching to address possible bias due to differences between mothers and nonmothers. They find a small reduction in motherhood wage gaps, noting that this method eliminates observed but not unobserved bias.

Korenman and Neumark (1992) use the National Longitudinal Survey of Young Women, with most estimates from the 1982 wave with respondents ages 28-38. Their instruments are variables for family background and measures of attitudes and expectations related to gender roles. They cannot conclude that fertility is endogenous.



Neumark and Korenman (1994) use the National Longitudinal Survey of Young Women, first with data for 1982 and then from earlier years when there is missing data. In the methods section, they describe the first stage as an OLS equation. They say that fitted values from this equation are then substituted into the second stage. Their instruments are again variables for family background and measures of attitudes and expectations. In the model taking into account potential fertility endogeneity (Neumark and Korenman 1994, column 3 of Table 3, p.393, with first stage coefficients on instruments in Appendix Table A2), there is a negative coefficient for the number of children variable, -14.9% in percentage terms, and a positive number in a row labeled number of children residual (10.5). They are not able to reject exogeneity (Neumark and Korenman 1994, p. 394) After Table 4, which has results for only Black women, they again conclude that they cannot say that fertility is endogenous. Coefficients in the model are a positive 1.9% for numbers of children and -2.9 for numbers of children residual.

Amuedo-Dorantes and Kimmel (2005) use an instrumental variable approach with data from the year 2000 wave of the NLSY79. They use a dummy variable for motherhood. They also have a delayed motherhood (after age 30) dummy variable that they instrument for since this is a focus of their paper. They estimate bivariate probits for both motherhood and delayed motherhood. They include predicted probabilities in the wage equation. Instruments are family background characteristic that include mother's highest grade completed, father's highest grade completed, and a dummy variable for whether a woman was living with her parents at age 18. (Amuedo-Dorantes and Kimmel 2005, p. 26) The motherhood wage gap from an initial OLS model is 5.1%. When they control for delayed motherhood, the gap is 6.5%. With both fixed effects and

instrumental variables for fertility, the gap is 7.4% When they also correct for the endogeneity of a delayed motherhood variable, the gap becomes 6.3%. (Amuedo-Dorantes and Kimmel 2005)

Winder (2008) uses the National Longitudinal Survey of Youth 1979 data for years 1985-1998 separating analyses for White and Black women. Her instruments are the number of weeks a spouse spent unemployed lagged by 4-5 years; and childcare centers per capita interacted with whether a woman lives in an urban or rural area. Her variable for children is a linear number of children variable. With a model using fixed effects and both instrumental variables, she finds that White women have a positive and significant coefficient of .195 on the number of children variable in a second stage wage equation. The coefficient is insignificant and -.122 for Black women. Using only childcare availability as an instrumental variable, she obtains a positive .071 for White women and a negative -.002 for Black women, neither of which is measured with precision.

This chapter uses childcare costs as an instrumental variable to predict fertility. Child care is estimated as a high cost area in basic needs budgets. (Center for Women's Welfare Self-Sufficiency Standard reports<sup>23</sup>; Child Care Aware 2017) Among categories of housing, college tuition, transportation, food and health care, full time center-based care for an infant and four-year-old, exceeds all other costs in the Northeastern and Midwestern U.S. and is second to housing in the West and South. (Child Care America 2017, p. 20) Center-based infant care ranges from approximately 7-17% of median

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<sup>23</sup> <http://www.selfsufficiencystandard.org/self-sufficiency-standard-state>, accessed March 14, 2018

income for married couples, with variations by state. It is over 27% of median income for a single parent in all states. (Child Care Aware 2017, pp. 12-13)

Child care costs may be predictive of childbearing. Blau and Robins (1989) find higher child-care costs to relate to lower birth rates for women who are not employed but not for employed women. They also find that higher child-care costs are associated with higher rates of exiting employment and lower rates of entering employment. Winder (2008) finds that child care centers per capita are an effective instrument to reduce bias created by fertility endogeneity. Both numbers of child care centers and costs may affect women and families' ability to access child care.

The second type of bias that motherhood wage gap researchers address is that of selection into employment. Mothers who might experience the largest wage gaps may choose to stay out of the labor market (Budig and England 2001; Pal and Waldfogel 2014). With an alternative theory, Youderian (2014) hypothesizes that potentially higher earning mothers who prefer spending time out of the labor market while caring for their children, and have the economic resources to do so, may have different employment reservation wages than women without children. Researchers addressing employment selection have used the Heckman correction approach. (Korenman and Neumark 1992; Amuedo-Dorantes and Kimmel 2005; Glauber 2007; Pal and Waldfogel 2014)

Findings vary as to whether employment selection creates biases. Two studies find zero or limited cases of employment selection bias. (Winder 2008; Glauber 2007) Korenman and Neumark (1992) find an increase in gaps after correction, while Amuedo-Dorantes and Kimmel (2005) find a small decrease. Pal and Waldfogel (2014) find a small increase in motherhood wage gaps after correcting for employment selectivity

using household income net of a woman's earnings as an instrumental variable. Using unemployment rates and state per capita welfare receipt rates, Winder (2008) also does not find changes.

Korenman and Neumark (1992) use a Heckman correction model to correct for employment selection on women's wages. Their instruments are husband's income, income from alimony or child support, and weeks husband was unemployed in previous year. With a cross section of data from 1982, they find that motherhood wage gaps increase from 5% to 7% for one child and 18% to 22% for two or more after correcting for employment selection.

Glauber (2007) uses a Heckman model and finds that most results are the same in the selection and nonselection models. (Glauber 2007, p. 954). One result that is different between selection and nonselection models is that never married African American mothers with four or more children have smaller estimates with the selection model.

Ameudo-Dorantes and Kimmel (2005) correct for employment selectivity in the same paper in which they address fertility endogeneity. Their motherhood wage estimate of 6.5% becomes 3.5% with an employment correction, and 6.2% with an employment correction and fixed effects models. They find a decrease in motherhood wage gaps with a Heckman correction model using mothers and nonmothers' parents' education levels and residence with parents at age 18 as instrumental variables.

In addition to being predictive of fertility, child care costs may also be predictive of employment. (Michalopoulos and Robins 2000; Boeckmann et al 2015; Powell 2002; Han and Waldfogel 2001; Morrissey 2017) In 2011, only 12% of children with employed mothers did not have regular child care arrangements compared to the majority of

children (72%) whose mothers were not employed. (Child Care Databank Indicator, ChildTrends<sup>24</sup>)

Michalopoulos and Robins (2000) find that the U.S. and Canada are similar in mothers' employment and child care decisions. With U.S. data from 1990 and Canadian data from 1988, they find that child care costs and subsidies affect mothers' employment. Mothers of infants are less likely to work than those with older preschool children.

In cross country analysis, Boeckmann et al (2015) find that public funded child care is associated with smaller gaps in mothers' employment and work hours. Family leave is associated with mothers' smaller gaps in employment and work hours when it is job protected and paid. Long unpaid leave is associated with larger gaps, as is the lack of leave policies. (Boeckmann et al 2015, p.1325)

Powell (2002) analyzes data for Canada in 1988 and finds that mothers' employment is affected by child care costs. Childcare subsidies also affect employment decisions. Non-English, French speaking immigrants are more likely to use a relative for child care (p. 115) High earning mothers are more likely to use a center or child sitter and low earning mothers were more likely to use a relative or spouse for care than others. (Powell 2002, p. 115)

Laughlin (2013) finds that mothers' increases in employment during the 1980s and 1990s created a greater demand for child care. (Laughlin 2013 pp.8-9) Rates of child care center and father provided care have increased since 1997. (Laughlin 2013, p. 11) Half of grade school age children 5-14 were in some form of child care other than school or taking care of themselves. Lower percentages of school age children were in non-

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<sup>24</sup> <https://www.childtrends.org/indicators/child-care/>, accessed November 9, 2017

relative care than preschool age children. Five percent of school age children were in organized care. (Laughlin 2013, p. 12) Fewer Latino children (7%) were in self-care than non-Latino White children. (Laughlin 2013, p. 13) Mothers with low incomes or participation in other programs may receive child care subsidies (Laughlin 2013, p. 17) Six percent of parents reported receiving financial help from a government program, other parent, employer or other source. Parents received financial help from some source for 7.5% of non-Latino White children and 4.9% of Latino children. (p. Laughlin 2013, p. 19)

Han and Waldfogel (2001) find that child care costs negatively affect employment among mothers with pre-school age children. These effects are larger for single than for married mothers. They use 1991-94 CPS data. They use Survey of Income and Program Participation to estimate child care cost estimates. They construct a child care regulatory index and a measure of child care monitoring intensity to use as proxies for child care quality. They have a measure for child care availability.

### *Median Regression*

In this chapter, I also use median regression. Median regression is different from the instrumental variable approaches described above. Researchers used it to estimate the Black-White wage gap among men in the 1990s and 2000s. (Neal and Johnson 1996; Johnson et al 2000) Motherhood wage gap researchers have also used it in some studies since 2010. (Budig and Hodges 2010; Killewald and Bearak 2010; Budig and Hodges 2014; England et al 2016)

Johnson et al (2000) use median regression to correct for selection bias by estimating the wage gap between Black and White men who are both within and outside

of the labor market. They assign all individuals outside of the labor market with a wage value of 0. They then estimate median log wages. They find that the wage gap is larger when their model includes individuals who are not working.

Johnson et al (2000) build from Neal and Johnson (1996). Neal and Johnson (1996) assign hourly wages of one cent to those not in the labor force (Neal and Johnson 1996, p. 883) Their analysis rests on the assumption that individuals who do not participate in the labor market have “wage offers” (Neal and Johnson 1996, p. 881) below the median of those with “comparable” skills. They note that they do not use this strategy for women because child care may factor into employment decisions and so the link between wage offers and employment “may be weakened”. (Neal and Johnson 1996, pp. 881-882, footnote 21) However, later studies of mothers use median regression. (Budig and Hodges 2010; Killewald and Bearak 2014; England et al 2016)

Budig and Hodges (2010) use quantile regression to estimate motherhood wage gaps. They find that mothers with the lowest wages have the largest gaps between 1979 and 2004. Mothers with relatively high wages also experience gaps.

Killewald and Bearak (2014) revisit Budig and Hodges (2010) use of quantile regression to answer the question of whether motherhood wage gaps vary by where women fall within the wage distribution. Rather than defining quantiles according to a wage distribution conditional on covariates in regression models, Killewald and Bearak (2014) define quantiles prior to running regressions, referring to their method as unconditional quantile regression. They argue that this technique is a more effective method for studying how motherhood wage gaps vary by women in different wage groups than a conditional wage distribution. With data for White women from 1979-

2004, they find that mothers in the middle of the wage distribution have larger gaps than either lower or higher earning mothers.

In a reply to a critique from Killewald and Bearak (2014), Budig and Hodges (2014) support their original conclusion that lower earning women have larger motherhood wage gaps than higher earning women and discuss the use of unconditional rather than conditional quantile regression as appropriate for questions studying contextual effects with multivariate models in contrast to causal models.

England et al (2016) also use unconditional quantile regression and estimate motherhood wage gaps for White women between 1979-2010. They find that before controlling for work experience, mothers with the highest skills and highest wages have the largest wage gaps. After controlling for experiences, the sizes of their wage gaps do not vary from lower skilled and lower waged mothers.

#### *Potential Immigration Selection Bias*

The third type of potential bias this chapter addresses is that of selection into immigration. Individual characteristics that motivate women to immigrate, employer recruitment practices, social and economic conditions and laws and policies may differentiate U.S. immigrant women from both the native populations in their countries of origin and the native-born U.S. population. (Alba and Nee 2003; Feliciano 2006) After entering the U.S, immigrant women may differ from the general population in the resources and networks they can access from families and communities that may help them balance work and motherhood. (Sarkisian et al 2007; Van Hook and Glick 2007; Lu et al 2017) Immigrant women may vary in cultural beliefs about gender role specialization and labor force attachment. (Gary 2011 Read and Cohen 2007; Kulkarni



2015) There may be individual heterogeneity between immigrants and nonimmigrants and relationships between work, subsequent wages and motherhood may vary for immigrant women due to their selection into immigration.

There also may be continuing effects from countries of origin after immigration. (Feliciano 2008) Srivastava and Rodgers (2013) find an inverse correlation between the Gender Development Index (GDI) in immigrant women's countries of origin and motherhood wage gaps. Women from countries with higher GDIs have larger motherhood wage gaps. This may be due to lasting effects of country of origin social policies on work and motherhood decisions.

Selection into immigrant status may potentially bias motherhood wage gaps in either an upward or downward direction. If immigrant women have greater labor force attachment because they immigrated for employment reasons or are sending financial remittances to family members in their countries of origin, their motherhood wage gaps may be smaller than the general population. They may also be smaller if, as some literature suggests, there is less conflict between mother and worker roles as conceptualized by immigrant women and their families. (Gary 2011) Or, immigrant mothers may find that new opportunities in the U.S. for work outside of homes improve the power dynamics within families. (Grasmuck and Pessar, 1991, pp. 144-161) Immigrant mothers' wage gaps may be bigger if a double disadvantage of immigrant status and nativity (Boyd 1984) combines with a motherhood disadvantage to affect immigrant mothers to a greater extent than immigrant women without children. Previous studies have not estimated immigrant mothers' wage gaps by correcting for immigrant selection bias. They have corrected for this type of bias for men's wages (Borjas 1987),

married women's wages (Cobb-Clark 1993) and educational attainment. (Huh 2017; Feliciano 2008)

Borjas (1987) finds evidence for immigrant selectivity with both observed and unobserved characteristics in a study of men's wages. Building from Roy (1951) and Sjaastad (1962), he develops a theoretical framework and empirical analysis using variables measuring economic and political conditions in countries of origin at times of immigration. He refers to this as a wealth maximization model. A central idea of the model is that who emigrates from a particular country, and the characteristics individuals are likely to have, is linked to the difference in income inequality between a country of origin and a country of destination, once migration costs are controlled. Immigrants who are not refugees may be more likely to be "positively" or "negatively" selected from within their country of origin depending on how that country's inequality level compares with that in the U.S. Additional country characteristics may also affect immigrant selectivity. (Borjas 1987)

Borjas (1987) studies wage differentials in the U.S. His data is for comparisons between immigrants in the U.S. and nonimmigrants in the U.S. He finds that country of origin-level variables explain over two-thirds of differences in immigrants' incomes. (Borjas 1987, p. 522) Economic variables include log of per capita GNP, average annual change in per capita GNP over a period of time, and a measure of income inequality using the ratio of income from households in the top 10% compared to the bottom 20%. The number of air miles from a country capital to the nearest immigrant gateway location in the U.S. is a measure for distance. Political variables from countries of origin for a specified time period include whether there is continuous political party competition,

whether there was political party completion that the country lost, and the number of political assassinations from the Cross-National Time-Series Archive. Regressions also include the fraction of recent immigrants without English language barriers and the average age of immigration by country. (Borjas 1987, pp.544-45) Continent dummy variables don't have a large effect. (Borjas 1987, p. 547)

Studying married immigrant women's wages in the U.S. in 1983, Cobb-Clark (1993) finds that, similar to Borjas' (1987) work on men, country level variables can address selectivity bias. Immigrants have higher wages in the U.S. when home country GDP is high and home country returns to education and income inequality are low. (Cobb-Clark 1993, p. 992) In addition to these three variables, she includes variables in her equations for percentages immigrating for work, a dummy variable for household rather than single immigration, distance, numbers of immigrants from the same country in the U.S., and numbers of visa backlogs relative to country of origin population. (Cobb-Clark, 1993, p. 998) She uses a nonlinear model. Cobb-Clark (1993) includes country level selectivity variables as macro variables in a single wage equation rather than using a two-stage model, which she finds would require additional data about home country populations to conduct her analysis. While not the focus of the study, there is a variable for presence of children under age 5 and a variable for number of children age 5 or older in wage equations. Coefficients for these variables are not measured with precision. Depending on the model, wages decline for the number of children age 5 and older by 11.0-17.2%. (Cobb-Clark 1993)

Huh (2017) analyzes immigrant self-selection by educational attainment using the United Nation's Gender Empowerment Measure (GEM), Gini coefficient and a measure

for bilateral distance. (p. 129)<sup>25</sup> She follows Borjas (1987) and Chiswick (1999) in theorizing that relative inequality between immigrants' countries of origin and destination influence who migrates. She finds that the GEM impacts women's selectivity with little evidence for an association with men's. The Gini index is associated with selectivity for both sexes, with a stronger association with men's. (Huh 2017, pp. 136-137) Distance is significant for both men and women. More highly educated women migrate to the U.S. when there is high gender inequality, high migration costs and lower income inequality in countries of origin. With data for 42 countries of origin, she finds that immigrants from all countries are positively selected and that women tend to be more positively selected on education than men. Degree of selectivity varies by country and time of immigration (p. 133) The effects of women's labor force participation in countries of origin is similar, although smaller, to that of the GEM. (Huh 2017, p. 137)

Feliciano (2008) finds that between 1960 and 2000, both male and female immigrants from Mexico in the U.S. are positively selected on education. Women are more positively selected than men. Women have higher educational attainment in earlier compared to later decades. Feliciano (2008) references difference between Borjas (1987 and 1991) who says that immigrants from some countries are negatively selected and Chiswick (2000) who find support for arguments that all immigrants are positively selected, however less so from some countries than other countries. (Chiswick 2000, pp. 67, 71)

Cohen and Haberfeld (2007) find that Jewish male and female immigrants from the former Soviet Union self-select on both observed and unobserved characteristics.

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<sup>25</sup> The GEM is similar to the more recent Gender Inequality Index (GII). This dissertation's data and methods sections contain more information about the GII and Gini coefficients.

They use evidence of earnings assimilation differences between immigrants in the U.S. and Israel to support the claim that there are unobserved differences that affect productivity. They find that a 1989 U.S. policy change affecting refugee status impacted the educational selectivity of women more than men. (Cohen and Haberfeld 2007, p. 655)

In this chapter, I follow Borjas (1987) and Huh (2017) and use Gini coefficients to address immigrant selectivity. I also use the United Nation's Human Development Programme's Gender Inequality Index, which is similar to the Gender Empowerment Measure that Huh (2017) uses.

### Hypotheses

Motherhood wage gap theory and findings from work, family and gender literature support the hypothesis that mothers will experience wage gaps due to human capital differences, gender role specialization and job characteristics.

#### *Hypothesis 1: U.S. Mothers Have Lower Wages than Women Without Children*

Theory and findings about immigrant women in work, family and gender and labor market studies suggest immigrant women may have different experiences but also disparities related to motherhood. Intersectionality theory suggests that immigrant women may have different outcomes than nonimmigrants. (Bastia 2014) Human capital accumulation may differ for immigrant women. (England et al 2004; Read and Cohen 2007) Gender role specialization may vary. (Garey 2011; Kulkarni 2015; Roos 2009) The double disadvantage found by Boyd (1984) also suggests that immigrant women may have different outcomes than nonimmigrants.

*Hypothesis 2: U.S. Immigrant Mothers Have Lower Wages than U.S. Immigrant Women Without Children*

Theory and evidence lead to a hypothesis that immigrant mothers will have different size gaps than all U.S. women, with some support that immigrant mothers' wage gaps will be larger and stronger support that they will be smaller. Support that immigrant women will have larger motherhood wage gaps than the general population suggests that immigrant women may be disadvantaged in the labor market for reasons such as fewer resources, limited English proficiency, less work experience in the U.S., and non-transferable education, skills, degrees, or work experience. (Duleep and Sanders 1993; England et al 2004; Read and Cohen 2007) If motherhood adds a triple disadvantage that widens the gap between immigrant mothers and immigrant women without children more so than nonimmigrant mothers and nonimmigrant women without children, immigrant's motherhood wage gaps may be larger than U.S. native born women.

Another reason that immigrant women may have larger motherhood wage gaps is increased gender role specialization combined with a view of separate spheres between work and home. If immigrant women or their spouses and families have more traditional views of gender roles than U.S. born women and also separate spheres ideology, gender role specialization may be stronger for immigrant women and this may cause them to invest less in the labor market than nonimmigrant women.

Theory and evidence also support that immigrant mothers will have smaller wage gaps than nonimmigrant mothers. Immigrant women may be more likely to be living with

additional family members who can provide child care, assisting them to invest time and effort in the labor market. (Sarkisian 2007; Van Hook and Glick 2007; Xie and Goyette 2005)

Immigrant women may have less gender role specialization combined with separate work and home spheres ideology. (Garey 2011 ) Immigrant families and spouses may be more supportive of women's investments in the labor market. And, mother's labor market income may have additional importance to families for immigrant specific reasons such as supporting spouses while they gain U.S. specific education and skills and sending remittances to countries of origin. (Duleep and Sanders 1993; Park et al 2017)

*Hypotheses 3: Motherhood Wage Gaps Amongst Immigrant Women Will Differ from Those Amongst All U.S. Women*

Literature suggests that fertility may be endogenous in wage equations. Women who become mothers may be different from women who do not become mothers in ways that also affect their wages. (Budig and England 2001; Pal and Waldfogel 2016). Also, women may time child birth to occur during periods when they expect low wages or low wage growth. (Winder 2008) If this is the case, statistical models estimating motherhood wage gaps may have a problem of correlated independent variables and error term. A statistical fix is required to estimate the unbiased motherhood wage gap.

*Hypothesis 4: Accounting for Fertility Endogeneity Narrows Motherhood Wage Gaps*

If mothers who would have low wages relative to women without children remain outside the labor market, employment selectivity may cause an underestimate of motherhood wage gaps. If mothers who would have high wages relative to women without children stay out of the labor market, employment selectivity may cause an overestimate of motherhood wage gaps.

*Hypothesis 5: Correcting for Employment Selection Changes Motherhood Wage Gaps*

Correcting for selection into immigration may change immigrant mothers' wage gaps. If immigrant women are selected among those with higher skills than the general populations in their countries, and in general, high skilled women have greater motherhood wage gaps, correcting for selection bias may reduce immigrant mothers' wage gaps. Immigrant mothers may have greater labor force attachment than U.S. native-born mothers because they immigrated for employment reasons or are sending financial remittances to family members in their countries of origin. If this is the case, immigrant mother's wage gaps may be smaller than U.S. native born mothers. If there are underlying characteristics related to selection bias that differentiate the immigrant population, correcting for selection bias may result with estimates for immigrants' motherhood wage gaps to be more similar to U.S. native-born mothers' gaps.



*Hypothesis 6: Immigrant mothers' wage gaps change after controlling for immigrant selectivity*

## Data

Data for this chapter are from a 5% sample of the 2000 U.S. Census Bureau's Public Use Microdata Files (PUMS) and a 5% sample of the U.S. Census' Bureau's 2015 American Community Survey (ACS) Five-Year Averages. (Ruggles et al 2018) Data files are from the University of Minnesota's Integrated Public Use Micro Data Series. Both samples are restricted to women ages 25-49 who are not in the military.

Table 1<sup>26</sup> provides variable definitions. This chapter follows data definitions and methodology from Srivastava and Rodgers (2013) for the OLS wage equations, with some modifications. The dependent variable is the natural log of hourly earnings. This chapter calculates hourly earnings by dividing annual income from wages or salary during the previous year by the product of weeks worked during that year and the number of hours usually worked per week. For Census 2000, weeks worked is a continuous variable. For the 2015 ACS, only a categorical variable is available. This chapter follows guidelines that the U.S. Census Bureau provided to the Center for Women's Welfare to assign a number of weeks to each category.<sup>27</sup> This chapter adjusts wages in 2000 to 2015 annual averages using the Consumer Price Index - All Urban Consumers with base year 1982-84.<sup>28</sup>

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<sup>26</sup> Throughout this chapter, tables are referenced by the number following the decimal point in table titles.

<sup>27</sup> Values are 13 weeks or less = 7; 14 to 26 weeks = 21; 27 to 39 weeks = 32; 40 to 47 weeks = 44; 48 to 49 weeks = 48; and 50 to 52 weeks = 52. (communication with Lisa Manzer, Center for Women's Welfare, November 18, 2016)

<sup>28</sup> U.S. Bureau of Labor Statistics, [https://data.bls.gov/timeseries/CUUR0000SA0?output\\_view=pct\\_1mth](https://data.bls.gov/timeseries/CUUR0000SA0?output_view=pct_1mth)

To conduct median regression analysis, this chapter constructs a new dependent variable in the same way as the dependent variable for OLS described above, except instead of assigning women without income from wages or salary to have missing values, this chapter assigns them a value of one cent before taking the natural log of wages.

Following Srivastava and Rodgers (2013), this chapter measures motherhood wage gaps with dummy variables for women with one, two, three and four or more children, with a reference dummy variable for women without children. The variables for number of children include any biological, adopted or stepchildren in a household, but exclude foster children. This chapter constructs an immigrant variable, which is described below, and creates new interaction variables with an immigrant status variable and each of the number of children variables to capture any additional effects to motherhood wage gaps among immigrant women.

Variables for race, ethnicity, and educational attainment capture individual demographic information. Variables for race are dummy variables with White as a reference variable. A separate dummy variable captures whether a woman is Hispanic/Latino. A dummy variable for less than high school completion is the reference for eight additional educational attainment dummy variables.

Four variables capture family and household characteristics. I use the Census variable for the age of youngest own child in a household to construct a dummy variable for whether a woman has a child younger than age 6. Marital status variables are dummy variables that include married spouse present, married spouse absent, separated, widowed, and divorced as dummy variables with never married as the reference category. This chapter measures income from individuals within a household other than

a woman herself by subtracting total personal income from total household income to create a variable with the natural log of this income. This chapter creates a variable for the number of related adults in the household by subtracting one for the respondent and the number of her children from a Census variable for family size.

Following Srivastava and Rodgers (2013), several variables capture work experience and job, occupation and industry characteristics. Models include a variable for age. A variable for age squared measures work experience (Miller 1993). Fifteen dummy variables for industry use broad Census categories, with the variable for education, health and social service as a reference category. I use Census codes to construct the percentage of women in every occupation from a file without age or sex restrictions and merge it with the main dataset. Dummy variables for whether Census classifies a job as professional or managerial; self-employment; and part-time worker if usual hours worked per week are less than 35 hours provide additional work-related information.

This chapter defines immigrant women as first-generation immigrants born outside the U.S. and U.S. territories. The 2000 U.S. Census and 2015 American Community Survey Five-Year Averages do not distinguish documented and undocumented immigrants.<sup>29</sup> This chapter uses the Census variable for a woman's birthplace to determine whether she is a first-generation immigrant. Immigrant status is a

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<sup>29</sup> This chapter's conclusion discusses representation of undocumented immigrants in Census data. Estimates for numbers of undocumented immigrants in the U.S. are approximately 11 million. Migration Policy Institute estimates using 2010-14 American Community Survey (ACS) and 2008 Survey of Income and Program Participation data that 46% of undocumented immigrants are women and 39% of the undocumented population age 15 and older resides with children under age 18. Passel et al (2014) estimate that in 2012, 38% of undocumented immigrants live with either adult or minor U.S. born children. Jensen et al (2015) estimate coverage rates for the ACS 2001-2009. Among the foreign born there do not appear to be coverage problems with non-Hispanics, but Hispanics appear to be underrepresented. Rates of possible underrepresentation are lower for women than for men.

dummy variable for whether a woman was born outside the U.S. and U.S. territories. Since those who immigrated as children may be different from both natives and from adult migrants (Rumbaut 2004), this chapter constructs a dummy variable for whether women immigrated after age 18 by subtracting a Census variable for years in the U.S. from age.

Several variables capture immigrant characteristics. This chapter constructs four dummy variables for time of immigration, before 1970 as a reference category, 1970s, 1980s and 1990s in both the models for 2000 data and 2015 data, and an additional variable for 2000 and after in the models for 2015. A dummy variable for English speaking ability is measured as either those who speak only English or speak another language and English very well collapsed into one category and those who speak English less than very well, either reporting that they speak English well, speak English but not well, or do not speak English collapsed into an alternate category. To capture the potential for immigrant networks and enclaves, this dissertation constructs a variable for the percentage of immigrant women from the same country of origin within a Census metropolitan out of all immigrant women from that same country of origin in the U.S.

Four dummy variables represent region of U.S. residence. The Northeast is a reference for the Midwest, West and South.

For immigrant selectivity analysis, this chapter uses a sample with an additional restriction. This sample includes the same restrictions as described above with the additional limitation that only the most recent immigrants – those who immigrated in 2005 or later – are included in the sample. Within this sample, there are 1,502,690 observations of women with wages, with 58,084 (3.9%) immigrants. There are 23,973

immigrant women for whom the Gini is available; 51,143 for whom the GII is available; and 23,531 for whom both instruments are available.

This chapter constructs instruments from four data sets to assess whether motherhood wage gaps are biased. The first instrument is from the log of center-based child care costs. Child care data for this measure are from Child Care Aware of America and population data are from the 2011-15 American Community Survey, provided through IPUMS. (Ruggles et al 2018) Child Care Aware of America surveys state and local Child Care Resource and Referral entities and disseminates child care cost information for infant, four-year old, and school age children (Child Care Aware of America, 2016, p. 30). Cost estimates are for center-based care in 2015. In the 2016 Child Care Aware report with 2015 data, Indiana, Maine, Pennsylvania and South Carolina did not report information. Child Care Aware adjusted the price of child care in these states from prior years' data. Colorado was unable to report data in a manner similar to other states and as a result is not included in cost or affordability comparisons. This chapter assigns costs for additional states with missing information. For the school age category, center-based care costs for Arkansas, California, Nebraska, Texas, and West Virginia are from the 2015 report for 2014 data, adjusted using the CPI-U. For the school age category, Minnesota and North Dakota center-based cost estimates are the averages of the 5 other states in the West North Central part of the Midwest - Iowa, Kansas, Missouri, Nebraska and South Dakota.<sup>30</sup>

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<sup>30</sup>The U.S. Census groups together Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota as Division 4 – the West North Central part of the Midwest. (U.S. Census, “Geographic Terms and Concepts: Census Divisions and Census Regions,” [https://www.census.gov/geo/reference/gtc/gtc\\_census\\_divreg.html](https://www.census.gov/geo/reference/gtc/gtc_census_divreg.html), accessed November 1, 2017)

The child care cost instrument is the log of a weighted average of center-based child care costs for each state. This chapter uses center-based care because there has been a trend toward increased child care center utilization as a form of childcare by mothers working in the labor force. Only 13% of children with mothers employed in the labor force were in center based programs in 1977, increasing to 30% in 1993, dropping to 23% in 1997 and increasing again to 26% in 2011. (Child Care Databank Indicator, ChildTrends<sup>31</sup>) This chapter constructs state-level population weights for children less than one year old, one to four years old, and five to twelve years old with the 2015 American Community Survey. (Census 2011-15 5-year ACS, Tabulations with IPUMS Online Data Analysis System, Ruggles et al. 2018<sup>32</sup>) Age twelve or thirteen are cited as ages when children may be able to take care of themselves without an adult or older child present. (Safe Kids Worldwide<sup>33</sup>) In 2011, 33% of 12-14-year-old children took care of themselves for some periods of time, compared to 10% of 9-11-year-old children (Child Care Databank Indicator, ChildTrends<sup>34</sup>) Having calculated population proportions by children's ages, this chapter then adjusts the center-based child care costs by population proportions for each state.

This chapter uses Gini and GII measures to create immigrant selectivity instruments for use in two stage least squares estimates (2SLS). The Gini index measures income or consumption expenditure inequality among either individuals or households. An index of 0 indicates complete equality and an index of 100 indicates complete

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<sup>31</sup> <https://www.childtrends.org/indicators/child-care/>, accessed November 9, 2017

<sup>32</sup> <https://usa.ipums.org/usa/sda/>

<sup>33</sup> <https://www.safekids.org/frequently-asked-questions>, accessed November 9, 2017

<sup>34</sup> <https://www.childtrends.org/indicators/child-care/>, accessed November 9, 2017

inequality.<sup>35</sup> The World Bank provides a dataset with Gini indices from several sources by country.<sup>36</sup> I use Gini coefficients from the sources of World Income Distribution, Povcal, Survey of Income and Living Conditions, Socio-economic Database for Latin America and the Caribbean, Luxembourg Income Study, and World Bank's Eastern Europe and Central Asia datasets. Additional information about these datasets are available from World Bank technical documents. (Milanovic, 2016)

For each of the years, this chapter assigns immigrant women a Gini for their country for the first available Gini index from an ordered list. Sources are in the order of World Income Distribution, Povcal, Survey of Income and Living Conditions, Socio-economic Database for Latin America and the Caribbean, Luxembourg Income Study, and World Bank's Eastern Europe and Central Asia datasets. World Bank uses this data with that from three additional sources as data that may be combined. (Milanovic 2016) I assign U.S. born women the World Income Distribution Gini for 2008, the only year a U.S. Gini is available during the 2005-2015 time-frame.

The United Nations Development Programme's Gender Inequality Index (GII) measures the effects of gender inequality on human development. The GII is a single measure composed of indicators within the three dimensions of health, empowerment and labor market. The health indicators include maternal mortality ratio and adolescent birth rate. The empowerment dimension consists of measures of female and male secondary education rates and female and male shares of parliamentary seats. The labor market

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<sup>35</sup>[http://databank.worldbank.org/data/Views/Metadata/MetadataWidget.aspx?Name=GINI%20index%20\(World%20Bank%20estimate\)&Code=SI.POV.GINI&Type=S&ReqType=Metadata&ddlSelectedValue=SAU&ReportID=43276&ReportType=Table](http://databank.worldbank.org/data/Views/Metadata/MetadataWidget.aspx?Name=GINI%20index%20(World%20Bank%20estimate)&Code=SI.POV.GINI&Type=S&ReqType=Metadata&ddlSelectedValue=SAU&ReportID=43276&ReportType=Table), accessed February 5, 2018

<sup>36</sup> <https://data.worldbank.org/data-catalog/all-the-ginis>, accessed January 6, 2017

dimension is divided into female and male labor force participation rates.<sup>37</sup> UNDP has GII measures for 2005 with a five-year gap until 2010 and then annually through 2015.

The GII is available for five-year intervals from 1995 until 2010, when it is available annually. This chapter assigns women who immigrated during 2005-2009 the 2005 GII value, with those immigrating in later years, the value for year of immigration. In 2005, the GII ranges from a low of .053 for Sweden to .791 for Yemen. All U.S. born women are assigned the U.S. GII of .254 for year 2010.<sup>38</sup>

Gonzalez et al (2015, p. 4, 8, 14) find that for 1990-2010, the GII and Gini from the Luxembourg Income Study are strongly associated, with a change from a GII of 0 to 1 corresponding to a nearly 10 percentage point increase in the Gini, net of other factors associated with income inequality. The parts of the GII that are most associated with the Gini vary by country economic development levels. Thus, the GII may provide a more comprehensive and nuanced measure for country differences than the Gini.

### Methods

To estimate motherhood wage gaps, this chapter follows Srivastava and Rodgers (2013) who use a model similar to Glauber (2007). With an OLS model, this chapter regresses the natural log of hourly earnings on dummy variables for one, two, three and four or more children. Women without children are the reference for each of these variables. This chapter then adds independent variables with additional demographic information including measures for human capital, family structure, and work and occupation characteristics. With a third model, this chapter includes only the four dummy

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<sup>37</sup> <http://hdr.undp.org/en/content/gender-inequality-index-gii>, accessed February 5, 2018

<sup>38</sup> <http://hdr.undp.org/en/data>, accessed January 6, 2017



variables for children, a dummy variable for immigration status and four dummy variables interacting immigration status with each number of children variable. Women without children are again the reference category for the four children dummy variables and immigrant women without children are the reference category for the four immigrant and child interaction variables. The fourth model contains all variables from the previous three with additional immigrant specific measures.

Model 1 is specified as:

$$\ln W_i = \alpha_0 + \alpha_1 C_i + \varepsilon_i,$$

where  $\ln W_i$  denotes the natural logarithm of hourly earnings for the  $i$ th individual.  $C_i$  denotes a vector of child dummy variables for individual  $i$ .

Model 2 is:

$$\ln W_i = \alpha_0 + \alpha_1 C_i + \alpha_2 X_i + \varepsilon_i,$$

where  $X_i$  is a vector of individual level demographics for the  $i$ th individual that include human capital, family structure and work characteristics.

Model 3 adds immigrant status and interactions of immigrant status and children dummy variables to Model 1 and is specified as:

$$\ln W_i = \alpha_0 + \alpha_1 C_i + \alpha_2 I_i + \alpha_3 I_i * C_i + \varepsilon_i.$$

Model 4, with all variables from the previous three models as well as immigrant characteristic variables of English language speaking ability, decade of immigration, whether immigrated as an adult, and a variable for potential country of origin immigrant networks is specified as:

$$\ln W_i = \alpha_0 + \alpha_1 C_i + \alpha_2 I_i + \alpha_3 I_i * C_i + \alpha_4 X_i + \varepsilon_i.$$

### *Models to address potential bias*

This chapter uses several methods to estimate potential biases in OLS equations. It runs median regressions on a random sample of 500,000 observations. It also addresses possible biases due to fertility endogeneity, selection into employment and selection into immigration for the 2015 sample.<sup>39</sup> It estimates models to assess whether bias occurs due to fertility endogeneity and employment selection for the full sample with the same restrictions as OLS models; and also re-tests for bias related to fertility and employment as well as possible bias due to selection into immigration with a sample that has an additional restriction for immigrants of moving to the U.S. in or after 2005.<sup>40</sup> The remainder of this section describes median regression, 2SLS with selection into motherhood, 2SLS into employment, Heckman correction with selection into employment and the generalized method of moments approach using `ivreg2` in Stata with selection into immigration techniques.

This chapter follows a median regression methodology from Neal and Johnson (1996). Median regression is one technique to test for bias due to both selection into employment and selection into motherhood. The same median regression equations that may eliminate bias due to selection into motherhood may also eliminate bias due to selection into employment. Median regression might eliminate both fertility and employment bias if over 50% of women are mothers and over 50% of women are

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<sup>39</sup> The type of child care cost data that I use to construct an instrument is not available for 2000. I limit analyses of all forms of bias to 2015 data.

<sup>40</sup> I include only the most recent immigrants in models adjusting for selection into immigration to limit the number of multiple indicators required to correspond to each country and year of immigration. This sample does not include women who immigrated prior to 2005 or those who were born in U.S. territories.

employed. In the 2015 sample, over half of all women (62%) and of immigrant women (67%) are mothers. Over half are also employed, composing 71% of the entire sample and 63% of immigrant women.

Median regression is run on all women, regardless of whether they have income from wages. I assign a value of one cent to those women who do not have wages so that the log of this value will be defined. I then take the log of wages, including women with the one cent value and replicate models 1 through 4 using quantile regression.

This chapter also test for motherhood and employment selectivity bias with 2SLS and Heckman correction models. These models require an instrumental variable. An instrumental variable is an independent variable that is not correlated with the error term in an equation but is correlated with the endogenous independent variable. (Kennedy 2008, p. 141) I use the log of center-based child care costs as an instrumental variable for bias for both selection into motherhood and selection into employment. Because variables would be under-identified with only one instrument for two forms of bias, this chapter tests for each form separately.

To correct for bias due to fertility endogeneity, this chapter uses 2SLS. First stage models are for both an ordered probit with number of children as a dependent variable and a probit on a dummy variable of whether a woman is a mother. First stage models are:

$$N_i = \alpha_0 + \alpha_1 \ln CC_i + \alpha_2 I_i + \alpha_3 X_i + \alpha_4 I_i * \ln CC_i + \alpha_5 I_i * X_i + \varepsilon_i,$$

where  $N_i$  denotes either number of children or a dummy variable for motherhood for the  $i$ th individual and  $\ln CC_i$  represents the natural log of weighted average child care costs in state of residence for the  $i$ th individual. All independent variables are for the  $i$ th

individual.  $I_i$  is immigration status.  $X_i$  is a vector of all independent variables in model 4 except the dummy variables for number of children and a dummy variable for child under age 6.  $I_i * CC_i$  denotes the instrument interacted with the immigrant dummy variable and  $I_i * X_i$  represents each independent variable interacted with whether a woman is an immigrant.

The second stage model to correct for fertility endogeneity is:

$$\ln W_i = \alpha_0 + \alpha_1 \text{probN}_i + \alpha_2 I_i + \alpha_3 I_i * \text{probN}_i + \alpha_4 X_i + \varepsilon_i,$$

where probN is the predicted probability from the first stage equation.  $I_i * \text{probN}_i$  is this predicted probability interacted with the immigrant dummy variable and  $X_i$  is the vector of independent variables with demographics, family structure and job characteristics.

To correct for employment selectivity, I use a Heckman correction model and a separate 2SLS model. Both models have a dummy variable for employment as the dependent variable in the first stage. The first stage probit for the 2SLS is specified as:

$$E_i = \alpha_0 + \alpha_1 \ln CC_i + \alpha_2 C_i + \alpha_3 I_i + \alpha_4 I_i * C_i + \alpha_5 X_i + \varepsilon_i,$$

with terms specified the same way for each letter in the equation using  $\ln CC$  as the instrument in the model for fertility endogeneity, and as with terms in model 4. The second stage is specified as:

$$\ln W_i = \alpha_0 + \alpha_1 \text{probE}_i + \alpha_2 C_i + \alpha_3 I_i + \alpha_4 I_i * C_i + \alpha_5 X_i + \varepsilon_i,$$

where probE is the predicted probability for the first stage model and additional variables are as specified in model 4.

Weak instruments may create an asymptotic bias causing confidence intervals and t statistics to be less reliable than with a stronger instrument. (Bascle 2008, p. 295;

Staiger and Stock 1997) It is possible that results with weak instruments do not produce much less biased results than OLS, and weak instruments may pose less of a problem with larger than with smaller sample sizes. (Murray 2017) In a review of recent work on weak instruments, Powell (2017) discusses the Staiger and Stock (1997) test that the F statistic for a first stage equation should be at least 10. He reviews constructions of alternative F statistics such as those Staiger and Stock (1997) and Stock and Yogo (2002), constructed with the Anderson Rubin statistic. (Powell 2017, p. 110-114; Staiger and Stock 1997) Staiger and Stock discuss these alternative tests as more critical when the F statistic of a first stage equation is less than 10. (Staiger and Stock 1997) Powell (2017) finds that the method of looking for a first stage F statistic of at least 10 continues to be a routine process for evaluating instruments' strength. With the awareness that F statistics may be biased upward for the models addressing immigrant selectivity, this chapter uses a command to run additional tests within Stata for weak instruments.

The `ivreg2` command in Stata corrects for selectivity into immigration. This creates a generalized methods of moments model. (Baum et al 2003) I run the model three times, instrumenting first with Gini coefficients, then with GII measures, and finally with both instruments at the same time.<sup>41</sup> The instruments correct for possible bias in the dummy variable for whether a woman is an immigrant.

## Results

Hypotheses 1 and 2 consider whether mothers in a general population of women and immigrant mothers in the U.S. have wage gaps. Hypothesis 3 predicts that there will

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<sup>41</sup> Additional results available upon request include those with single stage wage equations with macro level country variables, following Cobb-Clark (1993), and both single and two-stage models with distance in equations with Gini coefficients and GII indicators.

be differences in immigrant mothers' wage gaps compared to the general population. And, Hypotheses 4 through 6 examine whether there are biases potentially created by econometric issues in OLS models. Descriptive statistics yield some preliminary information about Hypotheses 1 through 3. Multivariate results further test these hypotheses as well as those about bias.

### *Descriptive Results*

Immigrant women compose 13% of the sample in 2000 and 17% in 2015. Table 2 presents summary statistics for both all women and immigrant women. Summary statistics for the general population of women are in Panel A for 2000 and Panel C for 2015. Immigrant women in 2000 are in Panel B and in Panel D for 2015.

Mean log hourly wages by number of children show similar patterns for all women and immigrant women in 2000, with more variations by nativity in 2015. Panel A of Table 2 provides results for all women in 2000 and Panel B for immigrant women in 2000. For both groups, women without children have higher hourly wages than mothers. Mothers' wages are approximately the same with 1 or 2 children but decrease from 2 to 3 children and from 3 to 4 or more children. Panel A shows that, in 2000, among all women, women without children have log hourly wages of 2.9. Those with one or two children have log hourly wages of 2.8 while numbers decline to 2.7 for mothers with 3 children and to 2.6 for those with four or more children. Panels C and D of Table 2 show that among all women in 2015, mothers with 2 children have higher wages (2.9) than those with 1 or no children (2.8), while those with 3 have lower wages (2.7) than those without children or with fewer children and those with 4 or more children have the lowest wages. Immigrant women in 2015 have approximately the same wages at 2.8 regardless

of numbers of children until 3 children when their wages begin to decline with 2.6 for immigrant mothers with three children and 2.5 for immigrant mothers with four or more children.

While distributions of numbers of children among the general population and immigrant women are similar, they are not the same, and higher percentages of immigrant women have 3 and 4 or more children in both 2000 and 2015. As shown in the percentage in sample rows at the bottom of each panel in Table 2, among all women in 2000, percentages with no children ascending to 4 or more children are 36%, 24%, 26%, 10% and 4%. Immigrant women's composition in 2000 is 33% without children and 22%, 26%, 13% and 7% for one, two, three and four or more children. Thirty-eight percent of women in 2015 do not have children. Mothers with one child compose 23% of all women, 25% with two children, 10% with three children and 4% with four or more children. Among immigrant women in 2015, percentages are 33% for no children, 22% with one child, 28% with two children, 12% with three children and 5% with four or more children.

Higher percentages of immigrants are Asian or Latino than the general population. In 2000, Asian women are 3.9% of all women and 25% of immigrant women. Latinas are 10.1% of all women and 40.5% of immigrant women. Asian women are 6.4% of all women in 2015 and 30.4% of immigrant women. Latinas are 14.2% of all women and 39.6% of immigrant women in 2015.

By numbers of children, among immigrant women percentages of Asians decrease with more children and percentages of Latinas increase for both years. For example, among immigrant women in 2000 found within Panel B, 30.4% of women

without children are Asian while Asians compose 14.6% of women with four or more children. The same pattern does not occur for Asian women in the general population of women but does occur for Latinas in the general population.

Women without children have higher Bachelor's degree attainment rates than mothers among both general populations and immigrant populations in 2000 and 2015. Adding rows for Bachelor's, Master's, Professional and Doctorate degrees under educational attainment reveals that percentages of all women in 2000 with at least a four-year college degree are 37.4% for those without children, 25.4% for those with one child, 25.7% for those with two children, 20.6% for those with three children and 14.8% for those with four or more children. Among immigrant women in 2000, 40.2% have at least a Bachelor's degree and mothers' rates of this educational attainment are 30.3% with one child, 26% with two children, 16% with three children and 8.8% with four or more children. In 2015, numbers of all women with Bachelor's degrees are 49% among those without children, 37.2% for mothers with one child, 41.1% for mothers with two children, 33.8% for mothers with three children and 25.4% for mothers with four or more children. As Panel D in Table 2 displays, percentages of women with at least a Bachelor's degree among immigrant women are 51.7% among women without children, 41.2% among mothers with one child, 38.2% among mothers with two children, 23.5% among mothers with three children and 14.5% among mothers with four or more children.

Mothers are more likely to work in occupations with higher percentages of women than women without children, except for immigrant mothers with four or more children. Among all women in 2000, the average percentage female rate for women



without children is 63.4%, while it is 66.4% and higher for mothers with varying numbers of children. Among immigrant women in 2000, the rates from no children ascending to 4 or more children are 62%, 64.1%, 64.3%, 63.7% and 60.6%. In 2015, the comparable percentages are 63.6%, 66%, 66.7%, 67.6%, 66.8% among all women, and 61.7%, 62.9%, 62.8%, 63.2%, and 61.6% among immigrant women.

Mothers are more likely to work part time than nonmothers. Panel A shows that for all women in 2000, 14.2% of women without children are part time workers compared to 20.1% with one child, 26.8% with two children, 30.6% with three children and 31.3% with four or more children. Among immigrant women in 2000, as Panel B displays, 15.9% of those without children are part time workers, while part time workers compose 19.3%, 22.2%, 23.2% and 21.9% of those with one, two, three and four or more children. In 2015, as Panel C presents for all women, 19.2% of women without children in 2015 are part time workers, compared to 22.5% of mothers with one child, 27.2% of mothers with two children, 32.0% of mothers with three children and 35.7% of mothers with four or more children. Panel D provides information about immigrant women in 2015, with part time workers composing 21.1% of women without children, 24.1% of immigrant mothers with one child, 26.9% of immigrant mothers with two children, 30.0% of immigrant mothers with three children and 31.6% of immigrant mothers with four or more children.

