# When Moving Matters Residential and Economic Mobility Trends in America, 1880–2010

Scott Winship, Senior Fellow, Manhattan Institute; e21 Report No. 2, November 2015

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### When Moving Matters Residential and Economic Mobility Trends in America, 1880–2010

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#### **Appendix**

# I. Transcending One's Birthplace: How Economic Mobility Varies with Residential Mobility from Birth to Adulthood and over the Preceding Five Years

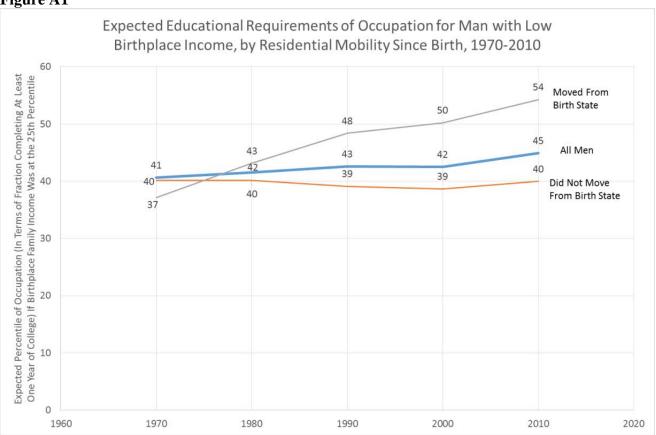
This section supplements the main paper's analyses on adult incomes and earnings by offering additional evidence for other outcomes; it relies on the same Aaronson-Mazumder approach that relates adult outcomes to birthplace incomes.

#### Educational Requirements of Jobs

For each worker with an identified occupation, the Census Bureau data include the percentage of workers in that job who had completed at least one year of college. Ranking jobs by this metric indicates which jobs are most popular among the highly educated. Some jobs may not necessarily pay inordinately well but are desirable for other reasons. Figures A1–A4 assess how adults from poor birthplaces fare depending on whether they move.

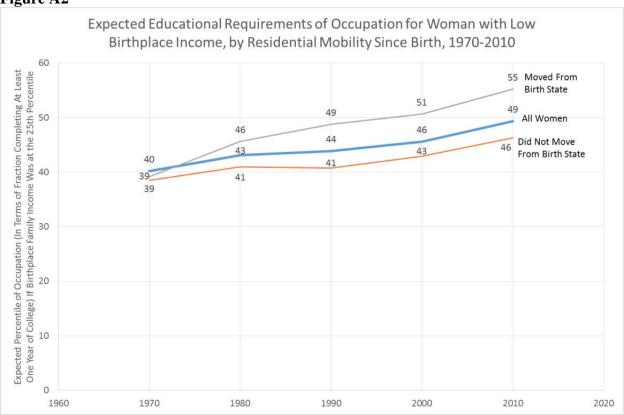
Examining men first, **Figure A1** indicates that in 1970, living outside one's birth state conferred no advantage in terms of the educational requirements of jobs. Later, movers saw steady increases in the education levels of the jobs they filled, while non-movers did not. By 2010, a man raised at the 25<sup>th</sup> percentile of birthplace income typically had a job in which a majority of incumbents (54 percent) had completed at least a year of college; the equivalent figure for the jobs of non-movers was just 40 percent.

Figure A1



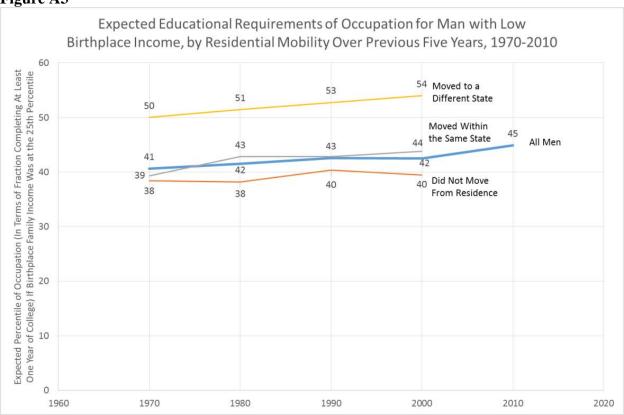
Among women, **Figure A2** shows a pattern similar to that shown for men: a gap between the outcomes of movers and non-movers opens up after 1970. However, the educational requirements of the jobs held by women growing up in poor birthplaces rose even among non-movers.





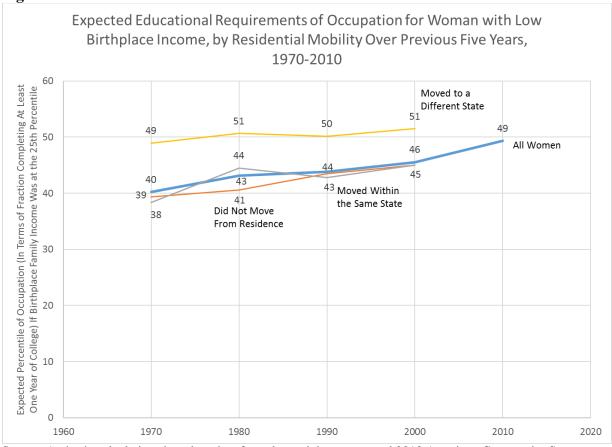
**Figure A3** shows that men who had moved out of state in the past five years had jobs with higher educational requirements than other men in 1970. Men who had moved in-state did only slightly better than non-movers. Over time, the gap between non-movers and movers widened.

Figure A3



Recent moves appear to pay off only for women who move out of state, according to **Figure A4**, though even non-movers saw improvement over time. The gap between women who moved out of state and other women actually narrowed over time.

Figure A4



#### Educational Attainment

The years of schooling completed by men and women from poor birthplaces rose steadily between 1970 and 2010 but at different rates for movers and non-movers (Figures A5–A12). In 1970, majorities of men from poor birthplaces had completed less than 12 years of schooling, as shown in **Figure A5**.

In the next 30 years, the share of men with less than 12 years of school fell dramatically, especially from 1970 to 1990. But the share fell even more among men who lived outside their birth state—in 2000, more than twice as many non-movers failed to graduate from high school. That gap widened between 2000 and 2010. These patterns were remarkably similar for women (**Figure A6**).



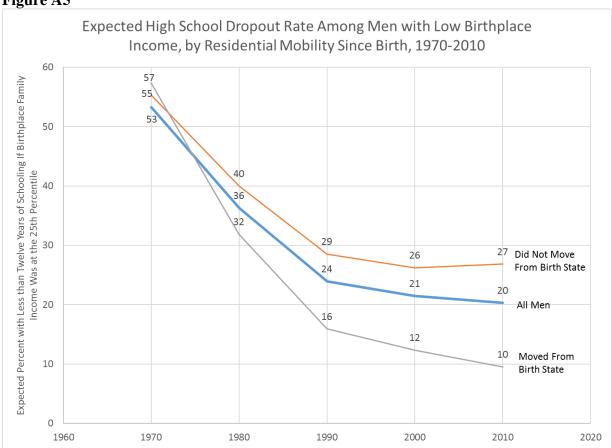
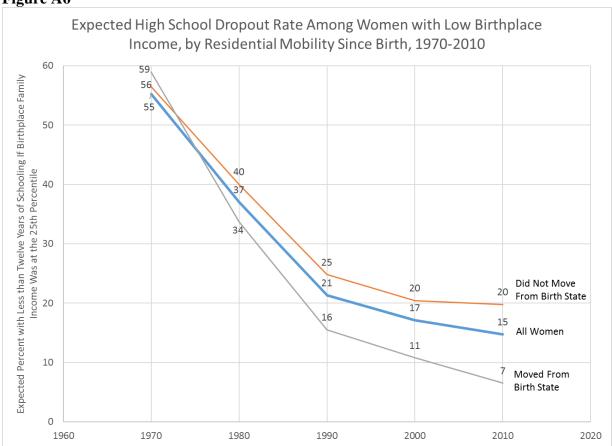


Figure A6



**Figure A7** and **Figure A8** indicate that for men and women alike, upward mobility during 1970–2010 was more common among adults who had moved out of their state in the previous five years than it was among those who remained in-state. However, the gaps between movers and non-movers narrowed over time. Adults who moved within their state saw little to no payoff in terms of educational attainment.

Figure A7

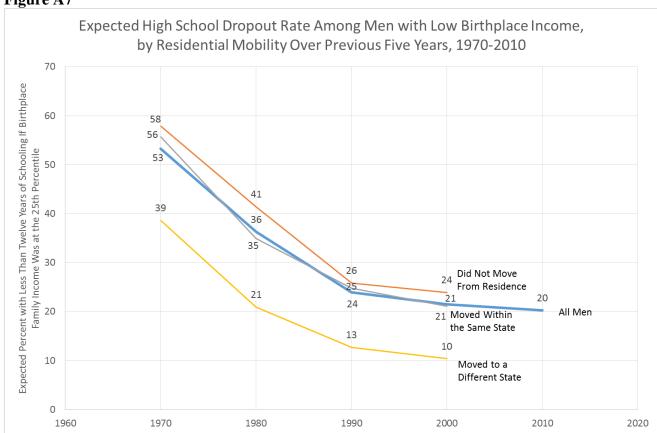
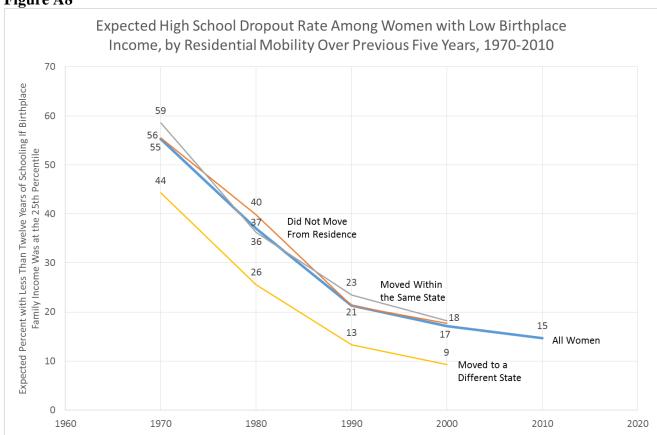


Figure A8



In **Figure A9** and **Figure A10**, the share of both men and women from poor birthplaces with 16 or more years of schooling rises steadily over time, except for a dip in 2000 among men. Among men and women, no gap existed between movers and non-movers in 1970, but large gaps had opened up by 2010. By that year, a gap of over 20 percentage points had opened up between the college graduation rates of movers and non-movers from poor birthplaces. The 1990–2000 dip among men was confined to non-movers; among men still living in their birth state, college graduation rates were no higher in 2010 than in 1980.

Figure A9

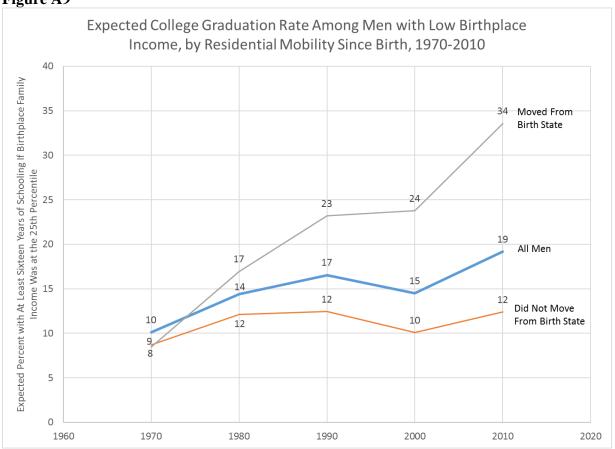
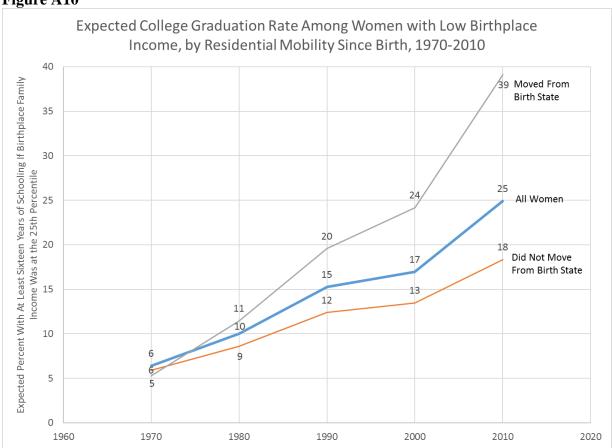
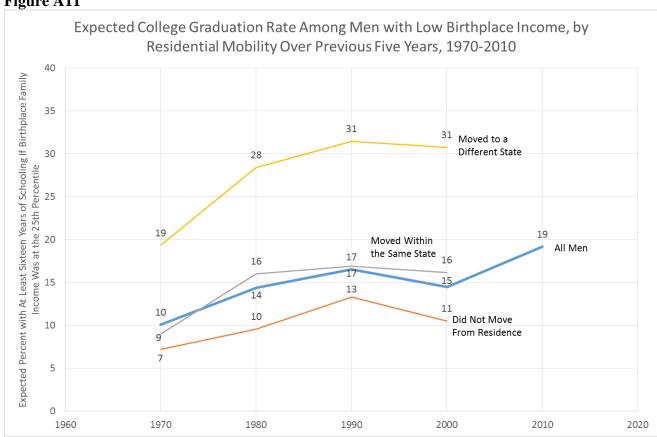


Figure A10



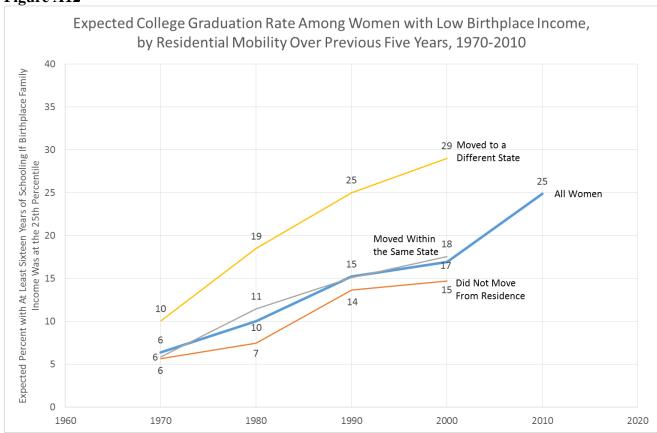
College graduation rates rose among men and women raised in poor birthplaces who did and did not move in the past five years, but gaps between movers and non-movers widened over time. Among men (Figure A11), the gap between men who had moved out of state and other men was large—even in 1970. By 2010, nearly twice as many men who had moved out of state graduated from college as did men who moved within their state; nearly three times as many men who had moved out of state were college graduates, compared with men who did not move at all.

Figure A11



As **Figure 12** shows, gaps among women started out smaller. Because even non-mover women from poor birthplaces saw a substantial increase in college graduation over time, the gaps increased less than they did among men. As with men, the gap in college graduation also rose between in-state movers and non-movers.

Figure A12



### Employment and Unemployment

Because the labor-force participation of women rose substantially over time, employment trends generally differ for men and women. Among men who started out at the 25<sup>th</sup> percentile of birthplace income, for instance, the employment rate fell from 92 percent to 79 percent over the 40-year period. But among women, it rose from 53 percent to 68 percent (**Figure A13** and **Figure A14**).

Among both men and women, however, movers did increasingly well relative to non-movers. In 1970, non-mover men and women had employment rates as high as or higher than women living outside their birth state; the same was largely true in 1990. By 2010, though, adults who had moved were doing better than those who had not. Still, the gap was quite small among women: 71 percent of those living outside their birth state were employed in 2010, compared with 66 percent of those living in their birth state.



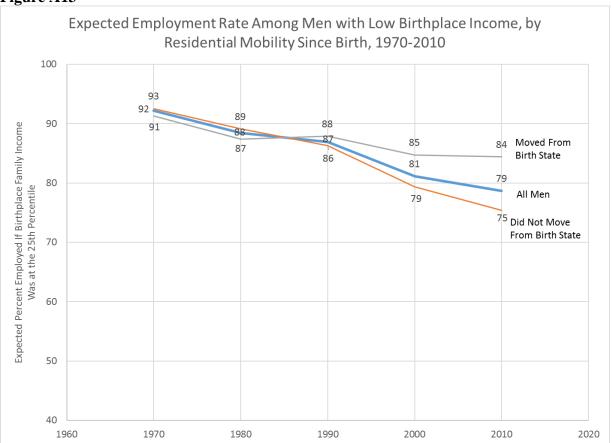
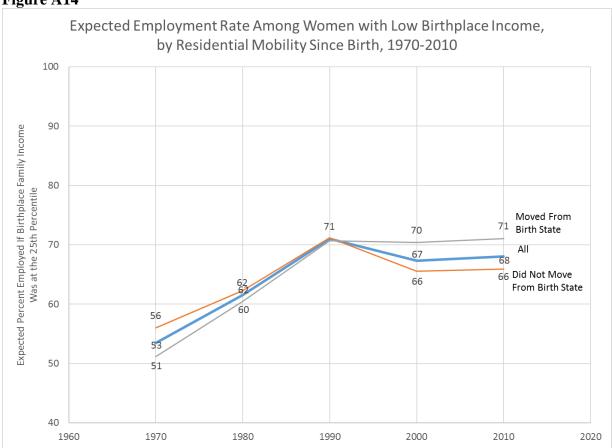


Figure A14



The patterns differ between men and women even more when near-term moves are considered. Among men (**Figure A15**), what was parity in 1970 between the employment rates of movers and non-movers widened into modest differences by 2000. In contrast, in 1970, women who had moved out of state in the previous five years were significantly less likely to be employed than other women; by 2000, employment rates were the same regardless of whether a woman had moved recently (**Figure A16**).