Additional related adults are approximately at 1 per household among all women in 2000 regardless of number of children. They are higher among immigrant women in 2000, ranging from 1.3 for those with one, two and three children to 1.5 for those without children and those with four or more children. As Panel C shows, there is approximately

1 additional related adult in each household for all women in 2015. In Panel D for immigrant women in 2015, additional related adults are 1.4 for women without children, 1.2 for mothers with one, two, or three children and 1.3 for mothers with four or more children.

Among both women without children and mothers, lower percentages of immigrant women live in the Midwest than within the general population of women. Among all women in 2000, 19.6% live in the Northeast, 23.6% in the Midwest, 35.3% in the South, and 21.5% in the West. A smaller percentage of immigrant women live in the Midwest than women in the general population, with percentages by regions being 22.8% in the Northeast, 9.8% in the Midwest, 27.6% in the South and 39.7% in the West. In 2015, among all women 18.5% live in the Northeast, 21.8% in the Midwest, 36.9% in the South, and 22.9% in the West. In 2015, as Panel D shows, there are again fewer immigrant women in the Midwest at 10%. Immigrant women in other regions are 21.7% in the Northeast, 32% in the South and 36.3% in the West.

Immigrant women with more children are more likely to have a barrier to speaking English than those with fewer children. In 2000, 35.4% of immigrant women spoke English less than very well. By numbers of children from 1 to 4 or more, percentages increase to 41.8%, 45.3%, 53.3% and 64.5%. In 2015, from no children to four or more children, percentages with limited English skills are 30.5%, 39.5%, 42.5%, 52.3%, and 59.1%

Looking across decades of immigration rows in Panel B for immigrant women in 2000, the largest percentages among those without children and those with one child immigrated during the 1990s with percentages of 43% and 36.4% respectively. In 2015,

again those without children or with one children were more concentrated among the most recent immigrants, this time during the 2000s; while those with more children numbered with higher percentages in the previous decade, that of the 1990s.

### *Ordinary Least Squares Multivariate Results*

Table 3 presents the main effects of OLS model to answer Hypothesis 1.<sup>4243</sup> Columns A and E contain the gross motherhood wage penalties for 2000 and 2015. Columns B and F show results net of differences in demographics that include human capital, family structure, and job characteristics. Columns C and G return to the model in Columns A and E without taking into account additional demographic characteristics but add variables for immigrant status and interactions with immigrant status and numbers of children. Table 4 will present calculations for immigrant mothers' wage gaps with these numbers. Columns D and H present full models with general demographic characteristics, immigrant status, interactions between immigrant status and numbers of children, and immigrant specific demographics.

In Column A for 2000, mothers have wage gaps of 6.0% for one child, 7.5% for two children, 15.9% for three children and 26.0% for four or more children. As Column E shows, in 2015 mothers do not have wage gaps, but rather wage boosts for one and two children, with a 1% increase for one child and a 5% increase for two children. Mothers with three children have a wage gap of 6.5% with three children and 19.2% with four or

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<sup>42</sup> OLS models for full time workers only in 2015 show that answers to Hypotheses 1 through 3 do not change substantively from those for both full and part time workers. Results are available upon request.

<sup>43</sup> In separate analyses available upon request, this chapter follows Budig and England (2001) and Budig and Hodges (2011) and drop outliers with wages below \$1.00 and above \$200.00. For 2015, 1,735,837 women have wages within this range. Substantive answers to Hypotheses 1 through 3 remain the same in 2015 as with models that do not drop outliers.

more children. Adding demographics without immigrant interactions, in 2000, wage gaps range from 4.0% to 13.6% in Column B. Women with all numbers of children have gaps with this model. In Column F, gaps range from 2.6% to 12.4%. In the full model, for U.S. native born women, Column D shows that motherhood wage gaps range from 4.1% to 14.4% in 2000 and Column H displays 2.6% to 12.3% in 2015.

Table 4 presents motherhood wage gaps for native born women and immigrants. These results answer Hypotheses 2 and 3. Columns A and C present wage gaps from models that do not control for human capital, family structure and job characteristics, while Columns B and D present results from full models. To test hypotheses, I use the full models in Columns B and D. Hypothesis 2 is correct for both year 2000 and 2015 that immigrant mothers have wage gaps. As Column B and D show, both native and immigrant mothers have wage gaps for all numbers of children in 2000 and 2015. All are measured with precision. For example, in Column D for 2015, native mothers have gaps of 2.6%, 2.4%, 6.7% and 12.3% for one through four or more children and immigrant mothers have gaps of 2.8%, 3.1%, 8.0%, and 12.3%. Evidence supports Hypothesis 3. Immigrant mothers have smaller wage gaps than U.S. native born mothers for all numbers of children in 2000, and differences are measured with precision for 2, 3 and 4 or more children in 2000. In 2015, immigrant mothers have smaller wage gaps than U.S. native born mothers with one or four or more children, but these differences are not measured with precision. Immigrant women have larger wage gaps than native born women with two or three children in 2015, however these differences also are not measured with precision.

### *Selection Correction Results*

#### *Median Regression*

Median regression results may correct for selection bias into motherhood and employment. Table 5 displays both OLS and median regression results for models 1 through 4 for 2015. Median regression suggests that OLS results are biased upward. For the full wage equation in Columns J through L, motherhood wage gaps for all women and for immigrant women are smaller with median regression than with OLS. For example, for among all women, mothers with two children have a wage gap of 2.4% with OLS, and gaps are measured with precision for all except the median regression estimate for 2 children. Differences between OLS and median regression results suggest that among all women, OLS estimates may have an upward bias from 1.8 percentage points for one child, which results from subtracting -.07 in Column L from -2.5 in Column J, to 4.3 percentage points for four or more children which results from subtracting -7.5 in Column L from -11.8 in Column J. The bias for immigrant mother's estimates ranges from 1.2. percentage points for those with one child, which is the difference of -1.4 in Column L from -2.5 in Column J with rounding to 7.9 percentage points for those with four or more children after subtracting -4.7 in Column J from -12.6 in Column L.

#### *Fertility Endogeneity*

Evidence supports Hypothesis 4. Table 6 presents results for 2SLS and Heckman selection models correcting for biases. Column B presents results for corrections due to fertility endogeneity in the full sample. As Column B shows when compared to OLS results in Column A, correcting for fertility endogeneity reduces the size of motherhood

wage gaps for both U.S. native and immigrant women. With OLS in Column A, the gap ranges from 2.6% for one child to 12.3% for four or more children, measured with precision. With 2SLS correction in Column B, gaps range from 0.9% for one child to 2.1%, not measured with precision. For immigrant mothers, gaps range from 2.3% for one child to 12.0% for four or more children for all women with the OLS model and from 0.7% for two children to 1.8% for four or more children with 2SLS. All differences between mothers and immigrant mothers are statistically significant with this model. After correcting for fertility endogeneity, immigrant mothers have larger gaps by 0.2 percentage points for one child and 1.1 percentage points for 3 children, and smaller gaps by 0.6 percentage points for two children and 0.4 percentage points for four children compared to all women.

A 2SLS model with motherhood as a dummy variable and a second dummy variable with the interaction of immigrant status and motherhood finds that for the full sample, the gap is 0.1% for the motherhood dummy variable, not measured with precision and a positive boost less than 1%, also not measured with precision. 2SLS correction shows a 0.7% gap for both all women and immigrant women.<sup>44</sup>

### *Employment Selection*

Evidence does not show strong support for Hypothesis 5. Women's chances of being employed are lower with each additional child. From a simple regression of dummy variables with numbers of children on employment, mothers are less likely to be employed by 1.2% with one child; 4.5% with two children; 12.7% with three children; and 24.2% with four or more children when compared to women without children. These

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<sup>44</sup> Findings for this model are in text only and not in Table 6.

results are significant at the  $p < .01$  level. When interactions with immigration status are added to the model, immigrant mothers are less likely to be employed than immigrant women without children, although those with four or more children have a smaller employment gap than those with three children.

Columns C and D in Table 6 contain two different approaches to employment selectivity corrections in the full sample. These results are comparable to the OLS results in Column A. There is some evidence of a downward bias in OLS for immigrant women with the Heckman correction model. The Heckman model shows nearly the same magnitude of gaps among all women as the OLS model except for the estimate for mothers with four or more children, which is 11.3% with the Heckman model in Column C and 12.3% with OLS in Column A. Wage gaps for immigrant women are tenths of percentage points larger for immigrant women with the Heckman model. For example, immigrant mother's wage gaps are 2.7% for one child in Column C for the Heckman model compared to 2.3% for one child with OLS in Column A.

2SLS corrections for employment selectivity in Column D show that motherhood wage gaps for all women and for immigrant women are within one tenth of a percentage point of OLS estimates in Column A.

### *Immigrant Selection*

There is support for Hypothesis 6: Immigrant mothers' wage gaps will change after correcting for immigrant selectivity. Table 7 presents results for the model in which immigrants are restricted to only those who immigrated in 2005 or later. In Column A, OLS estimates for wage gaps are 2.6%, 2.3%, 6.6%, and 12.2% and immigrant motherhood wage gaps are 4.3%, 5.1%, 6.9%, and 7.5%, all measured with precision. As

Column B shows, results for the model correcting for selection into immigration with only the Gini measure do not estimate immigrant mother's wage gaps with precision. The model with the GII measure as an instrument, in Column C, and the model with both the GII and Gini in Column D, however, do find significant gaps for immigrant mothers with two or more children. The magnitudes for immigrant mothers' wage gaps in these two models are larger than those in the OLS model. In Column D, in a model with both the Gini and GII as instruments immigrant mothers have wage gaps of 6.2%, not measured with precision for one child and all other wage gaps measured with precision, with magnitudes of 8.2% with two children, 11.3% with three children, and 12.4% with four or more children.<sup>45</sup>

*Fertility Endogeneity for Sample with Immigrants Restricted to Only the Most Recent*

In Table 7, Columns A and E show that the overarching conclusion from Table 6, Columns A and B that OLS estimates are upwardly biased due to fertility endogeneity remains with the more restricted sample. Results in Column A of Table 7 show that, for all women, the model correcting for fertility endogeneity in the restricted sample finds a gap of 0.6% for one child compared to the OLS estimate of a 2.6% gap for one child. Immigrant mothers with one child have a gap of 2.0% for one child in the model correcting for fertility endogeneity in Column E and a gap of 4.3% in the OLS model in Column A. The gaps for all women after correcting for fertility endogeneity in this restricted sample range from 0.6% to 2.0% The comparable findings for immigrant

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<sup>45</sup> Results for models with a measure of distance added as a variable in two stage models and for single stage models with Gini coefficients, GII indicators and distance measures as macro level variables in wage equations are available from the author upon request. Cobb-Clark (1993) discusses the use of single stage models in correcting for immigrant selectivity. Results from these alternative models support the overall substantive finding in this dissertation that recent immigrant mothers' wage gaps are larger in magnitude after correcting for selection into immigration.



mothers range from a boost of 0.8% for two children to a gap of 3.3% for three children, with intermediate gaps of 0.5% for four or more children and 2.0% for one child. Differences between immigrant mothers and all mothers are statistically significant with this model.

A 2SLS model with motherhood as a dummy variable and a second dummy variable with the interaction of immigrant status and motherhood finds that for the full sample, the gap is 0.7% for all mothers and 0.8% for immigrant mothers, both measured with precision at the .001 level. The difference between immigrant and all mothers is measured with precision at the .001 level.<sup>46</sup>

*Employment Selectivity for Sample with Immigrants Restricted to Only the Most Recent*

With the restricted sample, there is some evidence of an upward bias in OLS estimates after a Heckman correction for employment selection. Column F of Table 7 presents estimates for the model where motherhood wage gaps are 2.5%, 2.1%, 6.1%, and 11.3% compared to the OLS estimates of 2.6%, 2.3%, 6.6%, and 12.2% in Column A. Immigrant mothers' wage gaps are 5.0%, 6.1%, 7.5% and 8.6% compared to OLS estimates of 4.3%, 5.1%, 6.9%, and 7.5%. The 2SLS correction for employment selectivity in Column G of Table 7 does not show evidence of bias when compared to OLS estimates in Table 7's Column A.

## **Discussion/Conclusion**

Chapter findings support Hypotheses 1 and 2 that all U.S. mothers and immigrant mothers will have wage gaps. This chapter finds that both U.S. native born women and immigrant women experience motherhood wage gaps in 2000 and 2015. Human capital,

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<sup>46</sup> Findings for this model are in text only and not in Table 6.

gender role specialization and labor market structures all may be part of explanations for the gaps. There is evidence that immigrant women have smaller wage gaps than U.S. native-born women in 2000, supporting Hypothesis 3, but differences are not measured with precision in 2015. Accounting for fertility endogeneity in statistical models for 2015 narrows the sizes of the gaps, supporting Hypothesis 4. Correcting for employment selection does not change wage gaps in the full study sample, and thus does not support Hypothesis 5. Correcting for selection into immigration among a group of recent immigrants increases the sizes of wage gaps among this population, supporting Hypothesis 6.

This chapter has some limitations. Because data are cross-sectional, I am not able to use fixed effects models, which would work with methods to eliminate bias due to individual heterogeneity. Also, the Census data does not provide ages for all children within a household, only the oldest and youngest. For this reason, the chapter does not distinguish between children born pre-immigration versus children born post-immigration. It also is not possible to create a more detailed instrument with child care cost data that would match ages of all children with child care costs by age. Because child care cost data are an instrument for both fertility endogeneity and employment selection, this chapter does not test for both biases in the same model. Ideally, analysis would estimate potential biases created by fertility endogeneity, employment selection and immigration selection simultaneously. The chapter adjusts for immigrant selection bias for only the most recent immigrants. While immigrant selection issues may be less prevalent with those who have lived in the U.S. for longer periods of time and have had more time to assimilate, analysis including earlier immigrants is required to test selection

bias for all immigrants. Unlike the following chapter, this chapter does not contain separate analyses for immigrants by country of origin or ethnicity. Such research might find further variations in estimates.

Undocumented immigrant women may be undercounted in Census data. (Jensen et al 2015) If undocumented immigrant women are undercounted in motherhood wage gap research and undocumented immigrants are at the low skill end of skill and wage distributions and relatively lower skilled and earning women have smaller wage gaps, including undocumented women could narrow motherhood wage gaps estimates for immigrant women. This would affect estimates for all immigrant women only if undercounts for undocumented immigrant women are significantly large enough to affect overall estimates for immigrant women.

Findings in this chapter have implications for policy. Motherhood wage gaps may contribute to gender inequality. Although correcting for fertility endogeneity reduces gaps, there is still evidence of gaps. Current and proposed policies intended to help parents might include paid family leave, workplace flexibility, raising the minimum wage and child care assistance. (National Women's Law Center 2017; Glynn et al 2014; Waldfogel 1998) This chapter draws attention to the need for understanding of the situations that a diverse group of mothers face in the labor market.

Future research might work more toward explaining motherhood wage gaps, separating human capital, family characteristics and labor market structural characteristics, while asking whether there are differences for immigrant mothers compared to all mothers. It will be important to continue to distinguish immigrant and nonimmigrant women over time. Estimates for differences in gap sizes between

immigrant and nonimmigrant women differ in significance levels for 2, 3 and 4 or more children between 2000 and 2015. Given that both sizes of motherhood wage gaps and differences in gaps between immigrant and nonimmigrant women might vary over time, trend analysis will be important. To more fully understand gender inequality, future work might estimate whether immigrant and nonimmigrant men have fatherhood wage boosts and if, so, whether they vary by nativity, asking whether parenthood affects gender inequality in different ways among immigrants and nonimmigrants.

**Table 1.1: Variables Used in Regressions to Estimate MWGs**

<b>Variables</b>	<b>Definitions and Codes</b>
<b><i>Dependent Variable</i></b>	
Logarithm of Hourly Earnings	Natural log of hourly earnings (annual income from wages or salary during the previous calendar year divided by the product of weeks worked during the past year and the number of hours usually worked during a week. Weeks worked per year are in continuous form from 2000 and with values recommended by the U.S. Census Bureau for bracketed intervals for 2010-15)
<b><i>Independent Variables</i></b>	
Presence of children	1= one or more children; 0 = else
Number of children in household (reference = no children)	
One child	1 = one child; 0 = else
Two children	1 = two children; 0 = else
Three children	1 = three children; 0 = else
Four or more children	1 = four or more children; 0 = else
U.S. immigrant status	1 = Non-U.S. Birthplace; 0 = else
Immigrant status (reference U.S. native born) and number of children interaction variables (reference = U.S. native born <i>or</i> First-generation immigrant without children)	
First-generation immigrant mother with one child	1 = Birthplace outside the U.S. <i>and</i> mother with one child; 0 = else
First-generation immigrant mother with two children	1 = Birthplace outside the U.S. <i>and</i> mother with two children; 0 = else
First-generation immigrant mother with three children	1 = Birthplace outside the U.S. <i>and</i> mother with three children; 0 = else
First-generation immigrant mother with four children	1 = Birthplace outside the U.S. <i>and</i> mother with four children; 0 = else

**Table 1.1 continued*****Control Variables***

Age (in years)	Ages 25-49 years
Race (reference = White)	
African American or Black	1 = African American or Black; 0 = else
Native American	1 = American Indian or Alaskan Native; 0 = else
Asian or Pacific Islander	1 = Chinese, Japanese, Other Asian or Pacific Islander; 0 = else
Other race	1 = Other race; 0 = otherwise
Two or more races	1 = Two or more races; 0 = else
Hispanic/Latino Ethnicity	1 = Hispanic/Latino; 0 = else
Educational attainment (reference: < high school completion)	
GED	
High school	1 = High school or GED; 0 = else
Some college	1 = Some college; 0 = else
Associate degree	1 = Associate degree; 0 = else
Bachelor's degree	1 = Bachelor's degree; 0 = else
Master's degree	1 = Master's degree; 0 = else
Professional degree	1 = Professional degree; 0 = else
Doctorate	1 = Doctorate; 0 = else
Marital status (reference = never married)	
Married, spouse present	1 = Married, spouse present; 0 = else
Married, spouse absent/separated	1 = Married, spouse absent; 0 = else
Separated	1 = Separated; 0 = else
Widowed	1 = Widowed; 0 = else
Divorced	1 = Divorced; 0 = else
Income from other household members	Natural log of total household income minus total personal income from previous year. Income difference coded as 1 if $\leq 0$
Number of additional related adults in household	Family size minus self and children
Occupational percent female	Percentages of women in each occupation from the general population
Occupation as professional or manager (reference = non-professional or managerial occupation)	1 = Management, professional or related occupation; 0 = else

**Table 1.1 continued**

Part-time worker	Works less than 35 hours per week
Self-employed (reference = employed by other than self)	1 = Self-employed; 0 = else
Industry (reference = Education, health and social services)	
Agriculture, forestry, fishing and hunting	1 = Agriculture, forestry, fishing and hunting; 0 = else
Mining	1 = Mining; 0 = else
Construction	1 = Construction; 0 = else
Manufacturing	1 = Manufacturing; 0 = else
Wholesale trade	1 = Wholesale trade; 0 = else
Retail trade	1 = Retail trade; 0 = else
Transportation and warehousing	1 = Transportation and warehousing; 0 = else
Utilities	1 = Utilities; 0 = else
Information and communications	1 = Information and communications; 0 = else
Finance, insurance, real estate and rental and leasing	1 = Finance, insurance, real estate and rental and leasing; 0 = else
Professional, scientific, management administrative and waste management services	1 = Professional, scientific, management administrative and waste management services; 0 = else
Arts, entertainment, recreation, accommodation and food services	1 = Arts, entertainment, recreation, accommodation and food services; 0 = else
Other services except public administration	1 = Other services except public administration; 0 = else
Public administration	1 = Public administration; 0 = otherwise
Region (reference = Northeast)	
Midwest	1 = Midwest; 0 = else
West	1 = West; 0 = else
South	1 = South; 0 = else

**Table 1.1 continued**

Non-English speaker	1 = Speaks a language other than English at home and self-reports English speaking ability as less than very well; 0 = else
Year of immigration (reference = U.S. native born or immigrated before 1970)	
1970s immigrant	1 = Immigrated between 1970 and 1979; 0 = else
1980s immigrant	1 = Immigrated between 1980 and 1989; 0 = else
1990s immigrant	1 = Immigrated between 1990 and 1999; 0 = else
2000s immigrant	1 = Immigrated since 2000; 0 = else
Immigrated as an adult	1 = Years in the U.S. subtracted from age $\geq 18$ ; 0 = else
Opportunities for immigrant enclaves and networks	Percentage immigrant women from same country of origin in a Census metropolitan area out of all immigrant women from that same country of origin. Those not in an identifiable metropolitan area are grouped together. Note: The variable defining metropolitan areas changed between 2000 and 2015.



**Table 1.2: Summary Statistics by Number of Children****Panel A: All Women, 2000**

	Number of Children					
	All	None	One	Two	Three	Four or More
Hourly earnings (ln, \$)	2.8	2.9	2.8	2.8	2.7	2.6
Age (years)	37.3	36.7	38	37.6	37.2	37.1
Race (%)						
White	76.5	78.9	76.5	77.3	71.5	60.7
African American	12.1	10.7	13.3	11.5	14	18.4
Native American	0.8	0.6	0.8	0.7	1.1	2
Asian or Pacific Islander	3.9	4.4	3.6	3.7	3.3	3.6
Other Race	4.5	3.2	3.8	4.7	7.6	12.1
Two or More Races	2	2	1.9	1.9	2.3	2.9
Latino (%)	10.1	7.9	9	10.4	15.3	22.1
Education (%)						
Less Than High School Degree	10	8	9.1	9.7	14.8	25
High School Degree	26.6	22.6	28.8	28.7	29.6	28.9
Some College	24.7	22.8	26.5	25.7	25.4	23.3
Associate Degree	9.8	9.3	10.2	10.3	9.6	8.1
Bachelor's Degree	19.8	25.4	17.3	17.6	14.6	10.8
Master's Degree	6.8	8.9	6.1	6	4.3	2.8
Professional Degree	1.7	2.2	1.5	1.6	1.4	1
Doctorate Degree	0.6	0.9	0.5	0.5	0.3	0.2
Marital Status (%)						
Never married	18.9	37	11.9	6.4	7.1	9.8
Married, spouse present	60.5	41.6	64.3	75.6	75.1	71.3
Married, spouse absent	1.6	2.5	1.1	0.9	1.2	1.6
Separated	3.5	2.7	3.9	3.7	4.4	5.7
Divorced	14.3	15.1	17.3	12.4	11.1	10.3
Widowed	1.2	1.1	1.4	1	1.1	1.3
At least one child younger than age 6 (%)	22.2	0	29.9	34.2	40.9	50.6
Additional related adults in household (#)	1.0	1.0	1.0	1.0	1.0	1.1
Additional income in household (ln)	8.9	8.16	8.95	9.51	9.51	9.32
Women in occupation (%)	65.7	63.4	66.4	67.5	67.7	66.4
Professional or managerial occupation (%)	38.6	42.4	37	38.2	34	27.7
Part time worker (%)	21.2	14.2	20.1	26.8	30.6	31.3
Self-employed (%)	2.5	2.2	2.4	2.7	2.8	2.8

See notes at end of table

**Table 1.2 continued****Industry (%)**

Agriculture, forestry and fishing and hunting	0.6	0.5	0.5	0.6	1	2
Mining	0.1	0.1	0.2	0.1	0.1	0.1
Construction	0.5	0.6	0.6	0.5	0.4	0.3
Manufacturing	1.6	1.5	1.6	1.6	1.6	1.5
Wholesale trade	11.5	11.2	12.1	11.3	11.4	12.9
Retail trade	2.6	2.7	2.6	2.5	2.4	2.6
Transportation and warehousing	11	10.9	11	10.8	11.4	11.7
Utilities	2.7	2.7	2.8	2.7	2.7	2.8
Information and communications	3.1	4.1	2.9	2.5	2.1	1.9
Finance, insurance, real estate and rental and leasing	8.6	9.1	9.1	8.5	6.9	5.2
Professional, scientific, management administrative and waste management services	8.8	10.6	8.2	7.7	7.1	6.9
Educational services health care and social assistance	32.4	29	32.2	35.6	36.1	33.7
Arts, entertainment, recreation, accommodation and food services	7.5	7.7	7	6.9	8.5	10.4
Other services except public administration	4	4.1	3.9	3.9	4.1	4.4
Public administration	5	5.3	5.4	4.8	4.2	3.7
<b>Region (%)</b>						
Northeast	19.6	20.8	18.9	19.6	18.6	16
Midwest	23.6	21.9	23.4	24.8	26	25.5
South	35.3	34.4	38.2	35.5	33.2	30.5
West	21.5	22.9	19.5	20.1	22.2	27.9
Sample Size	1,962,680	704,723	471,085	510,627	201,876	74,369
Percentage in Sample	100	36%	24%	26%	10%	4%

See notes at end of table





**Table 1.2 continued**  
**Panel C: All Women, 2015**

	Number of Children					
	All	None	One	Two	Three	Four or More
Hourly earnings (ln, \$)	2.8	2.8	2.8	2.9	2.7	2.6
Age (years)	37.3	35.5	38.3	38.7	38.2	37.8
Race (%)						
White	74.9	75.2	74.3	76.5	73.8	68.2
African American	11.5	11.2	12.7	10.1	12.1	15.7
Native American	0.9	0.7	0.8	0.8	1.3	2.5
Asian or Pacific Islander	6.4	7.1	6.3	6.5	4.5	4
Other Race	3.8	3	3.6	4	5.8	6.8
Two or More Races	2.4	2.6	2.2	2.1	2.2	2.6
Latino (%)	14.2	11.5	13.4	14.9	20.6	24.3
Education (%)						
Less Than High School Degree	6.1	4.5	5.5	6	10.1	16.1
High School Degree	19	17.1	21.1	18.8	20.8	22.9
Some College	15.2	13.9	16.5	15.2	16.4	17.3
Associate Degree	11.4	10.1	12.5	12.2	12	11.2
Bachelor's Degree	26	30.9	23	24.6	21.2	16.8
Master's Degree	12.1	13.6	10.9	12.6	9.7	6.6
Professional Degree	2.4	2.8	2	2.5	2	1.4
Doctorate Degree	1.4	1.7	1.3	1.4	0.9	0.6
Marital Status (%)						
Never married	26.8	47.9	18.4	10.3	11.4	14.3
Married, spouse present	55.5	34.6	60.8	73.7	72	67.6
Married, spouse absent	2	2.9	1.5	1.1	1.4	1.9
Separated	3.1	2.2	3.4	3.3	4.2	5.2
Divorced	11.9	11.6	14.8	10.8	10.2	10.1
Widowed	0.8	0.7	1.1	0.8	0.7	0.9
At least one child younger than age 6 (%)	22.9	0	33.7	35.6	42.1	53.4
Additional related adults in household (#)	1.0	1.0	1.0	1.0	1.0	1.1
Additional income in household (ln)	8.74	8.13	8.77	9.38	9.25	9.04

See notes at end of table

**Table 1.2 continued**

Women in occupation (%)	65.4	63.6	66	66.7	67.6	66.9
Professional or managerial occupation (%)	46.4	48	44.8	48.4	43	36.1
Part-time worker (%)	23.9	19.2	22.5	27.2	32.0	35.7
Self-employed (%)	2.6	2.2	2.5	3.1	3.2	3.2
Industry (%)						
Agriculture, forestry, fishing and hunting	0.7	0.5	0.5	0.6	1.1	1.9
Mining	0.2	0.2	0.2	0.2	0.2	0.1
Construction	1.3	1.2	1.3	1.3	1.3	1.3
Manufacturing	6.8	6.6	7.2	6.8	6.6	6.9
Wholesale trade	1.8	1.9	1.9	1.8	1.7	1.6
Retail trade	10.4	11.2	10.3	9.2	9.9	11
Transportation and warehousing	2.1	2	2.2	2	2.1	2.4
Utilities	0.4	0.4	0.5	0.4	0.3	0.3
Information and communications	2	2.5	1.8	1.7	1.3	1.1
Finance, insurance, real estate and rental and leasing	7.8	7.8	8.5	8.1	6.5	5.2
Professional, scientific, management administrative and waste management services	10.4	11.9	9.9	9.5	8.7	8.4
Educational services health care and social assistance	38.8	35.1	38.6	42.3	43.2	41
Arts, entertainment, recreation, accommodation and food services	8.5	9.4	7.9	7.3	8.8	10.5
Other services except public administration	4.1	4.3	4	4	4.2	4.3
Public administration	4.8	4.9	5.2	4.8	4.1	3.9
Region (%)						
Northeast	18.5	19.5	17.9	18.8	16.8	14.7
Midwest	21.8	20.1	21.7	23.1	24.6	24.4
South	36.8	36.1	39.3	36.5	35.4	33.5
West	22.9	24.3	21	21.6	23.2	27.3
Sample Size	1,741,891	664,800	395,933	442,361	173,816	64,981
Percent in Sample	100%	38%	23%	25%	10%	4%
See notes at end of table						



**Table 1.2 continued**

<b>Industry (%)</b>						
Agriculture, forestry, fishing and hunting	1.7	1	1.2	1.6	3.4	5.9
Mining	0.1	0.2	0.1	0.1	0.1	0.1
Construction	1	1	0.9	1	1	0.9
Manufacturing	9.8	8.3	9.9	10.4	11.2	13
Wholesale trade	2.5	2.4	2.6	2.5	2.7	2.6
Retail trade	9.6	10	9.6	9.2	9.4	9.9
Transportation and warehousing	2	1.9	2.1	2	2.2	2.2
Utilities	0.3	0.3	0	0	0	0
Information and communications	1.7	2.3	1.7	1.5	0.9	0.7
Finance, insurance, real estate and rental and leasing	6.7	7.4	7.3	6.9	4.7	3.5
Professional, scientific, management administrative and waste management services	12.1	13.7	12.1	11.4	10	9.4
Educational services health care and social assistance	31.9	31.7	32.1	32.7	31.4	28.1
Arts, entertainment, recreation, accommodation and food services	11.9	11.1	11.3	11.7	14.2	15.9
Other services except public administration	5.8	5.6	5.9	5.9	6.1	5.6
Public administration	2.9	3.1	3	2.8	2.5	2.2
<b>Region (%)</b>						
Northeast	21.7	23.6	22.7	21.6	18.1	14.3
Midwest	10	9.7	9.7	10	10.4	12.1
South	32	31.4	33.4	32.2	31.2	30.3
West	36.3	35.3	34.2	36.2	40.3	43.2
<b>Immigrant Characteristics</b>						
Non-English speaker (%)	39.8	30.5	39.5	42.5	52.3	59.1
Immigrated before 1970 (%)	1.8	1.9	2.3	1.9	1.3	0.9
Immigrated in 1970s (%)	7.8	6.7	7.4	8.8	8.9	8.4
Immigrated in 1980s (%)	19.5	17.9	19.1	20.1	22.1	22.2
Immigrated in 1990s (%)	32.2	26.7	30.4	35.8	38.8	40.8
Immigrated in 2000s (%)	38.7	46.7	40.9	33.4	28.9	27.7
Immigrated at age 18 or older(%)	63.1	58.8	67.1	65.5	62.8	61.5

See notes at end of table



**Table 1.2 continued**

Opportunities for immigrant enclaves and networks	2.4	2.3	2.5	2.4	2.4	2.7
Sample Size	288,083	95,950	64,575	79,511	34,040	14,007
Percent of all Immigrants in Sample	100%	33%	22%	28%	12%	5%

Notes: Data are from the 2000 U.S. Decennial Census 5% file and the 2015 U.S. Census Bureau's American Community Survey Five-year 5% file. Results are for women in the civilian population ages 25-49.

**Table 1.3: Main Effects from Regressions of Women's Log Hourly Earnings by Number of Children and Immigrant Status**

	2000				2015			
	A	B	C	D	E	F	G	H
	Reg 1	Reg 2	Reg 3	Reg 4	Reg 1	Reg 2	Reg 3	Reg 4
Children (reference = no children)								
One child	-6.0a	-4.0a	-6.3a	-4.1a	0.9a	-2.6a	1.2a	-2.6a
Two children	-7.5a	-5.8a	-7.6a	-6.1a	5.2a	-2.4a	6.5a	-2.4a
Three children	-15.9a	-9.4a	-15.1a	-9.9a	-6.5a	-6.9a	-3.2a	-6.7a
Four or more children	-26.0a	-13.6a	-24.0a	-14.4a	-19.2a	-12.4a	-15.4a	-12.3a
Immigrant (1= born outside the U.S.)			-5.5a	4.6a			0.1	4.9a
Immigrant by children interactions (reference = first-generation immigrant without children)								
Immigrant*one child			2.7a	0.6			-1.5a	0.3
Immigrant*two children			1.4b	1.7a			-7.2a	-0.2
Immigrant*three children			-3.8a	2.5a			-16.6a	-0.8
Immigrant*four or more children			-6.5a	4.2a			-17.4a	0.4
R square	0.008	0.221	0.009	0.223	0.005	0.288	0.006	0.292

Notes: Data are from the 2000 U.S. Decennial Census 5% file and the 2015 U.S. Census Bureau's American Community Survey Five-year 5% file. Results are for women in the civilian population ages 25-49. Results from Ordinary Least Squares Regressions. Coefficients are multiplied by 100 to provide results in percentage form. Statistical significance is denoted as a =  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 2000 U.S. Decennial Census 5% file and the 2015 U.S. Census Bureau's American Community Survey Five-year 5% file. Results are for women in the civilian population ages 25-49.

**Table 1.4: Differences Between Motherhood Wage Gaps for All Women and Immigrant Women (Not accounting/accounting for human capital, demographic and job characteristics)**

	A	B	C	D
	2000, Not Accounting (Reg 3)	2000, Accounting (Reg 4)	2015, Not Accounting (Reg 3)	2015, Accounting (Reg 4)
<b>One Child</b>				
Immigrant mothers	-3.7a	-3.4a	-0.4	-2.3a
All mothers	-6.3a	-4.1a	1.2a	-2.6a
Difference	2.7a	0.6	-1.5a	0.3
<b>Two Children</b>				
Immigrant mothers	-6.3a	-4.4a	-0.8c	-2.6a
All mothers	-7.6a	-6.1a	6.5a	-2.4a
Difference	1.4b	1.7a	-7.2a	-0.2
<b>Three Children</b>				
Immigrant mothers	-18.9a	-7.4a	-19.9a	-7.5a
All mothers	-15.1a	-9.9a	-3.2a	-6.7a
Difference	-3.8a	2.5a	-16.6a	-0.8
<b>Four or More Children</b>				
Immigrant mothers	-30.6a	-10.2a	-32.8a	-12.0a
All mothers	-24.0a	-14.4a	-15.4a	-12.3a
Difference	-6.5a	4.2a	-17.4a	0.4

Notes: Data are from the 2000 U.S. Decennial Census 5% file and the 2015 U.S. Census Bureau's American Community Survey Five-year 5% file. Results are for women in the civilian population ages 25-49. Results from Ordinary Least Squares Regressions. Coefficients are multiplied by 100 to provide results in percentage form. Statistical significance is denoted as a =  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 2000 U.S. Decennial Census 5% file and the 2015 U.S. Census Bureau's American Community Survey Five-year 5% file. Results are for women in the civilian population ages 25-49.

**Table 1.5: Median Regression Compared to Ordinary Least Squares Results, 2015**

	Reg 1			Reg 2			Reg 3			Reg 4		
	A	B	C	D	E	F	G	H	I	J	K	L
	OLS	Qreg	Qreg %	OLS	Qreg	Qreg %	OLS	Qreg	Qreg %	OLS	Qreg4	Qreg %
Children												
One	1.5a	-0.037a	-1.4	-2.5a	-0.010b	-0.7	1.5a	-0.011	-0.4	-2.5a	-0.010c	-0.7
Two	4.8a	-0.097a	-3.7	-2.7a	-0.005	-0.4	6.1a	-0.034a	-1.3	-2.4a	-0.002	-0.1
Three	-6.1a	-0.381a	-14.6	-6.3a	0.043	-3.0	-3.0a	-0.290a	-11.0	-6.2a	-0.040a	-2.8
Four or more	-19.0a	-1.036a	-39.8	-12.2a	-0.104a	-7.3	-14.8a	-0.843a	-32.1	-11.8a	-0.107a	-7.5
Immigrant (1= born outside the U.S.)							0.0	-0.166a		7.8a	0.107a	
Immigrant * Child												
Interactions												
One							0.1	-0.186a		-0.1	-0.010	
Two							-7.4a	-0.295a		-1.3	-0.019c	
Three							-15.7a	-0.468a		-0.6	-0.011	
Four or more							-19.3a	-6.225a		-0.8	0.040c	
Children + Immigrant * Child												
One							1.6	-0.197a	-7.5	-2.5a	-0.020c	-1.4
Two							-1.3	-0.328a	-12.5	-3.7a	-0.021c	-1.5
Three							-18.7a	-0.758a	-28.8	-6.8a	-0.051a	-3.5
Four or more							-34.1a	-7.068a	-268.9	-12.6a	-0.068a	-4.7
Constant	2.806a	2.603a		1.312a	1.429a		2.806a	2.629a		1.301a	1.434a	
Sample	366,631	500,000		363,849	424,994		366,612	499,965		363,830	424,968	
Rsquared or Pseudo												
Rsquared	0.004	0.005		0.288	0.217		0.006	0.011		0.292	0.218	

Notes: Data are from the 2015 U.S. Census Bureau's American Community Survey Five-year 5% file. Results are for women in the civilian population ages 25-49. Quantile regressions are from a random sample of 500,000 individuals. Coefficients from Ordinary Least Squares variables are multiplied by 100 to provide results in percentage form. Quantile regressions assign women with 0 income from wages and salary, a wage value of .01. Statistical significance is denoted as a =  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ .

**Table 1.6: Motherhood Wage Gaps, Ordinary Least Squares and Corrections for Bias with Full Study Sample**

	A	B	C	D
	OLS	2SLS Correcting for Fertility Endogeneity	Heckman Correction for Selection into Employment	2SLS Correcting for Employment Selection
Motherhood wage gaps for all women (reference = no children)				
One child	-2.6a	-0.9a	-2.5a	-2.6a
Two children	-2.4a	-1.3a	-2.1a	-2.3a
Three children	-6.7a	0.0	-6.2a	-6.7a
Four or more children	-12.3a	-2.1	-11.3a	-12.4a
Immigrant by children interactions (reference = first-generation immigrant without children)				
Immigrant*one child	0.3	-0.2a	-0.1	0.3
Immigrant*two children	-0.2	0.6a	-0.8c	-0.2
Immigrant*three children	-0.8	-1.1a	-1.5a	-0.8
Immigrant*four or more children	0.4	0.4a	-1.1	0.4
Immigrant mother's wage gaps (wage gaps for all women added to immigrant*child interactions)				
One child	-2.3a	-1.1a	-2.7a	-2.3
Two children	-2.6a	-0.7a	-2.9a	-2.6
Three children	-7.5a	-1.1a	-7.7a	-7.5a
Four or more children	-12.0a	-1.8a	-12.4a	-12.0a
R square	0.292	0.293		0.292
Log likelihood			-2074276	
Sample size	1,728,502	1,728,502	1,946,228	1,728,502

Notes: Data are from the 2015 U.S. Census Bureau's American Community Survey Five-year 5% file. Results are for women in the civilian population ages 25-49. Coefficients are multiplied by 100 for all models other than fertility models to obtain percentages. The model in Column B is an instrumental variable regression with second stage OLS and first stage as an oprobit for number of children. First stage includes immigrant status interacted with instrument and each of the independent variables. Column C uses child care costs as an instrument with Maximum Likelihood Estimates. Column D is an instrumental variable regression with second stage OLS results and first stage probit predicting employment with child care costs as an instrument. Statistical significance is denoted as a =  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ .

**Table 1.7: Motherhood Wage Gaps, Ordinary Least Squares and Corrections for Bias with Sample Restriction for Immigrants**

	A	B	C	D	E	F	G
	OLS	Ivreg2 Correcting for Immigration Bias with Gini Coefficient	Ivreg2 Correcting for Immigration Bias with GII Indicator	Ivreg2 Correcting for Immigration Bias with Both Gini Coefficient and GII Indicator	2SLS Correcting for Fertility Endogeneity	Heckman Correction for Selection into Employment)	2SLS Correcting for Employment Selection
Motherhood Wage Gaps for All Women (reference = no children)							
One child	-2.6a	-2.8a	-2.6a	-2.6a	-0.6a	-2.5a	-2.6a
Two children	-2.3a	-2.4a	-2.3a	-2.3a	-1.3a	-2.1a	-2.3a
Three children	-6.6a	-6.7a	-6.6a	-6.6a	0.6a	-6.1a	-6.6a
Four or more children	-12.2a	-12.3a	-12.2a	-12.1a	-2.0a	-11.3a	-12.2a
Immigrant by children interactions (reference = first-generation immigrant without children)							
Immigrant*one child	-1.7c	7.9c	-4.5a	-3.6b	-1.4a	-2.5a	-1.6c
Immigrant*two children	-2.8a	4.6	-5.1a	-5.8a	2.1a	-4.1a	-2.8a
Immigrant*three children	-0.2	3.4	-1.4	-4.7c	-3.8a	-1.4	-0.3
Immigrant*four or more children	4.7b	8.1c	2.1	-0.3	1.5a	2.7	4.7c
See notes at end of table							

**Table 1.7 continued**  
 Immigrant Mother's  
 Wage Gaps (Addition  
 of Wage Gaps for All  
 Women and  
 Immigrant Child  
 Interactions

One child	-4.3a	5.1c	-7.0a	-6.2a	-2.0a	-5.0a	-4.3
Two children	-5.1a	2.2	-7.4a	-8.2a	0.8a	-6.1a	-5.1a
Three children	-6.9a	-3.3	-8.0a	-11.3a	-3.3a	-7.5a	-6.9a
Four or more children	-7.5a	-4.2	-10.0a	-12.4a	-0.5a	-8.6a	-7.5a
R square	0.282				0.283		0.282
Log likelihood						-1775490	
F statistic on first stage model		1.30E+06	3.60E+06	5.70E+05			
Sample size	1,490,563	1,457,044	1,483,788	1,456,603	1,490,563	1,677,044	1,490,563

Notes: Data are from the 2015 U.S. Census Bureau's American Community Survey Five-year 5% file. Results are for women in the civilian population ages 25-49. Immigrants are restricted to only those immigrating in 2005 or later. Coefficients are multiplied by 100 for all models other than fertility models to obtain percentages. The model in Column B is an instrumental variable regression with second stage OLS with first stage as an oprobit for number of children. First stage includes immigrant status interacted with instrument and each of the independent variables. Column C uses child care costs as an instrument with Maximum Likelihood Estimates. Column D is an instrumental variable regression with second stage OLS results and first stage probit predicting employment with child care costs as an instrument. Results with distance as an instrument in two stage models and with one stage OLS regressions with distance, Gini coefficients and GII indicators as control variables are available from the author upon request. Statistical significance is denoted as a =  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ .

**Appendix Table 1.1: Regressions of Women's Log Hourly Earnings by Number of Children and Immigrant Status**

**Panel A: 2000**

	Reg1	Reg2	Reg3	Reg4
Children (reference = no children)				
One child	-0.060a	-0.040a	-0.063a	-0.041a
Two children	-0.075a	-0.058a	-0.076a	-0.061a
Three children	-0.159a	-0.094a	-0.151a	-0.099a
Four or more children	-0.260a	-0.136a	-0.240a	-0.144a
Immigrant Status, Immigrant and Number of Children Interactions (reference= U.S. native born or first-generation immigrant without children)				
Immigrant (1= born outside the U.S.)			-0.055a	0.046a
Immigrant by children interactions				
Immigrant*one child			0.027a	0.006
Immigrant*two children			0.014b	0.017a
Immigrant*three children			-0.038a	0.025a
Immigrant*four or more Children			-0.065a	0.042a
Race and Latino/Hispanic Ethnicity				
Race (reference = White)				
African American		0.033a		0.033a
Native American		-0.083a		-0.081a
Asian or Pacific Islander		0.033a		0.065a
Other Race		-0.025a		-0.022a
Two or More Races		-0.011b		-0.007c
Hispanic/Latino (1 = Hispanic/Latino)		-0.023a		-0.002
Family and Household Structure				
At least one child younger than age 6		0.075a		0.075a
Marital Status (reference = never married)				
Married, spouse present		0.021a		0.023a
Married, spouse absent		-0.019a		-0.009c
Separated		-0.035a		-0.033a
Divorced		0.012a		0.012a
Widowed		-0.017a		-0.015b

Notes: See end of table



**Appendix Table 1.1 continued**

Natural log income from additional household members	0.002a	0.002a
Number of additional related adults in household	-0.020a	-0.018a
Education(reference = less than High School Degree and no GED)		
High School or GED	0.120a	0.108a
Some College	0.236a	0.223a
Associate Degree	0.323a	0.311a
Bachelor's Degree	0.485a	0.473a
Master's Degree	0.614a	0.604a
Professional Degree	0.685a	0.676a
Doctorate	0.635a	0.627a
Age (in years)	0.052a	0.052a
Age Squared	-0.001a	-0.001a
Job and Occupation Characteristics		
Percentage of women in Occupation	-0.125a	-0.126a
Professional or managerial (1 = professional or managerial occupation)	0.232a	0.230a
Part time worker	-0.039a	-0.039a
Self-employed (1 = self-employed)	-0.151a	-0.152a
Industry (reference = Education, health and social services)		
Agriculture, forestry and Fisheries	-0.204a	-0.193a
Mining	0.209a	0.209a
Construction	0.288a	0.287a
Manufacturing	0.155a	0.155a
Wholesale trade	0.111a	0.114a
Retail Trade	0.131a	0.133a
Transportation and Warehousing	-0.037a	-0.038a
Utilities	0.212a	0.211a
Information and communications	0.197a	0.196a
Finance, insurance, real estate, rental and leasing communications	0.187a	0.185a

Notes: See end of table

**Appendix Table 1.1 continued**

Professional, scientific, management, administrative and waste management	0.116a	0.117a		
Arts	-0.132a	-0.129a		
Other services except public administration	-0.072a	-0.068a		
Public administration	0.147a	0.146a		
Region (reference = Northeast)				
Midwest	-0.110a	-0.112a		
West	-0.134a	-0.136a		
South	-0.020a	-0.023a		
Additional Immigrant Characteristics				
Non-English speaker		-0.086a		
Decade of Immigration (reference = U.S. native born or immigrated before 1970)				
Immigrated in or between 1970 and 1979		0.022a		
Immigrated in or between 1980 and 1989		0.001		
Immigrated between 1990 and 1999		-0.069a		
Immigrated in 2000 or After		N/A		
Immigrated as an adult (1 = immigrated at age 18 or older)		-0.050a		
Opportunities for immigrant enclaves and networks		0.000c		
Constant	2.904a	1.482a	2.910a	1.495a
R-squared	0.008	0.221	0.009	0.223

Notes: See end of table

**Appendix Table 1.1 continued**  
**Panel B: 2015**

	Reg1	Reg2	Reg3	Reg4
Children (reference = no children)				
One child	0.009a	-0.026a	0.012a	-0.026a
Two children	0.052a	-0.024a	0.065a	-0.024a
Three children	-0.065a	-0.069a	-0.032a	-0.067a
Four or more children	-0.192a	-0.124a	-0.154a	-0.123a
Immigrant Status, Immigrant and Number of Children Interactions (reference= U.S. native born or first- generation immigrant without children)				
Immigrant (1= born outside the U.S.)			0.001	0.049a
Immigrant by children interactions				
Immigrant*one child			-0.015a	0.003
Immigrant*two children			-0.072a	-0.002
Immigrant*three children			-0.166a	-0.008
Immigrant*four or more children			-0.174a	0.004
Race and Latino/Hispanic Ethnicity				
Race (reference = White)				
African American		-0.030a		-0.027a
Native American		-0.090a		-0.090a
Asian or Pacific Islander		0.040a		0.091a
Other Race		-0.024a		-0.011a
Two or More Races		-0.003		-0.003
Hispanic/Latino (1 = Hispanic/Latino)		-0.059a		-0.021a
Family and Household Structure				
At least one child younger than age 6		0.085a		0.086a
Marital Status (reference = never married)				
Married, spouse present		0.056a		0.062a
Married, spouse absent		-0.015a		-0.004
Separated		-0.053a		-0.049a
Divorced		0.011a		0.011a
Widowed		-0.046a		-0.040a
Natural log income from additional household members		0.002a		0.002a
Number of additional related adults in household		-0.021a		-0.019a

Notes: See end of table

**Appendix Table 1.1 continued**

Education (reference = less than High School Degree and no GED)

High School or GED	0.026a	0.012a
Some College	0.128a	0.108a
Associate Degree	0.215a	0.197a
Bachelor's Degree	0.374a	0.357a
Master's Degree	0.498a	0.482a
Professional Degree	0.753a	0.733a
Doctorate	0.659a	0.647a
Age (in years)	0.060a	0.061a
Age Squared	-0.001a	-0.001a
Job and Occupation Characteristics		
Percentage of women in occupation	-0.134a	-0.139a
Professional or managerial (1 = professional or managerial occupation)	0.291a	0.285a
Part time worker	-0.121a	-0.119a
Self-employed (1 = self-employed)	-0.152a	-0.153a
Industry (reference = Education, health and social services)		
Agriculture, forestry and Fisheries	-0.240a	-0.203a
Mining	0.355a	0.352a
Construction	0.172a	0.170a
Manufacturing	0.121a	0.128a
Wholesale trade	0.174a	0.178a
Retail Trade	-0.027a	-0.028a
Transportation and warehousing	0.174a	0.170a
Utilities	0.331a	0.325a
Information and communications	0.174a	0.171a
Finance, insurance, real estate, rental and leasing communications	0.221a	0.216a
Professional, scientific, management, administrative and waste management	0.113a	0.115a
Arts	-0.132a	-0.122a
Other services except public administration	-0.075a	-0.064a
Public administration	0.188a	0.183a

Notes: See end of table

**Appendix Table 1.1 continued**

Region (reference = Northeast)				
Midwest			-0.142a	-0.147a
West			-0.143a	-0.146a
South			-0.018a	-0.024a
Additional Immigrant Characteristics				
Non-English speaker				-0.154a
Decade of Immigration				
(reference = U.S. native born or immigrated before 1970)				
Immigrated in or between 1970 and 1979				0.029a
Immigrated in or between 1980 and 1989				0.003
Immigrated between 1990 and 1999				0.002
Immigrated in 2000 or after	N/A			-0.068a
Immigrated as an adult (1 = immigrated at age 18 or older)				-0.049a
Opportunities for immigrant enclaves and networks				0.000
Constant	2.807a	1.264a	2.807a	1.259a
R-squared	0.005	0.288	0.006	0.292

Notes: Data are from the 2000 U.S. Decennial Census 5% file and the 2015 U.S. Census Bureau's American Community Survey Five-year 5% file. Results are for women in the civilian population ages 25-49. Results from Ordinary Least Squares Regressions. Statistical significance is denoted as a =  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 2000 U.S. Decennial Census 5% file and the 2015 U.S. Census Bureau's American Community Survey Five-year 5% file. Results are for women in the civilian population ages 25-49.