Figure A15

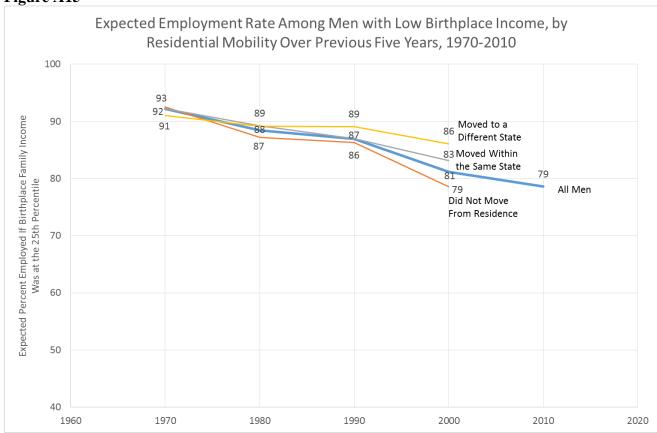
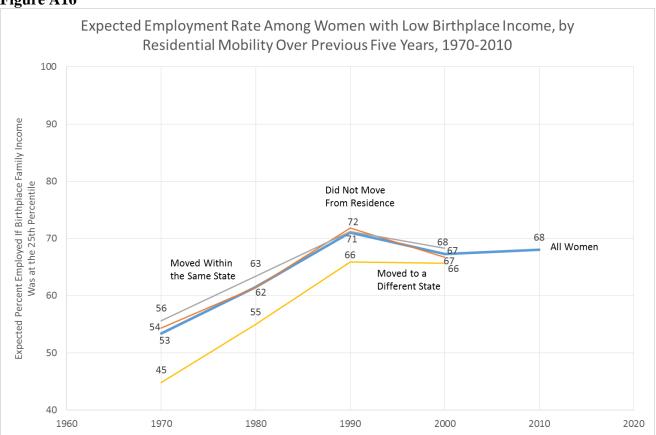


Figure A16



The relationship between unemployment—being out of work as a share of those who work or are looking for a job—and residential mobility also differs from some of the other outcomes considered here. Among both men and women, those living outside their birth state actually had higher unemployment rates in 1970 than those who remained in their birth state (**Figure A17** and **Figure A18**). By 1990, however, these gaps had closed: unemployment rates were very similar regardless of whether someone had moved in 2000 and in 2010.

Figure A17

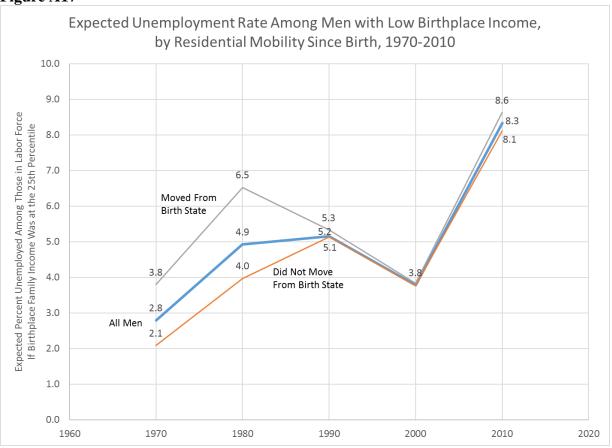
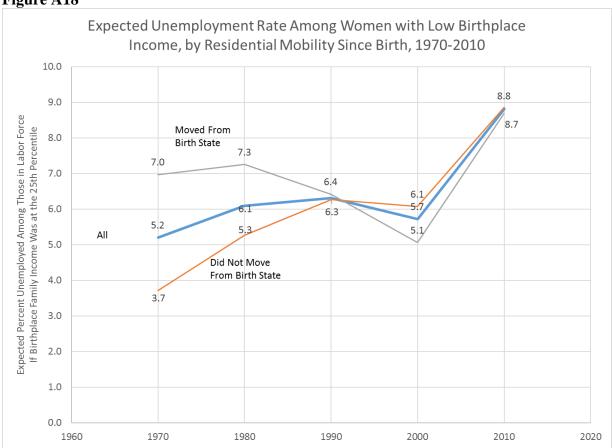
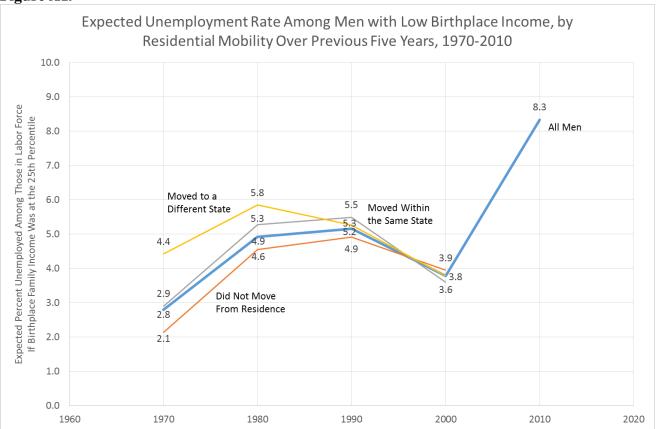


Figure A18



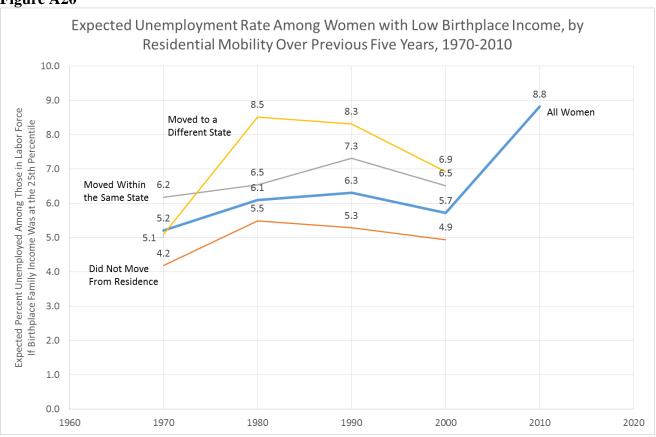
Men's near-term residential-mobility trends were similar. In 1970, men starting out in poor birthplaces who had moved out of state in the past five years had higher unemployment rates compared with men who had moved within their birth state; the latter, in turn, had higher unemployment than men who had not moved in the past five years. Those differences were largely gone by 1990 and were entirely gone by 2000 (**Figure A19**).

Figure A19



Among women, **Figure A20** indicates that 1970 unemployment rates had no simple relationship to near-term residential mobility (though non-movers did worse than women who had recently moved within their birth state or outside it). By 1980, out-of-state movers had higher unemployment than in-state movers; the latter, in turn, had higher unemployment than non-movers. Out-of-state movers closed most of the gap between them and in-state movers by 2000—but both still had higher unemployment rates than non-movers.

Figure A20



#### II. Residential Mobility and Adult Outcomes, 1880–2010

Intergenerational Residential Mobility: Educational Attainment

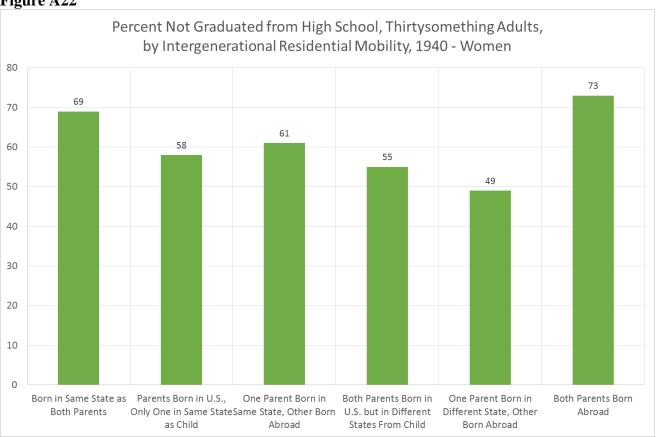
The Census Bureau began asking about educational attainment in 1940. Patterns in the share of thirtysomethings who had less than 12 years of schooling are similar for men and women, though women generally were more likely to have graduated (Figure A21 and Figure A22).

Among adults with at least one native-born parent, the highest non-completion rates were among those born in the same state as both parents (73 percent), followed by those born in the same state as one parent (68 percent), which were worse than the non-completion rates of adults born in a state different from both parents (63 percent). In other words, the more intergenerational residential mobility, the better for high school completion. However, nativeborn adults with two immigrant parents fared relatively poorly on this measure: roughly as many failed to complete high school, compared with adults born in the same state as both parents.

Percent Not Graduated from High School, Thirtysomething Adults, by Intergenerational Residential Mobility, 1940 - Men 80 73 72 68 68 70 63 59 60 50 40 30 20 10 0 Born in Same State as Parents Born in U.S., One Parent Born in Both Parents Born in One Parent Born in Both Parents Born **Both Parents** Only One in Same StateSame State, Other Born U.S. but in Different Different State, Other Abroad Abroad States From Child Born Abroad

Figure A21

Figure A22



College completion rates among thirtysomething men and women in 1940 (**Figure A23** and **Figure A24**) were also lower for adults born in the same state as their parents than for adults of native-born parents born in a state different from at least one parent.

However, women with an immigrant parent had much lower college graduation rates than their male and female counterparts in other residential-mobility categories. The exception: adult women with one immigrant parent and another parent born in a different state fared as well as every category of men and women. Perhaps this is an indication that these kinds of families were less traditional than other families with an immigrant parent.



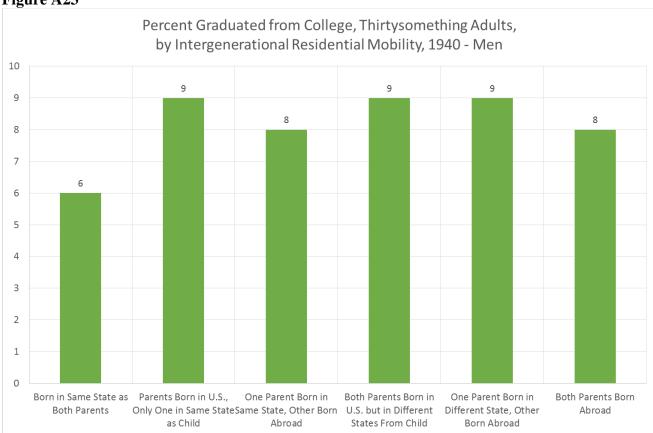
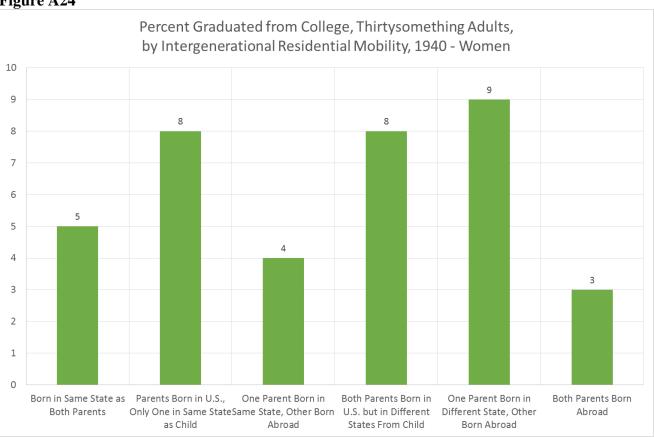


Figure A24



#### Employment and Unemployment

Employment-rate trends generally fail to show a clear relationship with residential mobility (**Figure A25** and **Figure A26**). Among men, employment fell modestly between 1910 and 1940, but the changes were small. Thirtysomethings born in the same state as both parents did as well as, or better than, other men. The employment rates of the other categories of men diverge over the period but not in any simple way related to mobility. Men born in a different state from both native-born parents generally did better than men born in the same state as one parent.

Thirtysomething women had much lower employment rates (note that the scale of the vertical axis has changed), which rose modestly over time, particularly between 1930 and 1940. There is general convergence of employment rates across nonimmigrant women, but women born in the same state as both parents do as well as, or better than, the other women.



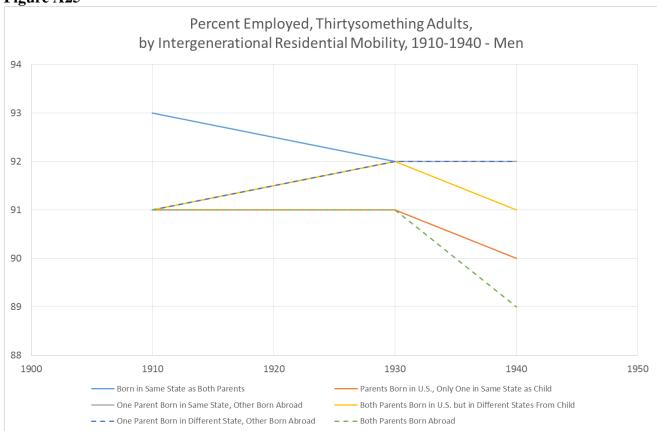
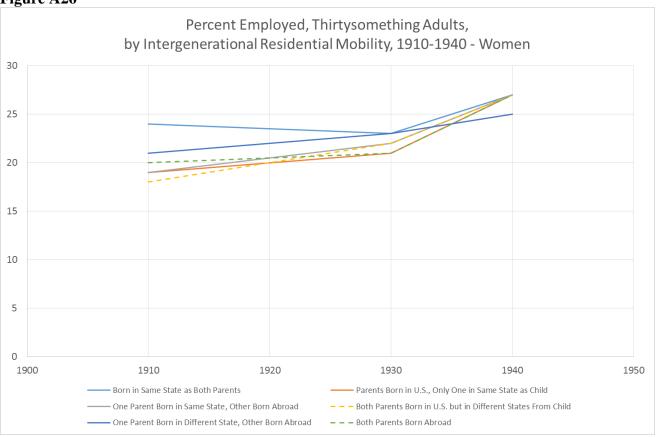


Figure A26



Unemployment also bears little relationship to residential mobility over this period, as indicated in **Figure A27** and **Figure A28**.

Figure A27

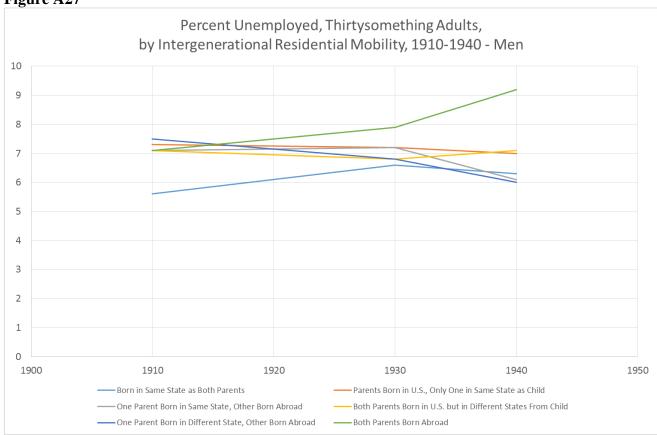
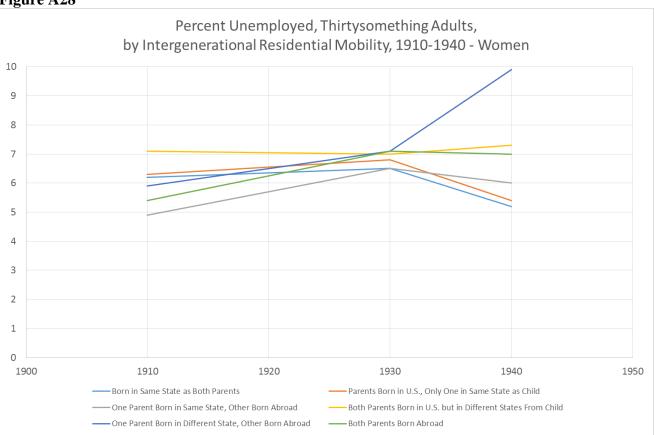


Figure A28



Birth-to-Adulthood Residential Mobility: Educational Attainment

The percentage of native-born thirtysomethings dropping out of high school fell steadily from 1940 to 2010, among men and women (Figure A29 and Figure A30). Throughout this period, adults still living in their birth state had higher dropout rates than their peers, though the difference was small by 2010. In 1940 and 1950, adults living outside the region in which they were born had lower dropout rates than those who had moved within their region of birth, but that gap had disappeared by 1960.



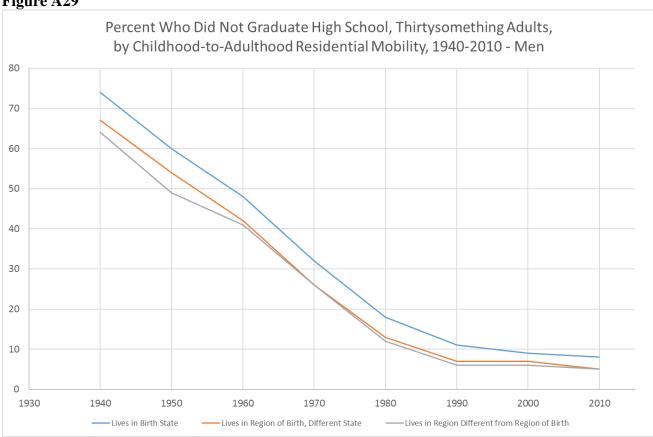
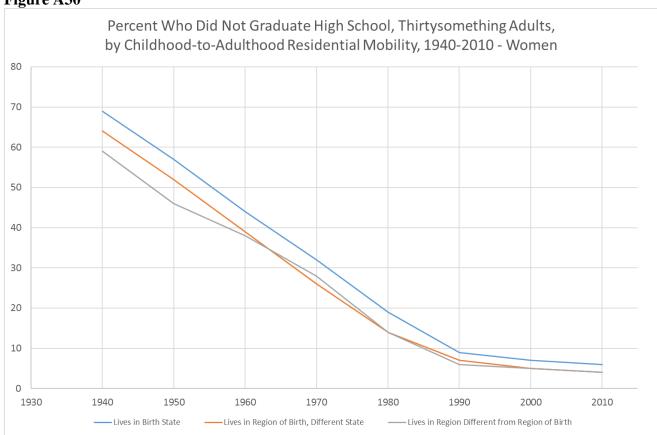


Figure A30



While male and female dropout-rate trends look similar, trends for college graduation differ notably. From 1940 to 1980, college graduation rates rose steadily for men and women, with male rates higher in each year (Figure A31 and Figure A32). However, male graduation rates then dipped before rising again at a slower pace. Among women, college graduation continued to rise steadily after 1980. During the 2000s, thirtysomething women became more likely than men to be college graduates.