## **Chapter II: Second-generation Immigrant Educational, Occupational and Earnings Mobility by Gender, Race/Ethnicity, and Country of Origin**

In 1965, the Hart Celler Act eliminated quotas based on national origins in U.S. international immigration law. It gave family and skills-based preferences to those wishing to migrate. (Immigration and Nationality Act of 1965) Partially as a result, the flow of migrants to the U.S. increased and the immigrant population composition changed. (Waters and Ueda 2007; Bean and Stevens 2005). Prior to the 1965 law, the majority of U.S. immigrants were from European countries. Since the law's implementation, the majority of U.S. immigrants come from Asian and Latin American countries. (Waters and Ueda 2007) Family migration and employer recruiting practices diversified skills, educational attainment, and occupational backgrounds.

To date, little is known about how gender, race/ethnicity and nativity intersect as they affect second-generation immigrants. (Waters and Jimenez 2005; Park et al 2015) Between 2006-2012, the size of the second-generation immigrant population grew by 14%, twice the rate of the U.S. general population of adults. (Pew Research Center 2013) Given that there is often a correlation between the life circumstances of parents and their adult children, migration scholars are asking to what extent disparities or advantages in the first-generation's socio-economic situations persist into the second-generation. (Chiswick 1977, Borjas 2006, Park et al 2015)

According to 2015 American Community Survey Estimates, 6,746,822 (16%) of foreign born individuals entered the U.S. in 2010 or later. (United States Census Bureau 2015) World literacy rates have increased from 70% in 1980 to 86% in 2015 (United Nations Educational Scientific Cultural Organization Institute for Statistics, 2018),

indicating that, within groups, more recent immigrants may be coming from more educated populations than their predecessors. Recent national discussions about immigration and economic opportunities suggest that benchmarks will be important if policy changes affect the demographics of first- and second-generation immigrants. (Fitzmaurice and Benner 2017; Semple 2017) Today's young adults, whether the children of recent immigrants or not, find a labor market with a divide between high skill, knowledge-based jobs and lower skill, lower paying jobs. The extent to which second-generation immigrants attain education, occupations and earnings on par with their peers and closer to the U.S. mainstream than their parents' generation reflects how much intergenerational mobility is possible in the United States.<sup>47</sup>

In this chapter, I add to the body of research about second-generation immigrants and ask to what extent these women and men experience intergenerational mobility in recent pre- and post-Great Recession earnings levels, and how they compare with their peers in the general U.S. population. This is important because scholars and policymakers debate whether the current second-generation is at greater risk for disadvantages in life circumstances than previous second-generation immigrants. (Gans 1992; Perlmann and Waldinger 1997) The Great Recession may have impacted immigrants differently than the United States mainstream. More recent analyses can either strengthen the evidence of previous studies or reveal dynamics that have changed over time.

Disaggregating by gender is particularly important given changes in women's attainment levels relative to men's in recent decades. In 1970, 43% of Bachelor degree college graduates were women, with women reaching a majority number in the 1980s and

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<sup>47</sup> In this chapter "peers" refers to individuals within the same age category and not necessarily to those within the same race, ethnic or nativity group unless specified as such.

receiving 53% of Bachelor's degrees in 1989-90. (Snyder 1993, p. 68) Between 1980 and 1990 and later time periods of 2003-07 and 2012-16, women's relative educational and upper white-collar attainment increased. (United States Department of Education 2017) In 2017, 35% of women and 34% of men ages 25 and older have attained a Bachelor's degree. (Calculations with United States Census Data for Educational Attainment 2017) Men were impacted more than women by manufacturing job losses during the 1980s. (Katz and Murphy 1992; Blau and Kahn 1997) Women were at higher levels of upper white-collar attainment, compared to men, in the mid-2000s.<sup>48</sup> (Calculations with United States Department of Labor Data 2005) Although the gender earnings gap is smaller than in the 1980s, women continue to earn less than men. (Institute for Women's Policy Research 2017)

Given both immigration demographic shifts and changes in outcome attainments by gender, more recent analysis accounting for intersectional gender differences is needed. First-generation immigrant women have different education levels and occupational concentration than both the general population of women and immigrant men. (Strum and Tarantelo 2002) Because there are intergenerational correlations in attainment outcomes (Borjas 2006), second-generation immigrant women are likely to have different outcomes from both second-generation immigrant men and the general population of women. Second-generation immigrant women and men also may be assimilating into the U.S. mainstream. (Borjas 2006; Park et al 2015) Immigration

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<sup>48</sup> Upper white-collar occupations are those which the U.S. Census Bureau categories as professional or managerial.



scholars have added detailed analysis by gender to second-generation studies only recently. (Park et al 2015)

Specifically, in this chapter, I ask whether disparities between Latino<sup>49</sup> and Asian ethnic groups and the general population have grown since the Great Recession. I begin by replicating a study by Park et al (2015) that estimates whether second-generation Latino and Asian immigrants' educational, occupational and earnings outcomes converge toward the general population of non-Latino White U.S. born individuals, who Park et al (2015) refer to as the mainstream.<sup>50</sup> The study asks whether there is intergenerational mobility between first-generation immigrants in 1980 and second-generation immigrants in 2003-07; and whether gender and race/ethnicity intersect to create different outcomes for women and men. Park et al (2015) note that the demographics between Asian and Latino immigrants vary due to the types of jobs they migrated to fill, with Asians more likely to be in the high-skill technology sector and Latinos in the lower-skill service sector. (Park et al, 2015, pp. 1602-1603)

Following Park et al's (2015) methodology, I add a cohort of second-generation immigrants from 2012-16, first comparing them to the 1980 first-generation and then to a first-generation cohort in 1990. With this method, I can see how the intergenerational mobility of those who would be within the age ranges of the first-generation's children and approximately 7 years younger compares to an earlier second-generation cohort likely to be the same ages as the children of the 1980 first-generation. I am then able to

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<sup>49</sup> This dissertation's introduction discusses the differences between the terms Latino and Hispanic and the use of them interchangeably. It also defines the term Asian as identifying anyone with a background from any part of Asia.

<sup>50</sup> Throughout this chapter, I follow Park et al (2015)'s terminology in referring to U.S. born, non-Latino white individuals as the mainstream.

estimate whether intergenerational mobility for those approximately 25 years apart has changed a decade after the original Park et al (2015) study by making comparisons to 1990.

The first three hypotheses in this chapter are about more recent outcomes in 2012-16 when compared to the findings in 2003-07 that replicate the Park et al (2015) study. The first hypothesis is that the trends in women's relatively high intergenerational mobility when compared to men that Park et al (2015) found will continue. The second and third hypotheses differentiate immigrant groups by broad racial/ethnic categories. I hypothesize that due to increasing inequality, Latinos will have less intergenerational mobility in 2012-16 than in 2003-07 and that Asians will have approximately the same amount.

I also look at six of the largest country of origin groups within the broader identities of Latinos and Asians. The six country of origin groups in this chapter are from the Latino countries of Mexico, Cuba, and the Dominican Republic. The Asian countries are the Philippines, China and India. While each country has unique demographics, Cubans and Filipinos are particularly noticeable with varying demographics. Compared to the general Latino population in the U.S., Cubans have high educational attainment and income levels (Pew Research Center 2006). U.S. government policy gave Cuban immigrants special privileges, status as political refugees and a fast track to citizenship after 1959. (Arboleya 1996) Those Cubans who immigrated between 1959 and 1980 were particularly privileged. (Arboleya 1996, pp. 16-17) Filipinos' gender demographics differ from other countries with more women than men migrating during the 1960s and large numbers of women moving to the U.S. to work as nurses within the health care field.

(Tyner 2003) The post-colonial relationship between the U.S. and the Philippines affected immigrant compositions. (Posadas 1999; Rodriguez 2010)

This more detailed country of origin analysis within broader categories of Latinos and Asians is important because scholars find that second-generation outcomes vary by both broad group categories and countries of origin. (Park et al 2014; Borjas 2006; Card et al 1998) I include country of origin analysis for 2003-15 asking how changes in educational attainment, upper white-collar occupational attainment and earnings compare with the U.S. born, white, non-Latino mainstream. Pan-ethnic categories may create useful distinctions because subgroups share some commonalities in education, skill levels, and history with immigration laws. (Park et al 2015) Broad group categories may also be valid because at least some parts of the U.S. mainstream may perceive individuals from specific countries as falling within the same broader category. (Espiritu 1992, p. 134, 140) For example, Hispanic pan-ethnicity is, at least in part, based on commonality traced to Spanish language. (Espiritu 1992 p. 14, 16) However, a study of pan-ethnic groups alone may mask heterogeneity within groups. And, groups from different countries of origin identify with pan-ethnic categories to varying degrees. (Schachter 2014) When understood in context of country of origin demographics, heterogeneity may reveal insights about intergenerational assimilation processes within the U.S. Pan ethnic and country of origin level analyses together will provide a more comprehensive view of immigration dynamics than either alone.

Hypotheses about the six countries of origin are that gender differences in intergenerational mobility will resemble those of the pan-ethnic groups; Latino countries of origin will have diverging outcomes between groups with lower and higher attainment

levels; and Asians country of origin groups will continue to have straight-line assimilation.

This study is limited to first-generation immigrants and their mainstream counterparts who are ages 25-44 and second-generation immigrants and the mainstream during a later time-period when they are 25-41 years old. Data for the first-generations and their mainstream counterparts are from the U.S. decennial Census for 1980 and 1990. Second-generation data is from the U.S. Census Bureau and U.S. Department of Labor's Current Population Survey. By comparing the generations at approximately the same age ranges, it is possible to see education, occupation and earnings attainment when they are in the same life stages. The analysis differentiates by gender and takes parenthood into account, which may impact adults within these age ranges. (See Chapter 1; Budig and England 2001; Park et al 2015)

Findings in this chapter include that there are gender differences in intergenerational mobility between first-generation immigrants and the mainstream in 1980 and 1990 and second-generation immigrants and the mainstream in 2003-07 and 2012-16, with women's relatively greater progress changing relative attainment levels for some outcomes. There are also differences in intergenerational mobility between immigrant groups and the mainstream. Heterogeneity occurs with country of origin level analysis, with many findings also supporting broader group level findings. Assimilation, as defined by immigrants and nonimmigrants coming to resemble each other so that distinctions specific to immigrants are not apparent, may occur to varying degrees across groups and outcomes. Classic theories about immigration suggest that immigrants will assimilate over time. (Park and Burgess 1969; Gordon 1964) Straight-line assimilation is

a process through which groups become increasingly similar to each other through social interaction. (Park and Burgess 1969; Hirschman et al 1999) Segmented assimilation differs from straight-line theory to predict that not all groups necessarily assimilate, and if assimilation occurs, it may vary in direction and by group. (Portes and Zhou 1993)<sup>51</sup> Classic theory discusses that assimilation may occur along different dimensions (Gordon 1964; Hirschman et al 1999) This chapter defines assimilation only as measured by convergence in status attainment and social mobility as measured by wages, earnings, and educational and occupational attainment. Despite assimilation, many disparities persist.

The remainder of this chapter includes a literature review, theoretical framework with hypotheses drawn from literature, data, methods, results and discussion/conclusion sections.

### Literature Review

Earlier studies of second-generation immigrants' intergenerational socio-economic mobility in the U.S. capture generations whose parents migrated primarily from Europe prior to the 1965 immigration law change. (Chiswick 1977) They find that second-generation immigrant earnings are, at least among men, higher than the general native population. In an early study, Chiswick (1977) finds that second-generation immigrant White men ages 25-64 have higher earnings than White men with U.S. native born parents. He attributes the second-generation's higher earnings to migration selectivity factors of their parents and subsequent human capital. Although he does not include women among his respondents, Chiswick (1977) adds parents' gender and

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<sup>51</sup> When asking questions about either straight-line or segmented assimilation, this dissertation limits definitions to the quantitative variables of study in regression models. It is possible that assimilation occurs for some, but not all, outcomes.

nativity to his analysis. He finds that second- generation men with a migrant father and U.S. native mother have higher earnings than those with two migrant parents and an additional increase when compared to those with a U.S. native born father and migrant mother. He hypothesizes that migrants' fathers' higher earnings may be positively correlated with son's higher earnings. In his model, fathers affect sons' earnings through their own earnings, while mothers affect sons' earnings through language skills. Sons' earnings may be lower if mothers have English language barriers.

A decade later, with a more ethnically diverse group of men, Carliner (1980) finds that second-generation immigrants have higher earnings than either first- or third-generation immigrants. Findings include that first-generation immigrants' earnings increase over time. Second-generation immigrants have higher earnings than their parents for most but not all groups. And, third-generation immigrants' earnings are at lower levels. Carliner attributes the second-generation's relatively higher earnings levels to increases in U.S. human capital and motivation gained from their first-generation parents. Parents' English-speaking abilities and education levels may affect second- generation outcomes. Thus, he continues a line of research linking second-generation immigrant adults' socioeconomic statuses with their parents'. This line of research is relevant to current studies to varying degrees, depending on whether parents, peers or both generations are reference categories.

In a more recent study, Borjas (2006) includes both comparisons to parents' generation and to peers for years 1994-2003. He studies wages of first- and second-generation immigrants when compared to each other and to a general U.S. native population. He finds evidence for declining earnings among second-generation

immigrants, as an entire group, which parallel a trend of declining earnings among first-generation immigrants. When compared to those who are third- and later-generation immigrants, second-generation immigrant men earn 17.8% more in 1940, 14.6% more in 1970, and 6.3% more in 2000. (Borjas 2006, p. 12) Thus, although second-generation men maintain an advantage when compared to the general U.S. population of comparable aged men, the advantage fell resulting in a narrowed gap. Correlation levels provide information about whether the differences are due to changes in first-generation attainments or changes in assimilation rates. Findings suggest that second-generation's attainment levels are changing because of first-generation immigrants' attainment levels and not because of difference in assimilation rates. Correlation levels between first- and second- generations remain stable across these time periods, leading to his conclusion that the second-generation's earnings levels are declining due to first-generation earnings level declines. Comparing both 1940 to 1970 and 1970 to 1994-2003, he finds that second-generation men's wages are correlated with the first-generations from an earlier time-period by 51% and 56% while the correlations for women are 24% and 28%. He notes that increases in women's labor force participation over the study period may account for their lower levels of correlation. (Borjas 2006, pp. 15-16) Controlling for educational attainment decreases positive correlations for wages across generations. (Borjas 2006, p. 16)

Card et al. (1998) also find positive correlations between first- and second-generation immigrants. Higher education levels among parents are associated with children's higher education levels, higher wage levels and greater likelihood of marrying outside of fathers' ethnic groups. The authors conclude that assimilation patterns do not

change considerably between 1940 and 1994-96. However, among second-generation immigrants, earnings levels decline for the lower but not for middle and upper deciles. This suggests that second-generation's socio-economic statuses are diverging along class lines.

With varying views, scholars in the 1990s and 2000s ask whether divergences in outcomes for some second-generation immigrants will be a cause for concern. In 1992, Gans cautions scholars and policy-makers that a "second-generation decline" may be on the horizon for children whose first-generation parents are economically disadvantaged. Gans (1992) predicts that second-generation immigrants may be unwilling to take some of the jobs that their parents hold and may have limited opportunities due to low human and social capital. Racial discrimination may add to a decline in this generation's mobility. While educational attainment, working in secure blue-collar jobs, and remaining in ethnic niches are strategies that have worked in the past, he suggests that some in the new second-generation may face barriers to educational achievements and limited numbers of jobs available in the current economy, including those in ethnic niches.

In contrast to Gans (1992), Perlmann and Waldinger (1997) describe their view as more optimistic. Comparing contemporary second-generation immigrants with previous cohorts, they argue that today's second-generation immigrants do not experience worse disadvantages than second-generation immigrants from earlier cohorts. According to the authors, two positive factors for today's second-generation are that many have middle class backgrounds and that U.S. society is more open to them than previous generations. (Perlmann and Waldinger 1997, p.917) Thus, while the current structure of the economy



affects second-generation immigrants due to lost manufacturing industry and small business jobs and growth in low wage jobs without middle level jobs, these effects are not any different than those that face the children of U.S. native born parents. (Perlmann and Waldinger 1997, pp. 910, 917) Mexican American children are, however, an exception in their analysis. Because there are large numbers of Mexican migrants and the first-generation is, on average, lower skilled than other immigrant groups, the authors express more concern over the future well-being of second-generation Mexicans than other immigrant groups. (Perlmann and Waldinger 1997, p. 918)

Kasinitz et al (2008) also find some evidence that supports an optimistic view for some second-generation immigrants. In a 1998-2000 study of a diverse group of second-generation immigrants, they find that while parents' social capital are important factors for adult children's outcomes, social environments are also important. Second-generation immigrants are likely to hold jobs similar to their general population peers. Age and gender are more predictive of job types than ethnicity. (Kasinitz et al 2008, pp. 196-197) There is, however, variation in gender earnings gaps by ethnicity. (Kasinitz et al 2008, p. 176) Overall, they find that niche ethnic group jobs are a safety net for second-generation immigrants, rather than a primary means for employment. (Kasinitz et al 2008, p. 202) They attribute some of second-generation immigrants' dissimilarity when compared to their parents to a lack of manufacturing jobs, but not all. (Kasinitz et al 2008, pp. 190-191)

Research on second-generation immigrants and their co-ethnic peers raises questions as to whether assimilation will be upward or downward for racial and ethnic minorities. Supporting an assimilation hypothesis, and studying men alone and not

women, Mason (2016) finds that for 1994 to 2013, first-generation Black immigrant men's wages become similar to native born African American's wages after 10-15 years in the U.S.; second-generation Black immigrant men have earnings similar to native born African Americans; and those who migrate as children have smaller wage disadvantages than older migrants.

Zhou and Bankston (2016) find that segmentation assimilation theory continues to be relevant for describing the experiences of second-generation immigrants. In their view, the important comparison group is peers, rather than parents. Contextualizing immigrant realities in modern structures such as globalized networks, an hourglass economy, and U.S. residences that sometimes include ethnically concentrated suburbs, they argue that immigrant communities' resources and U.S. destination country receptions matter. Government policies and societal perceptions of ethnic groups contribute to differential outcomes. Ethnic communities are "motors" rather than "traps" that may facilitate socio economic achievements when social capital is available. (Zhou and Bankston 2016, p. 99)

While segmented assimilation theory is primarily concerned with dynamics within the U.S. that affect second-generation immigrants, it is linked to immigrant selectivity to the extent that immigrants' social capital is at least in part related to the resources that they had prior to migration. (Zhou and Bankston 2016, p. 33) Second-generation immigrant scholars reference the relatively high skill levels of many Asian immigrants. (Park et al 2015, Zhou and Bankston 2016, p. 33, Feliciano 2006) Prior to the 1965 law change, some Asian groups were blocked from migration at specific times. (Feliciano 2006, pp. 25-26) Migration streams after the law contain many who are

immigrating under skill preferences with family preferences only recently for those groups less likely to have family in the U.S. (Feliciano 2006, p. 26) Latino skill levels are, in general, lower, but as with Asians, vary by countries of origin. (Feliciano 2006, pp. 25-28)

Feliciano (2006) argues that there is a direct correlation between parents' class positions in their countries of origin and their children's educational outcomes. She finds that while both Asian and Latino immigrants tend to be from relatively high socio-economic classes in their home countries, Asian immigrants are from more highly educated classes (Feliciano 2006, p. 13) She then correlates parents' educational attainment levels relative to the populations in their countries of origin with their children's educational attainments in the U.S. Second-generation expectations for their educational attainment are correlated with their parent's class positions in countries of origin.

Feliciano (2006) highlights specific findings unique to two Latino groups. She includes migrants from Puerto Rico among immigrant groups even though Puerto Rico is a U.S. territory and provides additional theory that they are a unique group because they do not experience legal barriers to migration. (Feliciano 2006, p. 13) Contrary to other scholars, she finds that all immigrant groups, except those migrants from Puerto Rico, have relatively high levels of education compared to the populations within their countries of origin. This finding is with data where time periods of study span 1960 to 2000 and cover the time for each group when migration flows were heaviest. (Feliciano 2006, pp. 42-47) Mexicans were positively selected in 1990 and 2000. The term selection refers to characteristics upon which immigrants may differ from the general populations

of their countries of origin. Positive selection references relatively high attainment compared to a general population. She concludes that there is contradictory evidence about Mexicans, depending on how education is measured. Immigrants may self-select into migration decisions. Those who self-select may vary from the general population in their country of origin by demographics. As measured by average education, selectivity trends showed an overall decline after 1970, and as measured by educational distribution, relatively consistent levels between 1970, 1990 and 2000. Mean education levels show an increase in selectivity in 1980 and educational distribution analysis shows a decrease for that time. (2006 pp. 54-58)

Blau et al. (2013) study both direct correlations from parents and parents' countries of origin characteristics on outcomes of educational attainment, fertility and numbers of hours worked for second-generation women for years 1995-2011. When studying parents' countries, they look at demographics among women in both mothers' and fathers' countries. They find that there are correlations between parents and their second-generation daughters for all three outcomes as well as additional correlations between parents' countries and daughters outcomes. For daughters, labor force and fertility variables are more strongly correlated from mothers' countries of origin than when they are from fathers' while the reverse is true for educational attainment. The authors theorize that correlations are due to intergenerational transmissions of gender roles. (Blau et al 2013, p. 431) Separating daughters with one immigrant parent or two parents who are immigrants, they find different effects with stronger positive correlations for those with two immigrant parents.

Park et al. (2015) find intergenerational social mobility for both Asian and Latino second-generation women moving towards higher status attainment levels than their immigrant mothers' levels within ethnic groups. However, Park et al (2015) do not find that they assimilate fully in earnings levels. Because their general population peers also experience intergenerational mobility, second-generation Latina immigrant women need additional earnings increases to fully assimilate. Latino women experience some upward direction movement toward assimilation while the non-Hispanic White mainstream's upward mobility lessens their gap with Asian women's higher levels. Regardless of immigrant background, all women gain in educational attainment and occupational prestige when compared to their parents' generation. When compared to co-ethnic men, they have greater social mobility in education and occupations, but continue to earn less.

Park et al (2015) find that second-generation and mainstream women have higher rates of educational and upper white-collar occupational attainment and lower earnings than co-ethnic/racial men. Mothers have lower attainment than women without children. The same pattern is not true for fathers. Intergenerational mobility trajectories are more similar across groups by gender than they are for women and men of the same group. Despite intergenerational mobility, gaps remain, leading them to conclude that the evidence for assimilation varies by outcomes. (Park et al, 2015, pp. 1610-1614) Park et al (2014) find similar patterns among Mexican origin immigrants in Texas and California. Women have greater patterns of intergenerational mobility than men, but because the mainstream also increases attainment levels, gaps remain for both genders.

Overall, literature varies from discussing men only (Chiswick 1977, Carliner 1980; Mason 2016), to discussing women and men primarily in separate analyses (Borjas

2006; Card et al 1998), to some discussion of gender differences and gender roles. (Gans 1998, Kasinitz et al 2008, Zhou and Bankston; 2016 Feliciano 2006; and Blau et al 2013)

Gender related themes in literature relevant to this chapter cover whether second-generation women's labor force participation is less correlated with their mothers than second-generation men's labor force participation is with their fathers due to society wide changes in women's labor force participation rates. (Borjas 2006; Card et al 1998)

Literature asks whether second-generation immigrant women and men will have different occupational outcomes. (Gans 1992; Kasinitz et al 2008) Kasinitz et al (2008) find gender a stronger predictor of occupations than race and ethnicity. (Kasinitz et al 2008, p. 197)

Feliciano (2006) discusses that gender role expectations might affect gender differences in educational outcomes. Literature does find some assimilation in earnings, education and labor force participation for both women and men. (Card et al 1998; Borjas 2006; Blau et al 2013)

This chapter adds to the Park et al (2015) study by testing whether findings remain consistent across decades of immigrants, including a comparison before and after the Great Recession of the 2000s. It also fills a gap in literature by adding analysis by country of origin using the intergenerational, intersectional method from Park and Myer (2010) and Park et al (2015). Park et al (2015) themselves draw attention to the potential benefit of more detailed study within broader pan ethnic Latino and Asian groups. (Park et al 2015, p. 1622) While Borjas (2006) and Card et al (1998)'s studies of second-generation immigrants by parents' countries of origin do have more specific groups and some analysis by sex, they use data from earlier years and neither makes the detailed

comparisons by gender that Park et al (2015) and this chapter do through use of a methodology modified to study gender comparisons.

Although some studies prior to Park et al (2015) compare second-generation immigrant women and men (Card et al 1998; Borjas 2006; Blau et al 2013), the Park et al (2015) study using intergenerational mobility models moves research forward in methods to compare immigrants by gender as well as to a nonimmigrant comparison group. This chapter makes four main contributions to literature 1) it adds a new second-generation cohort in 2012-16; 2) it adds data from a new first-generation cohort from 1990; 3) it tests whether findings between 2003-07 and 2012-16 are statistically significantly different from each other; and 4) it covers 6 country of origin groups, where previous country work with the intergenerational cohort methods limited work to Mexico. (Park et al 2014; Park et al 2015)

### Theory and Hypotheses

Theories of social mobility predict that second-generation immigrants' earnings will be correlated with those of their parents' generations. (Thernstrom 1973) Theories of straight-line assimilation predict that the second-generation will resemble peers whose parents are U.S. native born. While they may be connected, processes of social mobility and assimilation are distinct. (Gans 1992 and Park et. al 2015) Intergenerational social mobility may occur regardless of whether parents and children are immigrants. (Blau and Duncan 1967) Park and Myer (2010) and Park et al (2015) disentangle these two phenomenon and test whether second-generation immigrants are experiencing status attainment when compared to their parents' generation and assimilation when compared to their general population peers. I use the theories Park et al (2015) test.

This chapter's hypotheses are based on theory that intergenerational social mobility may occur in either upward or downward directions. (Blau and Duncan 1967) This is in contrast to social reproduction theories which predict that adult children's outcomes will be shaped by their parents' class positions prior to migration. (Feliciano 2006, p. 94) With a social reproduction theoretical view, education acts as a mechanism to maintain inequality. (Bowles and Gintis 1976) Immigrant children reproduce the class positions that their parents had within their countries of origin prior to migration. (Feliciano 2006) Park et al's (2015) findings suggest that social mobility will occur across generations. I hypothesize that social mobility will occur both with different decade comparisons and with country of origin analyses.

Specific hypotheses include that there will be "feminized intergenerational mobility". (Park et al 2015) Consistent with other findings about second-generation women (Feliciano and Rumbaut 2005), Park et al (2015) find that the double disadvantage of being both an immigrant and a woman does not continue from first- to second-generation women. In fact, second-generation women have greater intergenerational mobility than second-generation men and reach higher attainment levels for some outcomes. Hypothesis 1 for this chapter is that this trend will continue for 2012-16 when compared with either 1980 or 1990.

Status attainment, assimilation and intersectionality theories predict that there may be different outcomes within gender for second-generation immigrants only a decade apart. Economic conditions, legal programs and immigrant demographics changed between 2003-07 and 2012-16. While the Great Recession ended in 2009, it is possible that earnings inequality increased for second-generation immigrants either



because inequality increased for the general population along education and skill levels that are reflected in disparities by immigrant ethnic groups or because there was less straight-line assimilation among the latter second-generation group. Greater inequality disproportionately affecting immigrants or less assimilation will result in the same finding of larger gaps in outcomes between second-generation immigrants and the mainstream in 2012-16 than in 2003-07.

Second-generation social mobility may continue to occur, but lack of full assimilation or growing class-based disparity may affect second-generation Latinos and Asians to different extents than higher generation immigrants. If this occurs, the second-generation of 2012-16 may experience less intergenerational upward mobility.

Hypothesis 2 is that Latinos will experience less intergenerational mobility in 2012-16 than 2003-07, resulting in larger outcome gaps with the mainstream. This is consistent with findings that the White to Latino wealth gap increased between 2007 and 2013.

(Kochhar and Fry 2014) With parents' and communities' differing levels of social capital, rising costs for post-secondary education, and increasing income inequality, social mobility may not offset earnings inequalities. I expect that if there is any change in mobility levels after the Great Recession, it will be in the direction of greater inequality in mobility levels between ethnic groups and the mainstream.<sup>52</sup> Hypothesis 3 is that this

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<sup>52</sup> While it is beyond the scope of this chapter to differentiate the first- and second- generations by documentation status, it is important to note changes that may have occurred between time periods. Numbers of undocumented immigrants grew from an estimated 3.5 million in 1990 to 11.1 million in 2014. (Pew Research Center 2016) One change that may have had a positive economic effect for the 1.5 generation in 2012-16 is governmental implementation of the Deferred Action for Childhood Arrivals program. Enacted in 2012, this program allows undocumented immigrants who came to the U.S. as children to apply for work permits. These individuals are not part of the second-generation, as defined in this chapter, so the law change would be relevant only if political changes affecting the 1.5 generation also affect U.S. born Latinos to any extent.

difference will not affect Asians' assimilation gaps with the mainstream due to their relatively high skill levels.

Second-generation immigrants' intergenerational mobility may be different between 2003-07 and 2012-16 when their mobility is compared to different decades of first-generation immigrants in 1980 and 1990 because of differences in the first-generation's human capital and demographic characteristics occurred between 1980 and 1990. Borjas (2015) finds lower earnings levels and rates of earnings increases for first-generation immigrants after 1985 compared to those before. (Borjas 2015, p. 487) He attributes changes to slower rates of English language skill acquisition and growth in the sizes of some national origin groups with lower human capital levels. (Borjas 2015, p. 515) If second-generation immigrants' status attainment in education, occupations and earnings are correlated with their parents' generation's attainment (Chiswick 1977, Park 2015), it is possible that differences between first-generation adults of the same ages in 1980 and 1990 may carry over into outcomes for second-generation immigrants nearly a decade apart. If this is the case, any gaps where second-generation immigrants have lower attainment than children of U.S. native born parents may increase.

With country of origin analysis, I hypothesize that intersectional and social mobility trends for specific countries of origin will follow the broader group patterns in Park et al (2015). Hypothesis 4 is that both Latino and Asian country of origin second-generation women as well as mainstream women will have greater intergenerational mobility than their male counterparts. Women's educational and upper-white collar occupational attainment but not their earnings will be higher than men's.

In comparing country of origin groups to the mainstream, I hypothesize that there will be heterogeneity within broader ethnic groups. Borjas (2006) hypothesizes that ethnic groups' capital may affect second-generation outcomes. For example, there may be neighborhood effects (Card et. al. 1998) beyond family relationships.<sup>53</sup> This hypothesis is compatible with more detailed segmented assimilation theory, which predicts that assimilation processes may be upward, downward or partial depending on ethnic groups' resources and diverse U.S. places of residence and social contexts after migration. (Zhou 1997) Segmented assimilation theory predicts that groups with higher attainment levels will have "straight-line" assimilation, groups with the lowest attainment levels will be in oppositional positions resulting in downward mobility and some groups will have partial assimilation, assimilating in only some spheres of life. (Zhou 1997) Hypothesis 5 is that there will be segmented assimilation in country of origin outcomes among Latinos. Hypothesis 6 is that straight-line assimilation will occur for Asians within country of origin groups.

In sum, this chapter's hypotheses are that: 1) when comparing the period from 2012-16 with either 1980 or 1990, women continue to have greater intergenerational mobility than men within each of the broader racial and ethnic groups of immigrant Latinos, immigrant Asians and non-immigrant White, non-Latinos; 2) second-generation immigrant Latinos experience less intergenerational mobility and assimilation from either 1980 or 1990 to 2012-16 than from 1980 to 2003-07; 3) straight-line assimilation continues for Asian second-generation immigrants from either 1980 or 1990 to 2012-16

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<sup>53</sup> The hypothesis is that these effects are likely to occur when immigrant groups are residentially concentrated. Large scale cross sectional studies do not have the data to identify adults' neighborhoods from childhood. Research by Zhou (2006) finds positive neighborhood effects for Asian groups that provide cultural education to children in addition to mainstream school attendance.

for education and occupations but not for earnings; 4) patterns of greater intergenerational mobility by women compared to men remain within country of origin groups; 5) there is country of origin level segmented assimilation among Latinos; and 6) straight-line assimilation within countries of origin among second-generation Asians occurs in education and occupations but not in earnings.

### Data

Data for this chapter are from two survey series, the decennial Census and the Current Population Survey (CPS). Data for first-generation immigrants are from the 1980 and 1990 decennial Censuses. The U.S. Census Bureau collected this data. The University of Minnesota's Integrated Public Use Micro Data Series provided a 5% state file for the 1980 decennial Census and a 5% file for 1990. (Ruggles et al. 2015). CPS data for the second-generation are collected by the U.S. Census Bureau and U.S. Bureau of Labor Statistics. CPS files for all years except 2014 are provided by the National Bureau of Economic Research.<sup>54</sup> The data for 2014 come from the Census Bureau's Income Consistent files.<sup>55</sup>

All analyses with CPS data contain alternate years to avoid including a double count of overlapping respondents. Census and the Bureau of Labor Statistics interview

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<sup>54</sup> <http://www.nber.org/>

<sup>55</sup> In 2014, Census redesigned questions for the CPS in the areas of interest, dividend and retirement income and health insurance. Census administered the same income questions as had been asked in 2013 to approximately 68,000 households and newly designed questions to 30,000 households. (Treat 2015; Turner 2016) The earnings and occupation questions that are outcomes for this chapter were not among redesigned questions and thus are comparable with both years 2012 and 2016. (Communication with Aaron Benjamin Cantu, U.S. Census Bureau, November 2, 2016) The only impact for this study is the need for 2014 to merge person, family and household files from files Census created that combine the traditional and redesigned questions rather than using National Bureau of Economic Research provided Stata format files with all data from a single year in one file.

the same household for four-month periods at two different point in time over two consecutive years. (U.S. Census Bureau and Bureau of Labor Statistics, 2016, p 2-1)

Following the methodology in Park et al (2015), CPS data are pooled together for 2003, 2005 and 2007. The later second-generation cohort in this chapter is from 2012, 2014, and 2016 pooled. Country of origin analyses contain CPS pooled data for 2003, 2005, 2007, 2009, 2011, 2013 and 2015. All pooled second-generation files are then combined with data from either the 1980 or 1990 Census to allow for intergenerational mobility comparisons.

While data across earlier decennial Censuses and later CPS surveys do not allow for direct links between actual parents and their related children, they do allow for comparisons between those within the age categories and with similar ethnic and nativity status of parents and their adult children at a later point in time. The Park et al (2015) study compares outcomes for 25-44-year-old parents in 1980 to 25-41 adult second-generation immigrants in 2003-07, and to U.S. born non-Latino Whites within the same age ranges for both time periods. They reference the U.S. born non-Latino White group as a mainstream group. First-generation immigrant parents in 1980 are identified following Park and Myer (2010) and Park et al (2015) by first identifying oldest children ages 0-16 and then identifying co-residing parents. Immigrant parents include some known or possible stepparents if they are residing in the household and meet other sample restriction requirements. To meet sample criteria, first-generation immigrants are defined as born outside the U.S. and U.S. territories. First-generation immigrants in this chapter are limited to those who identify their ethnicity or race as either Latino or non-Hispanic

Asian.<sup>56</sup> Park et al (2015) study these two groups because most first-generation immigrants migrating after 1965 are either Latino or Asian. (Park et al, p. 1607)

Second-generation immigrants are identified as born in the U.S., having two parents born outside the U.S. and either Latino or non-Latino Asian. Blau et al.'s (2013) discussion of differences between adult children with one or both parents who are immigrants is significant when defining who falls into the category of second-generation immigrants. From Chiswick (1977) to Blau et al. (2013), second-generation outcomes vary both by whether adult children have only one immigrant parent and by the gender of the immigrant parent.

Ramakrishnan (2004) refers to the group of second-generation immigrants with one native born parent as the 2.5 generation. He finds that demographic characteristics for the 2.5 generation vary between those born before and after the 1965 immigration law. Comparing those born after 1965 among the second- and 2.5 generations, he finds that the 2.5 generation has higher educational attainment and incomes. Thus, he cautions against analyses that do not differentiate these two groups.

Another group that is sometimes included in second-generation immigrant studies is the 1.5 generation. (Zhou and Bankston 2016) Those in the 1.5 generation migrated as children and grew up, at least partially in the U.S. Theoretically and empirically, the 1.5 generation may be different from the second-generation. (Oropesa and Landale 1997; Danico 2014, Rumbaut 2004) Differentiating first-generation immigrants as being over age 17 at arrival from 1.25 generation immigrants who are 13-17 at arrival, 1.5 generation immigrants ages 6-12 at arrival, 1.75 generation immigrants ages 5 and

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<sup>56</sup> Throughout this chapter, the ethnicity Asian refers to non-Hispanic Asians.

younger at arrival and second-generation immigrants, Rumbaut (2004) finds that immigrants from lower socioeconomic status groups have college completion rates that decrease between the first- and 1.25 generations followed by increases between each quarter generation group up to the second-generation. Upper white-collar occupational attainment increases between decimials from the first- to second-generation. Among high socioeconomic status immigrants, college completion levels decrease, increase, decrease and increase beginning at 56% and ending at 52%. Upper white-collar occupational attainment is at a low of 34% for the first-generation and high of 42% for the second-generation with two foreign-born parents and at 37% for the second-generation with one foreign born parent. (Rumbaut 2004, pp. 1185-92)

In this chapter, I follow Park et al. (2015) and define second-generation immigrants as having been born in the U.S. and having two immigrant parents.<sup>57</sup> Literature suggests that a study of the second-generation defined as those with two immigrant parents provides a more conservative estimate of first- to second-generation intergenerational mobility than one that includes children who have one parent born in the U.S. (Ramakrishnan 2005)

The mainstream group does not have any restrictions on immigrant generation beyond that they cannot be first-generation immigrants. As noted by Park et al (2015), data does not allow for identification of only third-generation and higher so there may be

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<sup>57</sup> Park et al (2015) do not discuss age at immigration for the first-generation. It is possible to get rough estimates from the data for whether the majority of first-generation immigrants in the chapter immigrated as adults. The 1980 and 1990 Censuses do not contain information for exact year of immigration, but rather five-year intervals. Taking the highest possible value within each interval and subtracting it from first-generation immigrant parents' ages within the 1980 study sample, the majority immigrated at or after the age of 18. At least 61% of Latino mothers, 70% of Latino fathers, 86% of Asian mothers, and 89% of Asian fathers would have to have immigrated at age 18 at the youngest. Youngest possible age of 18 at time of immigration for those in the 1990 Census are 51% of Latino mothers; 56% of Latino fathers; 79% of Asian mothers; and 84% of Asian fathers.

some second-generation immigrants among the mainstream. Park and Myer (2010) note that the 1970 decennial Census allowed for differentiation between the second- and third-generation and that 77.4% of the mainstream population were third or higher generation immigrants. (Park and Myer 2010, p. 376)

To create sample sizes comparable to those of immigrant groups, I follow Park et al (2015) and select a 2.5% random sample from the decennial Census and 10% random sample from CPS years for the mainstream group.

The country of origin analysis in this chapter is for those who identify as either Latino or Asian. Blau et al's (2013) study finds that while both mothers' and fathers' countries of origin affect daughters' education, fertility and hours of work, the sizes of effects vary by the sex of the parent as well as the country of origin. This suggests that separate analysis that accounts for both parents' countries of origin when they are different from each other may have varying results from when both parents are from the same country. Because of this possibility, for country of origin analysis, the second-generation includes only those who have both parents with the same nativity. I analyze data for the three most populous countries from which second-generation Latinos identify their parents' nativity; and the three most populous countries that second-generation Asians identify in the 2003-2015 CPS. Second-generation Latinos have the most parents from Mexico, Cuba and the Dominican Republic. Second-generation Asians' most populous parental countries of origin in the sample are from the Philippines,<sup>58</sup> China and

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<sup>58</sup> There are some second-generation immigrants whose parents are from the Philippines and identify as Latino. They do not number among the most populous Latino groups. Those who identify as Asian with Filipino parents are the largest Asian second-generation group. In the country of origin analysis for Asian sub groups, I include only those Filipinos who identify as non-Hispanic Asian.



India. I estimate intergenerational mobility for immigrants in the 1980 Census who identify as having been born in these countries.

Tables 1 and 7<sup>59</sup> report sample means and ages for each of the first- and second-generation cohorts, as well as six specific country of origin groups and their mainstream counterpart. Mean ages for all groups are in the early- to mid-30s. For countries of origin, second-generation Latino sample sizes by gender range from 114 men and 144 women among Dominicans to 2,574 women and 2,342 men among Mexicans. The smallest of the three Asian groups, has 145 Indian women and 185 Indian men while the largest has 336 Filipino women and 358 Filipino men.

This chapter contains results for four status attainment outcomes in the Park et al (2015) study: high school completion, college completion, upper white-collar professional or managerial occupations as defined by Census, and earnings.<sup>60</sup><sup>61</sup> Multivariate analysis for occupations and earnings are for full-time, full-year workers only. Earnings are adjusted to 2016 annual averages using the Consumer Price Index - All Urban Consumers with base year 1982-84, U.S. Bureau of Labor Statistics, [https://data.bls.gov/timeseries/CUUR0000SA0?output\\_view=pct\\_1mth](https://data.bls.gov/timeseries/CUUR0000SA0?output_view=pct_1mth).

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<sup>59</sup> Throughout this chapter, tables are referenced by the number following the decimal point in table titles.

<sup>60</sup> I use earnings rather than wages as an outcome variable so that results are consistent with Park et al (2015)'s findings. Future research will examine wage rates, where earnings are divided by weeks worked per year and usual hours worked per week. The Institute for Women's Policy Research (2018) finds that the gender earnings ratio for full-time year-round workers is lower than weekly earnings ratios by 0.4 percentage points in 2016, with a comparison of an 80.5% ratio for full time year-round workers and an 81.9% ratio for full time weekly earnings. It is expected that combining full and part time workers would result in a larger gender gap since women are more likely than men to work part time, <https://iwpr.org/publications/gender-wage-gap-2017-race-ethnicity/>, accessed April 28, 2018.

<sup>61</sup> I report earnings from wages/salary alone. I also ran models for earnings from wages/salary, businesses, and farms and did not find qualitative differences between the two earnings variables. These findings are available upon request.

## Methods

I use the intergenerational cohort method developed by Park and Myer (2010) and Park et al (2015) to study generations at two different time-periods. Park and Myer (2010) find that a lagged time method produces different results than methods comparing first- and second-generation immigrants of the same age or of different age groups at the same point in time. Borjas (2006) also finds that results vary by data analyzed for one- or two time-periods when comparing generations. Park and Myer (2010) compare both generations of cohorts to a non-Latino White mainstream to account for period effects that are separate from immigrant assimilation processes. Comparing first- and second-generation immigrants at similar life stages and across time shows more intergenerational mobility than methods that do not use a lagged method for similar age categories of individual. (Park and Myer, 2010, p. 378) Park et al (2015) revise the original method to study interactions and changes by gender, guided by intersectionality theory.

Park et al (2015) use the two models below. I use these models to estimate outcomes for 1980 and 2003-2005 as specified. I then update the estimates for high school completion, college completion, professional occupational attainment and earnings using the same methodology and sample restrictions for 1980 with 2012-16 and 1990 with 2012-16. I add analysis with pooled data to compare intergenerational mobility differences across decades.

For the more recent second-generation cohort, I compare first-generation immigrant parents and their mainstream counterpart at ages 25-44 to second-generation immigrants ages 25-41 in 2012-16. I first compare the 2012-16 group to 1980. If the age

gaps for this later second-generation approximate that assumed with a 25-year gap between 1980 and 2005 in the Park et al study, these second-generation adults would have ranged from being 7 years away from being born to 9 years old in 1980. I keep the 1980 comparison so as to have the same base year when comparing mobility levels for second-generation cohorts. When compared to 1990 data, the 2012-16 sample of second-generation immigrants approximates the 25-year span that would occur if data were available to cover years 2013-17. I chose to keep those age 41 in the 2012-16 second-generation sample for consistency in comparing across age categories and so as not to decrease already small sample sizes. Individuals 41 years old are only 5% of this second-generation cohort. I use the same models for the three most populous parents' country of origin groups identified by each of the second-generation groups of Latinos and Asians in the 2003-15 CPS with the first-generation from these countries and mainstream in 1980.

Data codes are for immigrant generation, year, age and gender. Immigrant generation is coded as a 1 for both first- and second-generation Latino and Asian immigrants. It is coded as a 0 for those who are non-Hispanic, White, U.S. native born. Year is coded as 0 for the decennial Census year and 1 for the CPS pooled years. Age is center coded at age 35 for all data in this chapter. Gender is coded as 1 for women and 0 for men. A "no children" variable is coded as 1 for second-generation immigrants without children and 0 for second-generation parents. (Park et al 2015)

Park et al (2015) use logistic regression to estimate educational and occupational mobility and assimilation outcomes; and ordinary least squares (OLS) regression to estimate earnings. As an initial inquiry, I estimate ordinary least squares models (OLS) that are corrected for heteroskedasticity for all outcome variables in this chapter. The

difference between the two types of models is that while logistic regression assumes a nonlinear model, OLS assumes linearity. Logistic models are often used in place of OLS when a dependent variable is binary rather than continuous. With OLS, one unit of change in a continuous dependent variable has the same effect on the independent variable regardless of the value of the dependent variable. A change in value for a dummy variable has the same effect on an independent variable regardless of the values of other variables in a model. This is not the case for a nonlinear model. In a nonlinear model, the effect on an independent variable of one unit of change in a continuous variable or a change in value for a dummy variable varies with the values for other dependent variables. (Long 1997, pp. 3-5)

The first model answers the question of how women's intergenerational mobility compares to that of men within the same ethnic or racial group. The model, comparing women to men within the same ethnic or racial group, estimates the effects on an outcome variable, either high school completion, college completion, upper white-collar occupational attainment or earnings, of a change in year from observations of the first-generation to observations of the second-generation, the absence or presence of children among second-generation individuals, the difference in change from year of first-generation to year of second-generation when an individual is a woman compared to a man, and age.

Specifically,

$$y_i = \alpha_0 + \alpha_1 Y_{r_i} + \alpha_2 X_{it} + \alpha_3 W_i + \alpha_4 Y_{r_i} \times W_i + \epsilon_{it},$$

where  $y_i$  denotes the educational, occupational or earnings outcome for the  $i$ th individual  $X_{it}$ . In this equation,  $Y_{r_i}$  is the estimate for whether the year is 1980 or 2003-07.  $X_{it}$

represents a vector for age, centered coded at 35, and whether a second-generation individual is a parent.  $W_i$  is a dummy variable for gender and  $Y_{rt} \times W_i$  is the interaction of year and gender.