Among men and women, those who remained in their birth state had lower graduation rates than those who did not. This gap widened over time to the point where non-moving men in 2010 had a graduation rate of just 25 percent, compared with about 40 percent for other men with a similarly large gap among women. From 1980 onward, men and women who moved to a different region had somewhat higher graduation rates than those who moved to a different state within their region of birth.



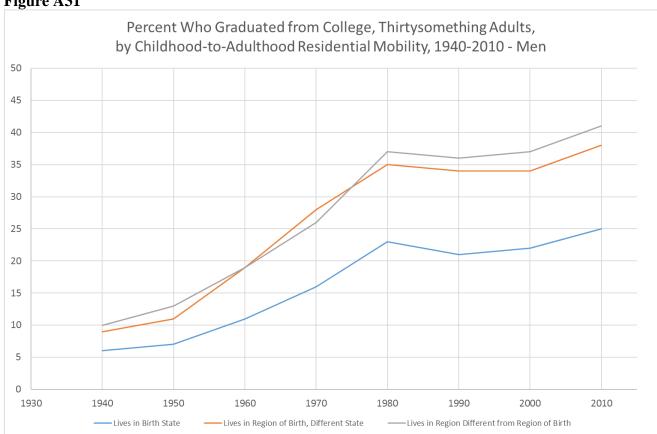
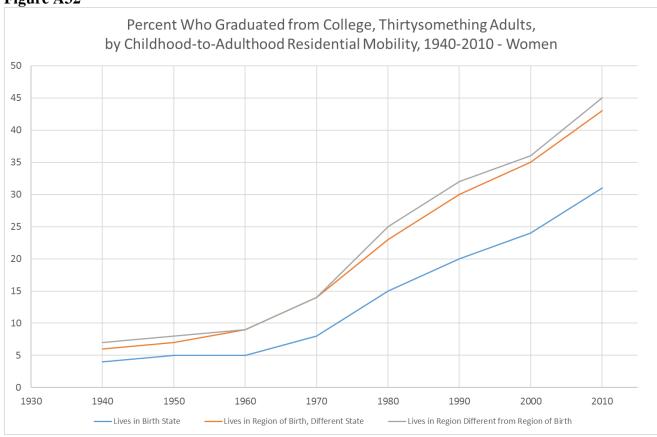


Figure A32



#### Employment and Unemployment

Differences in the share of adults employed between the three residential mobility categories are small, or nonexistent, for women (**Figure A33** and **Figure A34**). Among men, the decline in employment that began in the 1970s is slightly steeper for non-movers than it is for men who move to a different region.

Living in a different state within one's region of birth is associated with the highest employment rates in most years, though not in 2010. The dominant story is the drop in employment among men, as well as the contrasting rise among women, particularly during the 1970s and 1980s.



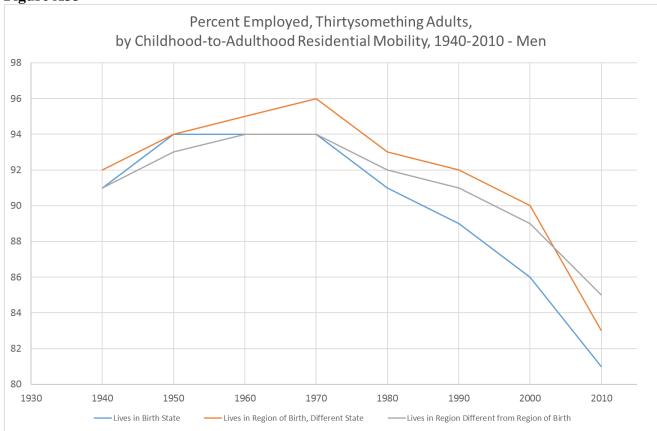
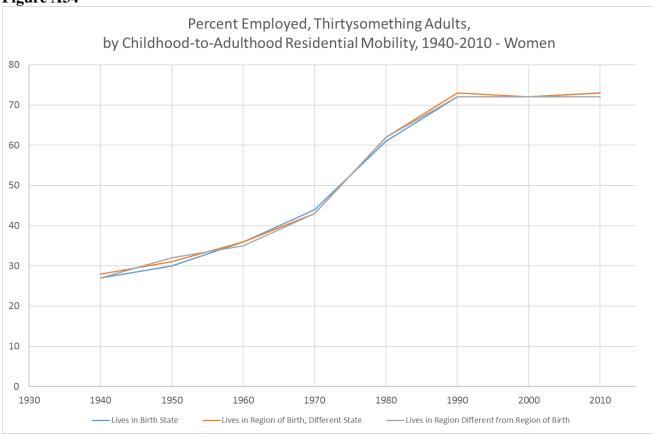


Figure A34



Unemployment rates among those who are in the labor force are much more similar for men and women (**Figure A35** and **Figure A36**). Differences by residential mobility are fairly small, too. Among men, non-movers had higher unemployment from 1980 onward, though not much higher. Before 1980, women who lived in a different region from the one in which they had been born had higher unemployment than other women.

Figure A35

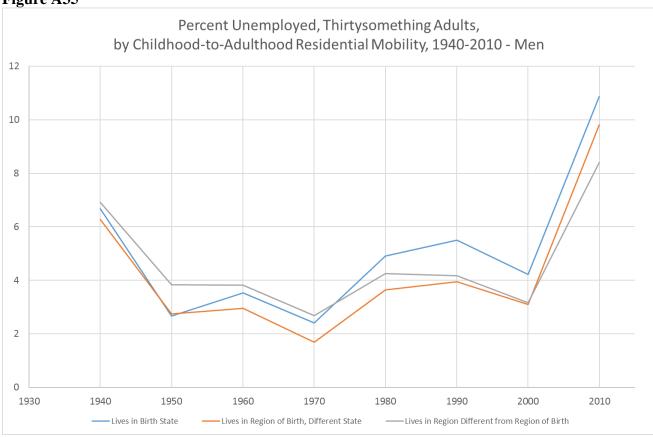
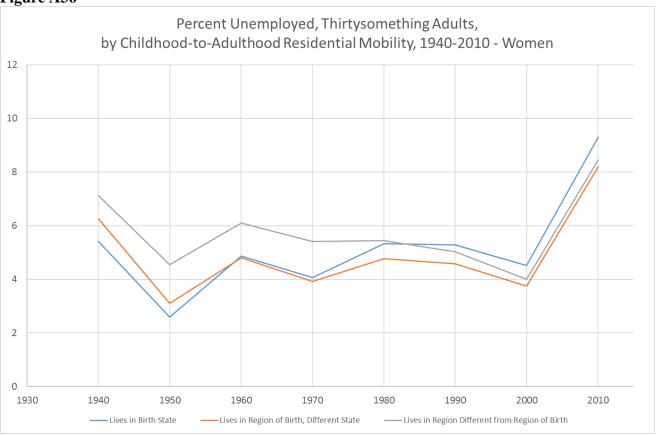


Figure A36



Short-Term (Preceding-Five-Years) Residential Mobility: Educational Attainment Men and women who moved out of their region within the preceding five years had lower high school dropout rates than other adults from 1940 to 1980 (**Figure A37** and **Figure A38**). By 1990, the rates of non-movers had basically caught up, while adults moving out of state but within their region had slightly higher dropout rates than everyone else in 1990 and 2000.

Figure A37

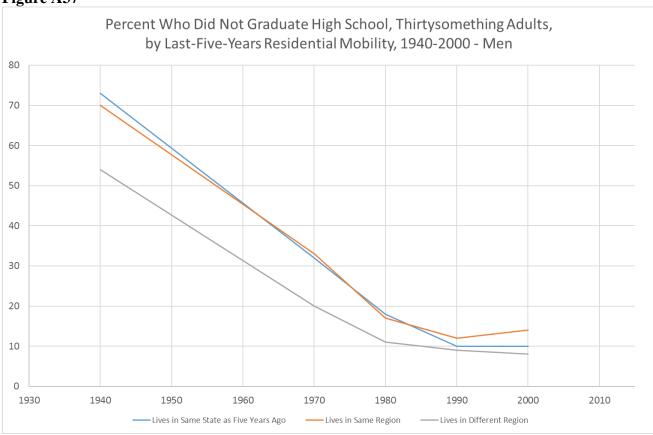
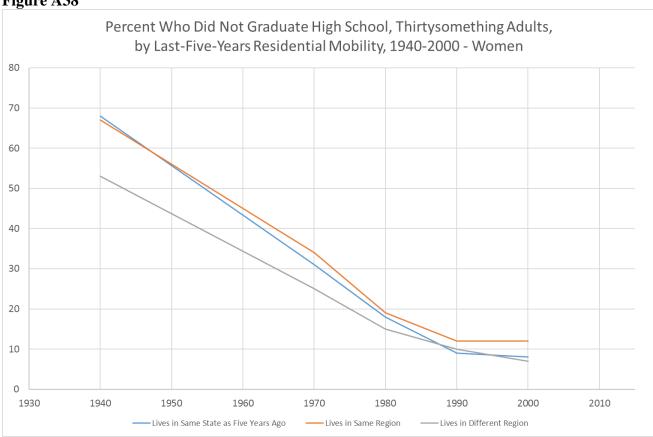
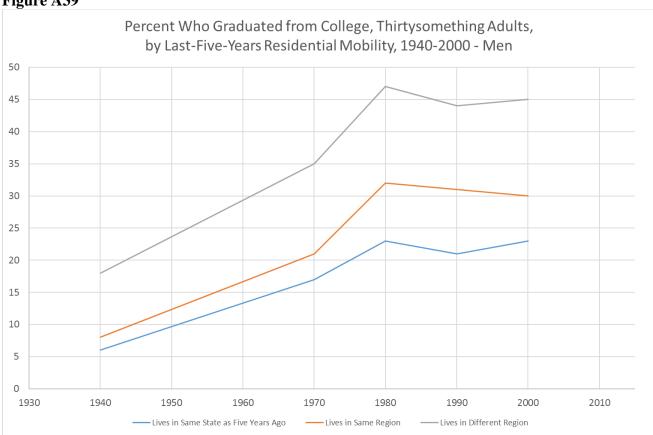


Figure A38



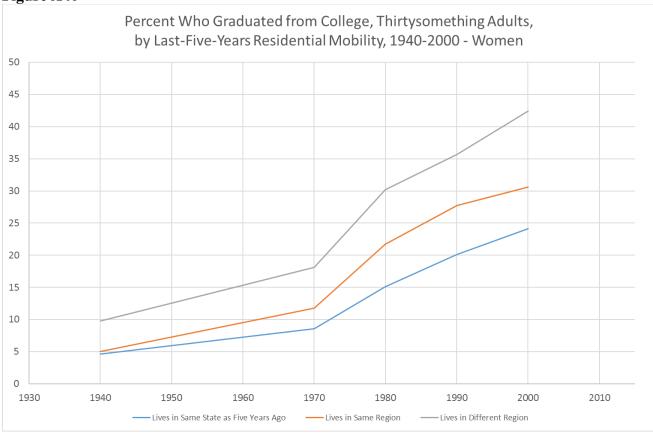
A clean relationship between recent residential mobility and adult outcomes shows up in college graduation trends. **Figure A39** shows that among men, the existing gaps widen between 1940 and 1970, with men who recently moved to a new region doing better than men who moved to a new state within the region; men, in turn, who move to a new state within the region do better than men who remain in the same state. The large (15 percentage-point) gap between out-of-region and in-region movers remains fairly constant after 1970, while the gap between in-region movers and those who stay in their state grows, from four points to seven points by 2010 (rising in the 1970s and 1980s).





Among women, college graduation gaps mostly widen after 1970 (**Figure A40**): out-of-region movers do better than in-region, out-of-state movers—with the latter faring better than women who remain in-state.

Figure A40



### Employment and Unemployment

Thirtysomething women with an out-of-region move have employment rates four to eight points lower than other women (Figure A42). Figure A41 shows that men who recently moved out of their region also had slightly lower employment rates in 1940 and 1980 than other men.



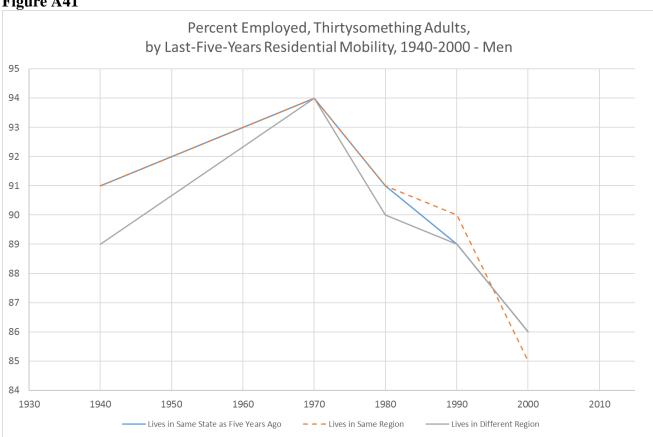
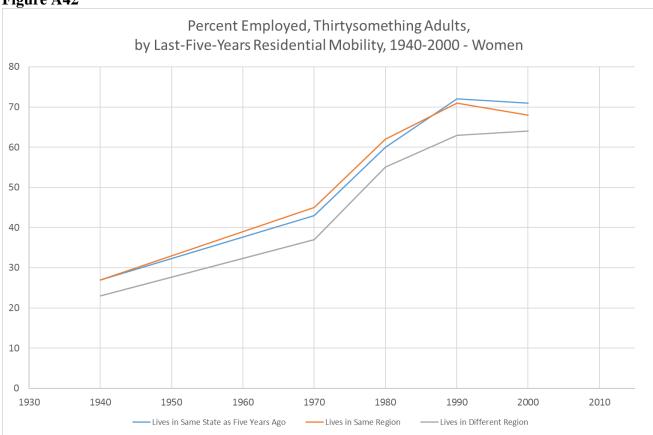


Figure A42



Trends in unemployment rates reveal only one clear pattern related to residential mobility. Among women, those recently having moved to a new region have higher unemployment than other women (**Figure A44**). From 1980 to 2000, men in their thirties who remained in their state from five years earlier had slightly higher unemployment rates than men who moved to a new region, whose unemployment rates were higher or no lower than men who had moved to a new state within their region (**Figure A43**).

Figure A43

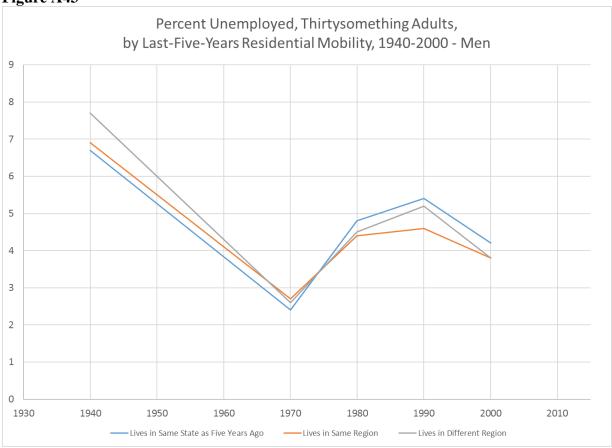
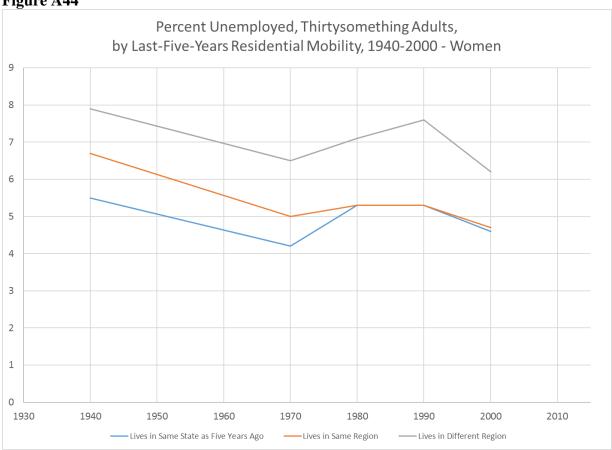