In this chapter, I estimate this first model for 1) all first- and second-generation Latinos 2) all first- and second-generation non-Latino Asians, 3) all non-Latino, U.S. native-born Whites, and 4) each of six country of origin groups and their contemporaneous mainstream.

For each of the outcomes, specific coefficients estimate how women's intergenerational mobility within an ethnic or racial group compares to that of men for the same time-period. Specifically, if  $Y_{rt} = 0$  for 1980 and 1 for 2003-07 and  $W_i = 1$  for women and 0 for men, conditional means show that:

$$\text{Men in 1980: } E(Y | W_i = 0, Y_{rt} = 0) = \alpha_0 + \alpha_2$$

$$\text{Men in 2003-07: } E(Y | W_i = 0, Y_{rt} = 1) = \alpha_0 + \alpha_1 + \alpha_2$$

$$\text{Women in 1980: } E(Y | W_i = 1, Y_{rt} = 0) = \alpha_0 + \alpha_2 + \alpha_3$$

$$\text{Women in 2003-07: } E(Y | W_i = 1, Y_{rt} = 1) = \alpha_0 + \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4$$

Taking differences to calculate intergenerational mobility:

The difference in mobility for men in 2003-07 from men in 1980 is

$$E(Y | W_i = 0, Y_{rt} = 1) - E(Y | W_i = 0, Y_{rt} = 0) = (\alpha_0 + \alpha_1 + \alpha_2) - (\alpha_0 + \alpha_2) = \alpha_1$$

The difference in mobility for women in 2003-07 from women in 1980 is

$$E(Y | W_i = 1, Y_{rt} = 1) - E(Y | W_i = 1, Y_{rt} = 0) = (\alpha_0 + \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4) - (\alpha_0 + \alpha_2 + \alpha_3) = \alpha_1 + \alpha_4$$

The measure of intergenerational mobility for men becomes the coefficient of the year dummy variable. A positive coefficient means that men in 2003-07 have higher attainment levels of an outcome variable than men in 1980. A negative coefficient means that they have lower attainment. The interaction of year and gender measures whether there is a significant difference in the amount of intergenerational mobility experienced by women when compared to men of the same racial or ethnic group. A positive coefficient means that women have greater intergenerational mobility between 1980 and 2003-07 than men within their ethnic or racial group between 1980 and 2003-07; while a negative coefficient means that women have less mobility than men across generations and time-periods. Women's intergenerational mobility is equal to that of the year variable added to the interaction of year and gender. A positive number means that women in 2003-07 have greater attainment levels for an outcome than women in 1980; while a negative number means that they have less.

Significance levels for the sum of the year dummy variable and the year and women interaction of dummy variables are calculated by taking the t statistic equal to the sum of coefficients divided by the square root of the sum of the variance of the year variable plus the variance of the women and gender interaction variable plus two times the covariance of the year variable and the variable interacting year and women.

I use the same equation and intergenerational mobility calculations with data for: 1) a 1980 broad group first-generation and mainstream with 2012-16 broad group second-generation and mainstream; 2) a 1990 broad group first-generation and mainstream with 2012-16 broad group second-generation; and 3) a 1980 country of origin first-generation and mainstream with a 2003-15 country of origin second-generation and mainstream.

A revised model allows for hypothesis tests of whether broad group intergenerational mobility differences between one set of decades are significantly different from intergenerational mobility differences in a second set of decades. Pooling the 1980 to 2003-07 decades with the 1980 to 2012-16 decades, allows for tests of whether differences in intergenerational mobility rates are statistically significant between the decade groups. Similarly pooling 1980 to 2003-07 with 1990 to 2012-16 allows for similar tests between those two decades groups; as does pooling 1980 to 2012-16 and 1990 to 2012-16. The pooled model is specified as:

$$y_i = \alpha_0 + \alpha_1 Y_{r_i} + \alpha_2 X_{it} + \alpha_3 W_i + \alpha_4 Y_{r_i} \times W_i + \alpha_5 D_i + \alpha_6 D_i \times Y_{r_i} + \alpha_7 D_i \times (Y_{r_i} \times W_i) + \epsilon_{it}.$$

This model contains the same variables as model 1 but with the addition of  $D_i$  representing the decade group and equal to 0 for the first set of decades, such as the 1980 to 2003-07 group and 1 for the second set of decades, such as the 1980 to 2012-16 group,  $D_i \times Y_{r_i}$  representing the interaction of the decade group variable and the variable for whether the year is that of the first- or second-generation, and  $D_i \times (Y_{r_i} \times W_i)$  as the interaction of the decade variable with the interaction of the gender variable and the year variable.

The conditional means below provide an example of how the model compares decades. Conditional means show that for men:

Men in 1980 for the 1980 to 2003-07-decade comparison:  $E(Y | W_i = 0, Y_{r_i} = 0, D_i = 0) = \alpha_0 + \alpha_2$

Men in 2003-07 for the 1980 to 2003-07-decade comparison:  $E(Y | W_i = 0, Y_{r_i} = 1, D_i = 0) = \alpha_0 + \alpha_1 + \alpha_2$

Men in 1980 for the 1980 to 2012-16-decade comparison:  $E(Y | W_i = 0, Y_{Rt} = 0, D_i = 1) = \alpha_0 + \alpha_2 + \alpha_5$

Men in 2012-16 for the 1980 to 2012-16-decade comparison:  $E(Y | W_i = 0, Y_{Rt} = 1, D_i = 1) = \alpha_0 + \alpha_1 + \alpha_2 + \alpha_5 + \alpha_6$

Men's intergenerational mobility from 1980 to 2003-07 =  $E(Y | W_i = 0, Y_{Rt} = 1, D_i = 0) - E(Y | W_i = 0, Y_{Rt} = 0, D_i = 0) = (\alpha_0 + \alpha_1 + \alpha_2) - (\alpha_0 + \alpha_2) = \alpha_1$

Men's intergenerational mobility from 1980 to 2012-16 =  $E(Y | W_i = 0, Y_{Rt} = 1, D_i = 1) - E(Y | W_i = 0, Y_{Rt} = 0, D_i = 1) = (\alpha_0 + \alpha_1 + \alpha_2 + \alpha_5 + \alpha_6) - (\alpha_0 + \alpha_2 + \alpha_5) = \alpha_1 + \alpha_6$

The difference between men's intergenerational mobility from 1980 to 2003-07 and 1980 to 2012-16 is  $[E(Y | W_i = 0, Y_{Rt} = 1, D_i = 1) - E(Y | W_i = 0, Y_{Rt} = 0, D_i = 1)] - [E(Y | W_i = 0, Y_{Rt} = 1, D_i = 0) - E(Y | W_i = 0, Y_{Rt} = 0, D_i = 0)] = [(\alpha_0 + \alpha_1 + \alpha_2 + \alpha_5 + \alpha_6) - (\alpha_0 + \alpha_2 + \alpha_5)] - [(\alpha_0 + \alpha_1 + \alpha_2) - (\alpha_0 + \alpha_2)] = (\alpha_1 + \alpha_6) - \alpha_1 = \alpha_6$

For women:

Women in 1980 for the 1980 to 2003-07 comparison:  $E(Y | W_i = 1, Y_{Rt} = 0, D_i = 0) = \alpha_0 + \alpha_2 + \alpha_3$

Women in 2003-07 for the 1980 to 2003-07 comparison:  $E(Y | W_i = 1, Y_{Rt} = 1, D_i = 0) = \alpha_0 + \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4$

Women in 1980 for the 1980 to 2012-16 comparison:  $E(Y | W_i = 1, Y_{Rt} = 0, D_i = 1) = \alpha_0 + \alpha_2 + \alpha_3 + \alpha_5$



Women in 2012-16 for the 1980 to 2012-16 comparison:  $E(Y|W_i = 1, Y_{Rt} = 1, D_i = 1) = \alpha_0 + \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4 + \alpha_5 + \alpha_6 + \alpha_7$

Women's intergenerational mobility from 1980 to 2003-07 =  $E(Y|W_i = 1, Y_{Rt} = 1, D_i = 0) - E(Y|W_i = 1, Y_{Rt} = 0, D_i = 0) = (\alpha_0 + \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4) - (\alpha_0 + \alpha_2 + \alpha_3) = \alpha_1 + \alpha_4$

Women's intergenerational mobility from 1980 to 2012-16 =  $E(Y|W_i = 1, Y_{Rt} = 1, D_i = 1) - E(Y|W_i = 1, Y_{Rt} = 0, D_i = 1) = (\alpha_0 + \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4 + \alpha_5 + \alpha_6 + \alpha_7) - (\alpha_0 + \alpha_2 + \alpha_3 + \alpha_5) = \alpha_1 + \alpha_4 + \alpha_6 + \alpha_7$

The difference between women's intergenerational mobility from 1980 to 2003-07 and 1980 to 2012-16 is  $[E(Y|W_i = 1, Y_{Rt} = 1, D_i = 1) - E(Y|W_i = 1, Y_{Rt} = 0, D_i = 1)] - [E(Y|W_i = 1, Y_{Rt} = 1, D_i = 0) - E(Y|W_i = 1, Y_{Rt} = 0, D_i = 0)] = (\alpha_1 + \alpha_4 + \alpha_6 + \alpha_7) - (\alpha_1 + \alpha_4) = \alpha_6 + \alpha_7$

The difference in the difference between genders in intergenerational mobility between 1980 to 2003-07 and 1980 to 2012-16 is  $\{[E(Y|W_i = 1, Y_{Rt} = 1, D_i = 1) - E(Y|W_i = 1, Y_{Rt} = 0, D_i = 1)] - [E(Y|W_i = 1, Y_{Rt} = 1, D_i = 0) - E(Y|W_i = 1, Y_{Rt} = 0, D_i = 0)]\} - \{[E(Y|W_i = 0, Y_{Rt} = 1, D_i = 1) - E(Y|W_i = 0, Y_{Rt} = 0, D_i = 1)] - [E(Y|W_i = 0, Y_{Rt} = 1, D_i = 0) - E(Y|W_i = 0, Y_{Rt} = 0, D_i = 0)]\} = (\alpha_6 + \alpha_7) - \alpha_6 = \alpha_7$

Having estimated gender differences within immigrant and mainstream groups, I then ask how immigrant women's mobility compares to mainstream women's and how immigrant men's intergenerational mobility compares to mainstream men's. I move to a model which compares immigrant and mainstream intergenerational mobility differences within both ethnic and gender groups. It is important to note, following Park et al.'s (2015) analysis that greater intergenerational mobility by an immigrant group than the

mainstream does not necessarily mean that assimilation has occurred. This is because first-generation immigrants may be starting at lower points than the mainstream.

Following analysis of immigrant intergenerational mobility to that of the mainstream, I ask whether the second-generation has narrowed gaps in attainment levels with the mainstream resulting in assimilation.

Thus, model 2 answers 2 sets of questions: First, for each of the outcomes for either men or women, the model estimates mainstream intergenerational mobility and the difference in intergenerational change that occurs for immigrants compared to mainstream intergenerational mobility. Second, it asks, given intergenerational mobility levels for both immigrant groups and the mainstream group and different initial starting points in 1980, whether the second-generation assimilated. Smaller gaps with the mainstream for the second-generation than the first-generation indicate assimilation by immigrants or greater mobility by the mainstream.

The second model in this chapter is specified as:

$$y_i = \alpha_0 + \alpha_1 Y_{it} + \alpha_2 X_{it} + \alpha_3 I_i + \alpha_4 Y_{it} \times I_i + \epsilon_{it},$$

where  $y_i$  denotes the educational, occupational or earnings outcome for the  $i$ th individual  $X_{it}$ . In this equation,  $Y_{it}$  is the estimate for whether the year is 1980 or 2003-07.  $X_{it}$  represents a vector for age, centered coded at 35, and whether a second-generation individual is a parent.  $I_i$  is a dummy variable for first/second-generation immigrant or mainstream and  $Y_{it} \times I_i$  is the interaction of year and immigrant status.

I estimate this model for each gender group for either Latinos and the mainstream together or Asians and the mainstream together so that samples are either 1) all first- and second-generation Latinas and all non-Latino native born White women together; 2) all

first- and second-generation Latino men and non-Latino native born White men together; 3) all non-Latino Asian first- and second-generation women and non-Latino U.S. born White women together, 4) all non-Latino Asian first- and second-generation men and non-Latino U.S. born White men together, 5) women from each of the six country of origin groups separately with non-Latino U.S. born White women and 6) men from each of the six country of origin groups separately with non-Latino U.S. born White men.

Using women as an example for that which I also estimate for men, the estimated coefficient for year measures the intergenerational mobility among mainstream women between 1980 and 2003-07. A positive estimate means that mainstream women in 2003-07 have higher attainment levels for an outcome variable than mainstream women in 1980. A negative estimate means that mainstream women in 2003-07 have lower attainment levels than those in 1980. The interaction between the immigrant dummy variable and the year variable estimates any additional or lesser intergenerational mobility among immigrant women between 1980 and 2003-07 compared to mainstream women between the same time-periods. A positive estimate means that immigrant women have more intergenerational mobility than mainstream women between 1980 and 2003-07. A negative estimate indicates that mainstream women have more intergenerational mobility than immigrant women.

As an example, the conditional means for Latinas compared to mainstream women are below. If  $Y_{rt} = 0$  for 1980 and 1 for 2003-07 and  $I_i = 1$  for first- or second-generation immigrant and 0 for mainstream:

Mainstream Women in 1980:  $E(Y | I_i = 0, Y_{rt} = 0) = \alpha_0 + \alpha_2$

Mainstream Women in 2003-07:  $E(Y | I_i = 0, Y_{rt} = 1) = \alpha_0 + \alpha_1 + \alpha_2$

Latinas in 1980:  $E(Y | I_i = 1, Y_{r_t} = 0) = \alpha_0 + \alpha_3 + \alpha_2$

Latinas in 2003-07:  $E(Y | I_i = 1, Y_{r_t} = 1) = \alpha_0 + \alpha_1 + \alpha_3 + \alpha_4 + \alpha_2$

Taking differences to calculate intergenerational mobility:

The difference in mobility for mainstream women in 2003-07 from mainstream women in 1980 is

$$E(Y | I_i = 0, Y_{r_t} = 1) - E(Y | I_i = 0, Y_{r_t} = 0) = (\alpha_0 + \alpha_1 + \alpha_2) - (\alpha_0 + \alpha_2) = \alpha_1$$

The difference in mobility for Latinas in 2003-07 from Latinas in 1980 is

$$E(Y | I_i = 1, Y_{r_t} = 1) - E(Y | I_i = 1, Y_{r_t} = 0) = (\alpha_0 + \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4) - (\alpha_0 + \alpha_2 + \alpha_3) = \alpha_1 + \alpha_4$$

The second set of questions with model 2 asks how any gaps between immigrants and the mainstream in 1980 change by 2003-07. To answer this question, the sizes of gaps between first-generation immigrants and the mainstream in 1980 are compared to those between second-generation immigrants and the mainstream in 2003-07. Taking the conditional means for Latinas and Mainstream women, for example, described above from model two, the difference between the immigrant-mainstream gap in 1980 and the immigrant-mainstream gap in 2003-2007 is:

$$\begin{aligned} \text{Gap between Latinas in 1980 and Mainstream women in 1980} &= E(Y | I_i = 1, Y_{r_t} = 0) - E(Y | I_i = 0, Y_{r_t} = 0) \\ &= (\alpha_0 + \alpha_2 + \alpha_3) - (\alpha_0 + \alpha_2) = \alpha_3 \end{aligned}$$

$$\begin{aligned} \text{Gap between Latinas in 2003-07 and mainstream women in 2003-07} &= E(Y | I_i = 1, Y_{r_t} = 1) - E(Y | I_i = 0, Y_{r_t} = 1) \\ &= (\alpha_0 + \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4) - (\alpha_0 + \alpha_1 + \alpha_2) = \alpha_3 + \alpha_4 \end{aligned}$$

A smaller gap for the 2003-07 group indicates convergence in attainment levels and the effects of assimilation.

To compare whether intergenerational mobility varies, and thus whether gaps between immigrants and the mainstream change sizes, between time periods, the model may be modified such that:

$$y_i = \alpha_0 + \alpha_1 Y_{rt} + \alpha_2 X_{it} + \alpha_3 I_i + \alpha_4 Y_{rt} \times I_i + \alpha_5 D_i + \alpha_6 D_i \times Y_{rt} + \alpha_7 D_i \times I_i + \alpha_8 D_i \times (Y_{rt} \times I_i) + \epsilon_{it}.$$

Where  $D_i$  is equal to 0 for the 1980 to 2003-07 group and 1 for the 1980 to 2012-16 group;  $D_i \times Y_{rt}$  is equal to the decade variable interacted with the year variable;  $D_i \times I_i$  equals the decade variable interacted with the dummy variable for whether an individual is an immigrant; and  $D_i \times (Y_{rt} \times I_i)$  is the interaction of the decade variable with the interaction of the immigrant variable and the variable for whether the year is that of the first- or second-generation.

As an example of estimates for mainstream women and men and immigrant women and men, the difference in mainstream women's intergenerational mobility difference between 1980 to 2003-07 and 1980 to 2012-16 is:

$$\begin{aligned} & [E(Y | I_i = 0, Y_{rt} = 1, D_i = 1) - E(Y | I_i = 0, Y_{rt} = 0, D_i = 1)] - [E(Y | I_i = 0, Y_{rt} = 1, D_i = 0) - \\ & E(Y | I_i = 0, Y_{rt} = 0, D_i = 0)] = [(\alpha_0 + \alpha_1 + \alpha_2 + \alpha_5 + \alpha_6) - (\alpha_0 + \alpha_2 + \alpha_5)] - [(\alpha_0 + \alpha_1 + \alpha_2) \\ & - (\alpha_0 + \alpha_2)] = (\alpha_1 + \alpha_6) - \alpha_1 = \alpha_6 \end{aligned}$$

Latina women intergenerational mobility difference between 1980 to 2003-07 and 1980 to 2012-16 is:

$$\begin{aligned}
& [E(Y|I_i=1, Y_{rt}=1, D_i=1) - E(Y|I_i=1, Y_{rt}=0, D_i=1)] - [E(Y|I_i=1, Y_{rt}=1, D_i=0) - \\
& E(Y|I_i=1, Y_{rt}=0, D_i=0)] = [(\alpha_0 + \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4 + \alpha_5 + \alpha_6 + \alpha_7 + \alpha_8) - (\alpha_0 + \alpha_2 + \\
& \alpha_3 + \alpha_5 + \alpha_7)] - [(\alpha_0 + \alpha_1 + \alpha_2 + \alpha_3 + \alpha_4) - (\alpha_0 + \alpha_2 + \alpha_3)] = (\alpha_1 + \alpha_4 + \alpha_6 + \alpha_8) - (\alpha_1 + \alpha_4) \\
& = \alpha_6 + \alpha_8
\end{aligned}$$

The difference in the difference between Latina and mainstream women's intergenerational mobility across decade groups is:

$$\begin{aligned}
& \{[E(Y|I_i=0, Y_{rt}=1, D_i=1) - E(Y|I_i=0, Y_{rt}=0, D_i=1)] - [E(Y|I_i=0, Y_{rt}=1, D_i=0) - \\
& E(Y|I_i=0, Y_{rt}=0, D_i=0)]\} - \{[E(Y|I_i=1, Y_{rt}=1, D_i=1) - E(Y|I_i=1, Y_{rt}=0, D_i=1)] - \\
& [E(Y|I_i=1, Y_{rt}=1, D_i=0) - E(Y|I_i=1, Y_{rt}=0, D_i=0)]\} = (\alpha_6 + \alpha_8) - \alpha_6 = \alpha_8
\end{aligned}$$

## Results

Throughout this section, results follow first from a replication of the time-period in the Park et al (2015) study comparing Latino, Asian, and mainstream women and men in 1980 to 2003-07; then a comparison with the same first-generation in 1980 to a post-recession second-generation in 2012-16; followed by a new nearly 25-year intergenerational mobility and assimilation analysis of the next decade of first-generation immigrants in 1990 and the second-generation in 2012-16. Results for six country of origin groups and their contemporary mainstream with the first-generation in 1980 and the second-generation in 2003-15 are in the second half of the section.

All sets of comparisons of first- and second-generation immigrants and their contemporary mainstream assess intergenerational mobility differences by gender within ethnic/racial or nativity groups; intergenerational mobility differences between immigrant and mainstream groups separately for women and men; and assimilation of immigrant

groups toward the mainstream. Assimilation may occur in either an upward or downward direction. At the same time, because mainstream attainment levels are not static, the mainstream may also contribute to narrowing gaps. For example, Park et al (2015) find that in some cases, gaps between Asians and the mainstream close, not due to downward assimilation among Asians, who may have positive intergenerational mobility, but due to greater intergenerational mobility within the mainstream. (Park et al 2015, pp. 1611, 1618)

There are eight figures, twelve main tables and five appendix tables in this chapter. Figures 1 through 4 and Tables 2 and 3 provide descriptive information about both intergenerational mobility and assimilation for broad groups of Latinos, Asians and U.S. born mainstream non-Latino Whites between 1980 and 2003-07; 1980 and 2012-16; and 1990 and 2012-16. Tables 4 through 6 present multivariate analysis for these groups. Table 4 presents results of gender differences in intergenerational mobility. Table 5 compares intergenerational mobility of immigrants and the mainstream for women and men. Table 6 presents evidence of assimilation adjusted for age and parental status. The remainder of figures and tables present parallel information for first- and second-generation immigrants from six countries of origin and the mainstream from 1980 to 2003-15.

#### *Descriptive Results for Broad Groups*

Figures 1 through 4 tell three stories. The first two stories replicate Park et al's (2015) findings. First that between 1980 and 2003-07, within their racial/ethnic groups women begin at lower levels than men for all outcomes, and end with higher attainment

in Bachelor's degree completion<sup>62</sup> and full-time upper White-collar occupational attainment, but not in earnings. Second, comparing 1980 and 2003-07, gaps between Latinos and the mainstream narrow but remain for several outcomes; while the same is true for gaps between the mainstream and Asians. These findings are consistent with intersectionality theory which predicts that intergenerational mobility may vary by gender within ethnic/racial groups as well as varying between immigrant and mainstream groups of women or men. They are also consistent with status attainment theory that links outcomes across generations and with straight-line assimilation theory.

The third story is that similar patterns emerge for gender dynamics in Bachelor's degree completion and earnings and some, but not full, assimilation when comparing 1990 to 2012-16. To the extent that there are differences between decades, multivariate analysis will reveal whether they are statistically significant. But first, descriptive statistics provide evidence of patterns. Figures display information in visual forms while Tables 2 and 3 present descriptive numeric values.

Figures 1-4 provide evidence of different first-generation immigrant and mainstream attainment levels by gender and by race/ethnicity. Intergenerational mobility occurs but at varying rates by group and by outcome. Women's greater mobility in education and occupational attainment leads to higher attainment; however, despite intergenerational mobility, all three racial/ethnic groups of women remain at lower full-time workers' earnings than their male counterparts. Attainment gaps by race/ethnicity also remain despite intergenerational mobility.

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<sup>62</sup> Throughout this chapter, college completion refers to Bachelor's degree completion and the two terms are interchangeable.



Figure 1 displays information about educational attainment. For high school completion, as Park et al (2015, p. 1610) found, I find that the Latino first-generation has lower attainment than either the U.S. mainstream or first-generation Asians. This is true for both 1980 and 1990 with first-generation Latinos in 1990 having slightly higher attainment than in 1980. By the second-generation, Latinos have nearly closed gaps with the mainstream. There are similar attainment levels within racial/ethnic groups by gender.

There is greater variation in 1980 Bachelor's degree than high school attainment for all three racial/ethnic groups. Overall, the chart for Bachelor's degrees presents findings of greater intergenerational mobility among women than men for all three-decade comparisons, and for continued gaps within gender by race/ethnicity. Among women, the second-generation surpasses first-generation attainment for all three groups. There is more similarity in intergenerational mobility by gender than by race/ethnicity. (Park 2015, p. 1610) Because all three groups of women experience intergenerational mobility and the amounts of mobility are not enough to surpass another group at a higher level, gaps in attainment remain between the bars for second-generation Latinas and their mainstream contemporaries, as well as between mainstream and second-generation Asian women. Gaps also remain for men by race/ethnicity even though second-generation Latino and mainstream men reach higher attainment in comparison to earlier generations. Second-generation Asian men have nearly the same attainment as the first-generation when compared to 1980 and higher attainment when compared to 1990. Of note when comparing different decades, among both women and men, first-generation Asians in 1990 have lower levels of college completion than first-generation Asians in 1980, although they remain at higher levels than the mainstream.

Figure 2 presents labor force participation rates. First-generation Latina women have the highest non-participation rates followed by first-generation Asian women. For all three groups, second-generation women's rates drop with second-generation Asian women having the lowest rates. There are differences by gender for all three groups. Among men, both the 1980 and 1990 first-generations have lower rates than second-generations for all three groups. Second-generation Asian men have the highest non-participation rates.

Men have higher rates than women for full-time workers among both first- and second-generation immigrants and the mainstream for all three racial/ethnic groups for all three-decade comparisons. By race/ethnicity, while first-generation Latina women begin at lower rates than mainstream women, the second-generation surpasses the mainstream rate. Second-generation women and their contemporary mainstream counterparts all have higher rates of full-time work than the earlier generation. Asian women also begin below the mainstream and have greater intergenerational mobility rates that result in higher levels. Among men, the earlier generations have higher rates except for Latino and mainstream men in 2003-07. First-generation Latinos are below the mainstream and first-generation Asians are above. In 1990, Latinos are below the mainstream and mainstream and Asian men are at nearly the same level. For both the 2003-07 and 2012-16 second-generations, both Latino and Asian men have lower rates than mainstream men.

Figure 3 provides rates of part-time and full-time workers in upper White-collar occupations. Among part-time workers, women have greater intergenerational mobility than men for all three racial/ethnic groups for all three decades. Second-generation and contemporary mainstream women have higher rates than their male counterparts. Among

Latina women, despite intergenerational mobility, the second-generation in 2003-07 and 2012-16 remains at lower levels than mainstream women. By contrast, Asian women begin at lower levels and attain higher levels than the mainstream. Latino men's rates begin and end below mainstream rates. Asian men's rates both begin and end above mainstream men's rates. Patterns are the same for full-time workers with the exception that first-generation women in 1980 begin with higher attainment rates than mainstream women in 1980.

Figure 4 presents average earnings in 2016 dollars for part-time and full-time workers. Among part-time workers, men have higher earnings than women for all groups in 1980 and 1990. Women experience positive intergenerational mobility for all three racial/ethnic groups for all three decades. Men's mobility moves in the opposite direction for all groups. Second-generation Latinas remain at lower earnings levels than Latino men for 2003-07 and 2012-16. Asian women surpass Asian men in both second-generations. Mainstream women have higher part-time earnings than mainstream men in 2012-16. Within gender, Latina women begin and end below the mainstream while Asian women begin and end above the mainstream. Among men, there is greater variation by race/ethnicity in 2003-07 than 2012-16, with mainstream men in 2003-07 having higher earnings than Latino or Asian men.

Unlike part time workers' earnings, among full time workers there is not any change in relative positions of higher and lower earnings by groups. Both women and men have positive intergenerational mobility in full-time workers' earnings. Within each racial/ethnic group, men both begin and end above women. For both genders and all

three-decade comparisons, Latinos begin and end below the mainstream and Asians begin and end above the mainstream.

While gender differences are evident, these findings do not differentiate by parenthood which may affect outcomes differently for women and men. For example, studies find that mothers may earn less and fathers more than those without children. (See Chapter 1; Park et al 2015; Budig and England 2001) Tables 2 and 3 follow the Park et al (2015) method of differentiating by parental status with descriptive information. Table 2 provides calculations for differences in attainment and intergenerational mobility by gender. Table 3 separates women and men and then provides calculations of differences in attainment and intergenerational mobility between Latinos and the mainstream and the mainstream and Asians.

*Descriptive Evidence for Hypothesis 1: Trends in women's relatively high intergenerational mobility when compared to men that Park et al (2015) found will continue.*

Table 2 presents intergenerational mobility evidence by gender within racial/ethnic groups. Overall, there is not much change to the gender story across the three overlapping time periods. Change in relative gender differences in upper white-collar occupations for Latinos and the mainstream between 1980 and 1990 provides one difference. Broad patterns are of greater intergenerational mobility by women and higher attainment in Bachelor's degree college completion and upper white-collar occupations and lower attainment in earnings.

In Table 2, Column A provides attainment levels for first-generation Latinos and Asians and the mainstream in 1980. Column B provides attainment levels for a different group of first-generation Latinos and Asians and the mainstream in 1990. Columns C and D present second-generation Latino and Asian and mainstream attainment levels for 2003-07, differentiated by parenthood status. Columns E and F present those without children and parents among a different cohort of second-generation Latinos and Asians and the mainstream in 2012-16. Following these single year attainment levels, Columns C-A through F-B provide intergenerational mobility calculations. Column headings indicate subtractions of the values in one previous column from the values in another. Intergenerational mobility rates for second-generation and contemporary mainstream individuals without children and for second-generation and contemporary mainstream parents include those from 1980 to 2003-07; 1980 to 2012-16; and 1990 to 2012-16.

Rows present attainment levels by outcomes within each racial/ethnic group for women and men. Following each gender's attainment for an outcome; a row marked differences provides the calculation of men's attainment subtracted from women's. A negative number in a difference row denotes higher attainment or intergenerational mobility by men; while a positive number indicates that women have a higher attainment or intergenerational mobility level.

As Table 2 displays in Column A, first-generation women have lower attainment level starting points than co-ethnic/racial men for all outcomes in 1980. For example, Latina women have a 6% rate of college completion while Latino men have a 9% rate. Asian women have a 51% college completion rate while Asian men have a 62% rate. Within the mainstream, 20% of women completed a Bachelor's degree in 1980 compared

to 28% of men. Column B shows that in 1990, as in 1980, men have greater attainment levels than women, as shown by differences, for all outcomes except upper white-collar occupations among Latinos and among the mainstream.

From 1980 to 2003-07, upward intergenerational mobility occurs for both Latino women and men for all outcomes; for Asian and mainstream women for all outcomes; and for Asian and mainstream men for nearly all outcomes. For example, Latina first-generation women have Bachelor's degree completion rates of 6% in 1980 as shown in Column A compared to 18-35%<sup>63</sup> in 2003-07 displayed in Columns C and D. Columns C-A and D-A show the calculation for change in attainment occurring between 1980 and 2003-07. Latina women's intergenerational mobility in Bachelor's degree completion is an increase of 29 percentage points for those without children and 13 percentage points for those with children. For men, the gains are 17 and 8 percentage points in Columns C-A and D-A from Latino men's college completion rates of 9% in 1980 to 16-25% in 2003-07.<sup>64</sup> As shown in the difference row in Columns C-A and D-A, women's attainment increased 13 percentage points more than men's attainment for those without children and 5 points for those with children.

Columns C-A and D-A reveal that in the women's rows, all intergenerational mobility rates are positive for all three racial/ethnic groups. This means that women in 2003-07 have higher attainment levels than women in 1980 for all outcomes. Most outcomes for these years have positive outcomes for men as well. Exceptions to the positive, upward trends are that Asian men without children in Column C-A have 16

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<sup>63</sup> When presented as ranges, percentages for the second-generation represent values for parents and non-parents.

<sup>64</sup> Numbers presented in tables are rounded and subtractions are calculated prior to rounding.

percentage points lower labor force participation attainment levels at 67% in Column C than Asian fathers at 82% in Column A for 1980. Mainstream men without children in 2003-07 also have lower labor force participation than mainstream men in 1980. Asian fathers in 2003-07 have lower college completion rates than Asian fathers in 1980.

The differences between women and men in intergenerational mobility, shown by the difference rows for columns C-A and D-A are positive for all educational and upper white-collar outcomes for both those without and with children. This means that women have greater intergenerational mobility than men for these outcomes. For example, among Latina women, a 13-29% increase in college completion for women contrasts with a 7-18% increase from first- to second-generation Latino men resulting in difference of 5 to 13 percentage points.

Asian women have more 1980 to 2003-07 intergenerational mobility than Asian men for all outcomes except earnings among parents, where Asian mothers' earnings increase by \$23,897 in Column D-A from \$40,394 in Column A to \$64,288 in Column D and Asian father's earnings increase by \$24,291 from \$59,986 in 1980 to \$84,277.

Between 1980 and 2003-07, mainstream women without children have greater intergenerational mobility than mainstream men without children for all outcome variables. For example, mainstream women in 1980 have upper white-collar occupational attainment levels of 26% increasing by 18-22%; while 29% of mainstream men in 1980 are in upper white-collar occupations and the rate increases by 6-7% for mainstream men without children. Among mainstream parents, women have greater intergenerational mobility in college completion, labor force participation and rates of upper white-collar occupations but lower mobility in earnings.

Among all three groups, women's greater intergenerational mobility results in 2003-07 higher attainment levels for educational and upper white-collar occupational outcomes, but not for earnings. As shown in column C and D for those without and then with children, the difference in college completion and upper white-collar occupational attainment is positive for all groups except college completion is 0 for the mainstream with at least 1 child. An example of women's higher attainment is that second-generation Asian women without children complete college at a rate of 71% in Column C for 2003-07, compared to 63% for second-generation men without children. Second-generation Asian mothers from this cohort have a college completion rate of 58% in Column D compared to 55% for second-generation Asian fathers. This means that women had greater attainment than men. Earnings remain negative with men having higher earnings for all three groups. In an example, where men have higher earnings than women, second-generation Latino women earn \$39,607-\$44,200 from wages/salary while second-generation Latino men earn \$51,050-\$48,029.

Columns E-A and F-A contain a second set of intergenerational mobility calculations which are for 1980 to 2012-16. Comparing first-generation immigrants and the mainstream in Columns A for 1980 to the second-generation immigrants in Columns E and F for 2012-16, there are similar patterns by gender as those between 1980 and 2003-07. Women continue to have greater intergenerational mobility for college completion and upper white-collar occupations. In this case, relative gender differences in intergenerational mobility in earnings vary by parenthood for Latinos and the mainstream. As in 2003-07, in 2012-16, women have greater attainment in college



completion and occupations and less in earnings than men of the same race/ethnicity as shown in the difference rows of columns E and F.

Specifically, evidence in Table 2 shows that between 1980 and 2012-16, women maintained greater intergenerational mobility than men across ethnic/racial groups. As displayed in Table 2, intergenerational mobility rates for women compared to men from 1980 to 2012-16 include that Latinas' college completion rates increase from 6% in Column A to 19-34% in Columns E and F while Latino men's rates increase from 9% in Column A to 14-22% in Columns E and F. Asian women follow the pattern of intergenerational mobility with college completion rates of 51% in Column A among the first-generation in 1980 and 63-72% among the second-generation in Columns E and F. Asian men's college completion does not show an increase between first and second-generation with 62% in Column A for 1980 and 59-62% in Columns E and F. Within the mainstream, women's college completion attainment changes from 20% in Column A to 40-50% in Columns E and F while men's rate increases from 28% in Column A to 35-37% in Columns E and F.

Columns E-A and F-A display intergenerational mobility rates between 1980 and 2012-16. In all cases, these are positive for women, signifying that women in 2012-16 had greater attainment levels than women in 1980. For both those without children and parents, women have greater intergenerational mobility than men for education and occupational attainment, shown by the difference rows in these columns, fathers have greater intergenerational mobility than mother's in 2012-16 for both earnings variables among Latinos and White, U.S. born non-Hispanics.

Women continue to have higher levels of college completion and lower earnings than men in 2012-16. For example, in Column E, Latina women without children have a college completion rate of 34%, upper white-collar occupational attainment of 40% and earnings of \$40,780 compared to 22% college completion, 27% upper white-collar occupational attainment and \$46,553. All Latinas and mainstream women and Asian women without children have higher rates of upper white-collar occupational attainment than men with the same race/ethnicity and parental status.

Table 2 also provides intergenerational mobility comparisons for 1990 to 2012-16 in Columns E-B and F-B. As the difference rows in Column B display, in 1990, men have higher attainment levels for all outcomes except upper white-collar occupations among Latinos and the mainstream. Rates from 1990 to 2012-16 are 14-29% from 5% in 1990 to 19-34% in 2012-16. The mainstream women's Bachelor's degree intergenerational mobility increased by 16-26% from Column B 1990 attainment rates of 24% to Columns E and F 2012-16 rates of 40-50% compared to mainstream men's increase of 8-10% from 27% 1990 to 35-37% in 2012-16. With earnings, women have greater intergenerational mobility than men within groups for all who are not parents, and for Asian parents with both earnings. Columns E-B and F-B show that women have positive intergenerational mobility between 1990 and 2012-16 for all outcomes for all groups whether they are parents or not. Men who are fathers in 2012-16 have greater attainment than first-generation fathers and mainstream men in 1990 for all outcomes. Men who are not fathers have lower attainment in labor force participation for all three groups and earnings with both variables among Asians and White, U.S. born non-Hispanics.

Columns E-B and F-B also show the difference between women's and men's intergenerational mobility between 1990 and 2012-16. In all three ethnic/racial groups, women have more intergenerational mobility than men for college completion and upper white-collar occupations. For example, in the difference rows of Columns E-B and F-B, Latina women have 7-14 percentage points greater intergenerational mobility in college completion than Latino men. Women also have greater labor force participation and earnings intergenerational mobility than men among non-parents. Men have greater intergenerational mobility, among parents, in earnings among Latinos and the mainstream.

*Descriptive Evidence for Hypotheses 2 and 3: The second and third hypotheses differentiate immigrant groups by broad racial/ethnic categories. I hypothesize that due to increasing inequality, Latinos will have less intergenerational mobility in 2012-16 than in 2003-07 and that Asians will have approximately the same amount*

Following this information about gender differences, Table 3 provides the same attainment rates but with group difference calculations by race/ethnicity within gender group, taking an intersectional approach. In Table 3, Column A provides attainment levels for 1980; Column B has 1990 attainment levels; Columns C and D contain values for attainment in 2003-07; Columns E and F provide attainment in 2012-16. Columns C-A through F-B provide intergenerational mobility rates from 1980 to 2003-07; 1980 to 2012-16 and 1990 to 2012-16. Rows begin with outcomes for women with Latinos followed by Asians and the Mainstream and differences with the Mainstream subtracted

first from Latinos and next from Asians. A negative value in a Latino-Mainstream or Asian-Mainstream row indicates that the immigrant group has a lower level of attainment or intergenerational mobility than the mainstream group. A positive number indicates greater attainment or intergenerational mobility by the immigrant group when compared to the mainstream.

The 1980 to 2003-07 story is that attainment levels vary by race/ethnicity for the first-generation and although some gaps narrow, many persist. For both women and men in 1980, Latinos' attainment levels are below and Asians' above the mainstream. For most outcomes, the same pattern occurs in 2003-07 despite different rates of intergenerational mobility. Specifically, in Column A for 1980, for women, Latinas have lower attainment rates and Asians higher rates than the mainstream. For example, 6% of first-generation immigrant Latinas had attained a Bachelor's degree in 1980 compared to 20% of mainstream women. The Latina to Mainstream difference in Column A is -14. Average earnings for 1980 are \$26,103 among Latinas and \$32,178 among mainstream women. The difference is -\$6,074. First-generation Asian women have earnings of \$40,392 and the Asian-Mainstream difference for women is \$8,214.

Among first-generation men in 1980, Latinos also have lower attainment than the mainstream and Asians higher attainment than the mainstream. In Column A, Latino men have a 9% college completion rate while mainstream men have a 28% rate. Average earnings range from \$40,822 for Latino men to \$52,561 for mainstream men. In 1980, compared to mainstream men's 28% college completion rate, Asian men have a 62% rate. Earnings are \$59,986 for Asian men with a difference from the mainstream of \$7,425.

Comparing intergenerational mobility from 1980 to 2003-07 for immigrant and mainstream women in Columns C-A and D-A shows that Latinas have greater intergenerational mobility than the mainstream for most outcomes. For example, in the Latino-Mainstream difference row, Latina women without children have 4% greater intergenerational mobility in college completion than mainstream women without children, a subtraction of the 29 percentage points of Latinas intergenerational mobility from 6% in Column A to 35% for Latina second-generation women without children in Column C compared to a 25-percentage point increase for mainstream women in Column C-A from 20% in Column A to 45% in Column C. Latina mothers have 1 percentage point lower intergenerational mobility than mainstream mothers as shown in Column D-A. Latinas increase their average earnings by \$13,504-\$18,097 in Columns C-A and D-A. In comparison, mainstream women increase their earnings by \$11,145-\$12,532. The Latino-Mainstream difference is \$2,360-\$5,565.

Asian women have less intergenerational mobility than mainstream women for education and upper white-collar occupations and more for earnings. Both Asian mothers and women without children have lower intergenerational mobility in college completion than their mainstream women counterparts. Asian women without children have a 20% increase in attainment in Column C-A from 51% in 1980 to 71% in 2003-07 compared with a 25% increase for mainstream women without children in Column C-A from 20% in Column A to 45% in Column C. Asian mothers increase college completion rates by 7% in Column D-A from 51% in Column A to 58% in Column D while mainstream mothers see an increase of 13% in Column D-A from 20% in Column A to 33% attainment in Column D. Among Asian women, earnings increase by \$17,988 for Asian

women without children from \$40,392 for the first-generation in 1980 to \$58,380 in 2003-07 and by \$33,897 for Asian mothers to \$64,288 in 2003-07.<sup>65</sup>

Latino men have greater intergenerational mobility than mainstream men for all outcomes except near equal levels for labor force participation among fathers and lower intergenerational mobility in earnings among fathers. Comparisons of immigrant and mainstream men's intergenerational mobility between 1980 and 2003-07 include that a 7-16% increase in college completion for Latino men from 9% in 1980 to 16-25% in 2003-07 compared to a 4% from 28% in 1980 to 32% in 2003-07. Latino men increasing earnings by \$5,788-\$8,241 from \$33,246 to \$39,034-\$41,487; mainstream men by \$2,002-\$15,120 from \$42,807 in 1980 to \$44,809-\$57,927 in 2003-07.

Asian men compared to mainstream men have lower intergenerational mobility in college completion and upper white-collar occupations, lower intergenerational mobility in labor force participation for those without children and near equal levels for fathers, and greater intergenerational mobility in earnings. Asian men's college completion intergenerational mobility changes from 62% in 1980 to 55-63% in 2003-07. Mainstream men by \$2,002-\$15,120 from \$42,807 in 1980 to \$44,809-\$57,927 in 2003-07 and Asian men by \$9,220-\$19,651 from \$48,855 in 1980 to \$58,075-\$68,506.

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<sup>65</sup> Mean earnings for second-generation Asian mothers do not show motherhood wage gaps when compared to women without children. Park et al (2015) note that they did additional analysis for Asian women alone and did not find statistically significant differences for in earnings between second-generation Asians mothers and nonmothers. (Park et al 2015, p. 1618) I looked at median earnings to see if the difference in means could be due to outliers of high earning mothers or low earning women without children. Median earnings continue to show that second-generation Asian mothers earn more than nonmothers.

Multivariate analysis will answer the question of whether there is greater inequality and less assimilation in the 2012-16 second-generation than the 2003-07 second-generation. Related to this question, it is possible that intergenerational mobility levels declined for the second-generation following the Great Recession with less mobility among lower skilled Latinos. As Table 3 presents, in 2012-16, as in 2003-07, general racial/ethnic patterns have persisted since 1980. In 2012-16, for all outcomes except labor force participation, Latino women and men are below, and Asian women and men are above the mainstream.

Compared to intergenerational mobility from 1980 to 2003-07, there is a more mixed story of Latinas' relative intergenerational progress with less evidence of greater rates than the mainstream between 1980 and 2012-16. For example, in Columns E-A and F-A, Latinas have less intergenerational mobility than mainstream women for college completion by -2 to -7 percentage points and earnings by -\$829 to -\$4,032. There is also a more mixed story for Latino men with fathers having less intergenerational mobility than the mainstream. For example, the Latino-Mainstream difference for fathers' intergenerational mobility in college completion is -4 in Column F-A. Asian women and men's relative position to the mainstream remains largely the same in direction as 1980 to 2003-07.

Having asked whether the post-Great Recession second-generation cohort in 2012-16 had different intergenerational mobility patterns from 1980 than those in 2003-07, the comparison between 1990 and 2012-16 asks whether intergenerational mobility and assimilation patterns vary with a later first-generation cohort. Segmented assimilation predicts that if the 1990 cohort has lower levels of attainment than the 1980 cohort, there

may be less assimilation among Latino immigrants with relatively low attainment levels. Compared to 1980, attainment levels in 1990 are similar among Latinos and the mainstream and lower among Asians. Among both women and men, first-generation Latinos in 1990 have similar rates of college completion and upper white-collar occupational attainment as first-generation Latinos in 1980. For example, as displayed in Columns A and B of Table 3, in 1980, first-generation Latinas have a college completion rate of 6% compared to 5% in 1990; Latino men complete college at a rate of 9% in 1980 and 7% in 1990. Greater differences occur among Asians with women having a 51% Bachelor's degree attainment rate in 1980 compared to 41% in 1990 and men having rates of 48% in 1990 compared to 62% in 1980. Mainstream women's college attainment is 24% in 1990 compared to 20% in 1980 while mainstream men's is nearly the same with 27% in 1990 and 28% in 1980. As from 1980 to 2003-07, assimilation is more likely to be straight-line between 1990 and 2012-16 for these broad groups.

As in 1980, in 1990, Latinos have lower status attainment than the mainstream for all outcomes within both genders. Asian women have the change of nearly the same attainment in upper white-collar occupations, -1 in the difference row of Column B and Asian men have the change of the same attainment as the mainstream in labor force participation.

The stronger story for greater immigrant intergenerational mobility from 1980 to 2003-07 re-emerges. Between 1990 and 2012-16, second-generation Latina and Asian women have greater intergenerational mobility than mainstream women for all outcomes except 1 percentage point less in college completion between Latina and mainstream mothers in Column F-B. Latino men have more intergenerational mobility than



mainstream men for all outcomes other than college completion. Asian men have greater intergenerational mobility than mainstream men for college completion, upper white-collar occupations and earnings and less intergenerational mobility for labor force participation between 1990 and 2012-16.

Having reviewed descriptive evidence, the remainder of this section discusses multivariate analysis. Multivariate analysis answers the same questions as descriptive analysis while adjusting for age and parental status and indicates whether results are statistically significant. Multivariate analysis also allows for comparing intergenerational mobility levels and changes in the sizes of immigrant and mainstream gaps in attainment across groups that span different sets of decades. Thus, it is possible to test the hypothesis that disparities widened by an amount that is statistically significantly different from 0. The analysis below covers both intergenerational mobility and the sizes of gaps that measure whether assimilation has occurred through narrowing.

#### *Multivariate Results for Broad Groups*

##### *Hypothesis 1: Gendered Intergenerational Mobility*

Table 4 and Appendix Table 1 present evidence from model 1 in the methods section. Table 4 presents estimates of intergenerational mobility for men and women. Estimates for men's intergenerational mobility are from the Year dummy variable in model 1, which measures intergenerational change across years. A positive coefficient indicates that men in the second-generation or their contemporary mainstream group have a higher level of attainment than men in the earlier generation or group. A negative coefficient indicates lower attainment level among the later generation. Intergenerational

mobility estimates for women in Table 4 are the sum of the Year and Year \* Women variables. The Year \* Women variable in model 1 measures women's differential intergenerational mobility when compared to that of men. Positive coefficients indicate higher attainment by women compared to men and negative coefficients represent lower attainment. Significance levels calculated with standard errors are generated for the variables in the model for men and for gender differences. Significance for women's estimates are calculated using the standard error equal to the square root of the sum of the variance of the estimate for men plus the variance of the estimate for gender difference plus two times the covariance of the estimate for men and the estimate for men and gender difference.

The first column in Table 4 shows that positive intergenerational mobility from 1980 to 2003-07 occurs for both women and men in all three racial/ethnic groups. The amount of intergenerational mobility varies by gender both within immigrant groups and within the mainstream. For example, Table 4 reports that Latinas have a 47.1% increase in their rate of high school completion from 1980 to 2003-07. Across the same time-period, Latino men have intergenerational mobility in high school completion of 41.3%. Both rates are measured with precision at  $p < .001$ . The Latino gender difference of 5.8 percentage points is measured with precision at  $p < .001$  as well. Asian women increase their high school completion rate by 11.4% between 1980 and 2003-07 compared to Asian men's intergenerational mobility of 6.8% with a gender difference of 4.6 percentage points. Mainstream women have a 10.0% increase in high school completion; mainstream men have an 8.3% increase; and there is a 1.7 percentage point gender difference within the mainstream.