Figure A44



## III. Additional Figures: Intergenerational Residential Mobility and Economic Outcomes, Men and Women Combined



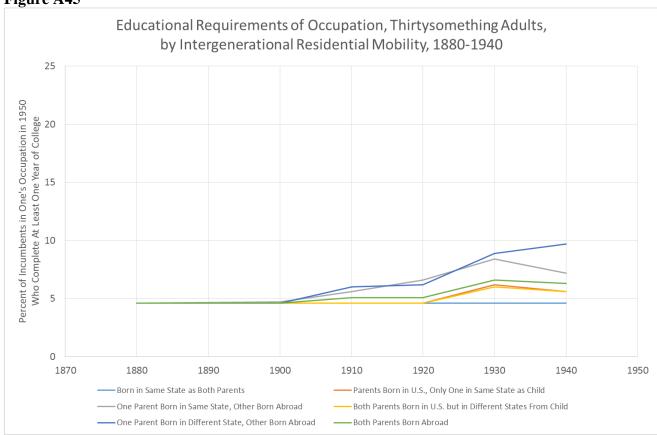


Figure A46

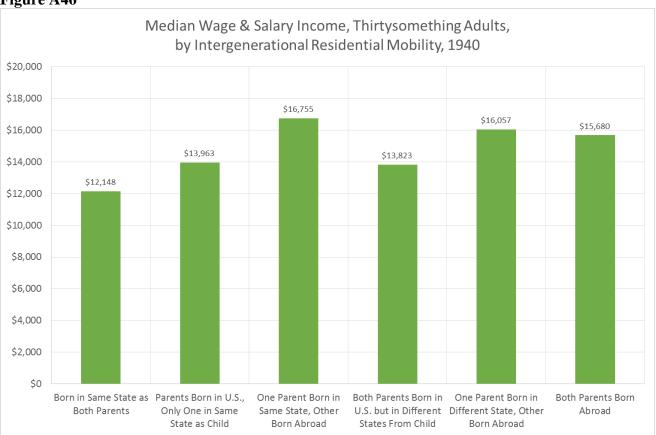


Figure A47

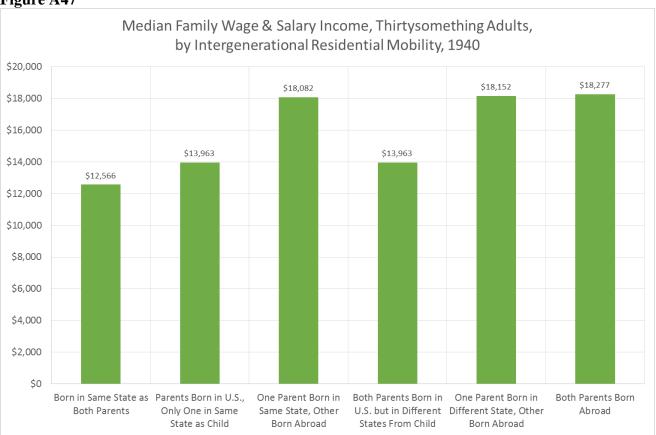


Figure A48

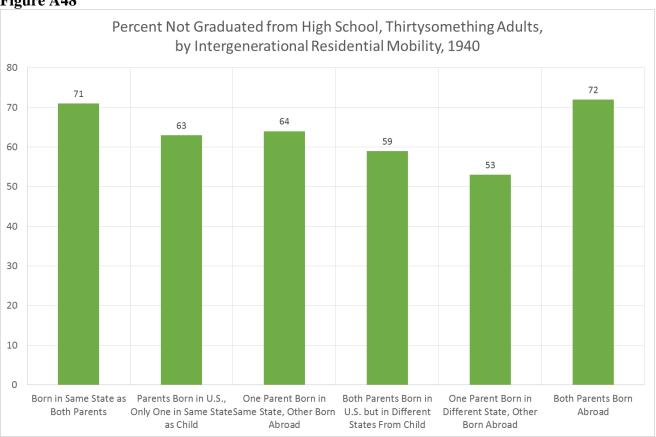


Figure A49

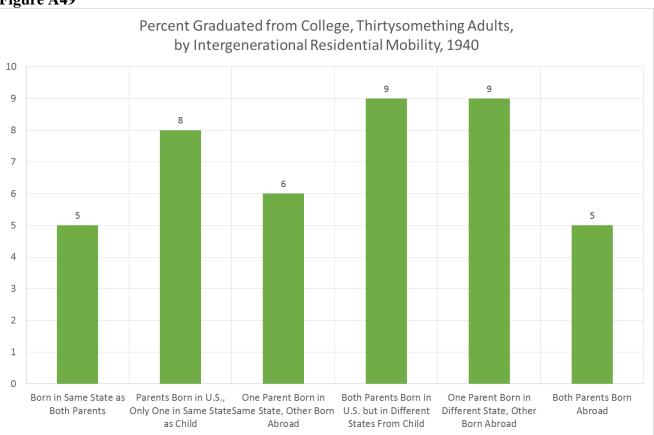


Figure A50

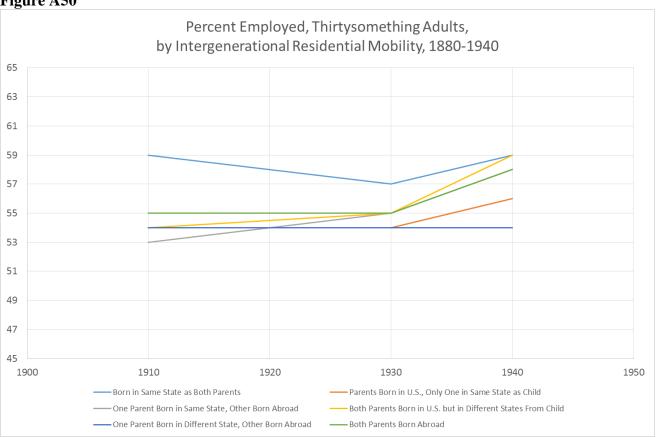
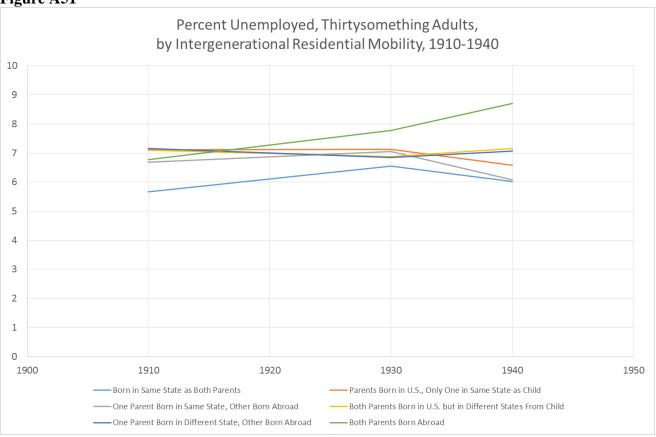


Figure A51



## IV. Additional Figures: Birth-to-Adulthood Residential Mobility and Economic Outcomes, Men and Women Combined

Figure A52

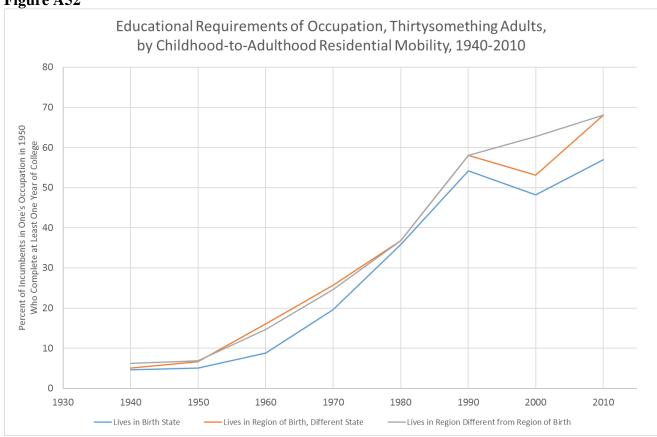


Figure A53



Figure A54

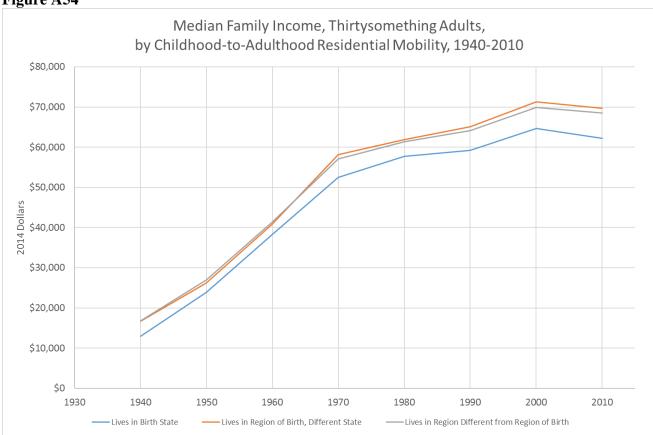


Figure A55

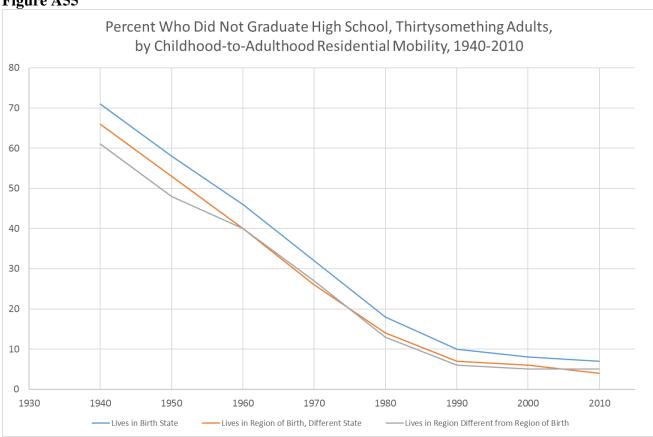


Figure A56

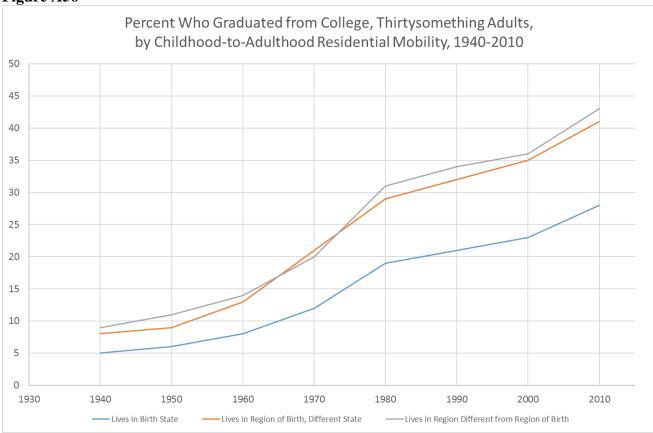


Figure A57

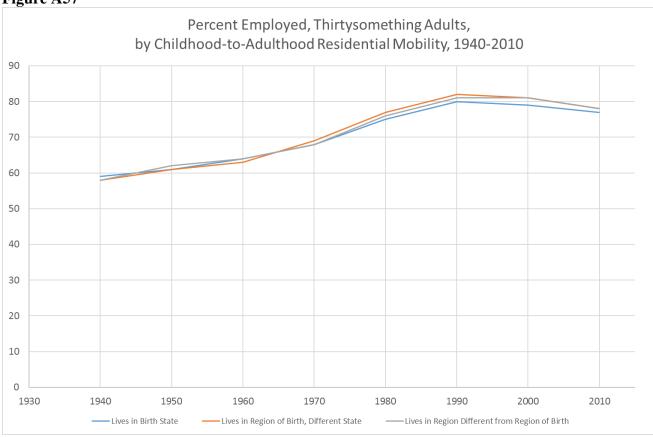
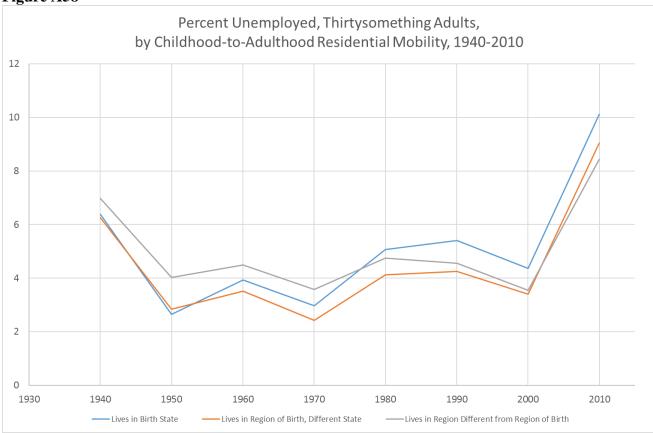


Figure A58



## V. Additional Figures: Short-Term (Preceding-Five-Years) Residential Mobility and Economic Outcomes, Men and Women Combined

Figure A59

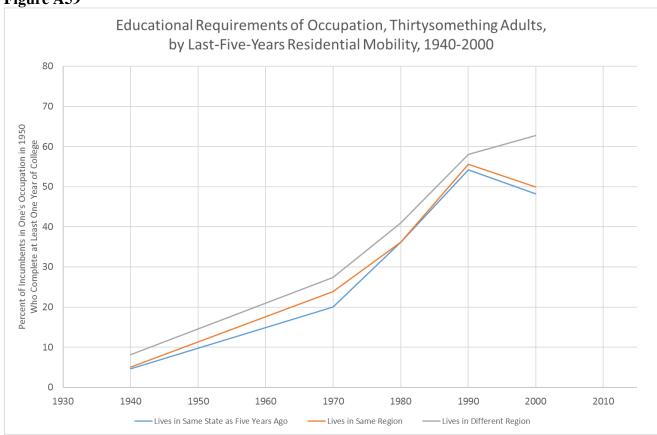


Figure A60

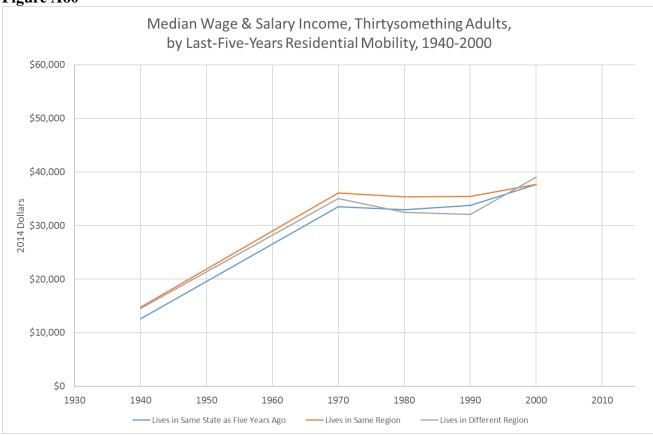


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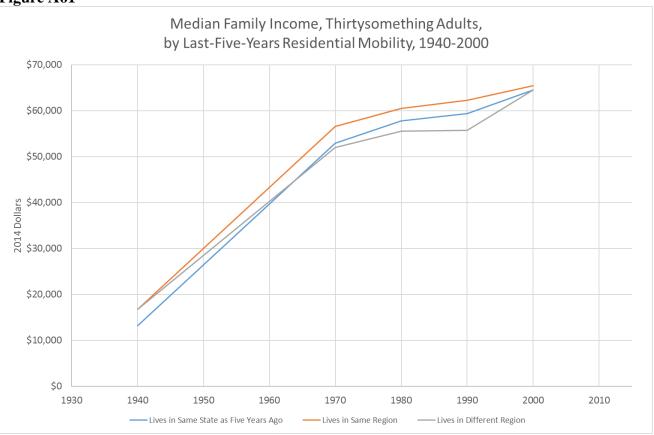


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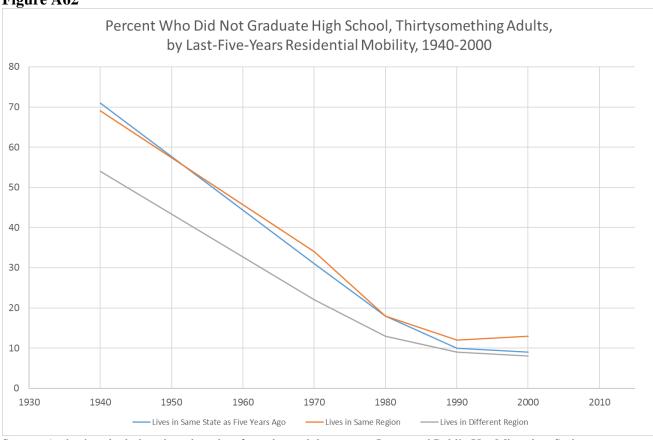


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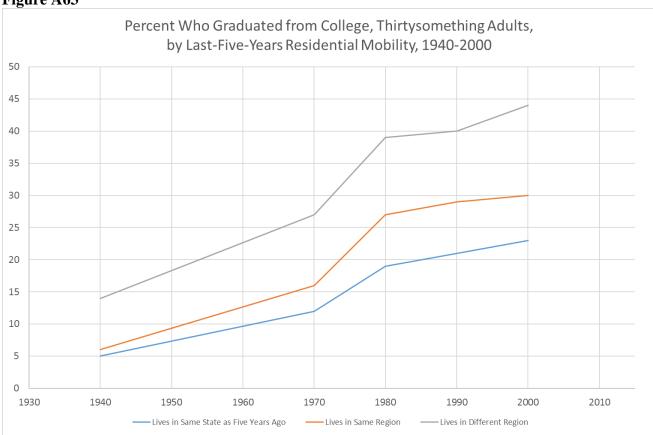


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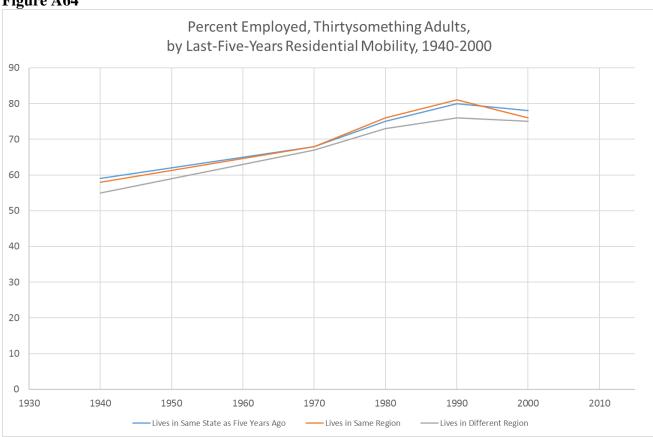
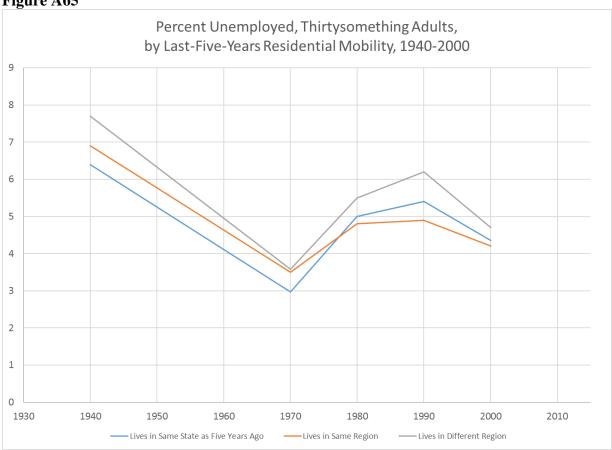
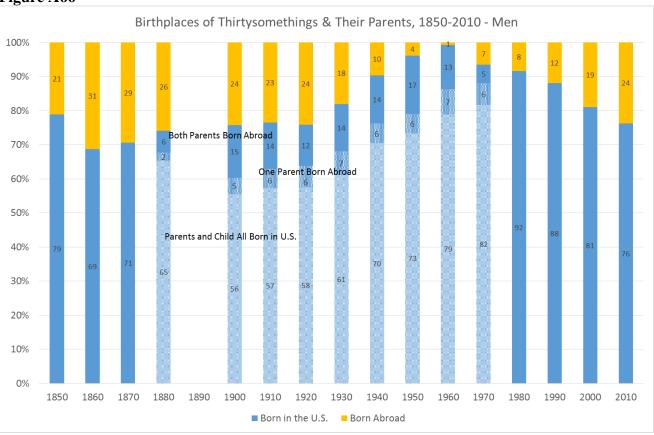