Positive numbers in the difference rows indicate that women have greater intergenerational mobility than men of the same race/ethnicity. Latina women exhibit more intergenerational progress than Latino men for all outcome variables for 1980 to 2003-07. The same is true for Asian women compared to Asian men. Mainstream women have more intergenerational mobility than mainstream men for all outcomes except earnings, where men have \$1,964 greater intergenerational mobility.

Women's relatively greater intergenerational mobility than men's does not necessarily mean that women have higher attainment levels in 2003-07. As descriptive statistics in the previous section reveal, when women begin at lower attainment levels than men in 1980, greater intergenerational mobility may or may not be enough to catch up to or surpass men's attainment levels. Table 4 provides information about gender intergenerational mobility differences after taking age and children into account.

Columns 2 and 3 of Table 4 present findings for men and women's intergenerational mobility within ethnic/racial groups for 1980 to 2012-16 and 1990 to 2012-16. In Column 2, between 1980 and 2012-16, second-generation and mainstream women and men continue to have positive intergenerational mobility for all outcomes except college completion among Asian men, which is -2.4%. These findings support the first hypothesis in this chapter that feminized intergenerational mobility continues in 2012-16. Women in all three ethnic/racial groups experience significant positive intergenerational mobility at the  $p < .001$  level for all outcomes. For example, as shown in the 1980 to 2012-16 row under women's intergenerational mobility for high school completion, Latinas increase their high school completion rates by 49.8%. Asian women

increase their high school attainment by 8.0%. Mainstream women's high school completion intergenerational mobility is 10.7%.

In Column 3, between 1990 and 2012-16, both women and men have positive intergenerational mobility at the  $p < .001$  level for all outcomes within all three ethnic/racial groups. For example, Latinas have a 43.9% increase in high school completion, Asian women a 10.6% increase, and mainstream women a 4.5% increase. Women have greater intergenerational mobility than men for all outcomes except an earnings difference of -\$95 among Latinos and a high school completion intergenerational mobility difference of -.2 percentage points within the mainstream, neither of which are measured with precision. For all other outcomes, women have greater within group intergenerational mobility than men measured at the  $p < .01$  level or higher except for earnings within the mainstream. For example, Latina's intergenerational mobility is greater than Latino men's intergenerational mobility by 3.4 percentage points for high school completion, 9.7 percentage points for college completion and 11.8 percentage points for upper white-collar occupations.

As described in the methods section, I pooled models together and added interactions between sets of decades. Pooling models generates standard errors which allow for hypothesis tests with t statistics.<sup>66</sup> There are few significant changes between gender intergenerational mobility differences from 2003-07 to 2012-16; and no significant differences between the first-generation in 1980 compared to the second-generation in 2012-16 and the first-generation in 1990 compared to the same second-generation in those years.

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<sup>66</sup> Detailed results are available upon request.

Taking any differences in the gender differences in intergenerational mobility that occurred from 1980 to 2003-07 to 1980 to 2012-16, none of the changes are statistically significant for Latinos. The only statistically significant change for Asians is a -2.8 percentage point decrease in women's higher intergenerational mobility from 1980 to 2003-07 in high school completion, significant at the .05 level. Within the mainstream intergenerational mobility changes are significant at the .05 level for college and earnings with 3 percentage point relative increase for women in college completion and a \$5,817 increase in earnings.

Comparing gender differences between 1980 to 2003-07 and 1990 to 2012-16, there are not any statistically significant differences in gender differences for Latinos. Among Asians, women's intergenerational mobility compared to men's decreases 2.8 percentage points at a statistical significance of .05. For the mainstream, there are statistically significant changes of 3.1 percentage points in college completion and \$5,823 more in earnings.

For 1990 to 2012-16 compared to 1980 to 2012-16, there are not statistically significant differences within any of the three racial/ethnic groups.

Having compared women and men within groups, the next set of results answer the question of whether intergenerational mobility varies for immigrants and the mainstream as analyzed separately for women and men.

*Hypotheses 2 and 3: Ethnic/Racial Intergenerational Mobility Within Gender*

The previous sub-section on gendered intergenerational mobility presented estimates from regressions with women and men together. Tables 5 and Appendix Table 2 present regressions with either immigrant and mainstream women together or immigrant and mainstream men together. As with gender comparisons in Table 4, the progress measured for Latinos and Asians that is in addition to that of the mainstream may not correspond to overall higher levels of attainment because there may be differences in initial status levels among the first-generation and its mainstream counterpart. Table 5 and Appendix Table 2 present information about relative intergenerational mobility despite differences in initial status attainment levels.

In Table 5, the differences are from the Year\*Generation variable from model 2. A statistically significant, positive Year\*Generation coefficient indicates that status attainment is higher for either Latinos or Asians. A statistically significant, negative coefficient indicates that status attainment is higher for the mainstream.

Between 1980 and 2003-07, immigrant and mainstream women's intergenerational mobility varies at statistically significant levels of at least  $p < .05$  for some outcomes for both Latinas and Asians. For example, the first column shows that Latinas have 38 percentage points more of high school completion compared to mainstream women that is statistically significant at the  $p < .001$  level. Latinas have 4.5 percentage points less intergenerational mobility than mainstream women in college completion, significant at the  $p < .01$  level. Differences for upper white-collar occupations and earnings are not statistically significant. For Asian and mainstream women, differences are significant only for college completion, with Asian women

having 12.3 percentage points less intergenerational mobility than mainstream women and 10.7 percentage points less upper white-collar occupational attainment, with Asian women having 10.7 percentage points less intergenerational mobility.

Latino and Asian men also vary from the mainstream. The fourth column in Table 5 compares immigrant and mainstream men's intergenerational mobility between 1980 and 2003-07. Latino men have significantly greater intergenerational mobility than mainstream men for all outcomes except earnings while Asian men have significantly lower intergenerational mobility than mainstream men for high school and college completion, an insignificant difference in upper white-collar occupations, and significantly more mobility in earnings. Specifically, Latino men have 35.0 percentage points greater high school completion intergenerational mobility at  $p < .001$ ; 4.8 percentage points greater college completion intergenerational mobility at  $p < .01$ ; 7.2 percentage points greater professional occupational attainment intergenerational mobility at  $p < .001$ . Asian men have 4.7 percentage points less intergenerational mobility in high school completion, significant at  $p < .001$  and 9.1 percentage points less intergenerational mobility in college completion, significant at  $p < .001$ . Asian men's intergenerational mobility in earnings is greater than mainstream men's intergenerational mobility by \$12,558.

For 1980 to 2012-16, the second column in Table 5 reports that Latinas have 39.1 percentage points more intergenerational mobility than mainstream women in high school completion and 10.7 percentage points less in college completion, both significant at  $p < .001$ . The Latina-mainstream women difference in upper white-collar occupations is not statistically significant. Latinas have \$5,176 lower earnings intergenerational mobility,

significant at  $p < .01$ . Asian women have less intergenerational mobility than mainstream women for all outcomes except earnings. In the fourth column of Table 5, Latino men compared to mainstream men from 1980 to 2012-16 have a statistically significant difference for high school completion only, with 34.7 percentage points greater intergenerational mobility at  $p < .001$ . Compared to mainstream men, Asian men have 5.3 percentage points lower high school completion intergenerational mobility and 13.7 percentage points lower college completion intergenerational mobility at  $p < .001$  and \$6,308 more in earnings intergenerational mobility at  $p < .05$ .

The third and fifth columns of Table 5 present intergenerational mobility differences for 1990 to 2012-16. Latinas have greater intergenerational mobility than mainstream women for high school completion and upper white-collar occupations. They have less intergenerational mobility in college completion. Their difference in earnings is not measured with precision. Asian women have greater intergenerational mobility than mainstream women in high school completion and college completion. Both Latino and Asian men have greater intergenerational mobility than mainstream men measured with precision for all outcomes except college completion.

By pooling data and generating standard errors, I am able to test the second and third hypotheses and ask whether differences in immigrant-mainstream intergenerational mobility differences across decades are statistically significant.<sup>67</sup> Between 1980 to 2003-07 and 1980 to 2012-16 intergenerational mobility rates, the only significant difference for Latino and mainstream women are -6.3 percentage points for college completion and -\$6,593 in earnings at  $p < .01$ . Significant differences for changes between Latino and

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<sup>67</sup> Detailed findings are available upon request.



mainstream men include -7.0 percentage points in college completion at  $p < .001$  and -6.1 percentage points in upper white-collar occupations, significant at  $p < .05$ . There are not any significant differences for either Asian women or men in their differences with the mainstream.

Comparing intergenerational mobility differences from 1980 to 2003-07 and 1990 to 2012-16 there are not any significant differences for Latino and mainstream women. Significant differences for Asian and mainstream women are 6.0 percentage points in high school completion at  $p < .001$ ; 9.3 percentage points in college completion at  $p < .01$ ; and 14.4 percentage points in upper white-collar occupations at  $p < .01$ . Latino and mainstream men's intergenerational mobility differences change by significant amounts for college completion by -6.5 percentage points at  $p < .01$  and upper white-collar occupations by -5.0 percentage points at  $p < .05$ . Asian and mainstream men have significant changes in intergenerational mobility differences for high school by 6.2 percentage points at  $p < .001$  and college completion by 8.3 percentage points at  $p < .01$ .

Between 1980 to 2012-16 and 1990 to 2012-16, Latino and mainstream women intergenerational mobility differences change by significant amounts for college completion by 4.7 percentage points at  $p < .01$ ; upper white-collar occupational attainment by 5.8 percentage points at  $p < .05$ ; and earnings by \$4,773 at  $p < .05$ . Asian and mainstream women's significant differences in their intergenerational mobility differences are 8.4 percentage points for high school completion at  $p < .001$ ; 14.2 percentage points for college completion at  $p < .001$ ; and 16.9 percentage points for upper white-collar occupations at  $p < .001$ . Latino and mainstream men's intergenerational mobility differences are significantly different only for high school by

3.0 percentage points at  $p < .05$ . Asian and mainstream men's intergenerational mobility differences are significantly different for high school by 6.7 percentage points at  $p < .001$ ; college completion by 13.1 percentage points at  $p < .001$ ; and upper white-collar occupations by 9.6 percentage points at  $p < .01$ .

#### *Assimilation and Lack of Assimilation*

Table 6 presents the same differences as Table 5 in the rows labeled as difference, but also with estimates for the sizes of immigrant-mainstream gaps in the first-generation and immigrant-mainstream gaps in the second-generation. In Table 6, first-generation rows contain coefficients from the model 2 Generation variable for the various outcomes. Rows for 2003-07 and 2012-16 contain the sum of the Generation variable and the Year \* Generation variable. Significance for second-generation gap estimates are author's calculation using the standard error equal the square root of the sum of the variance of the estimate for a first-generation gap plus the variance of the estimate for gap differences across years plus two times the covariance of the estimate for first-generation gaps and the estimate for first-generation gaps and gap differences. As described in the methods section, with these calculations, it is possible to see whether gaps in status attainment and earnings levels between first-generation immigrants and the mainstream narrowed, widened or remained the same when compared to second-generation differences with the mainstream.

Comparing the sizes of gaps for first-generation Latinas from mainstream women in 1980 to second-generation Latinas from mainstream women in 2003-07 in the first column, gaps became significantly smaller by 38 percentage points at  $p < .001$  for high school completion and significantly larger by 4.5 percentage points for college

completion at  $p < .01$ . Asian women's gaps with mainstream women decreased significantly by 12.3 percentage points for college completion and 10.7 percentage points for upper white-collar occupational attainment. For Latino men in 2003-07, presented in the fourth column, the gap became smaller for all outcomes. The Asian-mainstream gap for men in 2003-07 narrowed for both education variables at  $p < .01$ . The gap widened for earnings by \$12,558, with significance level of  $p < .05$ .

As column 2 reports, compared to 1980, the Latina-mainstream women gap in 2012-16 became smaller for high school completion by 39.1 percentage points and increased for college completion by 10.7 percentage points, significant at  $p < .001$ , and for earnings at \$5,176, significant at  $p < .01$ . For Asian women in 2012-16, the advantage for high school completion in 1980 reversed direction and resulted in a 3.8 percentage point difference, significant at  $p < .001$ . The gap narrowed for college completion and upper-white collar occupational attainment at  $p < .001$ . As the fourth column displays, the only statistically significant difference in gaps for Latino men in 2012-16 is that the high school completion gap narrowed by 34.7 percentage points. Gaps narrowed significantly for high school and college completion, and at  $p < .001$  widened for earnings by \$6,308 at  $p < .05$ .

The third column shows women's gaps. Between 1990 and 2012-16, Latinas' outcomes converged with the mainstream for high school completion by 41.2 percentage points, significant at  $p < .001$  and upper white-collar occupations by 3.9 percentage points, significant at  $p < .05$ . Gaps widened for college completion by 4.8 percentage points at  $p < .001$ . Asian women reversed the direction of the gap with mainstream women for high school completion. The gap widened for upper-white collar occupations

by 6.2 percentage points at  $p < .05$ . Latino men narrowed gaps for all outcomes except college completion at significance levels of at least  $p < .05$ . Between Asian and mainstream men, Asian men reversed the direction of the high school completion gap from a negative 2.2% to a positive 2.4%. Asian men widened the gap for all other outcomes at significance levels of at least  $p < .05$ .

#### *Descriptive Results for Country of Origin Groups*

Three sets of comparisons across decades for broad groups of Latinos and Asians show clear patterns of status attainment by gender and between immigrants and the mainstream. Country of origin analysis asks whether women from all six countries follow the patterns of: 1) broader groups with women's greater intergenerational mobility than men resulting in higher education and upper white-collar occupational attainment yet continued lower earnings; 2) generally lower status attainment among Latinos and higher attainment among Asians compared to the mainstream, and 3) some evidence of assimilation, but remaining significant gaps.

Figures 5-8 present charts with descriptive information by country of origin and the mainstream for 1980 and 2003-15 without differentiating by parental status. The descriptive evidence in Figures 5-8 show patterns where immigrants from specific countries of origin follow broader patterns for either Latino or Asian ethnic groups with gender and in relation to the U.S. mainstream. There are, however, differences. Cuba and the Philippines present the most striking examples of countries where immigrant patterns differ from broad group patterns. First-generation immigrants from both countries have demographics that set them apart from the broader groups. First-generation Cubans have relatively high attainment among Latino countries of origin. First-generation Filipino

women have relatively high levels of education and occupational attainment compared to Filipino men. These demographics are linked to policies in both immigrant sending and receiving countries. (Arboleya 1996; Acuna 2017; Posadas 1999; Rodriguez 2010)

Unlike the broader group of Latinos, the Cuban second-generation reaches higher attainment levels than the mainstream for many outcomes. For some outcomes, the Filipino second-generation does not reach as high attainment levels as their parents' generation.

Figure 5 presents high school and Bachelor's degree completion. For high school completion, both first-generation women and men from Latino countries of origin begin with attainment levels below the mainstream. Second-generation Latinos close or narrow gaps. Among Asian countries of origin, the first-generation from the Philippines and India have higher high school attainment than the mainstream while the first-generation from China has nearly the same levels. Second-generation Asians have attainment levels in the 90<sup>th</sup> percentile among both women and men.

For college completion, first-generation Latinos begin at lower attainment levels than the mainstream and first-generation Asians begin at higher levels. For both women and men, the second-generation from Mexico and the Dominican Republic show intergenerational mobility but do not completely close gaps with the mainstream. In contrast, the Cuban second-generation goes beyond closing gaps to reaching attainment levels higher than the mainstream. For all three Asian countries of origin, the second-generation remains at higher levels than the mainstream. Mobility for Filipinos varies from the other countries and the mainstream in that it is only for this country that second-generation attainment is below that of the first-generation. Filipinos also present a

different gender pattern because first-generation women begin at higher attainment levels than first-generation men, in contrast to the other groups. Second-generation Filipinas continue to have higher Bachelor's degree attainment than Filipino men. Women from the other countries and mainstream follow the broader group patterns of greater intergenerational mobility and subsequent second-generational attainment than their male counterparts.

As Figure 6 shows, higher percentages of both first- and second-generation women do not participate in the labor force than respective first- and second-generation men. First-generation women have higher rates of non-participation than the mainstream for all countries except the Philippines. Second-generation Mexicans and Dominicans are near the mainstream's levels while second-generation Cuban women have lower rates. Second-generation Asian women from all three countries have lower rates than the mainstream. All first-generation and mainstream men have non-participation rates below 10%. The lowest first-generation rates for men are among Cubans and the three Asian countries. Among the second-generation, those from the Dominican Republic and the three Asian countries have higher non-participation rates.

For full-time work participation, both first- and second-generation and mainstream women for all groups have lower rates than first- and second-generation and mainstream men from the same country of origin. Among women, those in 2003-15 have higher percentages of full-time workers than those in 1980 for all groups. Among Latino women, Cubans begin at nearly the same level as the 1980 mainstream and Mexicans and Dominicans at lower levels. By the second-generation all three groups are above the mainstream with Mexicans and Dominicans at near the same levels. Among Asian

women, first-generation Filipina women begin above the mainstream and first-generation Chinese and Indian women below the mainstream. Among second-generation women, all three Asian groups are above the mainstream. Among men, first-generation Cubans, and Asians from each of the three countries begin above the mainstream. Second-generation men from all three Latino countries and all three Asian countries have lower rates than their contemporary mainstream men with the largest gap between Dominican and mainstream men.

In Figure 7, among part-time workers, second-generation and their contemporary women have higher percentages in upper white-collar occupations than the first-generation and mainstream in 1980. The first-generation from Mexico, the Dominican Republic and the Philippines have lower rates than the mainstream. By the second-generation, Mexican and Filipino women continue to be below the mainstream. Among men, all three Latino groups are below the mainstream and all three Asian groups are above the mainstream in 1980. Mainstream men have little intergenerational mobility in 2003-15. Due to greater intergenerational mobility, second-generation Cuban men are at higher rates than the mainstream. Filipino men have negative intergenerational mobility and their attainment moves from above to below mainstream levels.

For all groups except Filipinos, men have higher rates of full time workers in upper white-collar occupations than women in 1980. With intergenerational mobility, second-generation and mainstream women have higher rates than second-generation and mainstream men, with those from China being at close to the same levels by gender. For the first-generation, women from the three Latin countries are below the mainstream and women from the three Asian countries are above. By the second-generation, Mexican and

Dominican women are below the mainstream and Cuban women are at nearly the same attainment level. Filipino women are also at nearly the same level as the mainstream. Chinese and Indian second-generation women have higher attainment than the mainstream. Among men, first- and second-generation Mexicans and Dominicans are below the mainstream and first- and second-generation Cuban, Filipinos, Chinese and Indian men are above. Thus, with intergenerational mobility gaps remain in the same directions for men.

Figure 8 shows earnings levels for part- and full-time workers. Among women working part-time, first-generation women from all three Latino countries of origin are below the mainstream and those from all three Asian countries are above the mainstream. With intergenerational mobility, Cuban and Dominican second-generation women surpass the mainstream. Second-generation Filipina women are at a slightly lower attainment level than first-generation Filipina women. Among men, the first-generation from all three Latino countries and from China are at lower attainment than the mainstream. Cuban second-generation men close and reverse the direction of their gap with the mainstream. Among second-generation Asian men, Filipino men are below, Chinese men at near the same level, and Indian men at a higher level than mainstream men. Intergenerational mobility is downward for mainstream and Asian men.

For full-time workers, women have lower earnings than men in 1980 for all groups. In 2003-15, women have lower earnings for all groups except second-generation Chinese immigrants who have nearly the same levels by gender. Among women, first-generation Latinos begin at lower and Asians begin at higher earnings. The pattern remains, except for second-generation Cuban women who close and reverse the direction



of their gap with the mainstream. Among men, Cuban and Filipino first-generation men have nearly the same earnings levels as mainstream men. Cuban second-generation men have higher earnings than mainstream men while Filipino second-generation men have lower. Despite intergenerational mobility, both first- and second-generation Mexican and Dominican men have lower attainment than the mainstream and both first- and second-generation Chinese and Indian men have higher attainment than the mainstream.

Tables 8 and 9 present descriptive statistics that differentiate the second-generation by parenthood status. Both tables have attainment levels and intergenerational mobility rates. Table 8 presents calculations for gender differences and Table 9 reports differences between immigrants and the mainstream for women and men separately.

*Descriptive Evidence for Hypothesis 4: Patterns of greater intergenerational mobility by women compared to men remain within country of origin groups*

Table 8 displays that within the first-generation, women from five of the six countries of origin in this chapter begin with lower attainment levels than men for all outcomes in 1980. Filipinas are an exception. For example, Column A shows that first-generation immigrant Mexican women have college completion rates of 1.7% in 1980 compared to 2.8% among Mexican men with a calculation of -1.0 percentage points in the gender difference row. Filipina women have a college completion rate of 66.3% compared to 51.2% among Filipino men. Filipinas also have higher of upper white-collar occupational attainment at 43.7% than Filipino men at 32.9%.

Women from the three country of origin groups of Mexico, the Dominican Republic and Cuba have positive intergenerational mobility for all outcomes, as columns B-A and C-A report. For example, between 1980 and 2003-15, Mexican women increase their college completion rate by 11.6%. Men from all three of these countries have positive intergenerational mobility for college completion and upper white-collar occupations. Fathers have positive intergenerational mobility for all outcomes, while among men without children, there is negative intergenerational mobility for Mexican and Cuban men for full time labor force participation and earnings. Women from the three Latino countries have greater intergenerational mobility than their male counterparts, as evidenced by positive numbers in the difference rows of Columns B-A and C-A for all outcomes except earnings among Cubans and Dominicans. Cuban men have greater earnings intergenerational mobility than Cuban women by \$11,349 and Dominican men have greater earnings intergenerational mobility than Dominican women by \$75.

Among Asians, Indian and Chinese women have positive intergenerational mobility for all outcomes while Filipino women have negative intergenerational mobility for college completion and positive intergenerational mobility for all other outcomes. Filipino men have negative intergenerational mobility for college completion and full-time labor force for fathers and non-fathers and negative mobility in earnings for men without children. Chinese men without children have positive intergenerational mobility for all outcomes except full time labor force participation. Chinese fathers have negative intergenerational mobility for all outcomes except full time labor force participation. Indian men without children have positive intergenerational mobility for all outcomes

except full time labor force participation. Indian fathers have positive intergenerational mobility for all outcomes except college completion. With these varying intergenerational mobility rates, Indian and Chinese women have greater intergenerational mobility than their male counterparts for all outcomes. Both Filipino women and men have downward mobility for college completion in Columns B-A and C-A, but men have less downward intergenerational mobility than women. Filipino men have more intergenerational mobility in upper white-collar occupations than Filipino women, as evidenced by the -6.5 percentage points number.

During this time-period from 1980 to 2003-15, mainstream women with and without children and mainstream fathers have positive intergenerational mobility for all outcomes. Mainstream men without children have negative intergenerational mobility for full time labor force participation and earnings. Mainstream women have greater intergenerational mobility than mainstream men for all outcomes except earnings among parents in Column C-A where men have \$4,896 more intergenerational mobility.

Columns B and C show women and men's attainment levels and differences for second-generation immigrants and the mainstream in 2003-15. Among Mexican- and Dominican-origin immigrants and the mainstream, women have higher attainment for college completion and upper white-collar occupations and men have higher attainment for labor force participation and earnings. Among Cubans, women have higher attainment than men for college completion and men have higher earnings than women, whether they are parents or not. Among the Cuban-origin second-generation without children, women and men have nearly the same rates of labor force participation and women attain upper white-collar occupations at a higher rate.

Parenthood also creates some differences in whether second-generation women or men are at higher attainment levels for the three Asian countries of origin. Second-generation women have higher attainment than men for college completion for all three countries, regardless of parental status. They also have higher upper white-collar occupational attainment for all three countries, although levels are nearly equal for those with children and Chinese-origin. Among second-generation Filipinos, women have greater attainment than men for full-time labor force participation and earnings from when those without children are compared. Among parents, men have higher labor force participation and earnings. Among those with Chinese-origin, women have greater labor force participation among non-parents, and higher earnings among parents. Among those with Indian-origin, men have greater earnings among both those without children and non-parents and greater labor force participation among parents only.

*Descriptive Evidence for Hypotheses 5 and 6: There is country of origin level segmented assimilation among Latinos; and straight-line assimilation within countries of origin among second-generation Asians occurs in education and occupations but not in earnings.*

Table 9 presents the same 1980 and 2003-15 attainment rates as Table 8. It also provides differences between first- and second-generation immigrants and the mainstream. These difference rows appear under each outcome within each country of origin group. Four of the six countries of origin appear to follow patterns similar to their broader ethnic groups more closely than two others. For both women and men, Mexicans

and Dominicans are more similar to each other and to broader patterns than Cubans.

Among Asian countries of origin, for both genders, there are more similarities between Chinese and Indian immigrants than Filipinos.

As shown by the negative numbers in difference rows in Column A for 1980, first-generation Mexican, Cuban and Dominican women all have lower attainment than mainstream women for all outcomes. For example, Mexican women have a difference in college degree attainment of 17.9 percentage points below mainstream women. Filipino women have higher attainment than mainstream women for all outcomes. Chinese and Indian women have higher attainment than mainstream women for all outcomes except full-time labor force participation.

Columns B-A and C-A show intergenerational mobility between 1980 and 2003-15 for women. Women from all groups have positive intergenerational mobility within their group for all outcomes except college completion among Mexican mothers and Filipino women. The difference rows in columns B-A and C-A show that Mexican women have more intergenerational mobility than mainstream women for all outcomes except college completion. Cuban women have greater intergenerational mobility for all outcomes. Dominican women have greater intergenerational mobility for all outcomes except that earnings among women without children. Filipino women have less intergenerational mobility for all outcomes. Chinese women have more for all outcomes. Indian women have more for all outcomes except upper white-collar occupations among women without children.

Columns B and C provide attainment levels for 2003-15. Among women with Latino countries of origin, Mexican women fall below the mainstream the most often,

with Dominican women in the middle, and Cuban women above the mainstream for most outcomes. In the difference rows, Mexican second-generation women have lower attainment than mainstream women for all outcomes except full time labor for participation among mothers. Cuban women have higher attainment than mainstream women for all outcomes except upper white-collar occupations among mothers. Dominican women have lower attainment for all outcomes except college completion and upper white collar occupational attainment among mothers and full-time labor force participation among women without children.

Second-generation women from all three Asian countries have higher attainment than mainstream women for most outcomes. Filipino women have higher attainment than mainstream women for all outcomes except upper white-collar occupations for women without children. Chinese women have higher attainment than mainstream women for all outcomes. Indian women have higher attainment than mainstream women for all outcomes except labor force participation among mothers.

Column D shows outcomes and differences for men in 1980. Both Mexican and Dominican men fall below mainstream men for all outcomes. Cuban men have higher attainment than mainstream men for all outcomes except college completion. Filipino men fall above mainstream men for all outcomes except earnings. Chinese and Indian men have higher attainment than mainstream men for all outcomes.

Columns E-D and F-D show men's intergenerational mobility between 1980 and 2003-15 with rows for differences from mainstream men. All three Latino groups have positive intergenerational mobility for all outcomes except in labor force participation among men among men without children with -1.5 percentage points among Mexican;

-11.7 among Cuban and -8.5 among Dominican men. Among the three Asian groups, there are variations by parental status. Filipino men have negative intergenerational mobility for college completion and labor force participation and positive for upper white-collar occupations. Filipino men without children have negative intergenerational mobility in earnings while Filipino fathers have positive earnings intergenerational. Chinese and Indian men without children have positive intergenerational mobility in college completion and negative intergenerational mobility in full-time labor force participation while the reverse is true for Chinese and Indian fathers. All Chinese and Indian men have positive intergenerational mobility for upper white-collar occupations and earnings.

The difference rows in Columns E-D and F-D provide information about how intergenerational mobility varies between immigrant and mainstream men. Compared to mainstream men, Mexican men have more intergenerational mobility for all outcomes except earnings among fathers. Cuban men have greater intergenerational mobility in college completion and earnings regardless of parental status. They have less for full time labor force regardless of parental status and less for upper white-collar occupations among men without children with more for upper white-collar occupations among fathers. Dominican men have more intergenerational mobility for college completion and upper white-collar occupations; less for full-time labor force participation for all Dominican men; and less for earnings among fathers and more among men without children. Filipino men have less intergenerational mobility for all outcomes except upper white-collar occupations. Chinese men without children have more intergenerational mobility for all outcomes except full time labor force participation. Chinese fathers have

less intergenerational mobility for college and earnings and more intergenerational mobility than mainstream fathers for other outcomes. Indian men have negative or nearly equal intergenerational mobility for all outcomes except earnings, in which they have positive intergenerational mobility compared to mainstream men.

Columns E and F show outcomes and differences for men in 2003-15. The difference rows show that Mexican and Dominican men have lower attainment than mainstream men for all outcomes. Cuban men have higher attainment than mainstream men for all outcomes except lower attainment in full-time labor force participation and nearly the same attainment in upper white-collar occupations among men without children. Filipino men have higher attainment in college completion and upper white-collar occupations and lower attainment in labor force participation and earnings than mainstream men. Chinese men have higher attainment than mainstream men for all outcomes. Indian men have higher attainment than mainstream men for all outcomes except nearly the same attainment in labor force participation among men without children.

As with broader ethnic groups, multivariate analysis will reveal whether gender and nativity differences are statistically significant.

#### *Multivariate Results for Country of Origin Groups*

#### *Hypothesis 4: Gendered Intergenerational Mobility for Countries of Origin and Mainstream*

Table 10 presents intergenerational mobility results by gender from multivariate model 1 in the methods section. There is considerable evidence in support of the fourth



hypothesis in this chapter that there will be feminized intergenerational mobility within countries of origin. Women from all six countries have positive intergenerational mobility for all six countries for all outcomes except college completion among Filipino women. Filipino second-generation women have a college completion rate that is 17.8% less than Filipino first-generation women with significance at the  $p < .001$  level. Among all three Latino countries of origin, men have positive intergenerational mobility between 1980 and 2003-15. For example, Mexican men have a 54.6% increase in high school completion. There is more variation in mobility among Asian men. Filipino men have significant positive intergenerational mobility for all outcomes, except college completion, where there is downward mobility by 12.0% at  $p < .01$ . Chinese men have significant, positive intergenerational mobility at  $p < .05$  or higher for high school completion and earnings but not a significant change in the rates of college completion and upper white-collar occupational attainment. Indian men have significant positive intergenerational mobility in earnings at  $p < .001$  but not for education or occupational attainment outcomes.

There is some evidence of feminized intergenerational mobility within all three Latino groups. Of the three Latina country of origin groups, women in all three groups have more intergenerational mobility than men for college completion and upper white collar-occupations, significant at  $p < .05$  or higher. For example, in the difference row under college completion, Mexican women have 6.3 percentage points greater intergenerational mobility than Mexican men, significant at the  $p < .001$  level. None of the Latino groups have significant gender differences for earnings intergenerational

mobility. Mexican women are the only country group to have more progress in high school completion.

Among Asians, Filipinas appear to be a unique case since there is not any evidence of significant Filipino gender differences for any of the outcome variables. Both Chinese and Indian women have more intergenerational progress for college and professional occupations than men within their country of origin groups, and Indian women more for high school completion and Chinese women more for earnings. For example, Chinese women have 25.0 percentage points more intergenerational mobility than Chinese men for college completion, significant at  $p < .001$  and Indian women have 24.4 percentage points more intergenerational mobility than Indian men, significant at  $p < .001$ .

*Hypotheses 5 and 6: Country of Origin Intergenerational Mobility Compared to the Mainstream Within Gender*

Table 11 reports the results from model 2 for differences between immigrant and mainstream intergenerational mobility. The fifth hypothesis that there will be segmented assimilation among Latino groups is not supported. Among women, all three Latina country of origin groups have made more progress than the mainstream for high school completion. For example, Mexican women have 53.0 more percentage points in high school intergenerational mobility than mainstream women at  $p < .001$ . In the third column, Mexican women have 8.2 percentage points, significant at  $p < .001$  less intergenerational mobility in college completion, while there is not a significant

difference for Dominican women and Cuban women have 12.8 percentage points more intergenerational mobility than mainstream women, significant at  $p < .001$ . Earnings mobility is lower than the mainstream for Mexican women and insignificantly different for Cuban and Dominican women.

Findings support the sixth hypothesis. Compared to mainstream women, all three Asian country of origin groups have less mobility or insignificantly different levels for education and upper white-collar occupational attainment. For example, in the first column, Filipino women have 6.7 percentage points less than mainstream women in high school completion intergenerational mobility. Filipino women have significantly less progress than mainstream women for all other outcomes as well. Chinese women do not have significantly different mobility than mainstream women for high school completion, college completion or occupational attainment. They have significantly more intergenerational mobility in earnings by \$15,936 at the  $p < .01$  level. Indian women have less intergenerational mobility than mainstream women for high school completion by 4.4 percentage points at the  $p < .01$  level; not a significant difference for college completion or professional occupational attainment; and more mobility for earnings by \$21,158 at the  $p < .001$  level.

Among Latino men, all three groups have more progress in high school completion. For example, in the second column, Mexican men have 48.8 percentage points more intergenerational mobility in high school completion than mainstream men, significant at  $p < .001$ . Mexican men have more progress than mainstream men for upper white-collar occupational attainment and earnings. Cuban men have more intergenerational mobility than mainstream men by 11.2 percentage points for college

completion, significant at  $p < .01$ , and insignificant differences for upper white-collar occupations and earnings. Dominican men do not have significant differences from the mainstream for outcomes other than high school.

Among men, Asian men from the three groups have less or insignificantly different levels of mobility than mainstream men for high school and college completion. Filipino men have less high school completion than mainstream men by 3.3 percentage points, at  $p < .01$ , and less by 21.3 percentage points for college, significant at  $p < .001$ . There is not a significant difference in earnings. Chinese men do not have significant differences from mainstream men for any of the outcomes. Indian men have significantly less intergenerational mobility than mainstream men for high school completion by 7.9 percentage points at the  $p < .001$  level; by 8.6 percentage points for college completion at the  $p < .01$  level and by \$29,045 in earnings at  $p < .001$ .

#### *Immigrants' Assimilation by Countries of Origin*

Table 12 presents intergenerational mobility differences with the mainstream in context of first- and second-generation gaps. With this information, it is possible to see whether gaps narrowed, widened or remained at the same amounts. Among Latino women, who begin with lower attainment than mainstream women, Cuban women are the only group to close gaps or attain higher than the mainstream by the second-generation. In the first column, Mexican women's gaps narrowed for high school from 65.6 to 12.6 and widened for college completion by 8.2 percentage points, significant at  $p < .001$  and earnings by \$2,173 by  $p < .05$ . In the second column, Cuban women narrowed the high

school completion gap and reversed the direction of the college completion gap from 3.2 percentage points below to 9.7 percentage points above the mainstream. The only significant change for Dominican women is a narrowing of the high school completion gap by 44.6 percentage points at  $p < .001$ .

Mainstream women narrowed gaps with Asian women, who began at higher attainment levels, for some outcomes with Filipinas and Indian women. Filipina women are the only of the three groups of Asian women to have any attainment levels significantly below the mainstream in the second-generation. Gaps between Filipina and mainstream women narrowed for all outcomes and reversed direction for upper white-collar occupations from 22.5 percentage points to 1.1 percentage points. The only significant difference in gaps for Chinese women is a widening of the earnings gap by \$15,936 with  $p < .05$ . The mainstream caught up to Indian women by 4.4 percentage points in high school completion. The earnings gap between Indian and mainstream women widened by \$21,158.

As for women, among men, Cubans are the only Latino group that reach outcome attainment levels above the mainstream by the second-generation. In the section for men within Table 12, Mexican men narrowed the high school completion, upper white-collar occupations and earnings gaps with mainstream men. For example, Mexican men narrowed the 62.5 percentage point gap by 48.8 percentage points, both significant at  $p < .001$ . Cuban men went from gaps that were below mainstream men in high school and college completion to gaps at near and above the levels of mainstream men. For example, a 3.6 percentage point gap reversed direction to a 7.6 percentage point gap in college

completion. The only significant difference in gaps for Dominican men is a 36-percentage point decrease in the gap for high school completion, significant at  $p < .001$ .

Despite some gaps narrowing, all three groups of Asian men have attainment levels near to or above the mainstream for the second-generation. Gaps narrowed between Filipino and mainstream men for high school completion by 3.3 percentage points, significant at  $p < .01$  and 21.3 percentage points in college completion, significant at  $p < .001$ . There are not any significant differences in gap sizes between Chinese and mainstream men. In the sixth column, Indian men's high school completion and college completion gaps narrowed, and their earnings gap widened by \$29,045 with  $p < .001$ .

### Discussion/Conclusion

This chapter estimates educational, occupational and earnings attainment levels, intergenerational mobility rates and gaps between immigrants and the non-Latino, white U.S. born mainstream. The findings are consistent with the first, second, third, fourth, and sixth hypotheses. They provide evidence that groups have different social mobility patterns. The first hypothesis is that women will continue to have greater intergenerational mobility than men within each of the broader racial/ethnic groups when comparing 2012-16 with either 1980 or 1990. This hypothesis follows from Park et al's (2015) findings of strong feminized intergenerational mobility between 1980 and 2003-07. Status attainment theory predicts that correlations will occur across generations. However, Park et al (2015) find that they occur with different magnitudes by gender. Findings support this hypothesis. Comparing 2003-07 to 2012-16, the gender story remains across decade comparisons. Across all broad racial/ethnic groups, women reach greater educational and occupation attainment than men. Despite this greater

intergenerational mobility, men continue to earn more than women for all groups across decades.

The second hypothesis is that Latinos experience less intergenerational mobility and assimilation in 2012-16 than in 2003-07. There is some evidence of less intergenerational mobility among Latinos relative to the mainstream in 2012-16 than in 2003-07. Racial/ethnic disparities persist, and in some cases, widen for Latinos after the Great Recession.

For Asians, the third hypothesis is that straight-line assimilation will continue for the second-generation in 2012-16 for education and occupations but not for earnings as Park et al (2015) find for 2003-07. This hypothesis is true for the comparison with the 1980 first-generation but there is no evidence of assimilation with the mainstream in education and upper white-collar occupations between 1990 and 2012-16. Second-generation Asians do continue to have an increase in the earnings gap with the mainstream in 2012-16.

The country of origin analysis demonstrates that important differences occur with smaller levels of analysis within pan-ethnic groups. The three most populous Latino countries of origin, Mexico, Cuba and the Dominican Republic, represent immigrants with varying education levels. These immigrants also come from countries of origin with varying historical relationships with the U.S., varying U.S. granted political statuses, and differential access to beneficial programs and policy applications. (Arboleya 1996; Acuna 2017) Immigrants from the three most populous Asian countries, the Philippines, China and India, are relatively high skilled compared to the general immigrant population. Country of origin analysis provides additional support for Park et al's (2015) conclusion

that a complete picture of immigrant assimilation requires analysis by both race/ethnicity and gender since status attainment varies by both. It adds that country of origin may change conclusions about gender and broader group racial/ethnic comparisons.

The fourth hypothesis is that the pattern of feminized intergenerational mobility will remain within country of origin groups. Results show that there is variation in gender patterns at the country of origin level. Filipino gender patterns are different from other groups. The history of U.S. colonialism in the Philippines, U.S. support for public health, policy supporting migration of nurses, and policy that allowed Filipinos to serve in the U.S. military affected U.S.-Filipino immigrant gender and occupational compositions. (Posadas 1999; Rodriguez 2010) Filipino women begin with higher attainment than Filipino men in the first-generation for college and upper white-collar occupations and maintain this advantage. Filipino women without children and Chinese mothers are the only two country of origin groups of second-generation women that have higher earnings by gender once parental status is considered. Filipino second-generation women are the only group of women who have lower attainment in any outcomes than the first-generation.

Results do not support the fifth hypothesis that there will be country of origin level segmented assimilation among Latinos. There is some straight-line assimilation for all three groups although disparities persist, especially for Mexicans and Dominicans. Magnitudes of straight-line assimilation vary by countries of origin. The Cuban first-generation begins with higher attainment levels than the other two Latino groups. In some cases, a disadvantage compared to the mainstream turns into an advantage between first- and second-generation Cubans.



Evidence supports the sixth hypothesis that assimilation within countries of origin among second-generation Asians occurs in education and occupations but not in earnings.

More analysis with additional countries may find additional pattern variations. In particular, given intergenerational correlations, second-generation outcomes may have increased heterogeneity if first-generation findings are more diverse.

This chapter's findings are limited by the fact that the data do not provide information to connect individual second-generation immigrants with their biological parents. Correlations between first- and second-generation immigrants use averages for points in time without identifying specific intergenerational relationships. There is not a study that tests whether attainment estimates differ between kinship and non-kinship groups that confirms the lack of bias. However, literature does not suggest that data without direct kinship linkages produce biases. (Borjas 2006; Park et al 2015)

Undocumented immigrants may be undercounted in Census data. (Jensen et al 2015) Park et al (2015, p. 1622) explain that if the undocumented population is undercounted in their data and they are low skilled, their estimates for intergenerational mobility are likely underestimated. Findings about undercounted populations by ethnicity suggest that this may affect estimates for Latinos more than other groups. (Jensen et al 2015)

It will be important for future research to continue to analyze the experiences of future cohorts. If current trends in economic inequality persist, will they have longer-term impact, and if so, will that vary by race and ethnicity? If first-generation immigrant demographics shift, will second-generation, country of origin and pan-ethnic group assimilation change as well?

The findings in this chapter have implications for policy. While the U.S. born second-generation population is not exactly the same as the immigrant population affected by the Deferred Action for Childhood Arrivals (DACA) policy (United States Citizenship and Immigration Services historical content, accessed 2018, Zong et al 2017), it may contextualize predicted outcomes for immigrants arriving in the U.S. as children. Disparities in educational and upper white-collar attainment among Latinos provide insights for schools and employers. Policies that address inequities in school quality, access to post-secondary education and employer recruitment and retention across ethnic groups may address some differences in educational and upper white-collar occupational attainment outcomes. The chapter results also support needs for policies to continue to address gender pay gaps, as they occur across racial/ethnic groups. These policies may include minimum wage levels that meet costs of living, requiring employers to collect data about hiring and promotion by demographics and support for paid family leave. (Glynn et al. 2014)

**Table 2.1: Sample Sizes and Average Ages for Latino and Asian First- and Second-Generation Immigrants and U.S. Mainstream**

	Latino		Asian		White, U.S. born, non-Hispanic	
	Women	Men	Women	Men	Women	Men
First-Generation and Mainstream: Cohort I						
Total sample size for 1980	13,613	13,489	7,285	7,247	30,176	29,954
Mean age for 1980	32.3	34.7	32.7	35.6	33.4	33.4
First -Generation and Mainstream: Cohort II						
Total sample size for 1990	24,655	24,395	15,078	14,988	37,317	36,604
Mean age for 1990	32.8	34.8	34.0	36.6	34.4	34.3
Second-Generation and Mainstream: Cohort I						
Sample size for 2003	351	335	85	137	1,750	1,497
Sample size for 2005	398	313	122	147	1,636	1,357
Sample size for 2007	457	412	147	144	1,517	1,258
Total sample size for 2003, 2005, and 2007	1,206	1,060	354	428	4,903	4,112
Mean ages for 2003, 2005, and 2007	31.4	31.3	31.0	30.8	33.8	33.7
Second-Generation and Mainstream: Cohort II						
Sample size for 2012	620	580	248	259	1,331	1,230
Sample size for 2014	742	636	252	292	1,261	1,182
Sample size for 2016	747	688	259	301	1,180	1,078
Total sample size for 2012, 2014, and 2016	2,109	1,904	759	852	3,772	3,490
Mean ages for 2012, 2014, and 2016	31.6	31.6	31.3	31.1	33.3	33.4

Notes: Author's calculations from the 1980 and 1990 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2012, and 2016, and the U.S. Census Bureau's 2014 CPS Income Consistent files. Ages are restricted to 25-44 for 1980 and 1990 and 25-41 for 2003 through 2016. Asians include only those who are non-Latino. Mainstream includes only those who are White, U.S. born and non-Latino.

**Table 2.2: Intergenerational Mobility Differences by Gender within Race/Ethnicity**

	1 <sup>st</sup> Generation		2 <sup>nd</sup> Generation		Intergenerational Mobility							
			2003-07		2012-16		1980 to 2003-07		1980 to 2012-16		1990 to 2012-16	
	1980	1990	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child
	A	B	C	D	E	F	C-A	D-A	E-A	F-A	E-B	F-B
Latino												
College completion (%)												
Women	6	5	35	18	34	19	29	13	28	14	29	14
Men	9	7	25	16	22	14	17	8	13	6	15	8
Difference	-3	-2	10	2	12	5	13	5	15	8	14	7
Full-time labor force participation (%)												
Women	23	27	70	53	60	49	47	31	37	26	33	22
Men	74	71	74	82	67	76	0	8	-7	2	-5	5
Difference	-51	-44	-4	-29	-7	-27	47	22	44	24	38	18
Upper white-collar occupation (%)												
Women	9	11	40	33	40	39	30	23	31	30	29	28
Men	13	10	29	24	27	25	16	11	14	13	17	15
Difference	-3	1	11	9	14	14	14	12	17	17	12	13
Earnings (\$)												
Women	26,103	28,243	44,200	39,607	40,780	39,491	18,097	13,504	14,677	13,388	12,538	11,249
Men	40,822	40,079	48,029	51,050	46,553	54,802	7,207	10,229	5,731	13,981	6,474	14,723
Difference	-14,718	-11,837	-3,828	-11,443	-5,773	-15,311	10,890	3,276	8,946	-593	6,064	-3,474

Notes: See end of table

Table 2.2 continued

	1 <sup>st</sup> Generation		2 <sup>nd</sup> Generation		Intergenerational Mobility							
			2003-07		2012-16		1980 to 2003-07		1980 to 2012-16		1990 to 2012-16	
	1980	1990	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child
Asian	A	B	C	D	E	F	C-A	D-A	E-A	F-A	E-B	F-B
College completion (%)												
Women	51	41	71	58	72	63	20	7	21	12	31	22
Men	62	48	63	55	62	59	2	-7	0	-3	14	11
Difference	-11	-7	8	3	10	4	19	14	21	15	17	11
Full-time labor force participation (%)												
Women	34	42	67	54	65	52	33	20	31	18	22	10
Men	82	78	67	91	66	80	-16	9	-16	-2	-11	2
Difference	-48	-35	0	-37	-2	-28	49	11	47	21	34	8
Upper white-collar occupation (%)												
Women	42	33	61	56	66	64	20	14	25	22	34	31
Men	50	40	55	54	58	61	4	4	7	11	18	21
Difference	-9	-7	6	1	9	3	15	10	18	12	16	10
Earnings (\$)												
Women	40,392	44,160	58,380	64,288	59,332	66,806	17,988	23,897	18,940	26,414	15,172	22,646
Men	59,986	64,344	71,427	84,277	63,553	85,983	11,441	24,291	3,567	4,842	-791	484
Difference	-19,595	-20,185	-13,048	-19,989	-4,221	-19,177	6,547	-394	15,374	21,572	15,963	22,162

Notes: See end of table

Table 2.2 continued

			2003-07		2012-16		1980 to 2003-07		1980 to 2012-16		1990 to 2012-16	
	1980	1990	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child
Mainstream	A	B	C	D	E	F	C-A	D-A	E-A	F-A	E-B	F-B
College completion (%)												
Women	20	24	45	33	50	40	25	13	31	21	26	16
Men	28	27	32	32	35	37	4	4	7	9	8	10
Difference	-8	-3	13	0	15	3	21	9	23	11	18	6
Full-time labor force participation (%)												
Women	35	46	67	43	65	47	32	8	30	12	19	1
Men	78	78	75	87	69	82	-3	9	-9	4	-9	5
Difference	-43	-32	-8	-43	-4	-36	36	0	39	7	28	-4
Upper white-collar occupation (%)												
Women	26	34	48	44	54	54	22	18	28	27	20	20
Men	29	28	35	36	38	42	6	7	9	14	10	15
Difference	-3	6	14	8	16	11	16	11	18	14	10	5
Earnings (\$)												
Women	32,178	39,281	44,709	43,322	47,683	49,598	12,532	11,145	15,506	17,420	8,402	10,317
Men	52,561	57,093	55,104	71,246	52,107	72,934	2,543	18,685	-2,963	20,373	-7,496	15,841
Difference	-20,384	-17,812	-10,395	-27,924	-4,424	-23,336	9,989	-7,541	18,469	-2,953	15,898	-5,524

Notes: Author's calculations from the 1980 and 1990 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2012, and 2016, and the U.S. Census Bureau's 2014 CPS Income Consistent files. Ages are restricted to 25-44 for 1980 and 1990 and 25-41 for 2003 through 2016. Asians include only those who are non-Latino. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Table 2.3: Intergenerational Mobility Levels with Immigrant-Mainstream Differences by Gender for Latino and Asian First- and Second-Generation Immigrants and U.S. Mainstream**

	1 <sup>st</sup> Generation or Mainstream		2 <sup>nd</sup> Generation or Mainstream				Intergenerational Mobility					
			2003-07		2012-16		1980 to 2003-07		1980 to 2012-16		1990 to 2012-16	
			No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child
	1980 A	1990 B	C	D	E	F	C-A	D-A	E-A	F-A	E-B	F-B
Women												
College completion (%)												
Latino	6	5	35	18	34	19	29	13	28	14	29	14
Asian	51	41	71	58	72	63	20	7	21	12	31	22
Mainstream	20	24	45	33	50	40	25	13	31	21	26	16
Latino-Mainstream	-14	-19	-10	-15	-16	-21	4	-1	-2	-7	3	-1
Asian-Mainstream	31	16	26	25	22	22	-5	-6	-9	-9	6	6
Full-time labor force participation (%)												
Latino	23	27	70	53	60	49	47	31	37	26	33	22
Asian	34	42	67	54	65	52	33	20	31	18	22	10
Mainstream	35	46	67	43	65	47	32	8	30	12	19	1
Latino-Mainstream	-12	-19	2	10	-5	3	14	22	7	15	14	22
Asian-Mainstream	-1	-4	0	10	-1	6	1	11	0	7	3	9

Notes: See end of table

Table 2.3 continued

	1 <sup>st</sup> Generation or Mainstream		2 <sup>nd</sup> Generation or Mainstream				Intergenerational Mobility					
			2003-07		2012-16		1980 to 2003-07		1980 to 2012-16		1990 to 2012-16	
			No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child
	A	B	C	D	E	F	C-A	D-A	E-A	F-A	E-B	F-B
Upper white-collar occupation (%)												
Latino	9	11	40	33	40	39	30	23	31	30	29	28
Asian	42	33	61	56	66	64	20	14	25	22	34	31
Mainstream	26	34	48	44	54	54	22	18	28	27	20	20
Latino-Mainstream Difference	-17	-23	-8	-11	-13	-15	9	6	4	3	9	8
Asian-Mainstream Difference	15	-1	13	12	12	10	-2	-4	-3	-5	14	12
Earnings (\$)												
Latino	26,103	28,243	44,200	39,607	40,780	39,491	18,097	13,504	14,677	13,388	12,538	11,249
Asian	40,392	44,160	58,380	64,288	59,332	66,806	17,988	23,897	18,940	26,414	15,172	22,646
Mainstream	32,178	39,281	44,709	43,322	47,683	49,598	12,532	11,145	15,506	17,420	8,402	10,317
Latino-Mainstream	-6,074	-11,039	-509	-3,715	-6,903	-10,106	5,565	2,360	-829	-4,032	4,136	932
Asian-Mainstream	8,214	4,879	13,670	20,966	11,648	17,208	5,456	12,752	3,434	8,994	6,770	12,330

Notes: See end of table



Table 2.3 continued

	1 <sup>st</sup> Generation or Mainstream		2 <sup>nd</sup> Generation or Mainstream				Intergenerational Mobility					
			2003-07		2012-16		1980 to 2003-07		1980 to 2012-16		1990 to 2012-16	
	1980	1990	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child	No Child	At Least 1 Child
Men	A	B	C	D	E	F	C-A	D-A	E-A	F-A	E-B	F-B
College completion (%)												
Latino	9	7	25	16	22	14	17	8	13	6	15	8
Asian	62	48	63	55	62	59	2	-7	0	-3	14	11
Mainstream	28	27	32	32	35	37	4	4	7	9	8	10
Latino-Mainstream Difference	-19	-21	-7	-16	-14	-23	13	3	6	-4	7	-2
Asian-Mainstream Difference	34	20	31	23	26	21	-2	-11	-7	-12	6	1
Full-time labor force participation (%)												
Latino	74	71	74	82	67	76	0	8	-7	2	-5	5
Asian	82	78	67	91	66	80	-16	9	-16	-2	-11	2
Mainstream	78	78	75	87	69	82	-3	9	-9	4	-9	5
Latino-Mainstream Difference	-4	-7	-1	-5	-3	-6	3	0	2	-2	4	0
Asian-Mainstream Difference	4	0	-8	4	-3	-2	-12	0	-7	-6	-3	-2

Notes: See end of table

Table 2.3 continued

	1 <sup>st</sup> Generation or Mainstream		2 <sup>nd</sup> Generation or Mainstream				Intergenerational Mobility					
			2003-07		2012-16		1980 to 2003-07		1980 to 2012-16		1990 to 2012-16	
	1980 A	1990 B	No Child C	At Least 1 Child D	No Child E	At Least 1 Child F	No Child C-A	At Least 1 Child D-A	No Child E-A	At Least 1 Child F-A	No Child E-B	At Least 1 Child F-B
Upper white-collar occupation (%)												
Latino	13	10	29	24	27	25	16	11	14	13	17	15
Asian	50	40	55	54	58	61	4	4	7	11	18	21
Mainstream	29	28	35	36	38	42	6	7	9	14	10	15
Latino-Mainstream Difference	-16	-18	-5	-12	-11	-17	11	4	5	-1	7	1
Asian-Mainstream Difference	22	12	20	18	19	19	-1	-3	-2	-3	8	7
Earnings (\$)												
Latino	40,822	40,079	48,029	51,050	46,553	54,802	7,207	10,229	5,731	13,981	6,474	14,723
Asian	59,986	64,344	71,427	84,277	63,553	85,983	11,441	24,291	3,567	25,997	-791	21,639
Mainstream	52,561	57,093	55,104	71,246	52,107	72,934	2,543	18,685	-454	20,373	-4,986	15,841
Latino-Mainstream Difference	-11,739	-17,014	-7,076	-20,196	-5,554	-18,132	4,664	-8,457	6,185	-6,392	11,460	-1,118
Asian-Mainstream Difference	7,425	7,251	16,323	13,031	11,446	13,049	8,897	5,606	4,020	5,624	4,195	5,798

Notes: Notes: Author's calculations from the 1980 and 1990 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2012, and 2016, and the U.S. Census Bureau's 2014 CPS Income Consistent files. Ages are restricted to 25-44 for 1980 and 1990 and 25-41 for 2003 through 2016. Asians include only those who are non-Latino. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Table 2.4: Gender Differences in Intergenerational Mobility, Adjusted by Age and Parental Status for Latino and Asian First- and Second-Generation Immigrants and U.S. Mainstream**

	1980 to 2003-07	1980 to 2012-16	1990 to 2012-16
Latino			
High school completion (%)			
Women	47.1 <sup>a</sup>	49.8 <sup>a</sup>	43.9 <sup>a</sup>
Men	41.3 <sup>a</sup>	44.3 <sup>a</sup>	40.6 <sup>a</sup>
Difference	5.8 <sup>a</sup>	5.5 <sup>a</sup>	3.4 <sup>a</sup>
College completion (%)			
Women	14.0 <sup>a</sup>	15.1 <sup>a</sup>	15.9 <sup>a</sup>
Men	6.9 <sup>a</sup>	4.6 <sup>a</sup>	6.2 <sup>a</sup>
Difference	7.0 <sup>a</sup>	10.5 <sup>a</sup>	9.7 <sup>a</sup>
Upper white-collar occupation (%)			
Women	24.1 <sup>a</sup>	29.4 <sup>a</sup>	27.9 <sup>a</sup>
Men	12.6 <sup>a</sup>	13.8 <sup>a</sup>	16.1 <sup>a</sup>
Difference	11.5 <sup>a</sup>	15.7 <sup>a</sup>	11.8 <sup>a</sup>
Earnings (\$)			
Women	15,267 <sup>a</sup>	15,416 <sup>a</sup>	13,597 <sup>a</sup>
Men	10,098 <sup>a</sup>	12,834 <sup>a</sup>	13,692 <sup>a</sup>
Difference	5,169 <sup>b</sup>	2,582	-95
Asian			
High school completion (%)			
Women	11.4 <sup>a</sup>	8.0 <sup>a</sup>	10.6 <sup>a</sup>
Men	6.8 <sup>a</sup>	5.9 <sup>a</sup>	7.4 <sup>a</sup>
Difference	4.6 <sup>a</sup>	2.1 <sup>c</sup>	3.2 <sup>a</sup>
College completion (%)			
Women	8.3 <sup>c</sup>	12.4 <sup>a</sup>	24.5 <sup>a</sup>
Men	-4.4	-2.4	12.6 <sup>a</sup>
Difference	12.7 <sup>a</sup>	14.8 <sup>a</sup>	11.9 <sup>a</sup>
Upper white-collar occupation (%)			
Women	16.8 <sup>a</sup>	23.5 <sup>a</sup>	34.4 <sup>a</sup>
Men	6.4	11.1 <sup>b</sup>	22.7 <sup>a</sup>
Difference	10.3 <sup>c</sup>	12.4 <sup>a</sup>	11.8 <sup>a</sup>
Earnings (\$)			
Women	27,295 <sup>a</sup>	30,997 <sup>a</sup>	29,455 <sup>a</sup>
Men	26,462 <sup>a</sup>	23,601 <sup>a</sup>	21,083 <sup>a</sup>
Difference	832	7,396 <sup>c</sup>	8,372 <sup>b</sup>

Notes: See end of table

**Table 2.4 continued**

	1980 to 2003-07	1980 to 2012-16	1990 to 2012-16
Mainstream			
High school completion (%)			
Women	10.0 <sup>a</sup>	10.7 <sup>a</sup>	4.5 <sup>a</sup>
Men	8.3 <sup>a</sup>	10.1 <sup>a</sup>	4.6 <sup>a</sup>
Difference	1.7 <sup>b</sup>	0.7	-0.2
College completion (%)			
Women	16.5 <sup>a</sup>	23.4 <sup>a</sup>	19.7 <sup>a</sup>
Men	4.3 <sup>a</sup>	8.2 <sup>a</sup>	10.0 <sup>a</sup>
Difference	12.2 <sup>a</sup>	15.2 <sup>a</sup>	9.7 <sup>a</sup>
Upper white-collar occupation (%)			
Women	19.7 <sup>a</sup>	27.7 <sup>a</sup>	20.7 <sup>a</sup>
Men	6.5 <sup>a</sup>	11.7 <sup>a</sup>	13.6 <sup>a</sup>
Difference	13.3 <sup>a</sup>	16.0 <sup>a</sup>	7.1 <sup>a</sup>
Earnings (\$)			
Women	10,845 <sup>a</sup>	16,291 <sup>a</sup>	10,584 <sup>a</sup>
Men	12,809 <sup>a</sup>	12,481 <sup>a</sup>	8,856 <sup>a</sup>
Difference	-1,964	3,810 <sup>c</sup>	1,728

Notes: Results for men and gender differences are from Ordinary Least Squares Regressions. Coefficients for women are author's calculation of the addition of estimates for men and for gender difference. Significance for women's estimates are author's calculation using the standard error equal to the square root of the sum of the variance of the estimate for men plus the variance of the estimate for gender difference plus two times the covariance of the estimate for men and the estimate for men and gender difference. Statistical significance is denoted as a=  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 1980 and 1990 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2012, and 2016, and the U.S. Census Bureau's 2014 CPS Income Consistent files. Ages are restricted to 25-44 for 1980 and 1990 and 25-41 for 2003 through 2016. Asians include only those who are non-Latino. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Table 2.5: Latino and Asian Immigrant Intergenerational Mobility Differences from U.S. Mainstream within Gender, Adjusted by Age and Parental Status**

	Women			Men		
	1980 to 2003-07	1980 to 2012-16	1990 to 2012-16	1980 to 2003-07	1980 to 2012-16	1990 to 2012-16
Latino Difference from Mainstream						
High school completion (%)	38.0 <sup>a</sup>	39.1 <sup>a</sup>	41.2 <sup>a</sup>	35.0 <sup>a</sup>	34.7 <sup>a</sup>	39.4 <sup>a</sup>
College completion (%)	-4.5 <sup>b</sup>	-10.7 <sup>a</sup>	-4.8 <sup>a</sup>	4.8 <sup>b</sup>	-2.2	1.3
Upper white-collar occupation (%)	1.0	-2.8	3.9 <sup>c</sup>	7.2 <sup>a</sup>	1.3	3.5 <sup>c</sup>
Earnings (\$)	1,118	-5,176 <sup>b</sup>	-1,381	2,251	3,415	9,018 <sup>a</sup>
Asian Difference from Mainstream						
High school completion (%)	-1.5	-3.8 <sup>a</sup>	7.4 <sup>a</sup>	-4.7 <sup>a</sup>	-5.3 <sup>a</sup>	4.7 <sup>a</sup>
College completion (%)	-12.3 <sup>a</sup>	-16.8 <sup>a</sup>	-0.2	-9.1 <sup>a</sup>	-13.7 <sup>a</sup>	4.2
Upper white-collar occupation (%)	-10.7 <sup>b</sup>	-12.7 <sup>a</sup>	6.2 <sup>a</sup>	-2.0	-4.1	7.6 <sup>b</sup>
Earnings (\$)	5,025	820	2,954	12,558 <sup>c</sup>	6,308 <sup>c</sup>	8,753 <sup>b</sup>

Notes: Results are from Ordinary Least Squares Regressions. Statistical significance is denoted as a=  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 1980 and 1990 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2012, and 2016, and the U.S. Census Bureau's 2014 CPS Income Consistent files. Ages are restricted to 25-44 for 1980 and 1990 and 25-41 for 2003 through 2016. Asians include only those who are non-Latino. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Table 2.6: Latino and Asian First- and Second-Generation Immigrants' Gaps with U.S. Mainstream within Gender, Adjusted by Age and Parental Status**

	Women			Men		
	1980 to 2003-07	1980 to 2012-16	1990 to 2012-16	1980 to 2003-07	1980 to 2012-16	1990 to 2012-16
Latino-Mainstream Gap						
High school completion (%)						
First-generation gap	-48.1 <sup>a</sup>	-48.1 <sup>a</sup>	-49.6 <sup>a</sup>	-45.0 <sup>a</sup>	-44.9 <sup>a</sup>	-48.9 <sup>a</sup>
Second-generation gap	-10.1 <sup>a</sup>	-9.0 <sup>a</sup>	-8.3 <sup>a</sup>	-9.9 <sup>a</sup>	-10.2 <sup>a</sup>	-9.4 <sup>a</sup>
Second-First Generation Gap Difference	38.0 <sup>a</sup>	39.1 <sup>a</sup>	41.2 <sup>a</sup>	35.0 <sup>a</sup>	34.7 <sup>a</sup>	39.4 <sup>a</sup>
College completion (%)						
First-generation gap	-9.1 <sup>a</sup>	-9.1 <sup>a</sup>	-14.2 <sup>a</sup>	-16.6 <sup>a</sup>	-16.6 <sup>a</sup>	-18.9 <sup>a</sup>
Second-generation gap	-13.6 <sup>a</sup>	-19.8 <sup>a</sup>	-19.0 <sup>a</sup>	-11.7 <sup>a</sup>	-18.8 <sup>a</sup>	-17.7 <sup>a</sup>
Second-First Generation Gap Difference	-4.5 <sup>b</sup>	-10.7 <sup>a</sup>	-4.8 <sup>a</sup>	4.8 <sup>b</sup>	-2.2	1.3
Upper white-collar occupation (%)						
First-generation gap	-11.2 <sup>a</sup>	-11.5 <sup>a</sup>	-17.9 <sup>a</sup>	-15.5 <sup>a</sup>	-15.6 <sup>a</sup>	-17.4 <sup>a</sup>
Second-generation gap	-10.2 <sup>a</sup>	-14.2 <sup>a</sup>	-13.9 <sup>a</sup>	-8.2 <sup>a</sup>	-14.3 <sup>a</sup>	-13.9 <sup>a</sup>
Second-First Generation Gap Difference	1.0	-2.8	3.9 <sup>c</sup>	7.2 <sup>a</sup>	1.3	3.5 <sup>c</sup>
Earnings (\$)						
First-generation gap	-3,171 <sup>a</sup>	-3,359 <sup>a</sup>	-7,026 <sup>a</sup>	-15,055 <sup>a</sup>	-15,183 <sup>a</sup>	-20,230 <sup>a</sup>
Second-generation gap	-2,053	-8,535 <sup>a</sup>	-8,487 <sup>a</sup>	-12,804 <sup>a</sup>	-11,769 <sup>a</sup>	-11,212 <sup>a</sup>
Second-First Generation Gap Difference	1,118	-5,176 <sup>b</sup>	-1,381	2,251	3,415	9,018 <sup>a</sup>

Notes: See end of table

Table 2.6 continued

	Women			Men		
	1980 to 2003-07	1980 to 2012-16	1990 to 2012-16	1980 to 2003-07	1980 to 2012-16	1990 to 2012-16
Asian-Mainstream Gap						
High school completion (%)						
First-generation gap	2.4 <sup>a</sup>	2.5 <sup>a</sup>	-6.6 <sup>a</sup>	6.0 <sup>a</sup>	6.1 <sup>a</sup>	-2.2 <sup>a</sup>
Second-generation gap	0.9	-1.3	0.8	1.3	0.8	2.4 <sup>a</sup>
Second-First Generation Gap Difference	-1.5	-3.8 <sup>a</sup>	7.4 <sup>a</sup>	-4.7 <sup>a</sup>	-5.3 <sup>a</sup>	4.7 <sup>a</sup>
College Completion (%)						
First-generation gap	36.1 <sup>a</sup>	36.1 <sup>a</sup>	21.5 <sup>a</sup>	36.1 <sup>a</sup>	36.0 <sup>a</sup>	20.4 <sup>a</sup>
Second-generation gap	23.8 <sup>a</sup>	19.3 <sup>a</sup>	21.3 <sup>a</sup>	27.0 <sup>a</sup>	22.3 <sup>a</sup>	24.6 <sup>a</sup>
Second-First Generation Gap Difference	-12.3 <sup>a</sup>	-16.8 <sup>a</sup>	-0.2	-9.1 <sup>a</sup>	-13.7 <sup>a</sup>	4.2 <sup>c</sup>
Upper white-collar occupation (%)						
First-generation gap	21.2 <sup>a</sup>	21.0 <sup>a</sup>	3.2 <sup>a</sup>	21.6 <sup>a</sup>	21.5 <sup>a</sup>	10.8 <sup>a</sup>
Second-generation gap	10.4 <sup>b</sup>	8.3 <sup>a</sup>	9.3 <sup>q</sup>	19.6 <sup>a</sup>	17.4 <sup>a</sup>	18.4 <sup>a</sup>
Second-First Generation Gap Difference	-10.7 <sup>b</sup>	-12.7 <sup>a</sup>	6.2 <sup>c</sup>	-2.0	-4.1	7.6 <sup>b</sup>
Earnings (\$)						
First-generation gap	10,906 <sup>a</sup>	10,699 <sup>a</sup>	8,220 <sup>a</sup>	2,688 <sup>a</sup>	2,594 <sup>a</sup>	993
Second-generation gap	15,931 <sup>a</sup>	11,519 <sup>a</sup>	11,174 <sup>a</sup>	15,246 <sup>b</sup>	8,902 <sup>a</sup>	9,746 <sup>a</sup>
Second-First Generation Gap Difference	5,025	820	2,954	12,558 <sup>c</sup>	6,308 <sup>c</sup>	8,753 <sup>b</sup>

Notes: Author's calculations for gap differences. Gaps generated from Ordinary Least Squares Regressions. Same year estimates may vary across regressions. Coefficients for second-generation gaps are author's calculation of addition of estimates for first-generation gaps and gap differences. Significance for second-generation gap estimates are author's calculation using the standard error equal the square root of the sum of the variance of the estimate for a first-generation gap plus the variance of the estimate for gap differences across years plus two times the covariance of the estimate for first-generation gaps and the estimate for first-generation gaps and gap differences. Data are from the 1980 and 1990 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2012, and 2016, and the U.S. Census Bureau's 2014 CPS Income Consistent files. Ages are restricted to 25-44 for 1980 and 1990 and 25-41 for 2003 through 2016. Asians include only those who are non-Latino. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Table 2.7: Sample Sizes and Average Ages for First- and Second-  
Generation Immigrants from Six Countries of Origin and U.S.  
Mainstream**

	Women	Men
Mexico		
1980 sample size	7,716	7,837
1980 average age	31.8	34.1
2003-15 sample size	2,574	2,342
2003-15 average age	31.5	31.5
Cuba		
1980 sample size	1,393	1,390
1980 average age	33.7	37.0
2003-15 sample size	201	179
2003-15 average age	33.5	33.3
Dominican Republic		
1980 sample size	527	520
1980 average age	32.3	35.0
2003-15 sample size	144	114
2003-15 average age	31.5	30.4
Philippines		
1980 sample size	1,913	1,848
1980 average age	33.9	35.6
2003-15 sample size	336	358
2003-15 average age	31.8	31.6
China		
1980 sample size	1,580	1,646
1980 average age	32.7	35.9
2003-15 sample size	155	152
2003-15 average age	32.2	32.4
India		
1980 sample size	1,501	1,612
1980 average age	32.0	36.1
2003-15 sample size	145	185
2003-15 average age	31.7	31.2
Mainstream		
1980 sample size	30,176	29,954
1980 average age	33.4	33.4
2003-15 sample size	10,296	9,051
2003-15 average age	33.6	33.6

Notes: Author's calculations from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants.



**Table 2.8: Intergenerational Mobility Gender Differences for Immigrants from Six Countries of Origin and U.S. Mainstream**

		2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Intergenerational Mobility	
	1980 1 <sup>st</sup> Generation	No Child	At Least 1 Child	No Child	At Least 1 Child
	A	B	C	B-A	C-A
Mexico					
College completion (%)					
Women	1.7	28.2	13.3	26.4	11.6
Men	2.8	17.0	11.0	14.2	8.2
Difference	-1.0	11.1	2.3	12.2	3.4
Full-time labor force participation (%)					
Women	18.6	59.0	49.8	40.4	31.3
Men	71.5	70.0	78.5	-1.5	7.0
Difference	-52.9	-11.0	-28.7	41.9	24.2
Upper white-collar occupation (%)					
Women	4.4	36.5	32.4	32.1	28.0
Men	5.1	25.4	18.9	20.3	13.8
Difference	-0.7	11.1	13.5	11.8	14.2
Earnings (\$)					
Women	23,034	38,042	36,038	15,008	13,003
Men	36,772	47,562	47,676	10,789	10,904
Difference	-13,738	-9,520	-11,639	4,218	2,099
Cuba					
College completion (%)					
Women	11.8	58.6	45.0	46.8	33.3
Men	22.4	43.5	43.7	21.1	21.3
Difference	-10.6	15.1	1.4	25.7	12.0
Full-time labor force participation (%)					
Women	33.5	71.4	62.6	37.9	29.1
Men	83.0	71.3	83.1	-11.7	0.1
Difference	-49.5	0.1	-20.5	49.6	29.0
Upper white-collar occupation (%)					
Women	15.4	56.0	47.6	40.6	32.1
Men	32.6	37.7	57.6	5.1	25.0
Difference	-17.2	18.3	-10.1	35.5	7.1
Earnings (\$)					
Women	30,365	59,938	51,035	29,573	20,670
Men	52,839	67,030	84,858	14,191	32,019
Difference	-22,474	-7,092	-33,823	15,382	-11,349

Notes: See end of table

Table 2.8 continued

	1980 1 <sup>st</sup> Generation	2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Intergenerational Mobility	
		No Child	At Least 1 Child	No Child	At Least 1 Child
	A	B	C	B-A	C-A
<b>Dominican Republic</b>					
College completion (%)					
Women	3.4	33.3	35.6	29.9	32.2
Men	4.6	20.0	12.8	15.4	8.2
Difference	-1.2	13.3	22.8	14.5	24.0
Full-time labor force participation (%)					
Women	26.0	59.6	46.0	33.7	20.0
Men	70.8	62.7	74.4	-8.1	3.6
Difference	-44.8	-3.0	-28.4	41.8	16.4
Upper white-collar occupation (%)					
Women	2.9	38.2	40.0	35.3	37.1
Men	13.3	31.9	24.1	18.6	10.8
Difference	-10.4	6.3	15.9	16.7	26.3
Earnings (\$)					
Women	23,212	36,443	37,411	13,231	14,199
Men	33,563	39,906	47,837	6,343	14,274
Difference	-10,351	-3,463	-10,426	6,887	-75
<b>Philippines</b>					
College completion (%)					
Women	66.3	53.9	48.1	-12.4	-18.2
Men	51.2	43.1	34.6	-8.1	-16.6
Difference	15.1	10.8	13.5	-4.3	-1.6
Full-time labor force participation (%)					
Women	54.6	70.8	63.3	16.2	8.7
Men	82.8	67.1	82.7	-15.7	-0.1
Difference	-28.3	3.7	-19.4	31.9	8.9
Upper white-collar occupation (%)					
Women	43.7	50.0	52.0	6.3	8.3
Men	32.9	45.7	42.7	12.8	9.9
Difference	10.8	4.3	9.3	-6.5	-1.6
Earnings (\$)					
Women	43,099	52,500	51,296	9,400	8,196
Men	52,337	50,609	63,896	-1,729	11,559
Difference	-9,238	1,891	-12,601	11,129	-3,363

Notes: See end of table

Table 2.8 continued

		2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Intergenerational Mobility	
	1980 1 <sup>st</sup> Generation A	No Child B	At Least 1 Child C	No Child B-A	At Least 1 Child C-A
China					
College completion (%)					
Women	47.0	80.4	79.1	33.4	32.1
Men	62.8	72.6	57.1	9.8	-5.7
Difference	-15.9	7.7	21.9	23.6	37.8
Full-time labor force participation (%)					
Women	30.8	75.0	65.1	44.2	34.3
Men	83.5	72.6	91.4	-10.8	8.0
Difference	-52.7	2.4	-26.3	55.0	26.3
Upper white-collar occupation (%)					
Women	37.8	73.8	71.4	36.0	33.6
Men	56.8	72.9	68.8	16.1	11.9
Difference	-19.1	0.9	2.7	19.9	21.7
Earnings (\$)					
Women	36,989	63,700	92,683	26,711	55,694
Men	59,987	68,447	70,504	8,460	10,518
Difference	-22,998	-4,746	22,178	18,251	45,176
India					
College completion (%)					
Women	60.2	89.6	91.8	29.4	31.7
Men	83.8	87.1	82.6	3.2	-1.2
Difference	-23.6	2.5	9.2	26.2	32.9
Full-time labor force participation (%)					
Women	24.7	76.0	36.7	51.4	12.1
Men	87.8	71.2	91.3	-16.6	3.5
Difference	-63.1	4.8	-54.6	67.9	8.6
Upper white-collar occupation (%)					
Women	58.1	82.2	94.4	24.1	36.3
Men	72.2	79.8	73.8	7.6	1.6
Difference	-14.1	2.4	20.6	16.5	34.8
Earnings (\$)					
Women	48,494	82,716	107,639	34,222	59,145
Men	72,897	92,270	132,990	19,373	60,092
Difference	-24,404	-9,554	-25,351	14,850	-947

Notes: See end of table

Table 2.8 continued

	1980 1 <sup>st</sup> Generation	2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Intergenerational Mobility	
		No Child	At Least 1 Child	No Child	At Least 1 Child
Mainstream	A	B	C	B-A	C-A
College completion (%)					
Women	19.6	47.4	35.6	27.7	16.0
Men	28.0	34.9	34.5	6.9	6.5
Difference	-8.4	12.5	1.1	20.8	9.5
Full-time labor force participation (%)					
Women	34.8	65.4	44.7	30.6	9.9
Men	78.1	71.9	85.1	-6.2	6.9
Difference	-43.3	-6.5	-40.3	36.9	3.0
Upper white-collar occupation (%)					
Women	26.3	53.0	48.4	26.6	22.1
Men	28.9	37.4	38.7	8.5	9.8
Difference	-2.5	15.6	9.7	18.1	12.3
Earnings (\$)					
Women	32,178	47,158	45,034	14,980	12,857
Men	52,561	56,046	70,314	3,485	17,753
Difference	-20,384	-8,888	-25,280	11,495	-4,896

Notes: Author's calculations from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Table 2.9: Intergenerational Mobility Differences from U.S. Mainstream for Six Countries of Origin**

	Women					Men						
	1980	Mainstream or 2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Mainstream Change or Intergenerational Mobility		1980	Mainstream or 2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Mainstream Change or Intergenerational Mobility			
		Mainstream or 1 <sup>st</sup> Generation	No Child	At Least 1 Child	No Child, 1 Child		At Least 1 Child	Mainstream or 1 <sup>st</sup> Generation	No Child	At Least 1 Child	No Child	At Least 1 Child
College completion (%)	A	B	C	B-A	C-A	D	E	F	E-D	F-D		
Mainstream	19.6	47.4	35.6	27.7	16.0	28.0	34.9	34.5	6.9	6.5		
Mexico	1.7	28.2	13.3	10.8	-4.1	2.8	17.0	11.0	14.2	8.2		
Mexico- Mainstream Difference	-17.9	-19.2	-22.3	-16.9	-20.0	-25.2	-17.9	-23.5	7.3	1.7		
Cuba	11.8	58.6	45.0	46.8	33.3	22.4	43.5	43.7	21.1	21.3		
Cuba-Mainstream Difference	-7.9	11.2	9.4	19.1	17.3	-5.6	8.6	9.2	14.2	14.8		
Dominican Republic	3.4	33.3	35.6	29.9	32.2	4.6	20.0	12.8	15.4	8.2		
Dominican Republic- Mainstream Difference	-16.2	-14.0	0.0	2.2	16.3	-23.4	-14.9	-21.7	8.5	1.7		
Philippines	66.3	53.9	48.1	-12.4	-18.2	51.2	43.1	34.6	-8.1	-16.6		
Philippines- Mainstream Difference	46.7	6.6	12.5	-40.1	-34.2	23.2	8.2	0.1	-15.0	-23.1		
China	47.0	80.4	79.1	33.4	32.1	62.8	72.6	57.1	9.8	-5.7		
China-Mainstream Difference	27.3	33.0	43.5	5.7	16.1	34.8	37.7	22.7	2.9	-12.2		
India	60.2	89.6	91.8	29.4	31.7	83.8	87.1	82.6	3.2	-1.2		
India-Mainstream Difference	40.5	42.2	56.2	1.7	15.7	55.8	52.1	48.1	-3.7	-7.7		

Notes: See end of table

Table 2.9 continued

Full-time labor force participation (%)	Women					Men						
	1980	Mainstream or 2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Mainstream Change or Intergenerational Mobility		1980	Mainstream or 2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Mainstream Change or Intergenerational Mobility			
		Mainstream or 1 <sup>st</sup> Generation	No Child	At Least 1 Child	No Child,		At Least 1 Child	Mainstream or 1 <sup>st</sup> Generation	No Child	At Least 1 Child	No Child	At Least 1 Child
Mainstream	34.8	65.4	44.7	30.6	9.9	78.1	71.9	85.1	-6.2	6.9		
Mexico	18.6	59.0	49.8	40.4	31.3	71.5	70.0	78.5	-1.5	7.0		
Mexico-Mainstream Difference	-16.2	-6.4	5.1	9.8	21.4	-6.6	-1.9	-6.5	4.8	0.1		
Cuba	33.5	71.4	62.6	37.9	29.1	83.0	71.3	83.1	-11.7	0.1		
Cuba-Mainstream Difference	-1.3	6.0	17.9	7.3	19.2	4.9	-0.6	-2.0	-5.5	-6.8		
Dominican Republic	26.0	59.6	46.0	33.7	20.0	70.8	62.7	74.4	-8.1	3.6		
Dominican Republic- Mainstream Difference	-8.8	-5.8	1.3	3.0	10.1	-7.4	-9.2	-10.7	-1.9	-3.3		
Philippines	54.6	70.8	63.3	16.2	8.7	82.8	67.1	82.7	-15.7	-0.1		
Philippines- Mainstream Difference	19.8	5.4	18.6	-14.4	-1.2	4.7	-4.8	-2.4	-9.5	-7.1		
China	30.8	75.0	65.1	44.2	34.3	83.5	72.6	91.4	-10.8	8.0		
China-Mainstream Difference	-4.0	9.6	20.4	13.6	24.4	5.3	0.8	6.4	-4.6	1.0		
India	24.7	76.0	36.7	51.4	12.1	87.8	71.2	91.3	-16.6	3.5		
India-Mainstream Difference	-10.2	10.6	-8.0	20.8	2.2	9.6	-0.7	6.2	-10.3	-3.4		

Notes: See end of table

Table 2.9 continued

		Women				Men					
		1980	Mainstream or 2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Mainstream Change or Intergenerational Mobility		1980	Mainstream or 2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Mainstream Change or Intergenerational Mobility	
		Mainstream or 1 <sup>st</sup> Generation	No Child	At Least 1 Child	No Child,	At Least 1 Child	Mainstream or 1 <sup>st</sup> Generation	No Child	At Least 1 Child	No Child	At Least 1 Child
Upper white-collar occupation (%)											
	Mainstream	26.3	53.0	48.4	26.6	22.1	28.9	37.4	38.7	8.5	9.8
	Mexico	4.4	36.5	32.4	32.1	28.0	5.1	25.4	18.9	20.3	13.8
	Mexico-Mainstream Difference	-22.0	-16.5	-16.0	5.5	5.9	-23.8	-12.0	-19.8	11.8	4.0
	Cuba	15.4	56.0	47.6	40.6	32.1	32.6	37.7	57.6	5.1	25.0
	Cuba-Mainstream Difference	-10.9	3.0	-0.8	13.9	10.1	3.7	0.2	18.9	-3.4	15.2
	Dominican Republic	2.9	38.2	40.0	35.3	37.1	13.3	31.9	24.1	18.6	10.8
	Dominican Republic- Mainstream Difference	-23.4	-14.8	-8.4	8.7	15.0	-15.6	-5.5	-14.6	10.1	1.0
	Philippines	43.7	50.0	52.0	6.3	8.3	32.9	45.7	42.7	12.8	9.9
	Philippines- Mainstream Difference	17.3	-3.0	3.6	-20.3	-13.7	4.0	8.3	4.0	4.3	0.1
	China	37.8	73.8	71.4	36.0	33.6	56.8	72.9	68.8	16.1	11.9
	China-Mainstream Difference	11.4	20.8	23.0	9.4	11.6	28.0	35.5	30.1	7.6	2.1
	India	58.1	82.2	94.4	24.1	36.3	72.2	79.8	73.8	7.6	1.6
	India-Mainstream Difference	31.8	29.2	46.0	-2.6	14.3	43.3	42.4	35.1	-1.0	-8.2

Notes: See end of table

Table 2.9 continued

		Women				Men					
		1980	Mainstream or 2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Mainstream Change or Intergenerational Mobility		1980	Mainstream or 2003-15 2 <sup>nd</sup> Generation		1980 to 2003-15 Mainstream Change or Intergenerational Mobility	
		Mainstream or 1 <sup>st</sup> Generation	No Child	At Least 1 Child	No Child,	At Least 1 Child	Mainstream or 1 <sup>st</sup> Generation	No Child	At Least 1 Child	No Child	At Least 1 Child
Earnings (\$)											
	Mainstream	32,178	47,158	45,034	14,980	12,857	52,561	56,046	70,314	3,485	17,753
	Mexico	23,034	38,042	36,038	15,008	13,003	36,772	47,562	47,676	10,789	10,904
	Mexico-Mainstream Difference	-9,143	-9,116	-8,997	27	147	-15,789	-8,484	-22,638	7,304	-6,849
	Cuba	30,365	59,938	51,035	29,573	20,670	52,839	67,030	84,858	14,191	32,019
	Cuba- Mainstream Difference	-1,813	12,780	6,000	14,593	7,813	278	10,984	14,543	10,706	14,265
	Dominican Republic	23,212	36,443	37,411	13,231	14,199	33,563	39,906	47,837	6,343	14,274
	Dominican Republic - Mainstream Difference	-8,966	-10,715	-7,624	-1,750	1,342	-18,998	-16,140	-22,477	2,858	-3,479
	Philippines	43,099	52,500	51,296	9,400	8,196	52,337	50,609	63,896	-1,729	11,559
	Philippines- Mainstream Difference	10,922	5,342	6,261	-5,580	-4,661	-224	-5,438	-6,418	-5,214	-6,194
	China	36,989	63,700	92,683	26,711	55,694	59,987	68,447	70,504	8,460	10,518
	China-Mainstream Difference	4,811	16,542	47,648	11,731	42,837	7,425	12,400	190	4,975	-7,236
	India	48,494	82,716	107,639	34,222	59,145	72,897	92,270	132,990	19,373	60,092
	India-Mainstream Difference	16,316	35,558	62,604	19,242	46,288	20,336	36,224	62,676	15,888	42,339

Notes: Author's calculations from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.



**Table 2.10: Intergenerational Mobility by Gender with Differences for Six Countries of Origin and U.S. Mainstream, Adjusted by Age and Parental Status**

	Mexico	Cuba	Dominican Republic	Philippines	China	India	Mainstream
High school completion (%)							
Women	62.1 <sup>a</sup>	21.1 <sup>a</sup>	55.4 <sup>a</sup>	6.2 <sup>a</sup>	15.4 <sup>a</sup>	5.2 <sup>c</sup>	10.2 <sup>a</sup>
Men	54.6 <sup>a</sup>	21.1 <sup>a</sup>	42.1 <sup>a</sup>	7.6 <sup>a</sup>	11.6 <sup>a</sup>	0.8	8.8 <sup>a</sup>
Difference	7.5 <sup>a</sup>	0.1	13.4 <sup>b</sup>	-1.4	3.7	4.4 <sup>c</sup>	1.5 <sup>b</sup>
College completion (%)							
Women	12.8 <sup>a</sup>	35.3 <sup>a</sup>	30.4 <sup>a</sup>	-17.8 <sup>a</sup>	25.7 <sup>a</sup>	26.8 <sup>a</sup>	19.2 <sup>a</sup>
Men	6.6 <sup>a</sup>	17.4 <sup>b</sup>	13.0 <sup>b</sup>	-12.0 <sup>b</sup>	0.7	2.4	6.5 <sup>a</sup>
Difference	6.3 <sup>a</sup>	17.9 <sup>b</sup>	17.4 <sup>b</sup>	-5.8	25.0 <sup>a</sup>	24.4 <sup>a</sup>	12.7 <sup>a</sup>
Upper white-collar occupation (%)							
Women	27.4 <sup>a</sup>	38.0 <sup>a</sup>	34.5 <sup>a</sup>	8.7 <sup>a</sup>	31.3 <sup>a</sup>	24.1 <sup>a</sup>	24.2 <sup>a</sup>
Men	14.9 <sup>a</sup>	17.1 <sup>b</sup>	15.0 <sup>c</sup>	15.3 <sup>a</sup>	12.9	7.2	9.1 <sup>a</sup>
Difference	12.4 <sup>a</sup>	20.9 <sup>b</sup>	19.5 <sup>c</sup>	-6.5	18.4 <sup>b</sup>	17.0 <sup>b</sup>	15.1 <sup>a</sup>
Earnings (\$)							
Women	13,207 <sup>a</sup>	25,554 <sup>a</sup>	15,338 <sup>a</sup>	14,122 <sup>a</sup>	42,895 <sup>a</sup>	62,943 <sup>a</sup>	13,035 <sup>a</sup>
Men	11,234 <sup>a</sup>	24,956 <sup>b</sup>	13,393 <sup>b</sup>	11,117 <sup>a</sup>	20,307 <sup>b</sup>	59,186 <sup>a</sup>	12,395 <sup>a</sup>
Difference	1,974	599	1,945	3,005	22,588 <sup>b</sup>	3,757	640

Notes: Results for men and gender differences are from Ordinary Least Squares Regressions. Coefficients for women are author's calculation of the addition of estimates for men and for gender difference. Significance for women's estimates are author's calculation using the standard error equal to the square root of the sum of the variance of the estimate for men plus the variance of the estimate for gender difference plus two times the covariance of the estimate for men and the estimate for men and gender difference. Statistical significance is denoted as a =  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Table 2.11: Six Countries of Origins' Intergenerational Mobility Differences from the U.S. Mainstream by Gender, Adjusted by Age and Parental Status**

	High school completion (%)		College completion (%)		Upper white-collar occupation (%)		Earnings (\$)	
	Women	Men	Women	Men	Women	Men	Women	Men
Mexico	53.0 <sup>a</sup>	48.8 <sup>a</sup>	-8.2 <sup>a</sup>	1.8	1.1	7.1 <sup>a</sup>	-2,173 <sup>c</sup>	3,529 <sup>c</sup>
Cuba	10.4 <sup>a</sup>	14.3 <sup>a</sup>	12.8 <sup>a</sup>	11.2 <sup>b</sup>	6.2	4.1	7,663	16,406
Dominican Republic	44.6 <sup>a</sup>	36.0 <sup>a</sup>	5.3	2.7	6.3	6.5	-2,823	5,624
Philippines	-6.7 <sup>a</sup>	-3.3 <sup>b</sup>	-43.4 <sup>a</sup>	-21.3 <sup>a</sup>	-23.6 <sup>a</sup>	2.6	-7,435 <sup>b</sup>	-283
China	2.0	0.7	1.6	-5.0	2.1	5.1	15,936 <sup>b</sup>	5,331
India	-4.4 <sup>b</sup>	-7.9 <sup>a</sup>	-0.2	-8.6 <sup>b</sup>	-7.2	-3.4	21,158 <sup>a</sup>	29,045 <sup>a</sup>

Notes: Results are from Ordinary Least Squares Regressions. Statistical significance is denoted as a=  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Table 2.12: Six Countries of Origins' First- and Second-Generation Immigrants' Gaps with U.S. Mainstream and Gap Differences by Gender, Adjusted by Age and Parental Status**

Women	Mexico	Cuba	Dominican Republic	Philippines	China	India
High school completion (%)						
First-generation gap	-65.6 <sup>a</sup>	-11.8 <sup>a</sup>	-48.5 <sup>a</sup>	8.2 <sup>a</sup>	-2.4 <sup>c</sup>	4.5 <sup>a</sup>
Second-generation gap	-12.6 <sup>a</sup>	-1.4	-3.9	1.5 <sup>c</sup>	-0.4	0.1
Second-First Generation Gap Difference	53.0 <sup>a</sup>	10.4 <sup>a</sup>	44.6 <sup>a</sup>	-6.7 <sup>a</sup>	2.0	-4.4 <sup>b</sup>
College completion (%)						
First-generation gap	-13.4 <sup>a</sup>	-3.2 <sup>a</sup>	-11.7 <sup>a</sup>	51.4 <sup>a</sup>	31.9 <sup>a</sup>	45.0 <sup>a</sup>
Second-generation gap	-21.6 <sup>a</sup>	9.7 <sup>b</sup>	-6.4	8.0 <sup>b</sup>	33.5 <sup>a</sup>	44.8 <sup>a</sup>
Second-First Generation Gap Difference	-8.2 <sup>a</sup>	12.8 <sup>a</sup>	5.3	-43.4 <sup>a</sup>	1.6	-0.2
Upper white-collar occupation (%)						
First-generation gap	-16.6 <sup>a</sup>	-5.8 <sup>b</sup>	-18.2 <sup>a</sup>	22.5 <sup>a</sup>	16.7 <sup>a</sup>	36.9 <sup>a</sup>
Second-generation gap	-15.6 <sup>a</sup>	0.5	-11.9 <sup>c</sup>	-1.1	18.8 <sup>a</sup>	29.7 <sup>a</sup>
Second-First Generation Gap Difference	1.1	6.2	6.3	-23.6 <sup>a</sup>	2.1	-7.2
Earnings (\$)						
First-generation gap	-5,977 <sup>a</sup>	686	-5,888 <sup>a</sup>	13,288 <sup>a</sup>	7,447 <sup>a</sup>	18,932 <sup>a</sup>
Second-generation gap	-8,150 <sup>a</sup>	8,349 <sup>c</sup>	-8,711 <sup>a</sup>	5,854 <sup>b</sup>	23,383 <sup>a</sup>	40,090 <sup>a</sup>
Second-First Generation Gap Difference	-2,173 <sup>c</sup>	7,663	-2,823	-7,435 <sup>b</sup>	15,936 <sup>b</sup>	21,158 <sup>a</sup>

Notes: See end of table

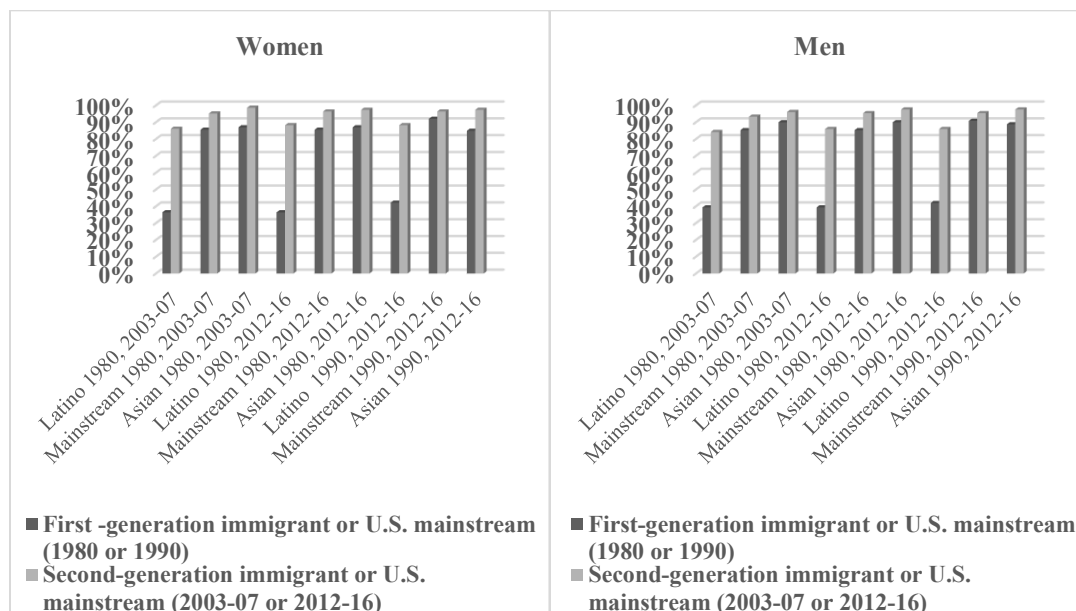
**Table 2.12 continued**

Men	Mexico	Cuba	Dominican Republic	Philippines	China	India
High school completion (%)						
First-generation gap	-62.5 <sup>a</sup>	-12.2 <sup>a</sup>	-45.5 <sup>a</sup>	5.2 <sup>a</sup>	1.5	11.8 <sup>a</sup>
Second-generation gap	-13.7 <sup>a</sup>	2.0	-9.5 <sup>b</sup>	1.8	2.2	3.9 <sup>a</sup>
Second-First Generation Gap Difference	48.8 <sup>a</sup>	14.3 <sup>a</sup>	36.0 <sup>a</sup>	-3.3 <sup>b</sup>	0.7	-7.9 <sup>a</sup>
College completion (%)						
First-generation gap	-22.6 <sup>a</sup>	-3.6 <sup>a</sup>	-21.0 <sup>a</sup>	25.4 <sup>a</sup>	37.0 <sup>a</sup>	58.0 <sup>a</sup>
Second-generation gap	-20.9 <sup>a</sup>	7.6 <sup>c</sup>	-18.2 <sup>a</sup>	4.2 <sup>c</sup>	32.1 <sup>a</sup>	49.4 <sup>a</sup>
Second-First Generation Gap Difference	1.8	11.2 <sup>b</sup>	2.7	-21.3 <sup>a</sup>	-5.0	-8.6 <sup>b</sup>
Upper white-collar occupation (%)						
First-generation gap	-22.6 <sup>a</sup>	3.0 <sup>c</sup>	-15.2 <sup>a</sup>	4.1 <sup>b</sup>	27.7 <sup>a</sup>	43.1 <sup>a</sup>
Second-generation gap	-15.6 <sup>a</sup>	7.1 <sup>c</sup>	-8.7	6.7 <sup>c</sup>	32.8 <sup>a</sup>	39.7 <sup>a</sup>
Second-First Generation Gap Difference	7.1 <sup>a</sup>	4.1	6.5	2.6	5.1	-3.4
Earnings (\$)						
First-generation gap	-18,254 <sup>a</sup>	-5,994 <sup>a</sup>	-23,090 <sup>a</sup>	-4,772 <sup>a</sup>	2,159	14,979 <sup>a</sup>
Second-generation gap	-14,725 <sup>a</sup>	10,412	-17,466 <sup>a</sup>	-5,056 <sup>c</sup>	7,490	44,024 <sup>a</sup>
Second-First Generation Gap Difference	3,529 <sup>c</sup>	16,406	5,624	-283	5,331	29,045 <sup>a</sup>