Figure A65



# VI. Changes in the Extent of Residential Mobility and Group Differences—Subgroup Distributions by Intergenerational Mobility, Additional Figures







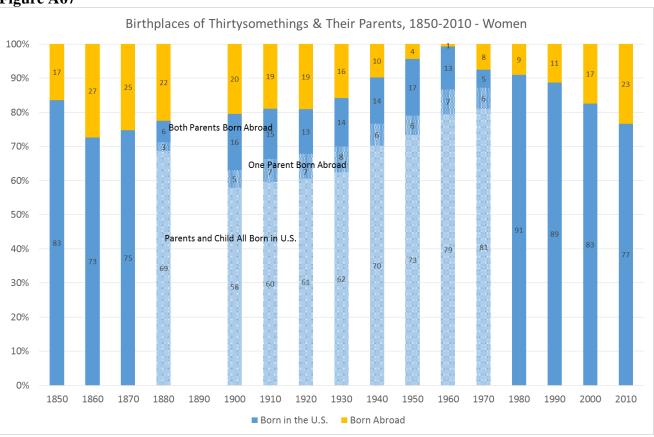


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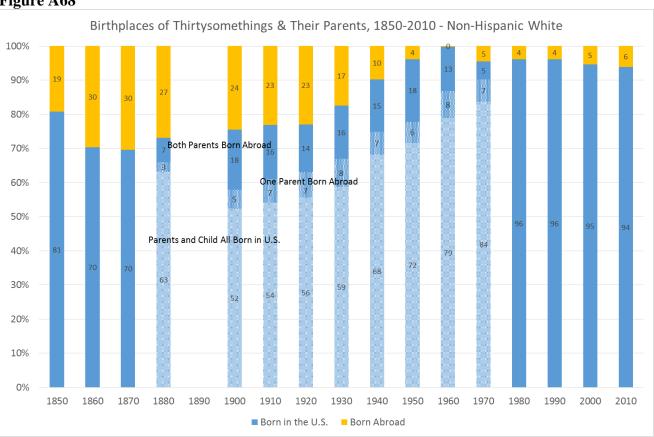


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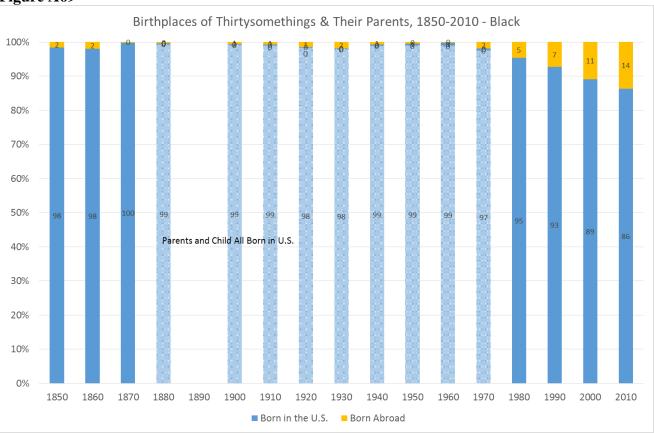


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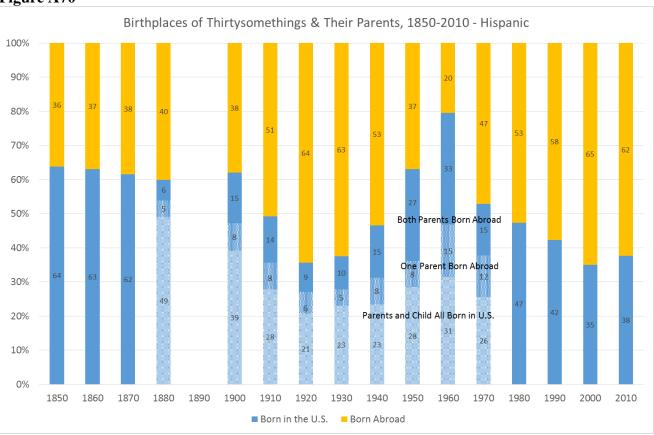


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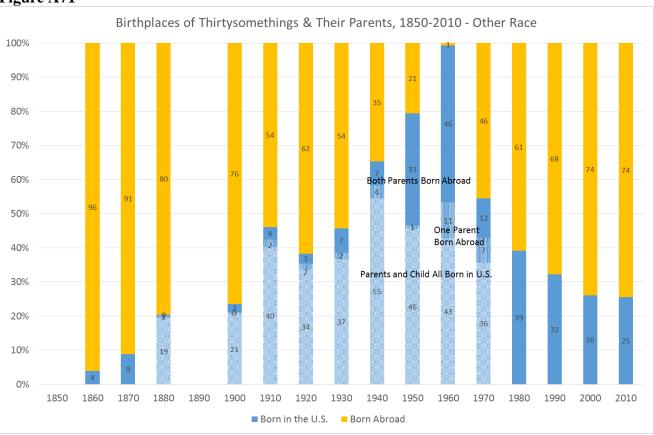


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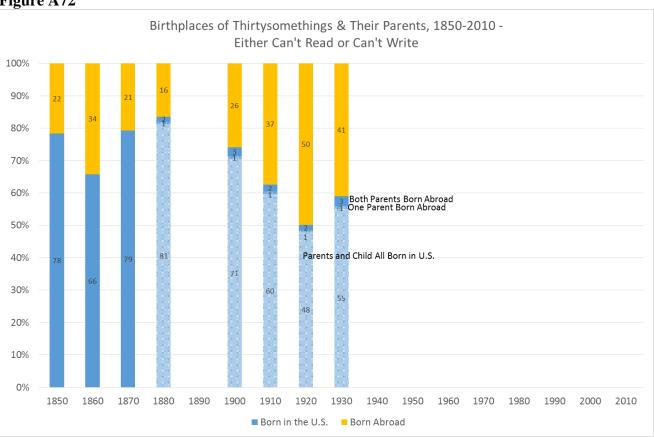


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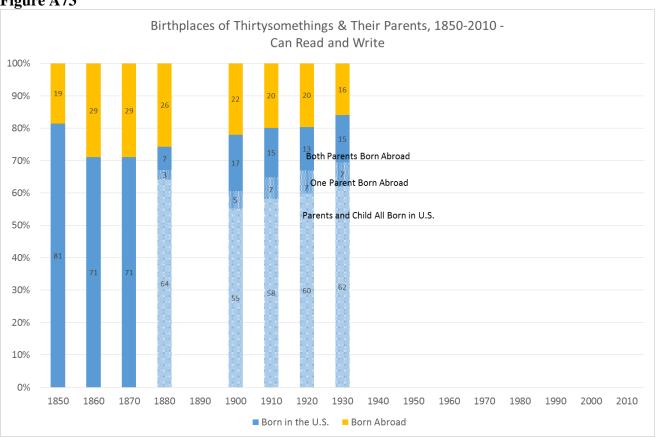


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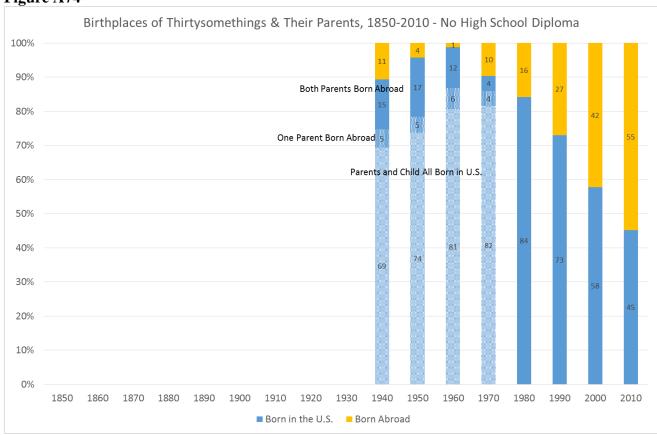


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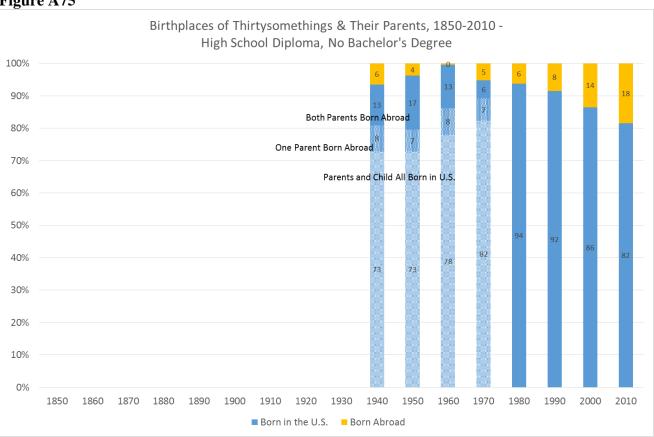


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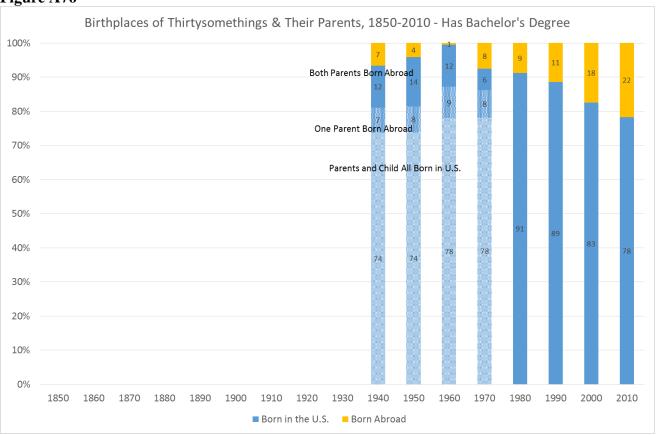


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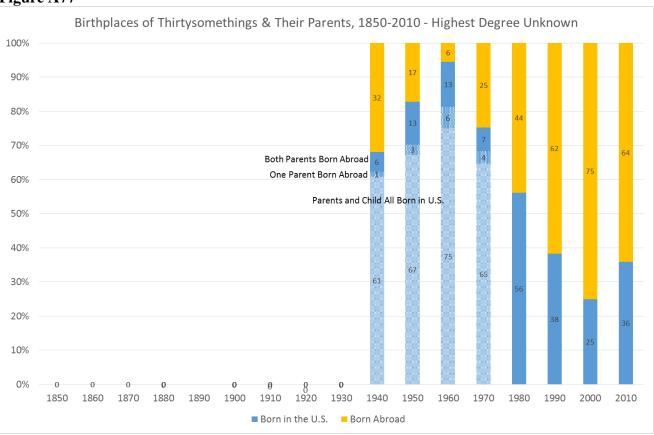


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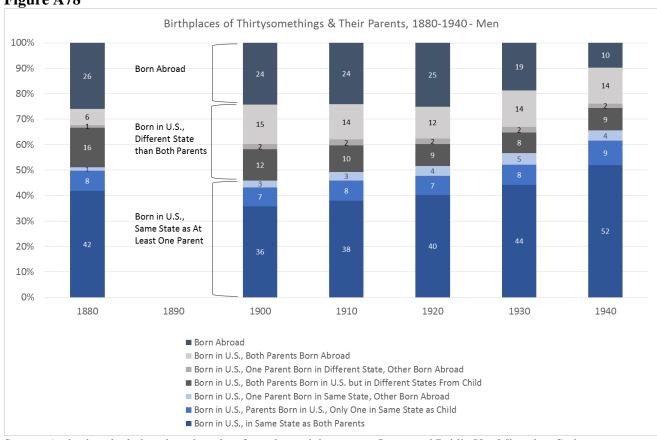


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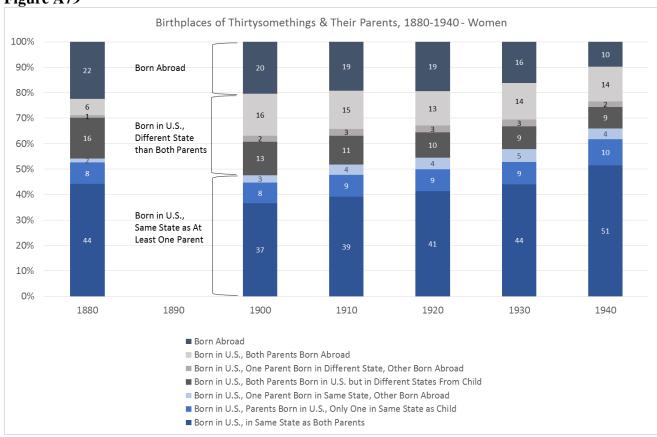


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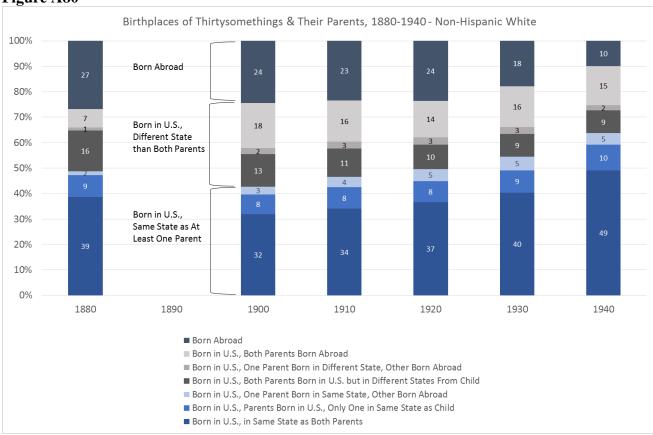


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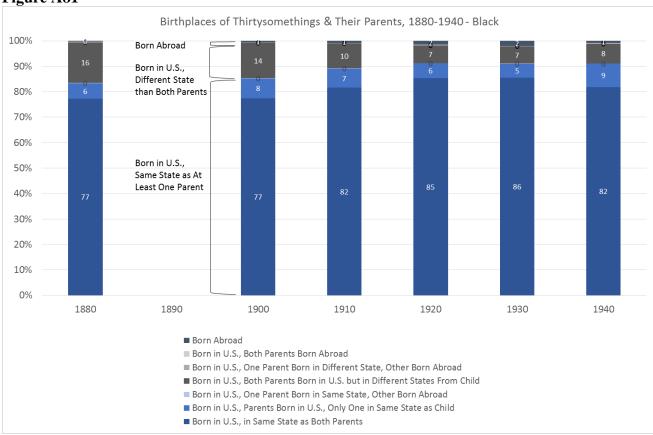


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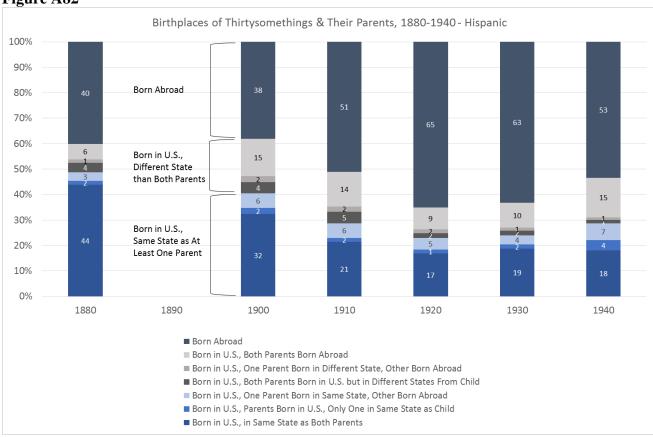


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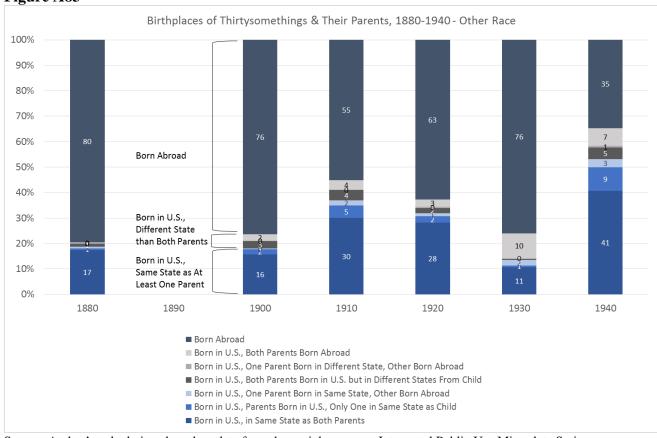


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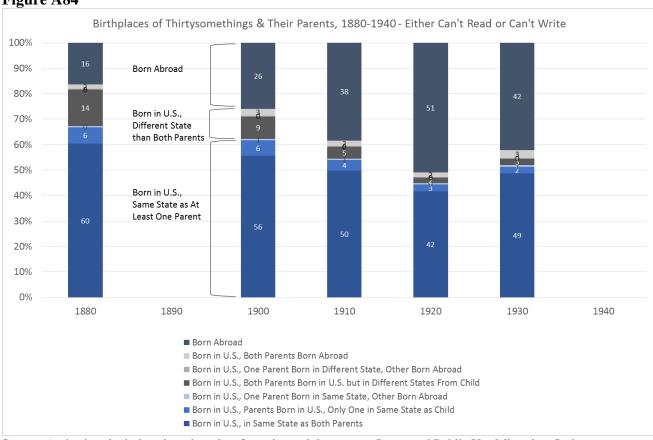