Notes: Author's calculations for gap differences. Gaps generated from Ordinary Least Squares Regressions. Coefficients for second-generation gaps are author's calculation of the addition of estimates for first-generation gaps and gap differences. Significance for second-generation gap estimates are author's calculation using the standard error equal the square root of the sum of the variance of the estimate for a first-generation gap plus the variance of the estimate for gap differences across years plus two times the covariance of the estimate for first-generation gaps and the estimate for first-generation gaps and gap difference across years. Statistical significance is denoted as a=  $p < .001$ ; b=  $p < .01$  and c=  $p < .05$ . Data are from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Figure 1: Educational Attainment of First- and Second-Generation Latino and Asian Immigrants with White U.S. Mainstream Comparison Group by Gender, 1980 to 2003-07; 1980 to 2012-16; and 1990 to 2012-16**

### High School Completion

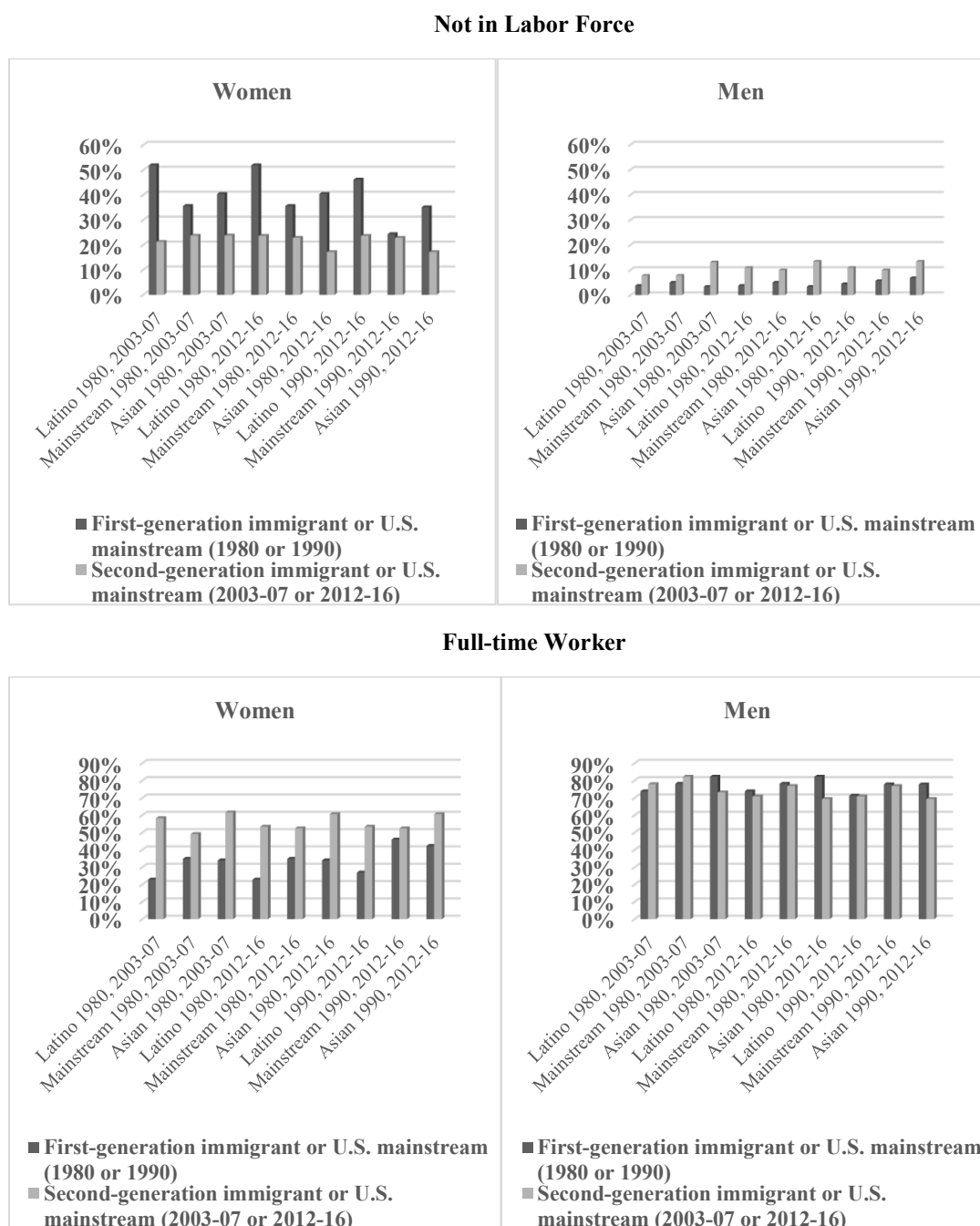


### Bachelor's Degree Completion



Notes: Author's calculations from the 1980 and 1990 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2012, and 2016, and the U.S. Census Bureau's 2014 CPS Income Consistent files. Ages restricted to 25-44 for 1980 and 1990 and 25-41 for 2003 through 2016. Asians include only those who are non-Latino. Mainstream includes only those who are White, U.S. born and non-Latino. Title reference in Park et al. (2015, p. 1610)

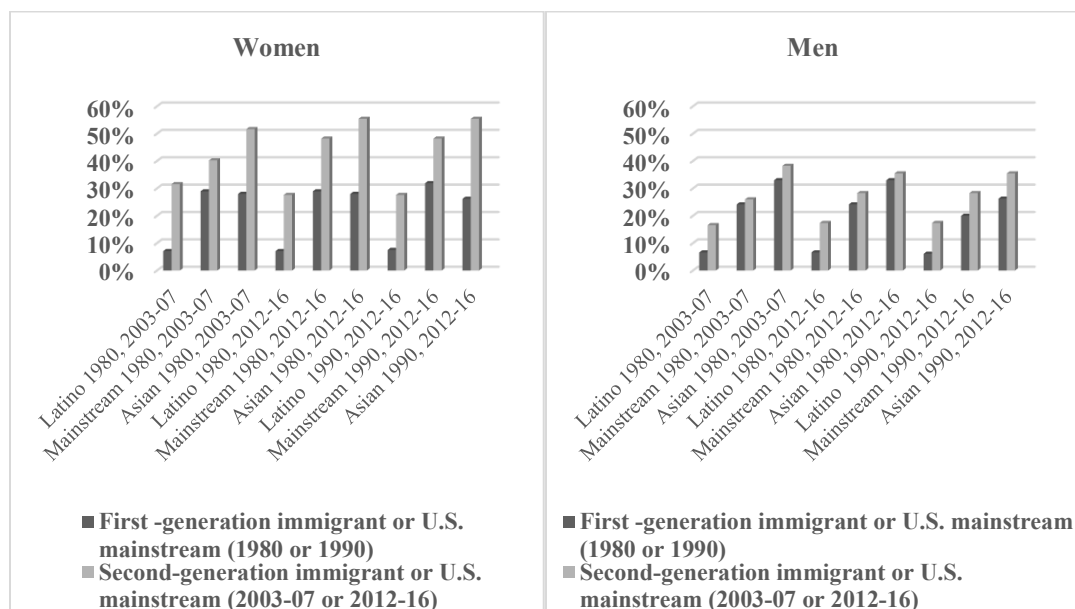
**Figure 2: Labor Force Participation of First- and Second-Generation Latino and Asian Immigrants with White U.S. Mainstream Comparison Group by Gender, 1980 to 2003-07; 1980 to 2012-16; and 1990 to 2012-16**



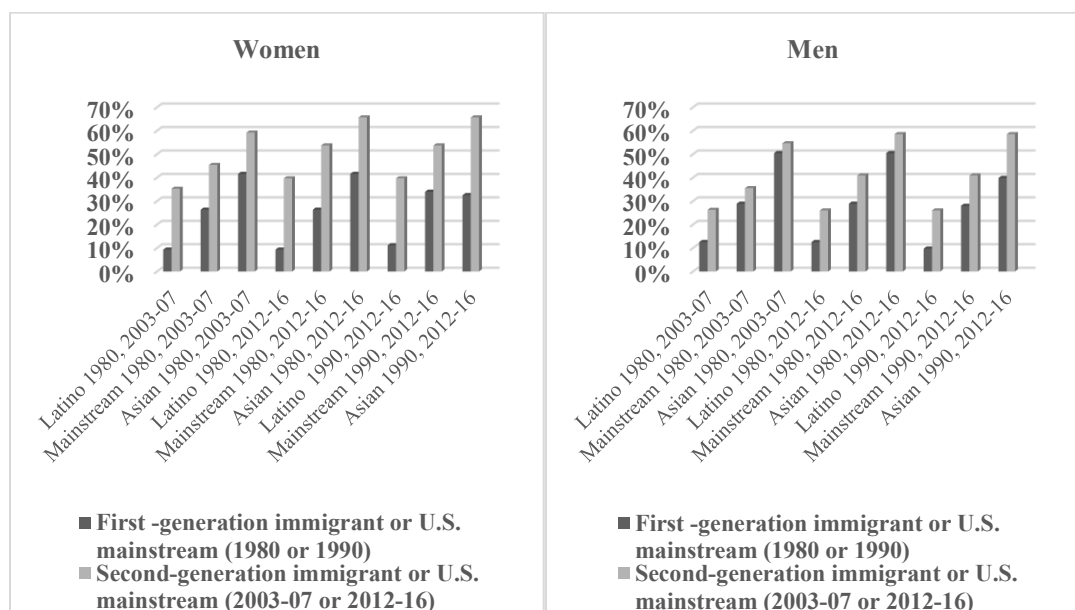
Notes: Author's calculations from the 1980 and 1990 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2012, and 2016, and the U.S. Census Bureau's 2014 CPS Income Consistent files. Ages restricted to 25-44 for 1980 and 1990 and 25-41 for 2003 through 2016. Asians include only those who are non-Latino. Mainstream includes only those who are White, U.S. born and non-Latino. Title reference in Park et al. (2015, p. 1610)

**Figure 3: Upper White-Collar Occupational Attainment of First- and Second-Generation Latino and Asian Immigrants with White U.S. Mainstream Comparison Group by Gender, 1980 to 2003-07; 1980 to 2012-16; and 1990 to 2012-16**

**Part-time Workers in Upper White-Collar Occupations**



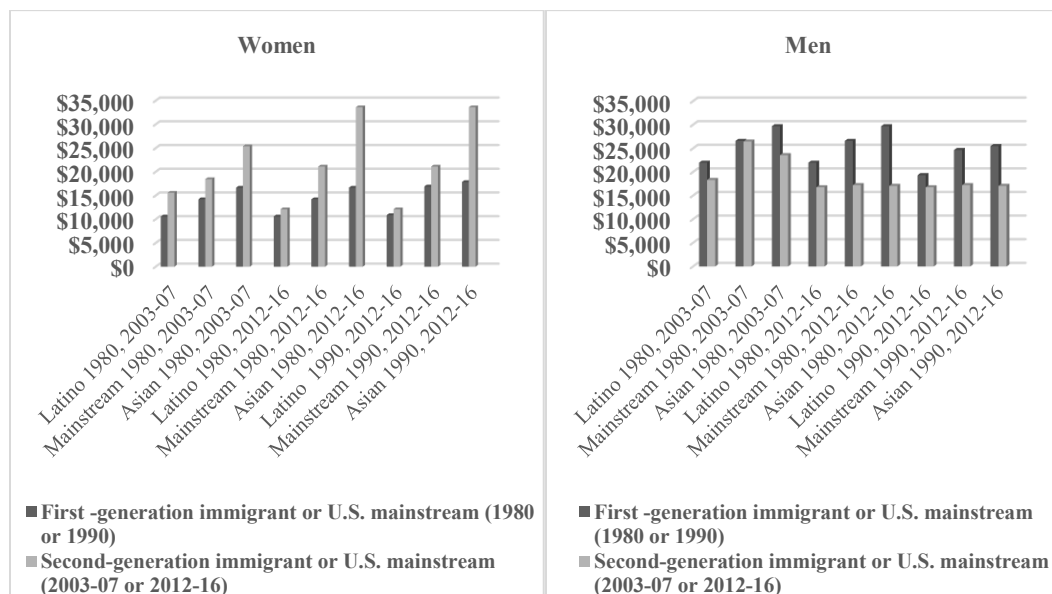
**Full-time Workers in Upper White-Collar Occupations**



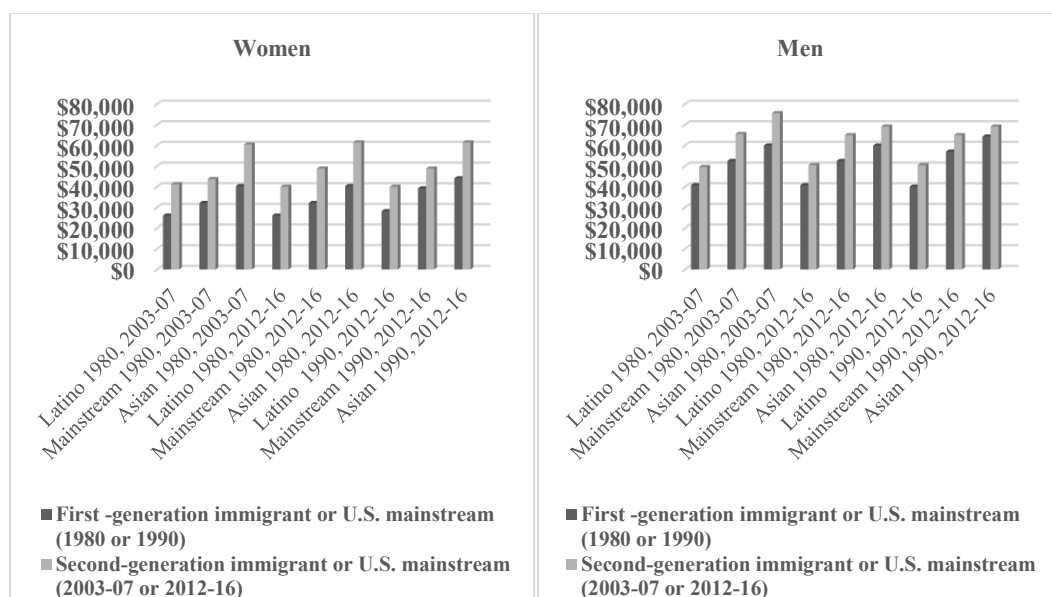
Notes: Author's calculations from the 1980 and 1990 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2012, and 2016, and the U.S. Census Bureau's 2014 CPS Income Consistent files. Ages restricted to 25-44 for 1980 and 1990 and 25-41 for 2003 through 2016. Asians include only those who are non-Latino. Mainstream includes only those who are White, U.S. born and non-Latino. Part-time workers defined as in the labor force but not working full-time. Full-time workers defined as in the labor force and working at least 35 hours per week and 45 weeks per year. Title reference in Park et al. (2015, p. 1612)

**Figure 4: Average Wage/Salary Earnings of First- and Second-Generation Latino and Asian Immigrants with White U.S. Mainstream Comparison Group by Gender, 1980 to 2003-07; 1980 to 2012-16; and 1990 to 2012-16**

**Part-time Workers' Average Earnings**



**Full-time Workers' Average Earnings**

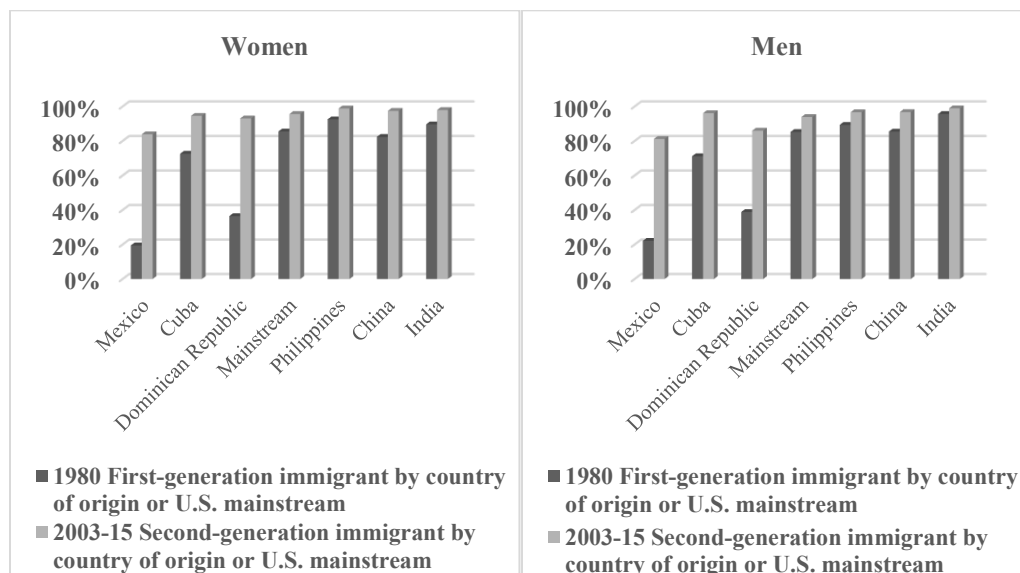


Notes: Author's calculations from the 1980 and 1990 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics (BLS) Current Population Survey (CPS) for 2003, 2005, 2007, 2012, and 2016, and the U.S. Census Bureau's 2014 CPS Income Consistent files. Ages restricted to 25-44 for 1980 and 1990 and 25-41 for 2003 through 2016. Asians include only non-Latinos. Mainstream includes only White, U.S. born, non-Latinos. Part-time workers defined as in the labor force but not working full-time. Full-time workers defined as in the labor force and working at least 35 hours per week and 45 weeks per year. Earnings adjusted to 2016 annual averages using the BLS Consumer Price Index - All Urban Consumers. Title reference in Park et al. (2015, p. 1612)

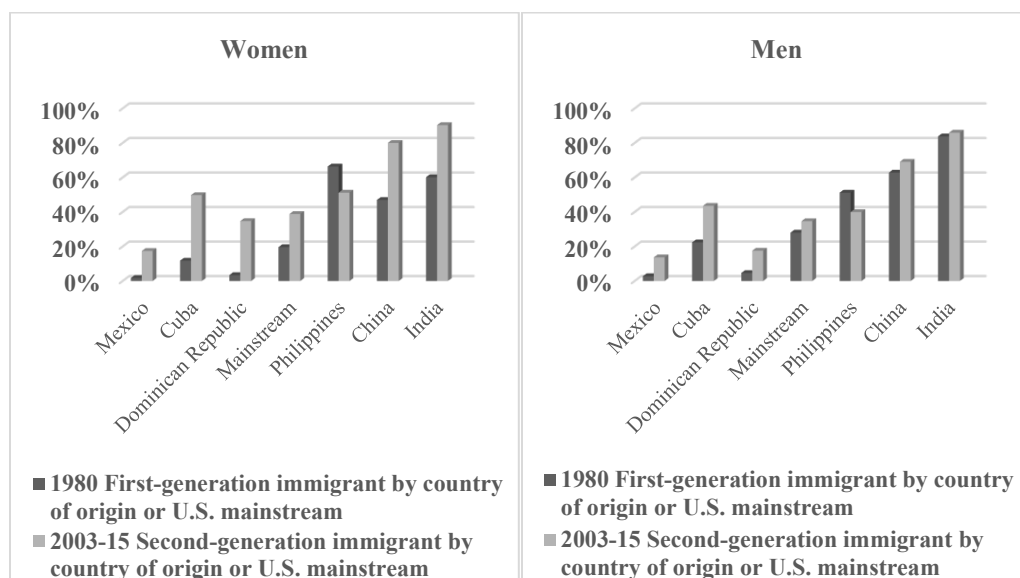


**Figure 5: Educational Attainment of Six Country of Origin First- and Second-Generation Immigrants with White U.S. Mainstream Comparison Group by Gender**

### High School Completion

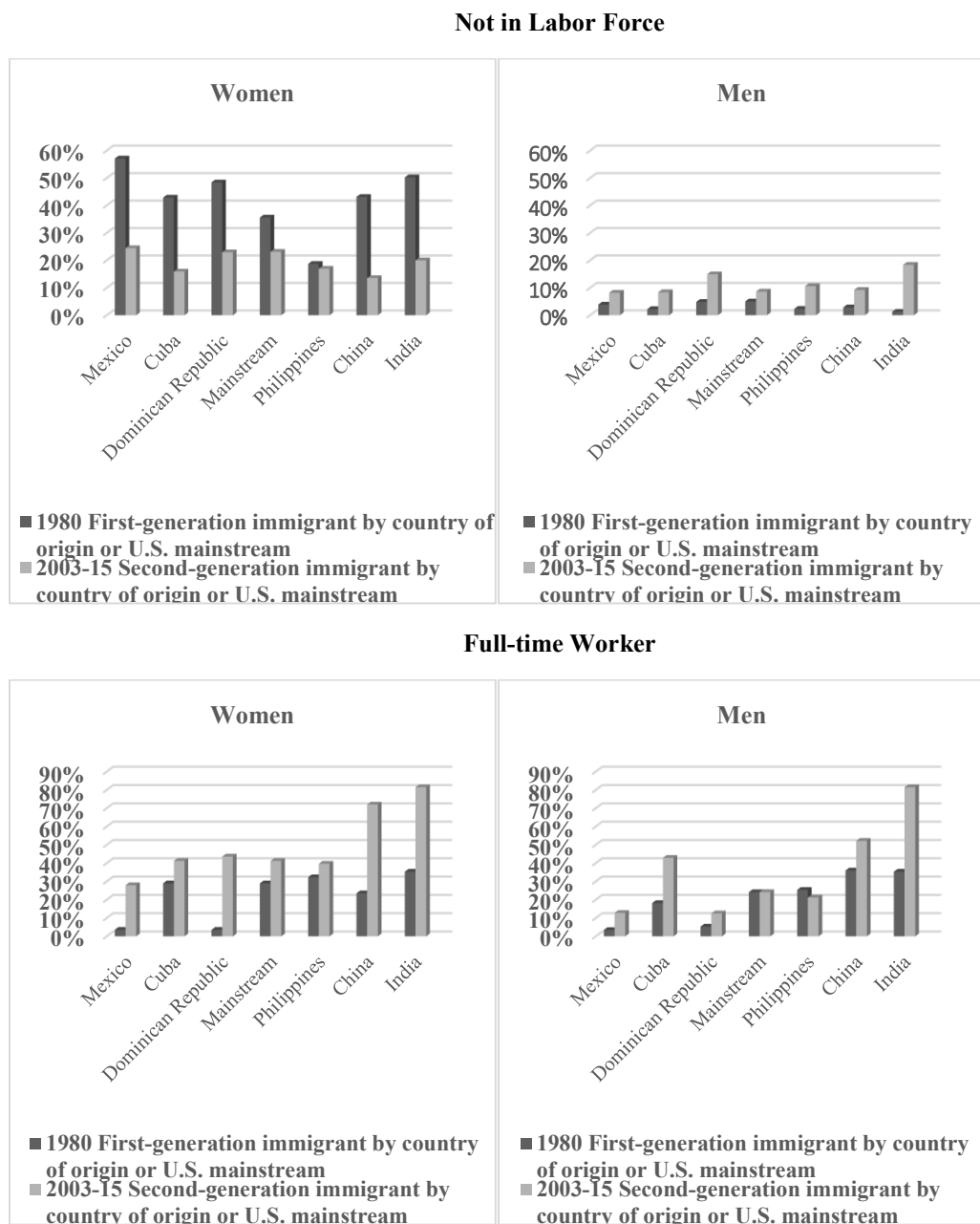


### College Completion



Notes: Author's calculations from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for first-generation and mainstream in 1980 and 25-41 for second-generation and mainstream in 2003 through 2015. Mainstream includes only those who are White, U.S. born and non-Latino. Title reference in Park et al. (2015, p. 1610)

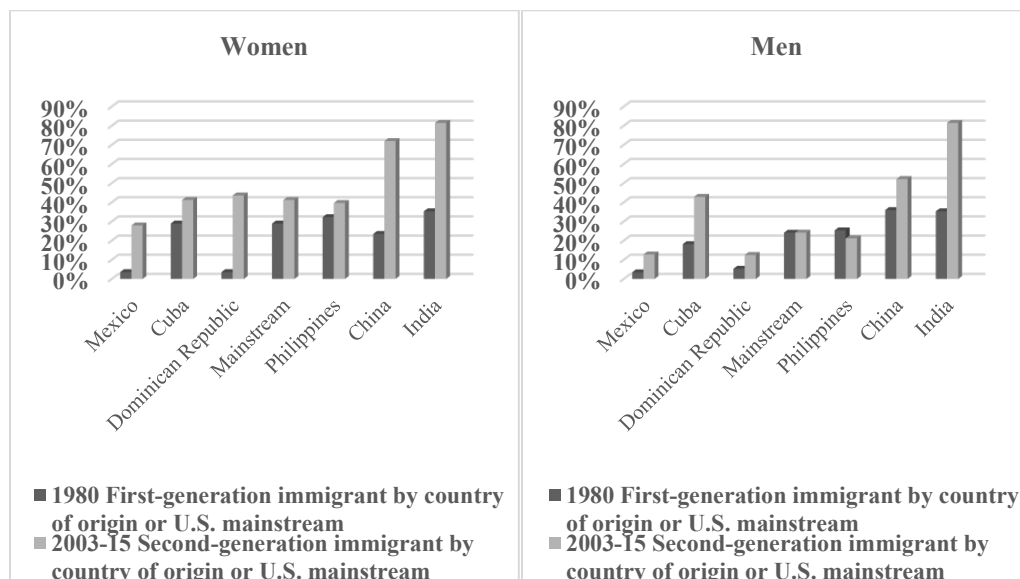
**Figure 6: Labor Force Participation of Six Country of Origin First- and Second-Generation Immigrants with White U.S. Mainstream Comparison Group by Gender**



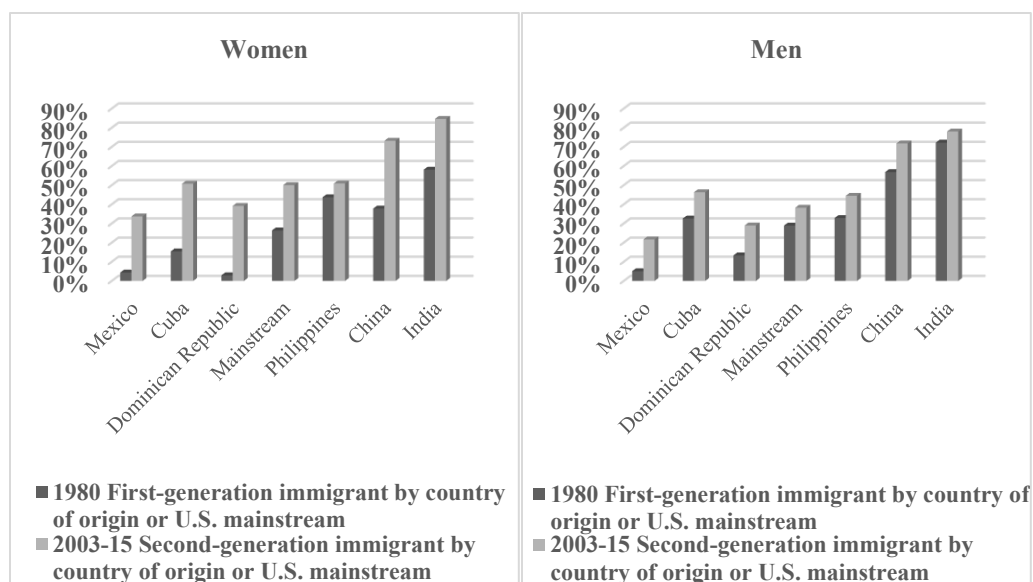
Notes: Author's calculations from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages restricted to 25-44 for first-generation and mainstream in 1980 and 25-41 for second-generation and mainstream in 2003 through 2015. Mainstream includes only those who are White, U.S. born and non-Latino. Title reference in Park et al. (2015, p. 1610)

**Figure 7: Upper White-Collar Occupational Attainment of Six Country of Origin First- and Second-Generation Immigrants with White U.S. Mainstream Comparison Group by Gender**

**Part-time Workers in Upper White-collar Occupations**

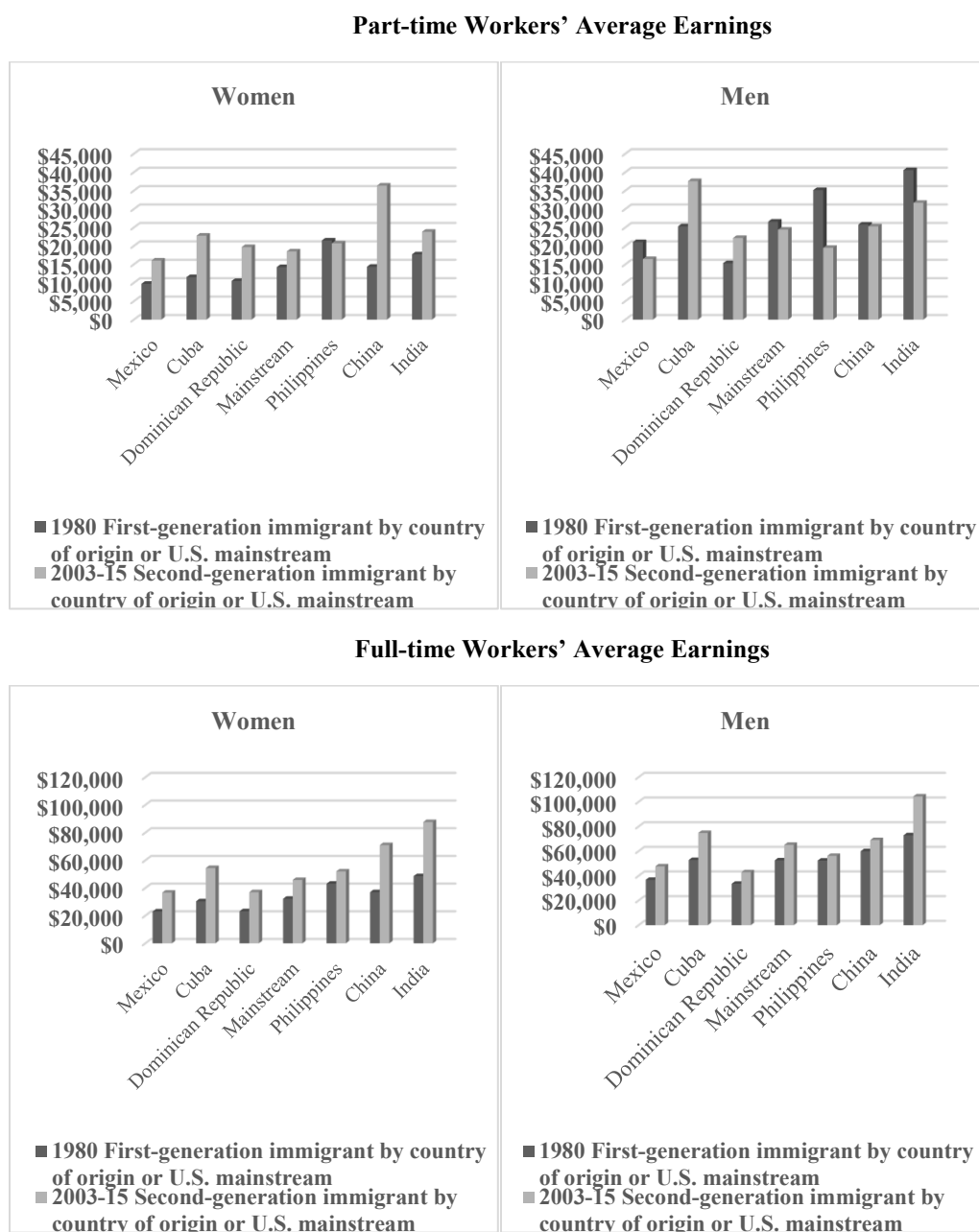


**Full-time Workers in Upper White-collar Occupations**



Notes: Author's calculations from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages restricted to 25-44 for first-generation and mainstream in 1980 and 25-41 for second-generation and mainstream in 2003 through 2015. Mainstream includes only those who are White, U.S. born and non-Latino. Part-time workers defined as in the labor force but not working full-time. Full-time workers defined as in the labor force and working at least 35 hours per week and 45 weeks per year. Title reference in Park et al. (2015, p. 1612)

**Figure 8: Average Wage/Salary Earnings of Six Country of Origin First- and Second-Generation Immigrants with White U.S. Mainstream Comparison Group by Gender**



Notes: Author's calculations from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics (BLS) Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages restricted to 25-44 for first-generation and mainstream in 1980 and 25-41 for second-generation and mainstream in 2003 through 2015. Mainstream includes only those who are White, U.S. born and non-Latino. Part-time workers defined as in the labor force but not working full-time. Full-time workers defined as in the labor force and working at least 35 hours per week and 45 weeks per year. Earnings are from wages/salary alone and adjusted to 2016 annual averages using BLS Consumer Price Index - All Urban Consumers. Title reference in Park et al. (2015, p. 1612)

## Appendix

**Appendix Table 2.1: Ordinary Least Squares Regression Results for  
Intergenerational Mobility Gender Differences within Race/Ethnicity**

1980 to 2003-07	Latino	Asian	Mainstream
High school completion			
Intercept	0.394 <sup>a</sup>	0.897 <sup>a</sup>	0.835 <sup>a</sup>
Year	0.413 <sup>a</sup>	0.068 <sup>a</sup>	0.083 <sup>a</sup>
No Children (in 2003-07)	0.096 <sup>a</sup>	0.014	0.022 <sup>a</sup>
Women	-0.021 <sup>a</sup>	-0.019 <sup>b</sup>	0.006 <sup>c</sup>
Year*Women	0.058 <sup>a</sup>	0.046 <sup>a</sup>	0.017 <sup>b</sup>
Age	0.003 <sup>a</sup>	0.004 <sup>a</sup>	-0.005 <sup>a</sup>
Number of Observations	29,368	15,314	69,145
R-squared	0.068	0.009	0.016
College completion			
Intercept	0.088 <sup>a</sup>	0.606 <sup>a</sup>	0.232 <sup>a</sup>
Year	0.069 <sup>a</sup>	-0.044	0.043 <sup>a</sup>
No Children (in 2003-07)	0.135 <sup>a</sup>	0.162 <sup>a</sup>	0.122 <sup>a</sup>
Women	-0.019 <sup>a</sup>	-0.059 <sup>a</sup>	-0.069 <sup>a</sup>
Year*Women	0.070 <sup>a</sup>	0.127 <sup>a</sup>	0.122 <sup>a</sup>
Age	0.004 <sup>a</sup>	0.017 <sup>a</sup>	0.000
Number of Observations	29,368	15,314	69,145
R-squared	0.034	0.037	0.032
Upper white-collar occupation			
Intercept	0.127 <sup>a</sup>	0.491 <sup>a</sup>	0.270 <sup>a</sup>
Year	0.126 <sup>a</sup>	0.064	0.065 <sup>a</sup>
No Children (in 2003-07)	0.071 <sup>b</sup>	0.081	0.073 <sup>a</sup>
Women	-0.018 <sup>b</sup>	-0.050 <sup>a</sup>	-0.032 <sup>a</sup>
Year*Women	0.115 <sup>a</sup>	0.103 <sup>c</sup>	0.133 <sup>a</sup>
Age	0.007 <sup>a</sup>	0.017 <sup>a</sup>	0.004 <sup>a</sup>
Number of Observations	14,590	8,962	39,701
R-squared	0.041	0.031	0.016
Earnings			
Intercept	40,941 <sup>a</sup>	58,540 <sup>a</sup>	54,343 <sup>a</sup>
Year	10,098 <sup>a</sup>	26,462 <sup>a</sup>	12,809 <sup>a</sup>
No Children (in 2003-07)	1,276	-4,070	-1,649 <sup>a</sup>
Women	-13,479 <sup>a</sup>	-15,522 <sup>a</sup>	-19,717 <sup>a</sup>
Year*Women	5,169 <sup>b</sup>	832	-1,964
Age	579 <sup>a</sup>	1,799 <sup>a</sup>	894 <sup>a</sup>
Number of Observations	14,590	8,962	39,701
R-squared	0.069	0.087	0.100

Notes: See end of table

**Appendix Table 2.1 continued**

1980 to 2012-16	Latino	Asian	Mainstream
High school completion			
Intercept	0.393 <sup>a</sup>	0.897 <sup>a</sup>	0.834 <sup>a</sup>
Year	0.443 <sup>a</sup>	0.059 <sup>a</sup>	0.101 <sup>a</sup>
No Children (in 2012-16)	0.059 <sup>a</sup>	0.044 <sup>a</sup>	0.024 <sup>a</sup>
Women	-0.022 <sup>a</sup>	-0.018 <sup>b</sup>	0.006 <sup>c</sup>
Year*Women	0.055 <sup>a</sup>	0.021 <sup>c</sup>	0.007
Age	0.003 <sup>a</sup>	0.004 <sup>a</sup>	-0.005 <sup>a</sup>
Number of Observations	31,115	16,143	67,392
R-squared	0.113	0.013	0.018
College completion			
Intercept	0.088 <sup>a</sup>	0.605 <sup>a</sup>	0.233 <sup>a</sup>
Year	0.046 <sup>a</sup>	-0.024	0.082 <sup>a</sup>
No Children (in 2012-16)	0.118 <sup>a</sup>	0.126 <sup>a</sup>	0.121 <sup>a</sup>
Women	-0.019 <sup>a</sup>	-0.057 <sup>a</sup>	-0.069 <sup>a</sup>
Year*Women	0.105 <sup>a</sup>	0.148 <sup>a</sup>	0.152 <sup>a</sup>
Age	0.004 <sup>a</sup>	0.018 <sup>a</sup>	0.000
Number of Observations	31,115	16,143	67,392
R-squared	0.044	0.041	0.039
Upper white-collar occupation			
Intercept	0.127 <sup>a</sup>	0.491 <sup>a</sup>	0.270 <sup>a</sup>
Year	0.138 <sup>a</sup>	0.111 <sup>b</sup>	0.117 <sup>a</sup>
No Children (in 20012-16)	0.033	0.052	0.072 <sup>a</sup>
Women	-0.017 <sup>b</sup>	-0.050 <sup>a</sup>	-0.031 <sup>a</sup>
Year*Women	0.157 <sup>a</sup>	0.124 <sup>a</sup>	0.160 <sup>a</sup>
Age	0.007 <sup>a</sup>	0.017 <sup>a</sup>	0.004 <sup>a</sup>
Number of Observations	15,536	9,482	38,570
R-squared	0.061	0.037	0.026
Earnings			
Intercept	40,959 <sup>a</sup>	58,479 <sup>a</sup>	54,441 <sup>a</sup>
Year	12,834 <sup>a</sup>	23,601 <sup>a</sup>	12,481 <sup>a</sup>
No Children (in 2012-16)	-2,308	-9,074 <sup>c</sup>	-2,111 <sup>a</sup>
Women	-13,291 <sup>a</sup>	-15,352 <sup>a</sup>	-19,687 <sup>a</sup>
Year*Women	2,582	7,396 <sup>c</sup>	3,810 <sup>c</sup>
Age	667 <sup>a</sup>	1,874 <sup>a</sup>	849 <sup>a</sup>
Number of Observations	15,536	9,482	38,570
R-squared	0.059	0.098	0.091

Notes: See end of table

**Appendix Table 2.1 continued**

1990 to 2012-16	Latino	Asian	Mainstream
High school completion			
Intercept	0.418 <sup>a</sup>	0.882 <sup>a</sup>	0.906 <sup>a</sup>
Year	0.406 <sup>a</sup>	0.074 <sup>a</sup>	0.046 <sup>a</sup>
No Children (in 2012-16)	0.047 <sup>a</sup>	0.043 <sup>a</sup>	0.007 <sup>b</sup>
Women	-0.003	-0.029 <sup>a</sup>	0.013 <sup>a</sup>
Year*Women	0.034 <sup>b</sup>	0.032 <sup>a</sup>	-0.002
Age	-0.003 <sup>a</sup>	0.003 <sup>a</sup>	0.001 <sup>a</sup>
Number of Observations	53,063	31,677	81,183
R-squared	0.058	0.011	0.003
College completion			
Intercept	0.067 <sup>a</sup>	0.451 <sup>a</sup>	0.235 <sup>a</sup>
Year	0.062 <sup>a</sup>	0.126 <sup>a</sup>	0.100 <sup>a</sup>
No Children (in 2012-16)	0.113 <sup>a</sup>	0.117 <sup>a</sup>	0.097 <sup>a</sup>
Women	-0.012 <sup>a</sup>	-0.029 <sup>a</sup>	-0.017 <sup>a</sup>
Year*Women	0.097 <sup>a</sup>	0.119 <sup>a</sup>	0.097 <sup>a</sup>
Age	0.002 <sup>a</sup>	0.015 <sup>a</sup>	0.006 <sup>a</sup>
Number of Observations	53,063	31,677	81,183
R-squared	0.035	0.033	0.024
Upper white-collar occupation			
Intercept	0.098 <sup>a</sup>	0.373 <sup>a</sup>	0.259 <sup>a</sup>
Year	0.161 <sup>a</sup>	0.227 <sup>a</sup>	0.136 <sup>a</sup>
No Children (in 2012-16)	0.025	0.041	0.060 <sup>a</sup>
Women	0.021 <sup>a</sup>	-0.044 <sup>a</sup>	0.059 <sup>a</sup>
Year*Women	0.118 <sup>a</sup>	0.118 <sup>a</sup>	0.071 <sup>a</sup>
Age	0.004 <sup>a</sup>	0.014 <sup>a</sup>	0.007 <sup>a</sup>
Number of Observations	26,480	19,075	50,295
R-squared	0.046	0.035	0.024
Earnings			
Intercept	40,209 <sup>a</sup>	60,983 <sup>a</sup>	58,006 <sup>a</sup>
Year	13,692 <sup>a</sup>	21,083 <sup>a</sup>	8,856 <sup>a</sup>
No Children (in 2012-16)	-2,162	-9,146 <sup>c</sup>	-983 <sup>b</sup>
Women	-10,604 <sup>a</sup>	-16,332 <sup>a</sup>	-17,522 <sup>a</sup>
Year*Women	-95	8,372 <sup>b</sup>	1,728
Age	727 <sup>a</sup>	1,853 <sup>a</sup>	1,136 <sup>a</sup>
Number of Observations	26,480	19,075	50,295
R-squared	0.049	0.066	0.062

Notes: Statistical significance is denoted as a=  $p < .001$ ; b=  $p < .01$  and c=  $p < .05$ . Data are from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Appendix Table 2.2: Ordinary Least Squares Regression Results for Latino and Asian Immigrant Intergenerational Mobility Compared to U.S. Mainstream**

1980 to 2003-07	High school completion	College completion	Upper white- collar occupation	Earnings
Women				
Latinos				
Intercept	0.837 <sup>a</sup>	0.146 <sup>a</sup>	0.208 <sup>a</sup>	29,993 <sup>a</sup>
Year	0.099 <sup>a</sup>	0.167 <sup>a</sup>	0.206 <sup>a</sup>	12,169 <sup>a</sup>
No children (in 2003-07)	0.049 <sup>a</sup>	0.180 <sup>a</sup>	0.126 <sup>a</sup>	6,021 <sup>a</sup>
Generation	-0.481 <sup>a</sup>	-0.091 <sup>a</sup>	-0.112 <sup>a</sup>	-3,171 <sup>a</sup>
Year * Generation	0.380 <sup>a</sup>	-0.045 <sup>b</sup>	0.010	1,118
Age	-0.003 <sup>a</sup>	0.000	0.002 <sup>c</sup>	306 <sup>a</sup>
N	49,898	49,898	16,727	16,727
R-squared	0.264	0.084	0.072	0.070
Asians				
Intercept	0.837 <sup>a</sup>	0.147 <sup>a</sup>	0.208 <sup>a</sup>	30,067 <sup>a</sup>
Year	0.100 <sup>a</sup>	0.166 <sup>a</sup>	0.206 <sup>a</sup>	12,138 <sup>a</sup>
No children (in 2003-07)	0.045 <sup>a</sup>	0.182 <sup>a</sup>	0.132 <sup>a</sup>	6,241 <sup>a</sup>
Generation	0.024 <sup>a</sup>	0.361 <sup>a</sup>	0.212 <sup>a</sup>	10,906 <sup>a</sup>
Year * Generation	-0.015	-0.123 <sup>a</sup>	-0.107 <sup>b</sup>	5,025
Age	-0.003 <sup>a</sup>	0.001	0.003 <sup>a</sup>	399 <sup>a</sup>
N	42,718	42,718	15,603	15,603
R-squared	0.016	0.105	0.049	0.065
Men				
Latinos				
Intercept	0.842 <sup>a</sup>	0.253 <sup>a</sup>	0.282 <sup>a</sup>	56,094 <sup>a</sup>
Year	0.082 <sup>a</sup>	0.041 <sup>a</sup>	0.064 <sup>a</sup>	12,788 <sup>a</sup>
No children (in 2003-07)	0.015 <sup>a</sup>	0.080 <sup>a</sup>	0.046 <sup>a</sup>	-6,119 <sup>a</sup>
Generation	-0.450 <sup>a</sup>	-0.166 <sup>a</sup>	-0.155 <sup>a</sup>	-15,055 <sup>a</sup>
Year * Generation	0.350 <sup>a</sup>	0.048 <sup>b</sup>	0.072 <sup>a</sup>	2,251
Age	-0.003 <sup>a</sup>	0.003 <sup>a</sup>	0.007 <sup>a</sup>	1,054 <sup>a</sup>
N	48,615	48,615	37,564	37,564
R-squared	0.228	0.051	0.039	0.067
Asians				
Intercept	0.842 <sup>a</sup>	0.253 <sup>a</sup>	0.282 <sup>a</sup>	56,229 <sup>a</sup>
Year	0.082 <sup>a</sup>	0.041 <sup>a</sup>	0.064 <sup>a</sup>	12,705 <sup>a</sup>
No children (in 2003-07)	0.008 <sup>c</sup>	0.084 <sup>a</sup>	0.050 <sup>a</sup>	-5,418 <sup>a</sup>
Generation	0.060 <sup>a</sup>	0.361 <sup>a</sup>	0.216 <sup>a</sup>	2,688 <sup>a</sup>
Year * Generation	-0.047 <sup>a</sup>	-0.091 <sup>a</sup>	-0.020	12,558 <sup>c</sup>
Age	-0.004 <sup>a</sup>	0.004 <sup>a</sup>	0.008 <sup>a</sup>	1,329 <sup>a</sup>
N	41,741	41,741	33,060	33,060
R-squared	0.012	0.080	0.040	0.052

Notes: See end of table



**Appendix Table 2.2 continued**  
1980 to 2012-16

	High school completion	College completion	Upper white- collar occupation	Earnings
<b>Women</b>				
Latinos				
Intercept	0.837 <sup>a</sup>	0.148 <sup>a</sup>	0.213 <sup>a</sup>	30,308 <sup>a</sup>
Year	0.106 <sup>a</sup>	0.232 <sup>a</sup>	0.281 <sup>a</sup>	16,961 <sup>a</sup>
No children (in 2003-07)	0.049 <sup>a</sup>	0.177 <sup>a</sup>	0.119 <sup>a</sup>	5,560 <sup>a</sup>
Generation	-0.481 <sup>a</sup>	-0.091 <sup>a</sup>	-0.115 <sup>a</sup>	-3,359 <sup>a</sup>
Year * Generation	0.391 <sup>a</sup>	-0.107 <sup>a</sup>	-0.028	-5,176 <sup>b</sup>
Age	-0.003 <sup>a</sup>	0.000	0.002 <sup>a</sup>	361 <sup>a</sup>
N	49,670	49,670	16,719	16,719
R-squared	0.264	0.096	0.091	0.077
Asians				
Intercept	0.837 <sup>a</sup>	0.148 <sup>a</sup>	0.210 <sup>a</sup>	0.837 <sup>a</sup>
Year	0.106 <sup>a</sup>	0.232 <sup>a</sup>	0.282 <sup>a</sup>	0.106 <sup>a</sup>
No children (in 2003-07)	0.046 <sup>a</sup>	0.180 <sup>a</sup>	0.128 <sup>a</sup>	0.046 <sup>a</sup>
Generation	0.025 <sup>a</sup>	0.361 <sup>a</sup>	0.210 <sup>a</sup>	0.025 <sup>a</sup>
Year * Generation	-0.038 <sup>a</sup>	-0.168 <sup>a</sup>	-0.127 <sup>a</sup>	-0.038 <sup>a</sup>
Age	-0.003 <sup>a</sup>	0.001 <sup>b</sup>	0.003 <sup>a</sup>	-0.003 <sup>a</sup>
N	41,992	41,992	15,414	41,992
R-squared	0.017	0.121	0.071	0.017
<b>Men</b>				
Latinos				
Intercept	0.840 <sup>a</sup>	0.253 <sup>a</sup>	0.283 <sup>a</sup>	56,213 <sup>a</sup>
Year	0.101 <sup>a</sup>	0.083 <sup>a</sup>	0.118 <sup>a</sup>	12,636 <sup>a</sup>
No children (in 2003-07)	0.018 <sup>a</sup>	0.078 <sup>a</sup>	0.044 <sup>a</sup>	-6,653 <sup>a</sup>
Generation	-0.449 <sup>a</sup>	-0.166 <sup>a</sup>	-0.156 <sup>a</sup>	-15,183 <sup>a</sup>
Year * Generation	0.347 <sup>a</sup>	-0.022	0.013	3,415
Age	-0.003 <sup>a</sup>	0.002 <sup>a</sup>	0.006 <sup>a</sup>	1,007 <sup>a</sup>
N	48,837	48,837	37,387	37,387
R-squared	0.231	0.055	0.043	0.058
Asians				
Intercept	0.841 <sup>a</sup>	0.254 <sup>a</sup>	0.283 <sup>a</sup>	56,365 <sup>a</sup>
Year	0.101 <sup>a</sup>	0.083 <sup>a</sup>	0.118 <sup>a</sup>	12,592 <sup>a</sup>
No children (in 2003-07)	0.012 <sup>b</sup>	0.083 <sup>a</sup>	0.049 <sup>a</sup>	-6,020 <sup>a</sup>
Generation	0.061 <sup>a</sup>	0.360 <sup>a</sup>	0.215 <sup>a</sup>	2,594 <sup>a</sup>
Year * Generation	-0.053 <sup>a</sup>	-0.137 <sup>a</sup>	-0.041	6,308 <sup>c</sup>
Age	-0.004 <sup>a</sup>	0.004 <sup>a</sup>	0.008 <sup>a</sup>	1,278 <sup>a</sup>
N	41,543	41,543	32,638	32,638
R-squared	0.016	0.082	0.045	0.049

Notes: See end of table

Appendix Table 2.2

1990 to 2012-16	High school completion	College completion	Upper white-collar occupation	Earnings
Women				
Latinos				
Intercept	0.916 <sup>a</sup>	0.199 <sup>a</sup>	0.298 <sup>a</sup>	36,242 <sup>a</sup>
Year	0.043 <sup>a</sup>	0.194 <sup>a</sup>	0.206 <sup>a</sup>	10,427 <sup>a</sup>
No children (in 2012-16)	0.012 <sup>a</sup>	0.150 <sup>a</sup>	0.102 <sup>a</sup>	7,759 <sup>a</sup>
Generation	-0.496 <sup>a</sup>	-0.142 <sup>a</sup>	-0.179 <sup>a</sup>	-7,026 <sup>a</sup>
Year * Generation	0.412 <sup>a</sup>	-0.048 <sup>a</sup>	0.039 <sup>c</sup>	-1,381
Age	-0.001 <sup>c</sup>	0.003 <sup>a</sup>	0.004 <sup>a</sup>	519 <sup>a</sup>
N	67,853	67,853	26,872	26,872
R-squared	0.302	0.102	0.077	0.060
Asians				
Intercept	0.916 <sup>a</sup>	0.199 <sup>a</sup>	0.295 <sup>a</sup>	36,130 <sup>a</sup>
Year	0.045 <sup>a</sup>	0.198 <sup>a</sup>	0.208 <sup>a</sup>	10,640 <sup>a</sup>
No children (in 2012-16)	0.014 <sup>a</sup>	0.156 <sup>a</sup>	0.111 <sup>a</sup>	8,326 <sup>a</sup>
Generation	-0.066 <sup>a</sup>	0.215 <sup>a</sup>	0.032 <sup>a</sup>	8,220 <sup>a</sup>
Year * Generation	0.074 <sup>a</sup>	-0.002	0.062 <sup>a</sup>	2,954
Age	0.001 <sup>a</sup>	0.007 <sup>a</sup>	0.006 <sup>a</sup>	719 <sup>a</sup>
N	56,926	56,926	25,956	25,956
R-squared	0.016	0.060	0.031	0.040
Men				
Latinos				
Intercept	0.908 <sup>a</sup>	0.257 <sup>a</sup>	0.273 <sup>a</sup>	60,536 <sup>a</sup>
Year	0.045 <sup>a</sup>	0.099 <sup>a</sup>	0.136 <sup>a</sup>	8,867 <sup>a</sup>
No children (in 2012-16)	0.000	0.046 <sup>a</sup>	0.026 <sup>a</sup>	-7,204 <sup>a</sup>
Generation	-0.489 <sup>a</sup>	-0.189 <sup>a</sup>	-0.174 <sup>a</sup>	-20,230 <sup>a</sup>
Year * Generation	0.394 <sup>a</sup>	0.013	0.035 <sup>c</sup>	9,018 <sup>a</sup>
Age	0.000	0.006 <sup>a</sup>	0.007 <sup>a</sup>	1,275 <sup>a</sup>
N	66,393	66,393	49,903	49,903
R-squared	0.284	0.076	0.062	0.067
Asians				
Intercept	0.907 <sup>a</sup>	0.256 <sup>a</sup>	0.271 <sup>a</sup>	60,383 <sup>a</sup>
Year	0.047 <sup>a</sup>	0.102 <sup>a</sup>	0.138 <sup>a</sup>	9,179 <sup>a</sup>
No children (in 2012-16)	0.003	0.053 <sup>a</sup>	0.033 <sup>a</sup>	-6,399 <sup>a</sup>
Generation	-0.022 <sup>a</sup>	0.204 <sup>a</sup>	0.108 <sup>a</sup>	993
Year * Generation	0.047 <sup>a</sup>	0.042 <sup>c</sup>	0.076 <sup>b</sup>	8,753 <sup>b</sup>
Age	0.001 <sup>a</sup>	0.009 <sup>a</sup>	0.010 <sup>a</sup>	1,637 <sup>a</sup>
N	55,934	55,934	43,414	43,414
R-squared	0.004	0.051	0.032	0.040

Notes: Statistical significance is denoted as a =  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Appendix Table 2.3: Ordinary Least Squares Regression Results for Gender Differences in Intergenerational Mobility within Six Country of Origin Immigrant Groups and U.S. Mainstream**

Latino Countries	Mexico	Cuba	Dominican Republic
High school completion			
Intercept	0.219 <sup>a</sup>	0.726 <sup>a</sup>	0.388 <sup>a</sup>
Year	0.546 <sup>a</sup>	0.211 <sup>a</sup>	0.421 <sup>a</sup>
No Children (in 2003-15)	0.081 <sup>a</sup>	0.019	0.012
Women	-0.034 <sup>a</sup>	-0.010	-0.049
Year*Women	0.075 <sup>a</sup>	0.001	0.134 <sup>b</sup>
Age	-0.003 <sup>a</sup>	-0.007 <sup>a</sup>	-0.009 <sup>a</sup>
N	20,469	3,163	1,305
R-squared	0.307	0.039	0.184
College completion			
Intercept	0.029 <sup>a</sup>	0.219 <sup>a</sup>	0.046 <sup>a</sup>
Year	0.066 <sup>a</sup>	0.174 <sup>a</sup>	0.130 <sup>b</sup>
No Children (in 2003-15)	0.104 <sup>a</sup>	0.078	0.033
Women	-0.007 <sup>b</sup>	-0.098 <sup>a</sup>	0.001
Year*Women	0.063 <sup>a</sup>	0.179 <sup>b</sup>	0.174 <sup>b</sup>
Age	0.001 <sup>a</sup>	0.003	0.005 <sup>b</sup>
N	20,469	3,163	1,305
R-squared	0.077	0.075	0.134
Upper white-collar occupation			
Intercept	0.055 <sup>a</sup>	0.330 <sup>a</sup>	0.132 <sup>a</sup>
Year	0.149 <sup>a</sup>	0.171 <sup>b</sup>	0.150 <sup>c</sup>
No Children (in 2003-15)	0.062 <sup>a</sup>	-0.070	0.046
Women	0.002	-0.179 <sup>a</sup>	-0.088 <sup>b</sup>
Year*Women	0.124 <sup>a</sup>	0.209 <sup>b</sup>	0.195 <sup>c</sup>
Age	0.004 <sup>a</sup>	-0.002	0.006 <sup>c</sup>
N	10,133	1,889	655
R-squared	0.116	0.051	0.096
Earnings			
Intercept	37,201 <sup>a</sup>	52,281 <sup>a</sup>	33,408 <sup>a</sup>
Year	11,234 <sup>a</sup>	24,956 <sup>b</sup>	13,393 <sup>b</sup>
No Children (in 2003-15)	1,463	-3,996	-2,650
Women	-12,810 <sup>a</sup>	-21,601 <sup>a</sup>	-8,632 <sup>a</sup>
Year*Women	1,974	599	1,945
Age	434 <sup>a</sup>	274	605 <sup>a</sup>
N	10,133	1,889	655
R-squared	0.059	0.072	0.096

Notes: See end of table

**Appendix Table 2.3 continued**

Asian countries	Philippines	China	India
High school completion			
Intercept	0.892 <sup>a</sup>	0.854 <sup>a</sup>	0.954 <sup>a</sup>
Year	0.076 <sup>a</sup>	0.116 <sup>a</sup>	0.008
No Children (in 2003-15)	0.010	-0.004	0.049 <sup>c</sup>
Women	0.036 <sup>a</sup>	-0.030 <sup>c</sup>	-0.051 <sup>a</sup>
Year*Women	-0.014	0.037	0.044 <sup>c</sup>
Age	0.002 <sup>c</sup>	0.000	0.002 <sup>c</sup>
N	4,455	3,533	3,443
R-squared	0.013	0.013	0.020
College completion			
Intercept	0.502 <sup>a</sup>	0.621 <sup>a</sup>	0.829 <sup>a</sup>
Year	-0.120 <sup>b</sup>	0.007	0.024
No Children (in 2003-15)	0.118 <sup>b</sup>	0.107	0.055
Women	0.180 <sup>a</sup>	-0.135 <sup>a</sup>	-0.200 <sup>a</sup>
Year*Women	-0.058	0.250 <sup>a</sup>	0.244 <sup>a</sup>
Age	0.017 <sup>a</sup>	0.007 <sup>a</sup>	0.009 <sup>a</sup>
N	4,455	3,533	3,443
R-squared	0.056	0.042	0.084
Upper white-collar occupation			
Intercept	0.317 <sup>a</sup>	0.559 <sup>a</sup>	0.707 <sup>a</sup>
Year	0.153 <sup>a</sup>	0.129	0.072
No Children (in 2003-15)	0.061	0.065	0.063
Women	0.136 <sup>a</sup>	-0.168 <sup>a</sup>	-0.106 <sup>a</sup>
Year*Women	-0.065	0.184 <sup>b</sup>	0.170 <sup>b</sup>
Age	0.019 <sup>a</sup>	0.008 <sup>a</sup>	0.013 <sup>a</sup>
N	3,062	2,090	2,017
R-squared	0.048	0.047	0.035
Earnings			
Intercept	51,373 <sup>a</sup>	58,724 <sup>a</sup>	69,841 <sup>a</sup>
Year	11,117 <sup>a</sup>	20,307 <sup>b</sup>	59,186 <sup>a</sup>
No Children (in 2003-15)	-1,876	-10,417	-22,955
Women	-6,854 <sup>a</sup>	-19,905 <sup>a</sup>	-17,363 <sup>a</sup>
Year*Women	3,005	22,588 <sup>b</sup>	3,757
Age	1,652 <sup>a</sup>	1,071 <sup>a</sup>	2,637 <sup>a</sup>
N	3,062	2,090	2,017
R-squared	0.072	0.085	0.132

Notes: See end of table

**Appendix Table 2.3 continued****Mainstream**

High school completion	
Intercept	0.838 <sup>a</sup>
Year	0.088 <sup>a</sup>
No Children (in 2003-15)	0.019 <sup>a</sup>
Women	0.005
Year*Women	0.015 <sup>b</sup>
Age	-0.004 <sup>a</sup>
N	79,477
R-squared	0.022
College completion	
Intercept	0.236 <sup>a</sup>
Year	0.065 <sup>a</sup>
No Children (in 2003-15)	0.116 <sup>a</sup>
Women	-0.070 <sup>a</sup>
Year*Women	0.127 <sup>a</sup>
Age	0.001 <sup>c</sup>
N	79,477
R-squared	0.038
Upper white-collar occupation	
Intercept	0.272 <sup>a</sup>
Year	0.091 <sup>a</sup>
No Children (in 2003-15)	0.067 <sup>a</sup>
Women	-0.031 <sup>a</sup>
Year*Women	0.151 <sup>a</sup>
Age	0.004 <sup>a</sup>
N	46,323
R-squared	0.030
Earnings	
Intercept	54,439 <sup>a</sup>
Year	12,395 <sup>a</sup>
No Children (in 2003-15)	-1,620 <sup>a</sup>
Women	-19,679 <sup>a</sup>
Year*Women	640
Age	971 <sup>a</sup>
N	46,323
R-squared	0.089

Notes: Statistical significance is denoted as a =  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

**Appendix Table 2.4: Ordinary Least Squares Regression Results for Immigrant Intergenerational Mobility Compared to U.S. Mainstream for Six Countries of Origin**

	High school completion	College completion	Upper white-collar occupation	Earnings
Women				
Latino Countries				
Mexico				
Intercept	0.837 <sup>a</sup>	0.149 <sup>a</sup>	0.215 <sup>a</sup>	30,284 <sup>a</sup>
Year	0.102 <sup>a</sup>	0.192 <sup>a</sup>	0.248 <sup>a</sup>	14,029 <sup>a</sup>
No children (in 2003-15)	0.041 <sup>a</sup>	0.168 <sup>a</sup>	0.112 <sup>a</sup>	5,805 <sup>a</sup>
Generation	-0.656 <sup>a</sup>	-0.134 <sup>a</sup>	-0.16 <sup>a</sup>	-5,977 <sup>a</sup>
Year * Generation	0.530 <sup>a</sup>	-0.082 <sup>a</sup>	0.011	-2,173 <sup>c</sup>
Age	-0.004 <sup>a</sup>	-0.001 <sup>c</sup>	0.002 <sup>c</sup>	407 <sup>a</sup>
N	50,762	50,762	18,479	18,479
R-squared	0.359	0.105	0.090	0.080
Cuba				
Intercept	0.838 <sup>a</sup>	0.148 <sup>a</sup>	0.213 <sup>a</sup>	30,169 <sup>a</sup>
Year	0.102 <sup>a</sup>	0.192 <sup>a</sup>	0.248 <sup>a</sup>	14,054 <sup>a</sup>
No children (in 2003-15)	0.037 <sup>a</sup>	0.169 <sup>a</sup>	0.113 <sup>a</sup>	6,134 <sup>a</sup>
Generation	-0.118 <sup>a</sup>	-0.032 <sup>a</sup>	-0.058 <sup>a</sup>	686
Year * Generation	0.104 <sup>a</sup>	0.128 <sup>a</sup>	0.062	7,663
Age	-0.004 <sup>a</sup>	-0.001 <sup>c</sup>	0.001	427 <sup>a</sup>
N	42,066	42,066	16,297	16,297
R-squared	0.033	0.072	0.072	0.070
Dominican Republic				
Intercept	0.838 <sup>a</sup>	0.148 <sup>a</sup>	0.213 <sup>a</sup>	30,197 <sup>a</sup>
Year	0.102 <sup>a</sup>	0.192 <sup>a</sup>	0.248 <sup>a</sup>	14,047 <sup>a</sup>
No children (in 2003-15)	0.037 <sup>a</sup>	0.168 <sup>a</sup>	0.113 <sup>a</sup>	6,065 <sup>a</sup>
Generation	-0.485 <sup>a</sup>	-0.117 <sup>a</sup>	-0.182 <sup>a</sup>	-5,888 <sup>a</sup>
Year * Generation	0.446 <sup>a</sup>	0.053	0.063	-2,823
Age	-0.004 <sup>a</sup>	-0.001 <sup>b</sup>	0.001	425 <sup>a</sup>
N	41,143	41,143	15,909	15,909
R-squared	0.057	0.072	0.072	0.070
Asian countries				
Philippines				
Intercept	0.838 <sup>a</sup>	0.149 <sup>a</sup>	0.214 <sup>a</sup>	30,219 <sup>a</sup>
Year	0.102 <sup>a</sup>	0.192 <sup>a</sup>	0.248 <sup>a</sup>	14,042 <sup>a</sup>
No children (in 2003-15)	0.037 <sup>a</sup>	0.170 <sup>a</sup>	0.116 <sup>a</sup>	6,225 <sup>a</sup>
Generation	0.082 <sup>a</sup>	0.514 <sup>a</sup>	0.225 <sup>a</sup>	13,288 <sup>a</sup>
Year * Generation	-0.067 <sup>a</sup>	-0.434 <sup>a</sup>	-0.236 <sup>a</sup>	-7,435 <sup>b</sup>
Age	-0.004 <sup>a</sup>	0.000	0.002 <sup>b</sup>	475 <sup>a</sup>
N	42,721	42,721	16,968	16,968
R-squared	0.028	0.103	0.067	0.072

Notes: See end of table

**Appendix Table 2.4 continued**

Women, Asian countries continued

	High school completion	College completion	Upper white- collar occupation	Earnings
China				
Intercept	0.838 <sup>a</sup>	0.149 <sup>a</sup>	0.213 <sup>a</sup>	30,266 <sup>a</sup>
Year	0.102 <sup>a</sup>	0.192 <sup>a</sup>	0.248 <sup>a</sup>	14,032 <sup>a</sup>
No children (in 2003-15)	0.037 <sup>a</sup>	0.169 <sup>a</sup>	0.115 <sup>a</sup>	5,912 <sup>a</sup>
Generation	-0.024 <sup>c</sup>	0.319 <sup>a</sup>	0.167 <sup>a</sup>	7,447 <sup>a</sup>
Year * Generation	0.020	0.016	0.021	15,936 <sup>b</sup>
Age	-0.004 <sup>a</sup>	-0.001 <sup>c</sup>	0.001	424 <sup>a</sup>
N	42,207	42,207	16,297	16,297
R-squared	0.027	0.080	0.071	0.074
India				
Intercept	0.838 <sup>a</sup>	0.148 <sup>a</sup>	0.21 <sup>a</sup> 3	30,239 <sup>a</sup>
Year	0.102 <sup>a</sup>	0.192 <sup>a</sup>	0.248 <sup>a</sup>	14,038 <sup>a</sup>
No children (in 2003-15)	0.037 <sup>a</sup>	0.169 <sup>a</sup>	0.114 <sup>a</sup>	6,071 <sup>a</sup>
Generation	0.045 <sup>a</sup>	0.450 <sup>a</sup>	0.369 <sup>a</sup>	18,932 <sup>a</sup>
Year * Generation	-0.044 <sup>b</sup>	-0.002	-0.072	21,158 <sup>a</sup>
Age	-0.004 <sup>a</sup>	-0.001 <sup>c</sup>	0.001	448 <sup>a</sup>
N	42,118	42,118	16,159	16,159
R-squared	0.027	0.094	0.078	0.085
Men				
Latino countries				
Mexico				
Intercept	0.842 <sup>a</sup>	0.256 <sup>a</sup>	0.283 <sup>a</sup>	56,144 <sup>a</sup>
Year	0.088 <sup>a</sup>	0.065 <sup>a</sup>	0.091 <sup>a</sup>	12,445 <sup>a</sup>
No children (in 2003-15)	0.008 <sup>c</sup>	0.070 <sup>a</sup>	0.041 <sup>a</sup>	-5,949 <sup>a</sup>
Generation	-0.625 <sup>a</sup>	-0.226 <sup>a</sup>	-0.226 <sup>a</sup>	-18,254 <sup>a</sup>
Year * Generation	0.488 <sup>a</sup>	0.018	0.071 <sup>a</sup>	3,529 <sup>c</sup>
Age	-0.004 <sup>a</sup>	0.002 <sup>a</sup>	0.006 <sup>a</sup>	1,133 <sup>a</sup>
N	49,184	49,184	37,977	37,977
R-squared	0.323	0.063	0.055	0.066
Cuba				
Intercept	0.843 <sup>a</sup>	0.256 <sup>a</sup>	0.284 <sup>a</sup>	56,334 <sup>a</sup>
Year	0.088 <sup>a</sup>	0.065 <sup>a</sup>	0.091 <sup>a</sup>	12,428 <sup>a</sup>
No children (in 2003-15)	0.002	0.070 <sup>a</sup>	0.039 <sup>a</sup>	-6,133 <sup>a</sup>
Generation	-0.122 <sup>a</sup>	-0.036 <sup>b</sup>	0.030 <sup>c</sup>	-5,994 <sup>a</sup>
Year * Generation	0.143 <sup>a</sup>	0.112 <sup>b</sup>	0.041	16,406
Age	-0.005 <sup>a</sup>	0.002 <sup>a</sup>	0.006 <sup>a</sup>	1,227 <sup>a</sup>
N	40,574	40,574	31,915	31,915
R-squared	0.025	0.010	0.013	0.047

Notes: See end of table

**Appendix Table 2.4 continued**

Men, Latino countries continued

## Dominican Republic

Intercept	0.844 <sup>a</sup>	0.256 <sup>a</sup>	0.284 <sup>a</sup>	56,330 <sup>a</sup>
Year	0.088 <sup>a</sup>	0.065 <sup>a</sup>	0.091 <sup>a</sup>	12,417 <sup>a</sup>
No children (in 2003-15)	0.002	0.071 <sup>a</sup>	0.041 <sup>a</sup>	-5,978 <sup>a</sup>
Generation	-0.455 <sup>a</sup>	-0.210 <sup>a</sup>	-0.152 <sup>a</sup>	-23,090 <sup>a</sup>
Year * Generation	0.360 <sup>a</sup>	0.027	0.065	5,624
Age	-0.005 <sup>a</sup>	0.002 <sup>a</sup>	0.006 <sup>a</sup>	1,263 <sup>a</sup>
N	39,639	39,639	31,069	31,069
R-squared	0.043	0.013	0.015	0.052

## Asian countries

## Philippines

Intercept	0.844 <sup>a</sup>	0.256 <sup>a</sup>	0.284 <sup>a</sup>	56,352 <sup>a</sup>
Year	0.088 <sup>a</sup>	0.065 <sup>a</sup>	0.091 <sup>a</sup>	12,409 <sup>a</sup>
No children (in 2003-15)	0.003	0.073 <sup>a</sup>	0.043 <sup>a</sup>	-5,910 <sup>a</sup>
Generation	0.052 <sup>a</sup>	0.254 <sup>a</sup>	0.041 <sup>b</sup>	-4,772 <sup>a</sup>
Year * Generation	-0.033 <sup>b</sup>	-0.213 <sup>a</sup>	0.026	-283
Age	-0.004 <sup>a</sup>	0.003 <sup>a</sup>	0.007 <sup>a</sup>	1,296 <sup>a</sup>
N	41,211	41,211	32,417	32,417
R-squared	0.018	0.019	0.014	0.049

## China

Intercept	0.844 <sup>a</sup>	0.256 <sup>a</sup>	0.284 <sup>a</sup>	56,326 <sup>a</sup>
Year	0.088 <sup>a</sup>	0.065 <sup>a</sup>	0.091 <sup>a</sup>	12,414 <sup>a</sup>
No children (in 2003-15)	0.003	0.071 <sup>a</sup>	0.041 <sup>a</sup>	-5,924 <sup>a</sup>
Generation	0.015	0.370 <sup>a</sup>	0.277 <sup>a</sup>	2,159
Year * Generation	0.007	-0.050	0.051	5,331
Age	-0.005 <sup>a</sup>	0.002 <sup>a</sup>	0.006 <sup>a</sup>	1,274 <sup>a</sup>
N	40,803	40,803	32,116	32,116
R-squared	0.018	0.031	0.027	0.049

## India

Intercept	0.844 <sup>a</sup>	0.256 <sup>a</sup>	0.284 <sup>a</sup>	56,388 <sup>a</sup>
Year	0.088 <sup>a</sup>	0.065 <sup>a</sup>	0.091 <sup>a</sup>	12,403 <sup>a</sup>
No children (in 2003-15)	0.003	0.072 <sup>a</sup>	0.042 <sup>a</sup>	-5,916 <sup>a</sup>
Generation	0.118 <sup>a</sup>	0.580 <sup>a</sup>	0.431 <sup>a</sup>	14,979 <sup>a</sup>
Year * Generation	-0.079 <sup>a</sup>	-0.086 <sup>b</sup>	-0.034	29,045 <sup>a</sup>
Age	-0.004 <sup>a</sup>	0.002 <sup>a</sup>	0.007 <sup>a</sup>	1,321 <sup>a</sup>
N	40,802	40,802	32,181	32,181
R-squared	0.020	0.066	0.049	0.060

Notes: Statistical significance is denoted as a=  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 1980 U.S. Decennial Census 5% files, selected years from the U.S. Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.



**Appendix Table 2.5: Selected Regression Results and Calculations,  
Intergenerational Mobility for Immigrants Compared to U.S.  
Mainstream for Six Countries of Origin**

	High school completion (%)	College completion (%)	Upper white-collar occupation (%)	Earnings (\$)
Mexican Women	63.2 <sup>a</sup>	11.0 <sup>a</sup>	25.8 <sup>a</sup>	11,856 <sup>a</sup>
Mainstream Women	10.2 <sup>a</sup>	19.2 <sup>a</sup>	24.8 <sup>a</sup>	14,029 <sup>a</sup>
Difference	53.0 <sup>a</sup>	-8.2 <sup>a</sup>	1.1	-2,173 <sup>c</sup>
Cuban Women	20.6 <sup>a</sup>	32.1 <sup>a</sup>	31.1 <sup>a</sup>	21,716 <sup>a</sup>
Mainstream Women	10.2 <sup>a</sup>	19.2 <sup>a</sup>	24.8 <sup>a</sup>	14,054 <sup>a</sup>
Difference	10.4 <sup>a</sup>	12.8 <sup>a</sup>	6.2	7,663
Dominican Women	54.8 <sup>a</sup>	24.6 <sup>a</sup>	31.1 <sup>a</sup>	11,225 <sup>a</sup>
Mainstream Women	10.2 <sup>a</sup>	19.2 <sup>a</sup>	24.8 <sup>a</sup>	14,047 <sup>a</sup>
Difference	44.6 <sup>a</sup>	5.3	6.3	-2,823
Filipino Women	3.5 <sup>a</sup>	-24.2 <sup>a</sup>	1.2	6,607 <sup>b</sup>
Mainstream Women	10.2 <sup>a</sup>	19.2 <sup>a</sup>	24.8 <sup>a</sup>	14,042 <sup>a</sup>
Difference	-6.7 <sup>a</sup>	-43.4 <sup>a</sup>	-23.6 <sup>a</sup>	-7,435 <sup>b</sup>
Chinese Women	12.2 <sup>a</sup>	20.8 <sup>a</sup>	30.0 <sup>a</sup>	29,968 <sup>a</sup>
Mainstream Women	10.2 <sup>a</sup>	19.2 <sup>a</sup>	24.8 <sup>a</sup>	14,032 <sup>a</sup>
Difference	2.0	1.6	2.1	15,936 <sup>b</sup>
Indian Women	5.8 <sup>a</sup>	19.0 <sup>a</sup>	17.6 <sup>a</sup>	35,196 <sup>a</sup>
Mainstream Women	10.2 <sup>a</sup>	19.2 <sup>a</sup>	24.8 <sup>a</sup>	14,038 <sup>a</sup>
Difference	-4.4 <sup>b</sup>	-0.2	-7.2	21,158 <sup>a</sup>
Mexican Men	57.6 <sup>a</sup>	8.3 <sup>a</sup>	16.2 <sup>a</sup>	15,974 <sup>a</sup>
Mainstream Men	8.8 <sup>a</sup>	6.5 <sup>a</sup>	9.1 <sup>a</sup>	12,445 <sup>a</sup>
Difference	48.8 <sup>a</sup>	1.8	7.1 <sup>a</sup>	3,529 <sup>c</sup>

Cuban Men	23.1 <sup>a</sup>	17.7 <sup>a</sup>	13.2 <sup>b</sup>	28,835 <sup>c</sup>
Mainstream Men	8.8 <sup>a</sup>	6.5 <sup>a</sup>	9.1 <sup>a</sup>	12,428 <sup>a</sup>
Difference	14.3 <sup>a</sup>	11.2 <sup>b</sup>	4.1	16,406
Dominican Men	44.8 <sup>a</sup>	9.3 <sup>c</sup>	15.6 <sup>b</sup>	18,041 <sup>a</sup>
Mainstream Men	8.8 <sup>a</sup>	6.5 <sup>a</sup>	9.1 <sup>a</sup>	12,417 <sup>a</sup>
Difference	36.0 <sup>a</sup>	2.7	6.5	5,624
Filipino Men	5.5 <sup>a</sup>	-14.7 <sup>a</sup>	11.7 <sup>a</sup>	12,125 <sup>a</sup>
Mainstream Men	8.8 <sup>a</sup>	6.5 <sup>a</sup>	9.1 <sup>a</sup>	12,409 <sup>a</sup>
Difference	-3.3 <sup>b</sup>	-21.3 <sup>a</sup>	2.6	-283
Chinese Men	9.5 <sup>a</sup>	1.6 <sup>a</sup>	14.2 <sup>b</sup>	17,745 <sup>b</sup>
Mainstream Men	8.8 <sup>a</sup>	6.5 <sup>a</sup>	9.1 <sup>a</sup>	12,414 <sup>a</sup>
Difference	0.7	-5.0	5.1	5,331
Indian Men	0.9	-2.1 <sup>a</sup>	5.8	41,449 <sup>a</sup>
Mainstream Men	8.8 <sup>a</sup>	6.5 <sup>a</sup>	9.1 <sup>a</sup>	12,403 <sup>a</sup>
Difference	-7.9 <sup>a</sup>	-8.6 <sup>b</sup>	-3.4	29,045 <sup>a</sup>

Note: Author's calculations. Numbers are rounded after calculations. Statistical significance is denoted as a=  $p < .001$ ; b =  $p < .01$  and c =  $p < .05$ . Data are from the 1980 U.S.

Decennial Census 5% files, selected years from the U.S Census and U.S. Bureau of Labor Statistics Current Population Survey (CPS) for 2003, 2005, 2007, 2009, 2011, 2013, and 2015. Ages are restricted to 25-44 for 1980 and 25-41 for 2003 through 2015. For countries outside the U.S., 1980 samples are for first-generation and 2003-15 for second-generation immigrants. Mainstream includes only those who are White, U.S. born and non-Latino. Upper white-collar occupations and earnings are for full-time, full-year workers only. Earnings are from wages/salary alone and adjusted to 2016 annual averages using the U.S. Bureau of Labor Statistics Consumer Price Index - All Urban Consumers.

## Conclusion

This dissertation examines inequalities linked to motherhood and gender. It takes an intersectional approach to add nativity, race and ethnicity to findings about disparities. It asks questions about immigrants, who are a growing part of the population. (Lopez and Bialik 2017; Pew Research Center 2013) It also examines outcomes among Asian and Latino populations who have been increasing parts of the U.S. population since 1965. (Waters and Ueda 2007; Bean and Stevens 2005; Lopez and Bialik 2017; Pew Research Center 2012; Pew Research Center 2017) It asks whether immigrant mothers and second-generation women have greater disadvantages than U.S. born women, as well as second-generation men.

This dissertation adds immigration theory to motherhood wage gap studies. Immigration theory adds factors of social networks, ethnic enclaves and assimilation, which includes English language speaking abilities, to studies of women in the labor market. (Read and Cohen 2007; England et al 2004; Stone et al 2006; Kulkarni 2015) It asks whether there is either straight-line assimilation or segmented assimilation. Assimilation is a core concept in immigration studies. It is the idea that over time, groups become increasingly similar to each other through social interaction. (Park and Burgess 1969) Segmented assimilation modifies the original theory to predict that not all groups necessarily assimilate, and assimilation may occur in different directions for different groups. (Portes and Zhou 1993)

Both chapters ask about paid work. Disparities in pay by motherhood affect large numbers of women. In 2015, nearly seventy percent (69.9%) of mothers are in the labor force in the U.S. (United States Department of Labor 2016) Given that mothers may

experience wage gaps and fathers may experience wage boosts (Weeden et al 2016; Killewald 2012; Glauber 2008; Lundberg and Rose 2000), motherhood wage gaps may contribute to overall gender wage gaps. Chapter 1 asks whether all women experience motherhood wage gaps, whether immigrant mothers specifically experience wage gaps, and if there are differences in gaps between all women and immigrant women.

Chapter 2 asks whether second-generation immigrant and U.S. born non-Latino mainstream women experience gender earnings gaps with men within their racial and ethnic groups. It also asks whether social mobility across generations varies by gender and by race and ethnicity. It asks these questions for both 2003-07 and 2012-16. It includes outcomes for immigrants from six country of origin groups.

Each Chapter has six hypotheses. Hypotheses in Chapter 1 are: 1) U.S. mothers have lower wages than women without children; 2) U.S. immigrant mothers have lower wages than U.S. immigrant women without children; 3) motherhood wage gaps amongst immigrant women differ from those amongst all U.S. women; 4) accounting for fertility endogeneity narrows motherhood wage gaps; 5) correcting for employment selection changes motherhood wage gaps; and 6) immigrant mothers' wage gaps change after controlling for immigrant selectivity.

Chapter 2 also has six hypotheses. They are that: 1) when comparing the period from 2012-16 with either 1980 or 1990, women continue to have greater intergenerational mobility than men within each of the broader racial and ethnic groups of immigrant Latinos, immigrant Asians and non-immigrant White, non-Latinos; 2) second-generation immigrant Latinos experience less intergenerational mobility and assimilation from either 1980 or 1990 to 2012-16 than from 1980 to 2003-07; 3) straight-

line assimilation continues for Asian second-generation immigrants from either 1980 or 1990 to 2012-16 for education and occupations but not for earnings; 4) patterns of greater intergenerational mobility by women compared to men remain the same for country of origin as for pan ethnic groups; 5) there is country of origin level segmented assimilation among Latinos; and 6) straight-line assimilation within countries of origin among second-generation Asians occurs in education and occupations but not in earnings.

Both Chapters 1 and 2 contribute new findings to previous studies. Chapter 1 adds the dimension of immigrant nativity, as previously limited in study, to intersectional research about motherhood wage gaps. It follows other studies in correcting for fertility endogeneity and employment selection. Other studies find that wage gaps between mothers and women without children vary by time period of study, number of children, mother's educational level, wage level, profession or occupation, race and ethnicity, marital status, age at birth, age when the gaps are measured, and age of children when the gaps are measured. (Pal and Waldfogel 2016; Yu and Kuo 2017; Buchman and McDaniel 2016; Pal and Waldfogel 2014; Avellar and Smock 2003; Buchman and McDaniel 2016; Glauber 2007; Budig and England 2001; Killewald and Bearak 2014; Budig and Hodges 2014; England et al 2016; Budig and Hodges 2010; Ellwood, Wilde and Bachelor 2004; Anderson et al 2003; Taniguchi 1999; Todd 2001; Ameudo-Dorantes and Kimmel 2005; Anderson et al. 2002; Parrott 2014; Winder 2008; Stone et al 2006; Kahn et al 2014) Some studies view differences by race and ethnicity through an intersectional lens. (Glauber 2007; Stone et al 2006; Parrott 2014) Two previous studies estimate gaps for U.S. immigrants (Srivastava and Rodgers 2013 and Pal and Waldfogel 2016) Neither of these studies corrects for potential biases due to selection into immigration. Chapter 1

addresses immigrant selectivity issues. It also corrects for fertility endogeneity and potential bias due to employment selection. Although another study uses child care availability data as an instrument for fertility endogeneity, (Winder 2008) this dissertation uses cost rather than availability data.

Chapter 2 adds a more recent time period to second-generation intergenerational mobility studies. It builds upon previous studies. (Park and Meyer 2010; Park et al 2015) Although some studies prior to Park et al (2015) compare second-generation immigrant women and men (Card et al 1998; Borjas 2006; Blau et al 2013), the Park et al (2015) study using intergenerational mobility models moves research forward in methods to compare immigrants by gender as well as to a nonimmigrant comparison group. Chapter 2 adds a more recent cohort of second-generation immigrants to other studies (Park et al 2015); adds country of origin groups to an intergenerational mobility method (Park and Meyer 2010; Park et al 2015); and tests whether findings between 2003-07 and 2012-16 are statistically significantly different from each other.

### Summary of Findings

Broadly, this dissertation finds disparities by motherhood, gender, race, ethnicity and immigrant nativity. It shows that an intersectional lens is important for studying gender inequality. This dissertation does not find a potential triple disadvantage with motherhood and immigration that might then combine with a gender disadvantage if fathers and men without children were added to the motherhood wage gap study. It also does not find evidence of double disadvantages that continue from first-generation to second-generation women. It does, however, find evidence of gender-based

disadvantages, and that those disadvantages vary by immigrant nativity, race, ethnicity, and countries of origin.

Findings support Chapter 1's Hypotheses 1, 2, 4 and 6. Results for 2000 support Hypothesis 3; while those for 2015 do not. Mothers experience wage gaps, although they are reduced after correcting for fertility endogeneity. Immigrant mothers also have wage gaps. They are significantly different from all mothers with 2 or more children in 2000 but not in 2015. Before correcting for biases, by numbers of children, gaps range from 4.1% to 14.4% for all mothers and from 3.4% to 10.2% for immigrant mothers in 2000. In 2015, gaps range from 2.4% to 12.3% for all mothers and 2.3% to 12.0% for all immigrant mothers. Even though 2015 differences are not statistically significant by immigrant nativity, it is still important to account for immigrant characteristics in wage equations. Among recent immigrants, immigrant selection bias affects the sizes of motherhood wage gaps. Employment selection does not change most estimates by more than tenths of percentage points. With a model, correcting for fertility endogeneity alone in 2015 for all women, gaps are 0.0% for 3 children and 2.1% for 4 or more children. Neither of these numbers are measured with precision. Gaps are measured with precision for all women at the  $p < .001$  level with a gap of 0.9% for one child and 1.3% for two children. Gaps for immigrant mothers are measured with precisions with all numbers of children after correcting for fertility endogeneity and range from 0.7% for two children to 1.8% for four or more children. Differences between all mothers and immigrant mothers are statistically significant with this model with immigrant mothers having larger gaps by 0.2% for one child and by 1.1% for three children and smaller gaps by 0.6% for two children and 0.4% for four or more children compared to all women. With OLS, recent

immigrant mothers' gaps range from 4.3% to 7.5%, all measured with precision. After correcting for immigrant selection, they range from 6.2%, not measured with precision to 12.4%, measured with precision at the  $p < .001$  level with both the United Nation's Development Programme's Gender Inequality Index and Gini coefficients as instruments.

Dissertation results confirm other studies' findings that motherhood wage gaps exist and may change after corrections for fertility endogeneity. (Winder 2008; Budig and England 2001; Pal and Waldfogel 2014; Pal and Waldfogel 2016) The magnitudes of gaps in Chapter 1 are similar to those in other studies. (Pal and Waldfogel 2016; Budig and England 2001) The magnitudes of immigrant mothers' wage gaps vary among recent immigrants with a correction for selection into immigration.

Chapter 2 supports and extends findings in Park et al (2015) that intergenerational mobility among immigrants varies by gender as well as race and ethnicity. Chapter 2 finds that women have greater attainment than men in education and occupations across generations but not in earnings, with some country of origin exceptions. Findings are consistent with the chapter's first, second, third, fourth, and sixth hypotheses. Women have greater intergenerational mobility than men within each of the broader racial/ethnic groups when comparing 2012-16 with either 1980 or 1990. Despite this greater intergenerational mobility, men continue to earn more than women for pan ethnic groups across decades. There is some evidence of less intergenerational mobility among Latinos relative to the mainstream in 2012-16 than in 2003-07. Racial/ethnic disparities persist, and in some cases, widen for Latinos after the Great Recession. There is evidence of straight-line assimilation for Asians in educational and occupational attainment from



1980 to 2012-16 but not from 1990 to 2012-16, and second-generation Asians continue their parents' generations' relatively high earnings levels.

Chapter 2 results show that there is variation in gender patterns at the country of origin level. Filipino gender patterns are different from other groups. Filipino women begin with higher attainment than Filipino men in the first-generation for college and upper white-collar occupations and maintain this advantage. Filipino women without children and Chinese mothers are the only two country of origin groups of second-generation women that have higher earnings by gender once parental status is considered. Filipino second-generation women are the only group of women who have lower attainment in any outcomes than the first-generation.

There is some straight-line assimilation for three country of origin Latino groups from Mexico, the Dominican Republic and Cuba. Disparities persist, especially for Mexicans and Dominicans. Assimilation within countries of origin among second-generation Asians from the Philippines, China and India occurs in education and occupations but not in earnings.

### Study Limitations

Both chapters are potentially limited by undercounts in data collection from undocumented immigrants. (Jensen et al 2015) If undocumented immigrant women are undercounted in motherhood wage gap research, and undocumented immigrants are at the low skill end of skill and wage distributions, and relatively lower skilled and earning women have smaller wage gaps, including previously undercounted undocumented women could narrow motherhood wage gaps estimates for immigrant women, if their numbers are significantly large enough to affect overall estimates for all immigrant

women. If there are biases in Chapter 2 data due to undercounts of undocumented immigrants, estimates for intergenerational mobility may be underestimated. (Park et al 2015, p. 1622)

Chapter 1's limitations are due to cross-sectional data, limited information in data sets about ages of all children, and the need for an additional instrument to test for fertility endogeneity and employment selection simultaneously. Because data are cross-sectional, I am not able to use fixed effects models, which would work with methods to eliminate bias due to individual heterogeneity.

The Census data do not provide ages for all children within a household, only the oldest and youngest. For this reason, I am not able to distinguish between children born pre-immigration versus children born post-immigration. This data limitations also does not allow for a more detailed instrument with child care cost data that would match ages of all children with child care costs by age.

There are some limitations in accounting for potential fertility, employment and immigrant selection biases. Limitations include that child care cost data are an instrument for both fertility endogeneity and employment selection so do not test for both biases in the same model. Immigrant selection bias is for only the most recent immigrants. While immigrant selection issues may be less prevalent with those who have lived in the U.S. for longer periods of time and have had more time to assimilate, analysis including earlier immigrants is required to test selection bias for all immigrants. Ideally, I would test for potential fertility, employment and immigrant selection biases simultaneously.

Chapter 1 does not contain separate analyses for immigrants by country of origin or ethnicity. Such research might find further variations in estimates.

Chapter 2's findings are limited by the fact that the data do not provide information to connect individual second-generation immigrants with their biological parents. Correlations between first- and second-generation immigrants use averages for points in time without identifying specific intergenerational relationships. There is not a study that tests whether attainment estimates differ between kinship and non-kinship groups that confirms the lack of bias. However, literature does not suggest that data without direct kinship linkages produce biases. (Borjas 2006; Park et al 2015)

### Policy Implications

This dissertation has several policy implications. The Institute for Women's Policy Research (2017) attributes gender wage gaps to discrimination in pay, recruitment, job assignments, promotions, occupational segregation where women earn less in occupations with higher percentages of women, and women's greater time spent caring for family members, including time out of the labor market around child birth. Motherhood wage gaps may contribute to gender inequality. Although correcting for fertility endogeneity reduces gaps, there is still evidence of gaps. Current and proposed policies intended to help parents might include paid family leave, workplace flexibility, raising the minimum wage and child care assistance. (National Women's Law Center 2017; Glynn et al 2014)

Both chapters show the importance of an intersectional lens for policy implications. Chapter 1 draws attention to the need for understanding of the situations that a diverse group of mothers face in the labor market. For example, recent immigrant mothers may not have full information about available child care in their areas. Mothers with English language speaking barriers may need programs and employers to provide

information translated into languages other than English. Chapter 2 finds that gender earnings gaps exist across racial and ethnic groups. Immigrant nativity, race, ethnicity and gender intersect resulting in outcome variations.

It is beyond the scope of this dissertation to address all the effects of income inequality in the U.S. However, findings from Chapter 2 suggest that attention to possible differential impacts on racial and ethnic groups will be important for policy. Chapter 2 preliminarily suggests that income inequality may be disadvantaging Latinos relative to a non-Latino White mainstream.

The motherhood wage gaps that this dissertation estimates in full models are for the remaining differences after any differences in education levels, work experience, potential within household family support, occupation, job characteristics, and immigrant characteristics such as time to assimilate are held constant. Policies that assist working parents in gaining education, training, child care, parental leave, and flexible schedules may decrease wage gaps that occur when factors contributing to labor market wages are not equal.

Policies to address gender earnings gaps are important across racial, ethnic and country of origin groups. Since mothers may spend greater time and effort caring for children than fathers (Institute for Women's Policy Institute 2017), policies that address motherhood wage gaps may also decrease gender wage or earnings gaps. Earnings gaps occur due to both differences in hourly wages and to time spent in the paid labor market. While this dissertation does not measure discrimination directly, discrimination is one explanation for unexplained gaps in outcomes. Any discrimination that does occur may

be addressed through policies that require employers to adopt hiring, promotion and retention practices seeking to eliminate potential biases.

### *Recent Immigration Policy Debates*

The Trump administration has recommended and taken action on some immigration policies. (McHugh 2018) This dissertation's results might help inform recent policy debates. Chapters are particularly relevant to two areas of proposed changes, that of the Deferred Action for Childhood Arrivals (DACA) program and discussion of changes to policies allowing family immigration beyond spouses and minor children.

Current policy debates include those over the fate of the Deferred Action for Childhood Arrivals (DACA) program. The Trump administration ended the program; however, this decision is being challenged in courts. (Jordan 2018) As designed, the DACA program allows people under age 31 who have lived in the U.S. since 2007 and do not have documented immigration status to request deferred action for up to two years at a time. Young people have to be at least 15 years of age to participate in the program. In certain cases where younger children are in removal proceedings, they are also eligible for the program. (United States Citizenship and Immigration Services, historical content, accessed 2018)

According to the Migration Policy Institute (2017) estimates, DACA recipients have almost the same rates of college enrollment as the general U.S. population, but lower rates of college completion. Fifty-five percent of individuals with DACA deferrals are employed. There are gender differences among DACA recipients in college enrollment and employment rates, with women more likely to be attending college and less likely to be employed than men. (Zong et al 2017)

While the U.S. born second-generation population is not exactly the same as the immigrant population affected by DACA policy, Chapter 2's findings may contextualize predicted outcomes for immigrants arriving in the U.S. as children. Disparities in educational and upper white-collar attainment among Latinos provide insights for schools and employers. Policies that address inequities in school quality, access to post-secondary education and employer recruitment and retention across ethnic groups may address some differences in educational and upper white-collar occupational attainment outcomes.

If policy creates shifts in preferences for immigrants either in skill compositions or visas for family-based immigration, motherhood wage gaps may be affected. Currently, this is not a proposal that is being debated as a widescale change, although it has been discussed in the context of limiting travel from specific countries. (McHugh 2018) It is possible that a change in immigrant women's skill composition can affect the magnitudes of motherhood wage gaps. For example, if a greater percentage of higher skilled, and higher earning, mothers immigrate to the U.S. than already moving, motherhood wage gaps among recent immigrants may narrow. Or, if priorities shift away from preferences for family migration, motherhood wage gaps may increase. Grandparents and extended family may be assisting immigrant parents with child care. Policies that reduce their ability to immigrate may affect mothers' wages. This dissertation's findings suggest that policy debates about changing skill compositions of immigrants or family-based preferences consider the impacts of policies on immigrants' wages and contributions in the labor market.

### Areas for Future Research

Both dissertation chapters show that research about future trends will be important in monitoring intersectional gender-based inequality. It will be important to continue to distinguish immigrant and nonimmigrant women over time. Estimates for differences in gap sizes between immigrant and nonimmigrant women differ in significance levels for 2, 3 and 4 or more children between 2000 and 2015. Given that both the sizes of motherhood wage gaps and differences in gaps between immigrant and nonimmigrant women might vary over time, trend analysis will be important. It will be important for future research to continue to analyze the experience of future cohorts of second-generation immigrants, given levels of economic inequality over time.

Future research might ask additional questions about what contributes to gender disparities. A more complete picture of gender inequality would examine fatherhood wage boosts and motherhood wage gaps simultaneously by immigration nativity. Chapter 2 begins to examine gender differences in parental status among second-generation immigrants. Future research might work toward explaining differences by human capital, family structures and work and occupation characteristics.

Future work might ask whether explanations for motherhood wage gaps vary between U.S. native-born and immigrant women when those who immigrated in earlier decades are included in a sample and analysis addressing immigrant selection bias. Given findings of fertility endogeneity, future work might account for the possibility of biases linked to fertility, employment and immigration simultaneously.

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### Conclusion

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