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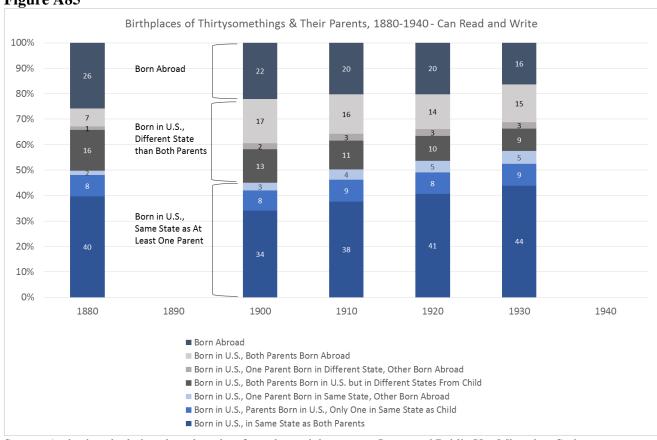


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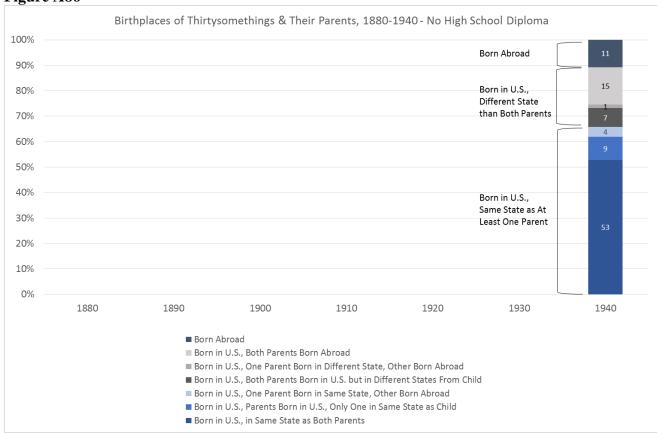


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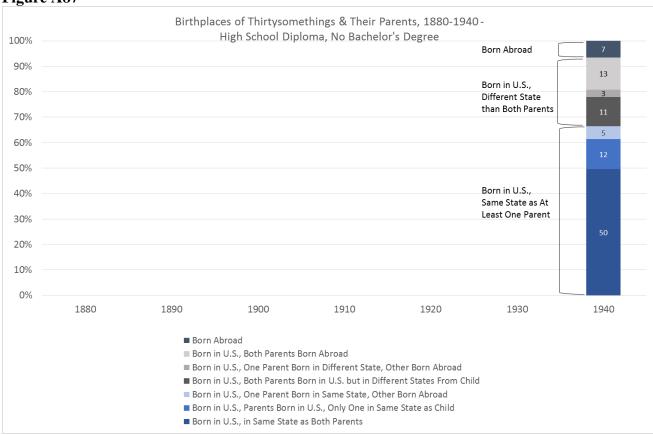


Figure A88

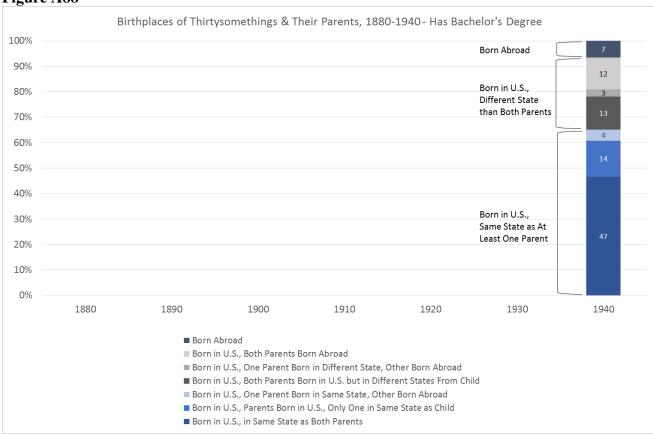


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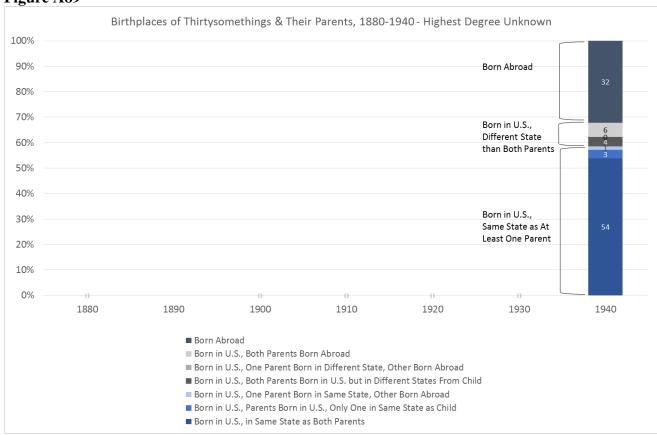


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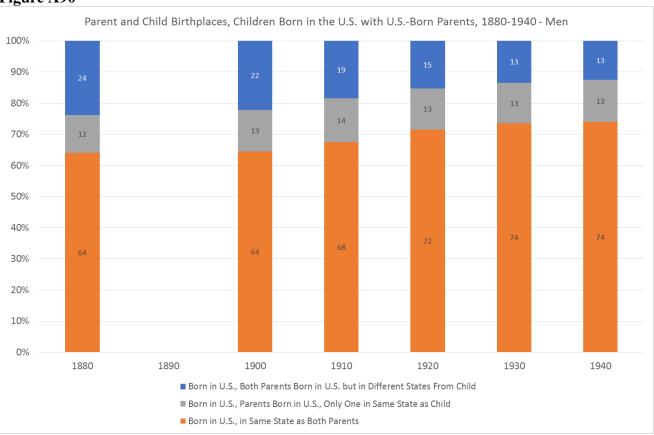


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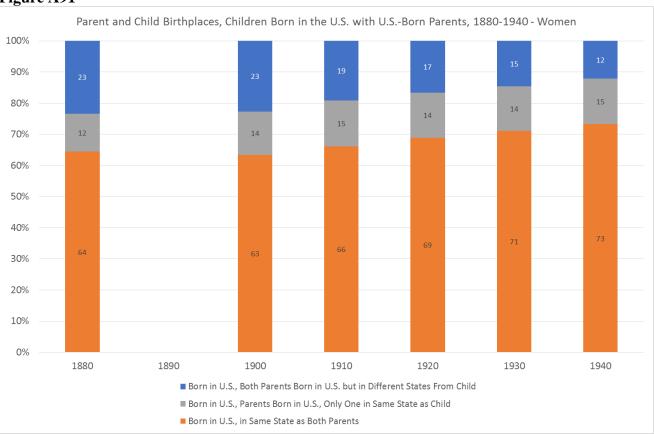


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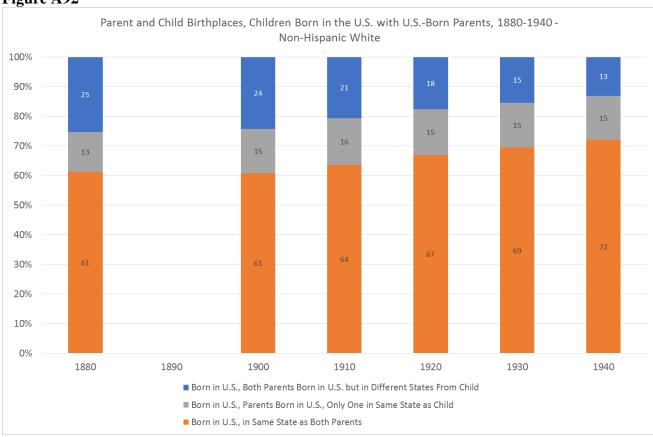


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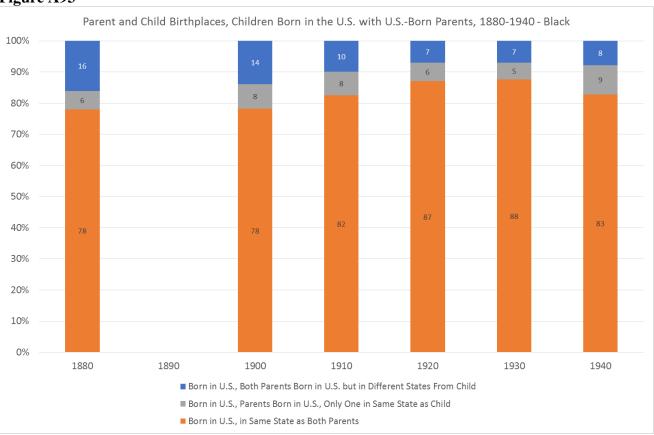


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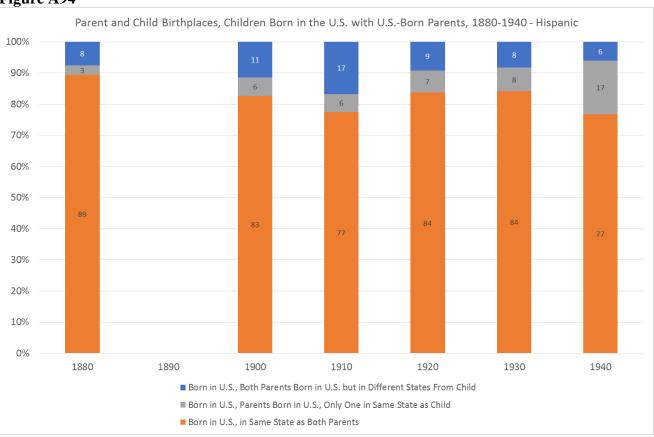


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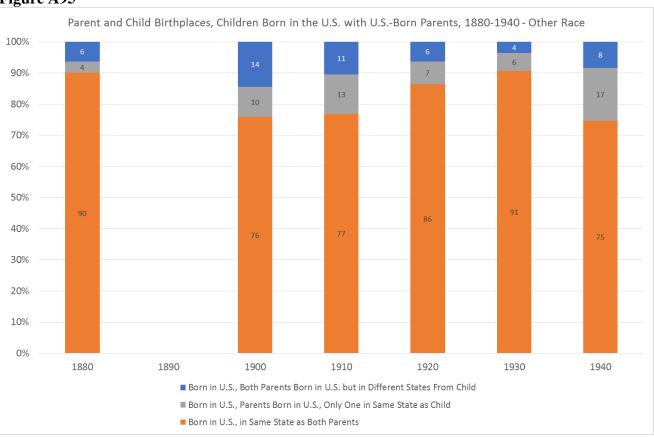


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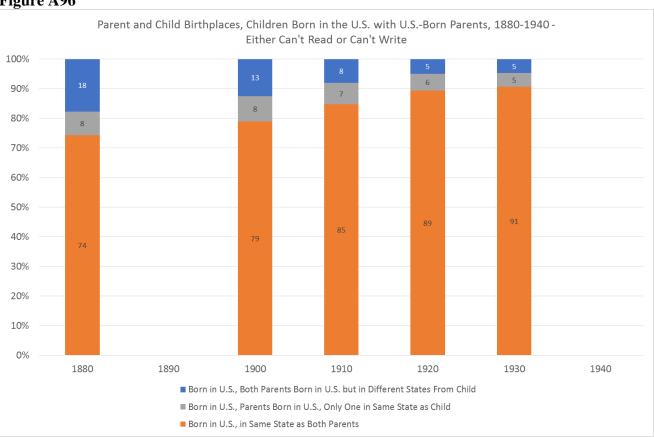


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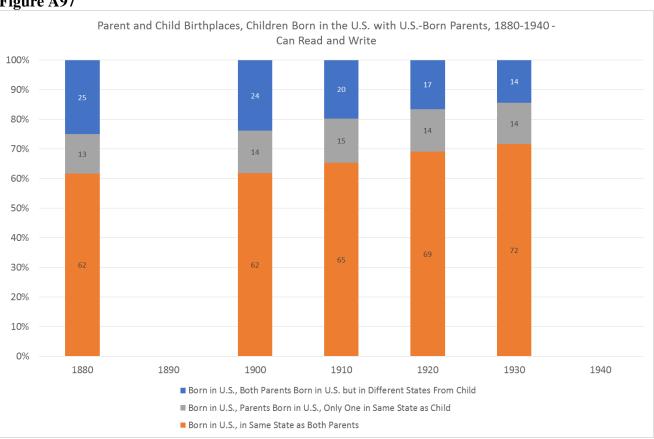


Figure A98



Figure A99



Figure A100

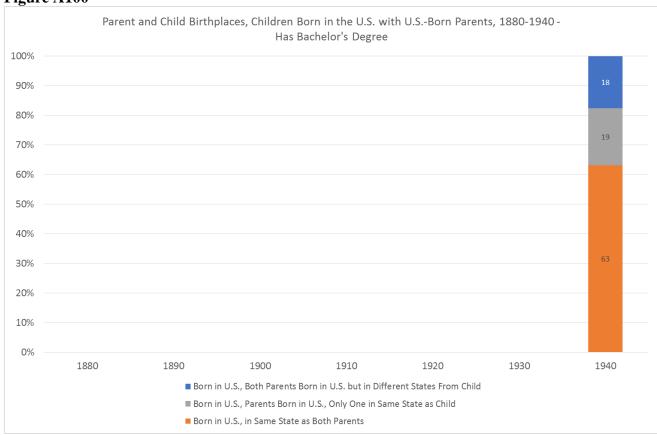
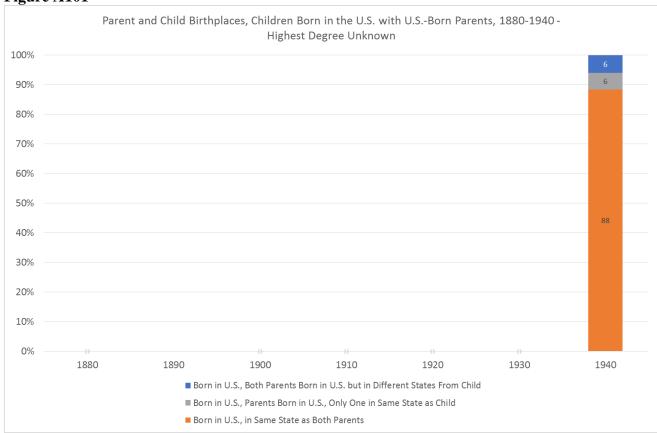


Figure A101



## VII. Additional Figures: Subgroup Distributions by Birth-to-Adulthood Mobility



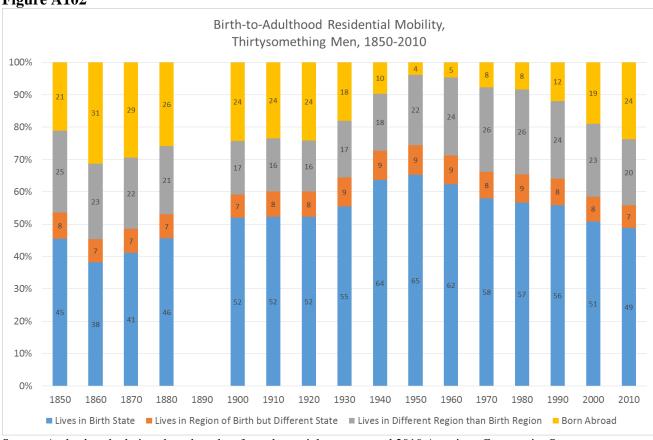


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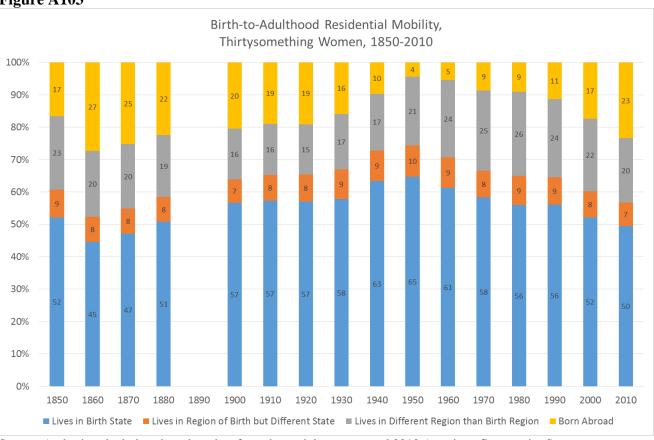


Figure A104

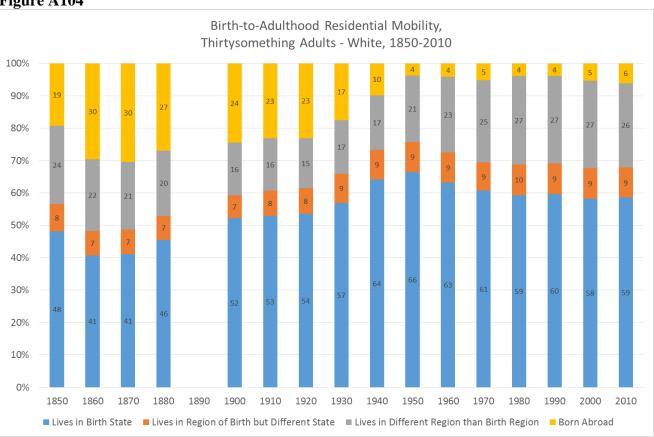


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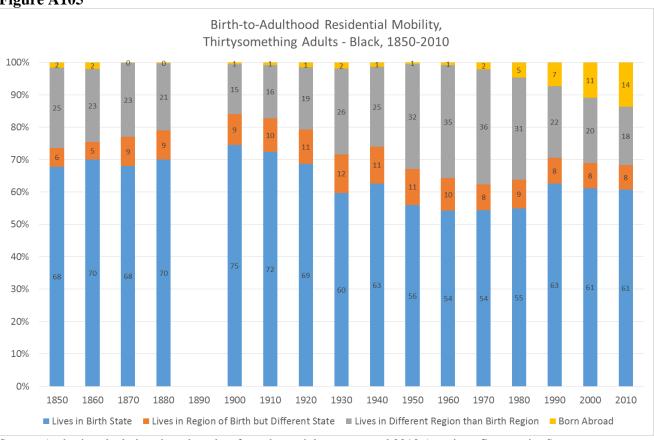


Figure A106

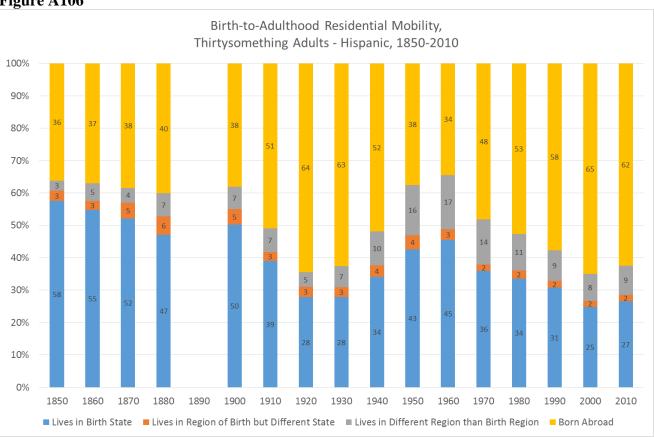


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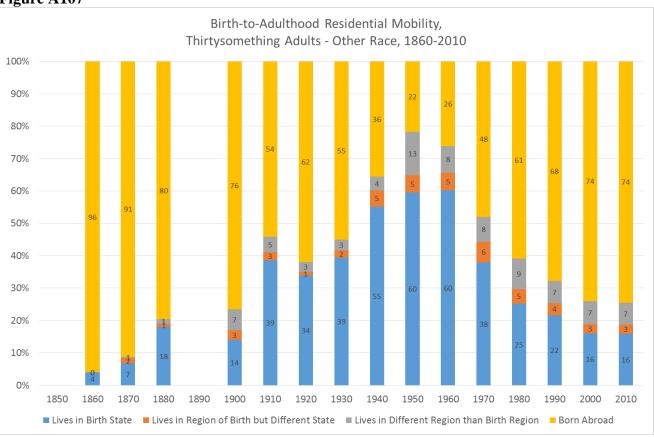
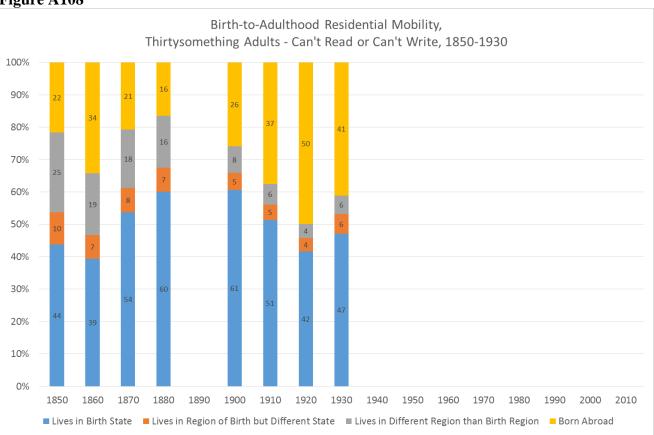
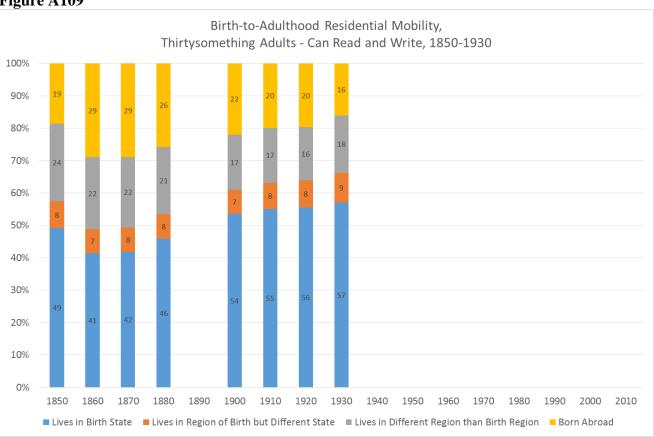


Figure A108



Source: Author's calculations based on data from decennial censuses, Integrated Public Use Microdata Series.

Figure A109



Source: Author's calculations based on data from decennial censuses, Integrated Public Use Microdata Series.

Figure A110

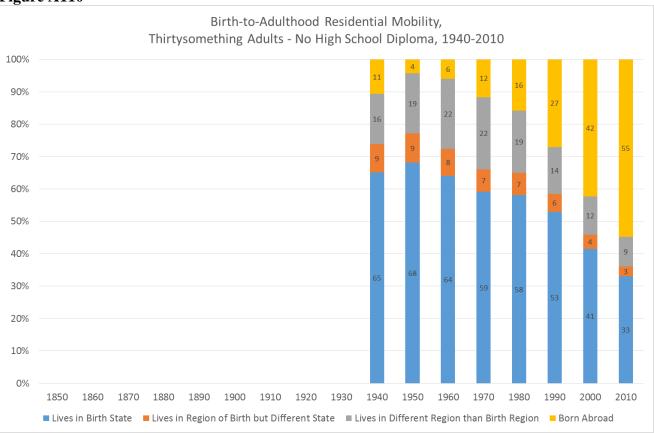


Figure A111

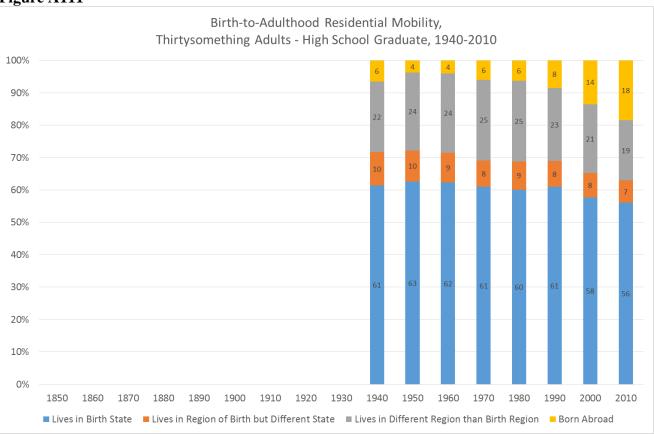


Figure A112

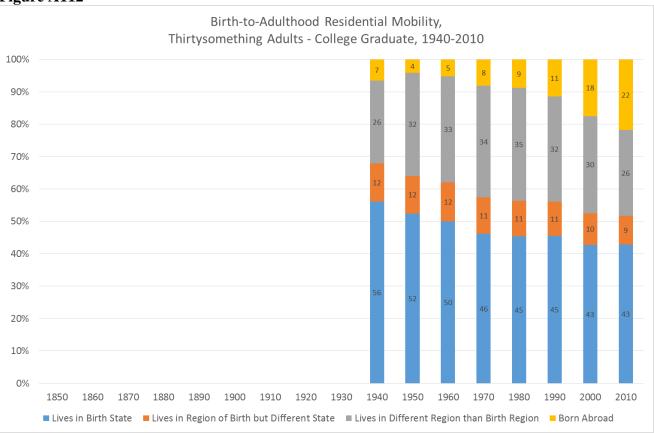


Figure A113

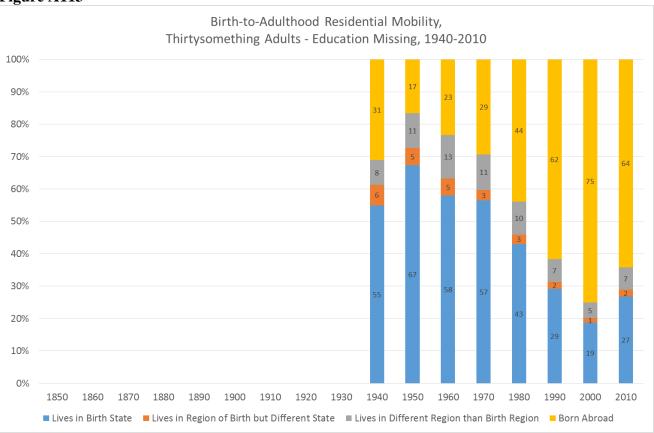


Figure A114

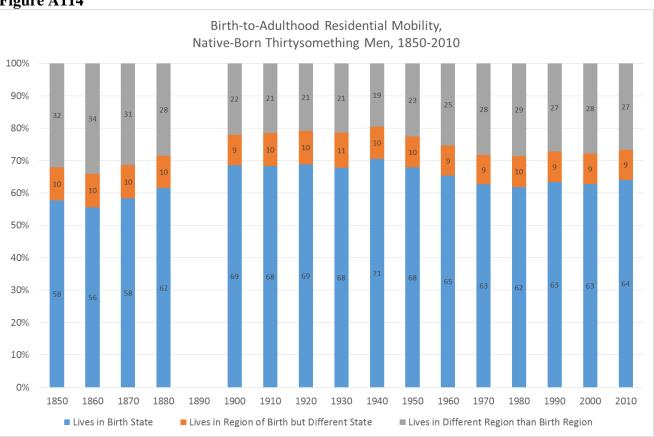


Figure A115



Figure A116

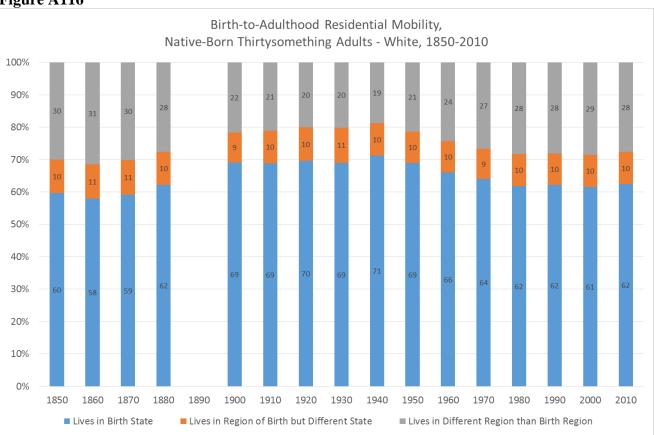


Figure A117

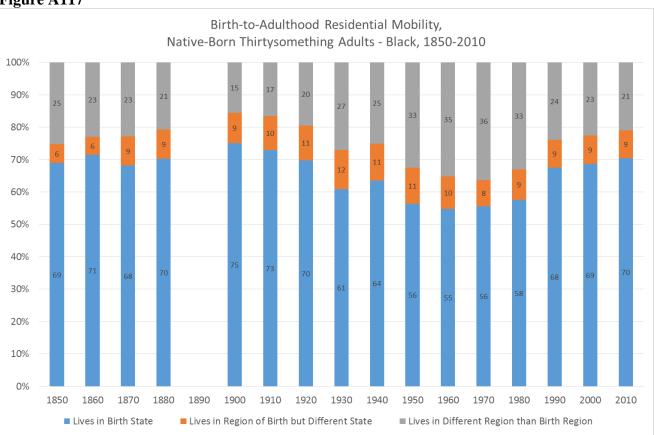


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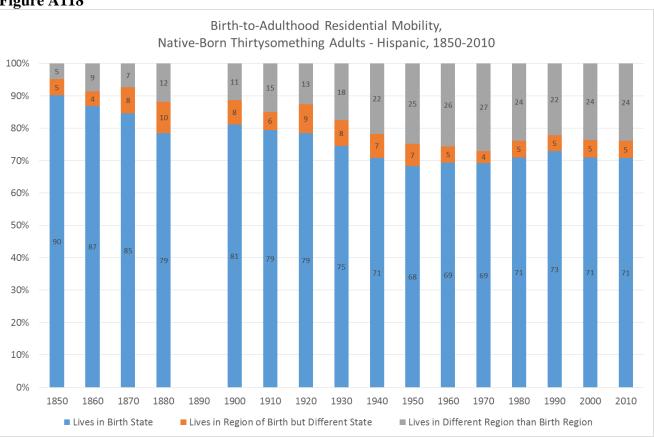


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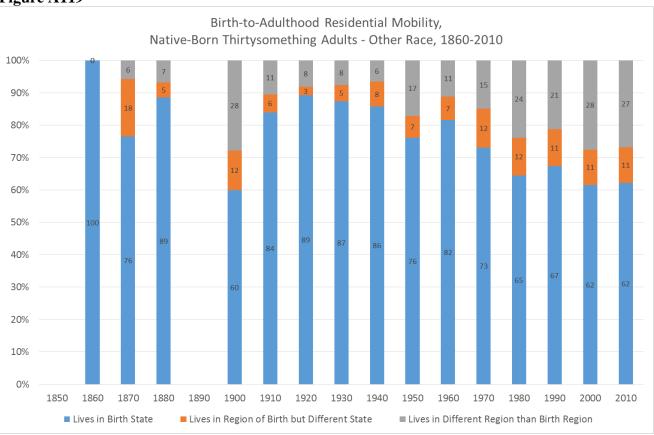
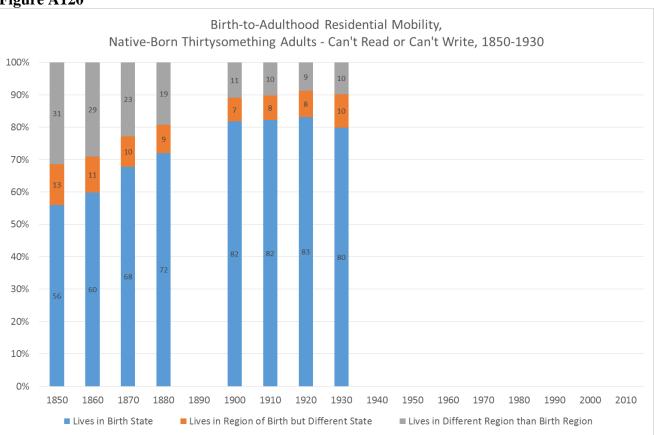
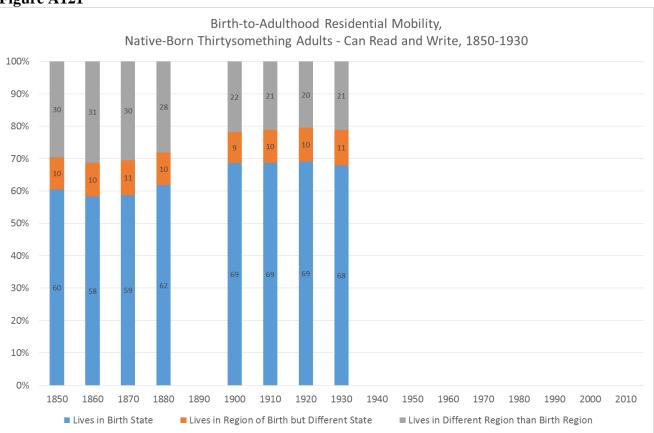


Figure A120



Source: Author's calculations based on data from decennial censuses, Integrated Public Use Microdata Series.

Figure A121



Source: Author's calculations based on data from decennial censuses, Integrated Public Use Microdata Series.

Figure A122

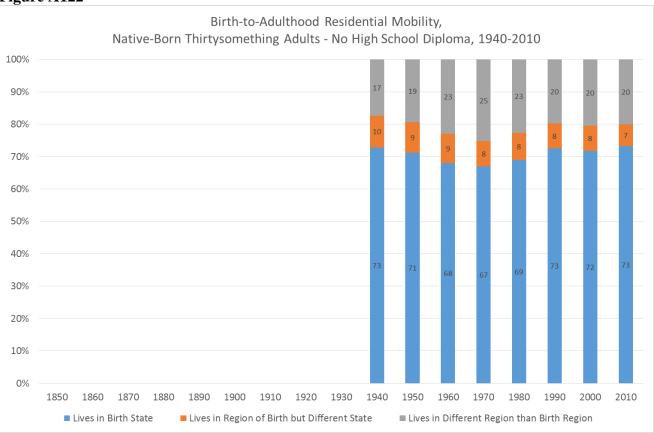


Figure A123

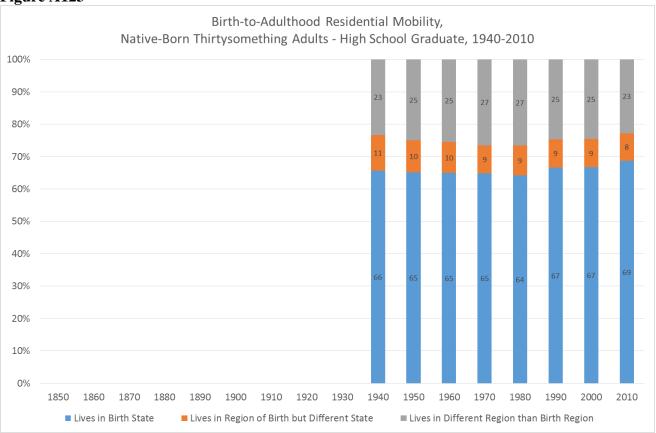


Figure A124

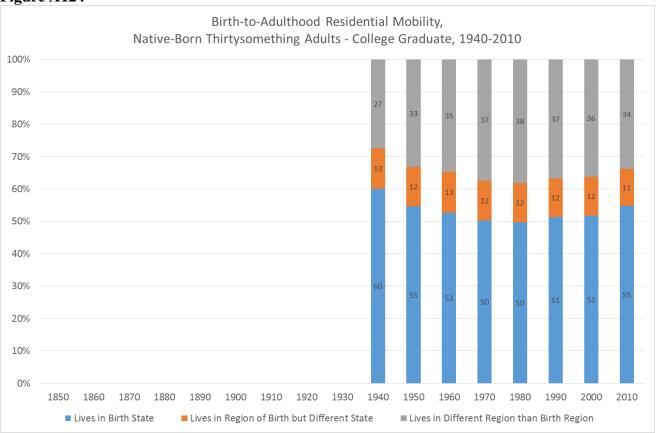
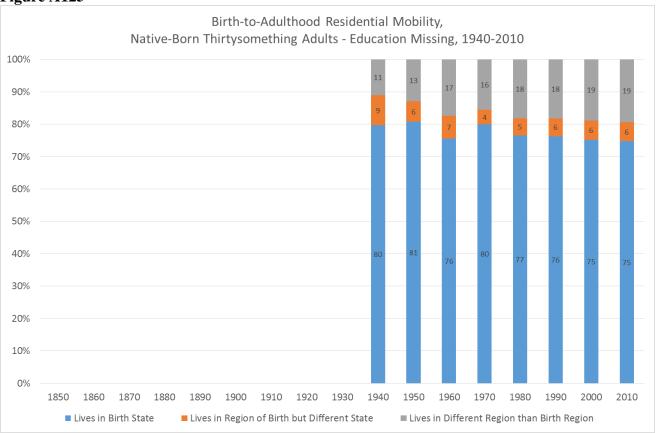


Figure A125



## VIII. Additional Figures: Subgroup Distributions by Birth-to-Adolescence Residential Mobility (BLS Data)



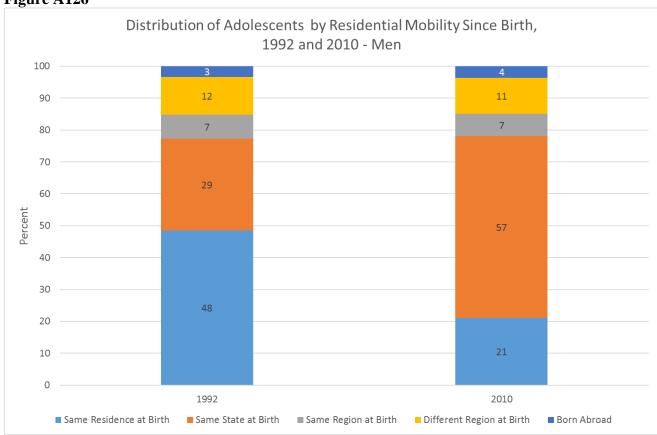


Figure A127

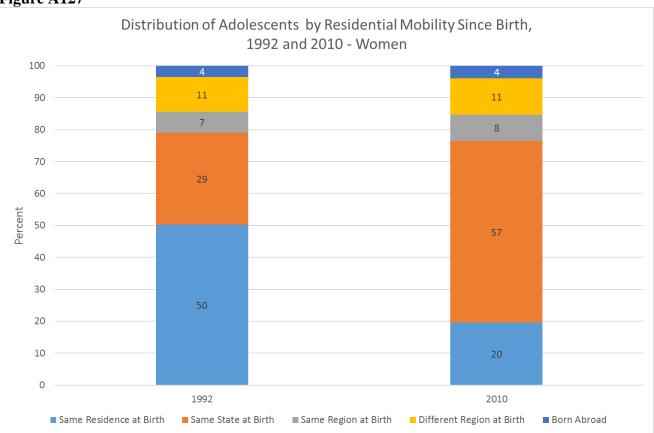


Figure A128

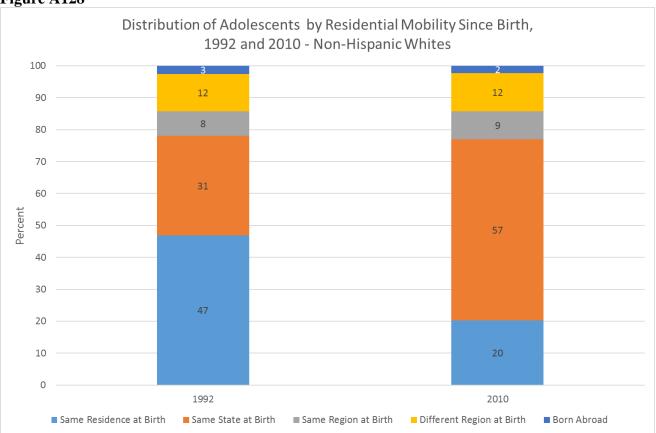


Figure A129

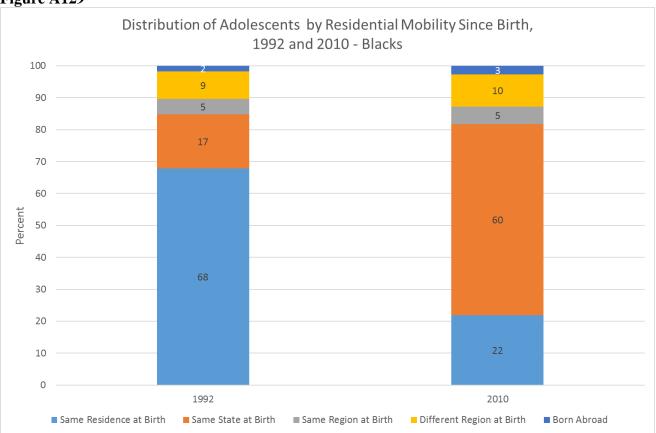


Figure A130

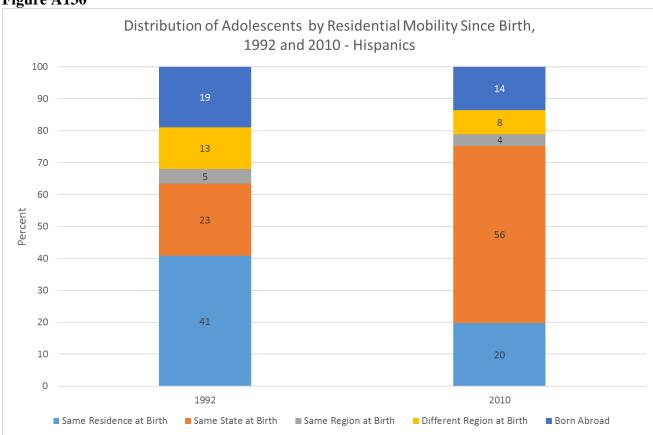


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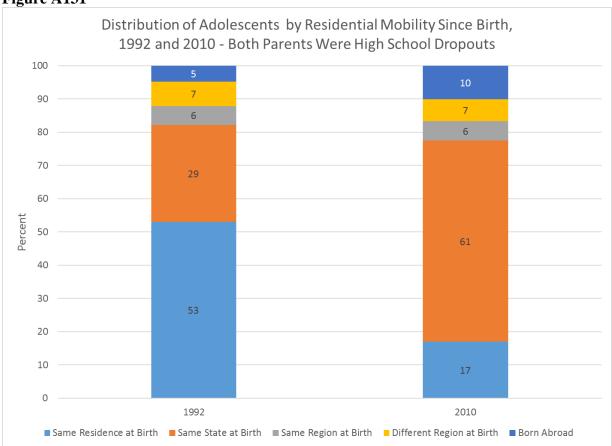


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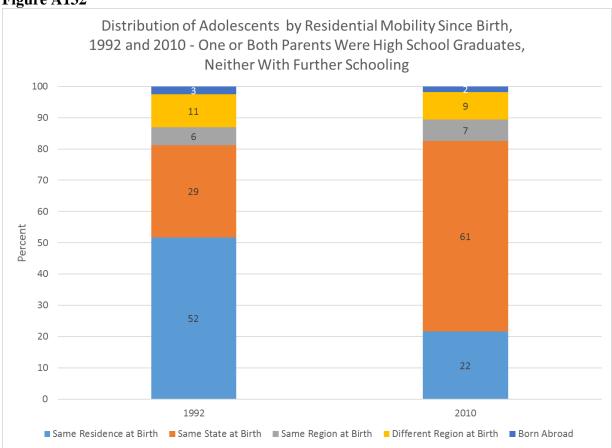


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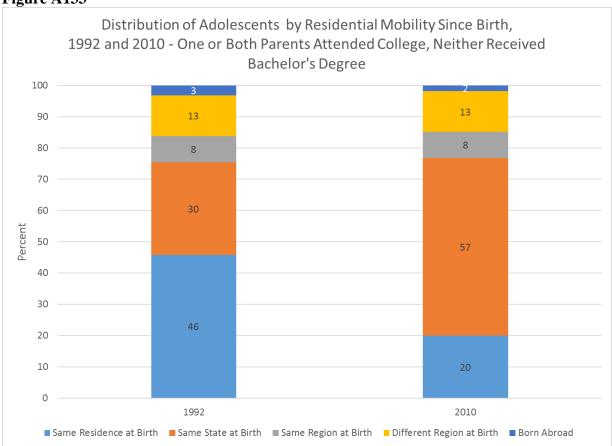


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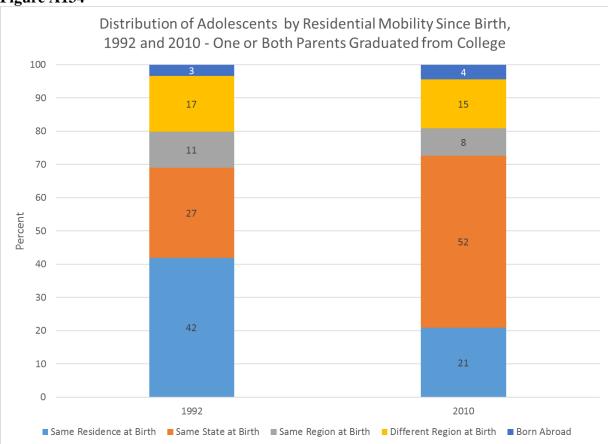


Figure A135

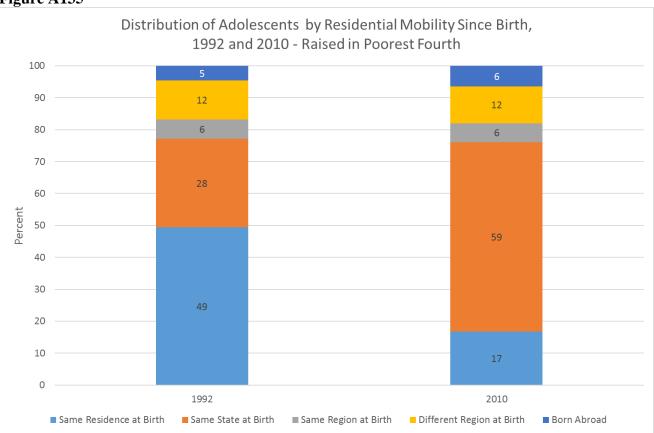


Figure A136

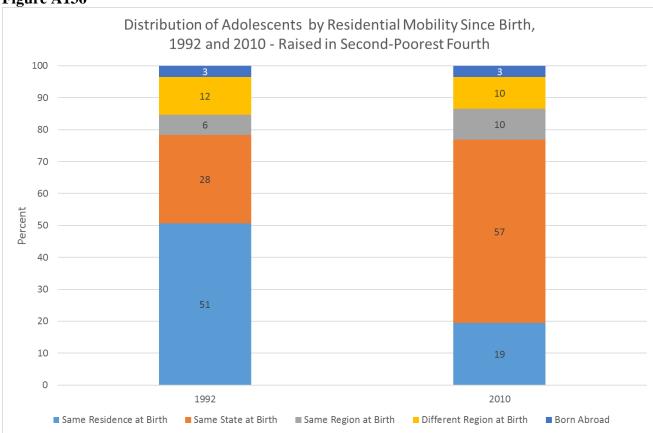


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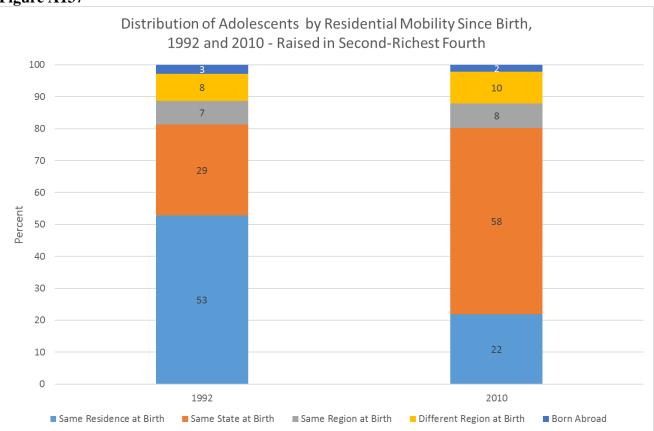


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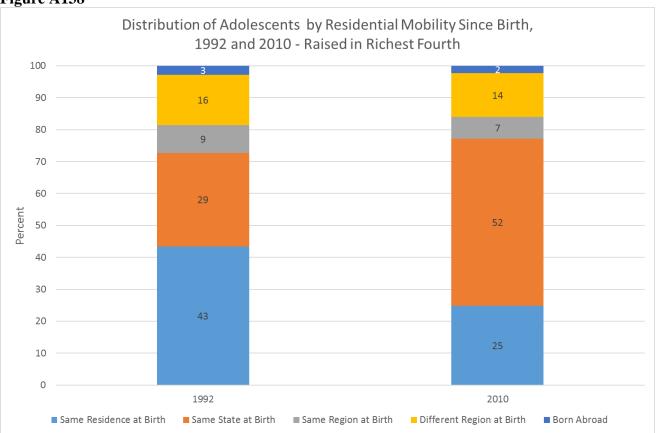


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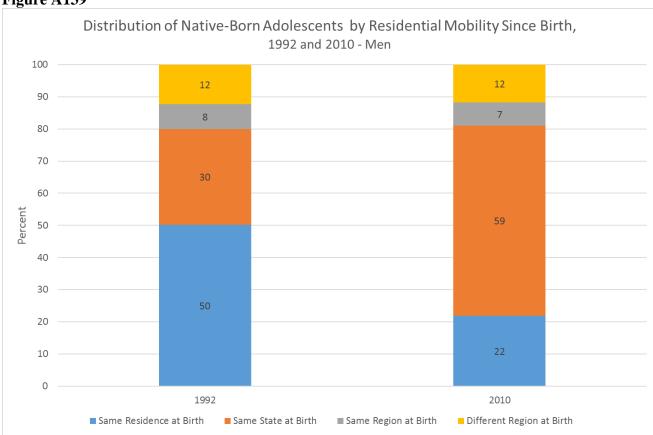


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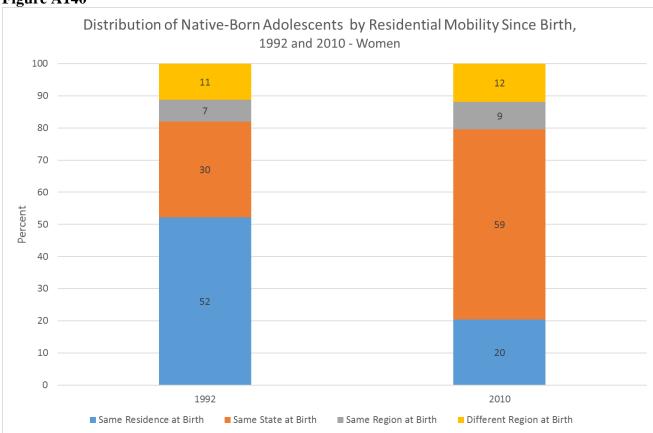


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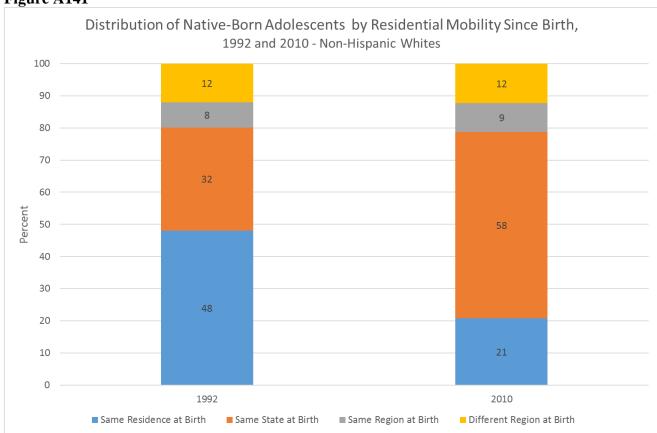


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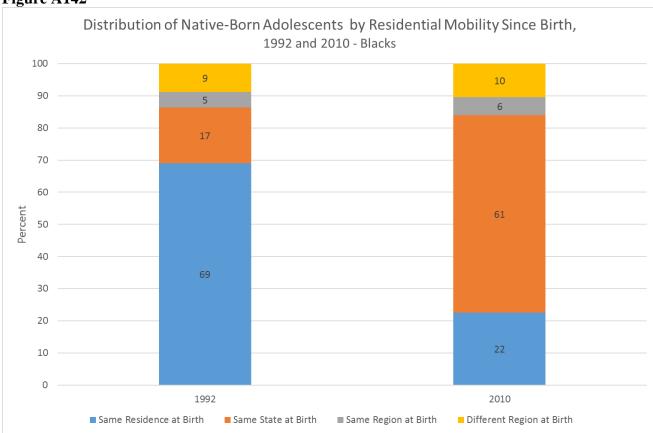


Figure A143

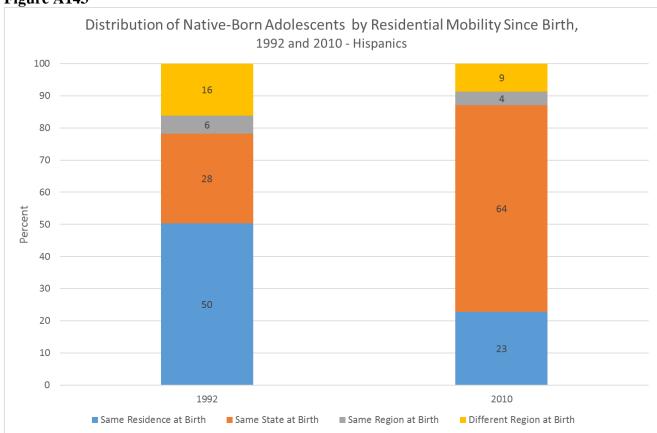


Figure A144

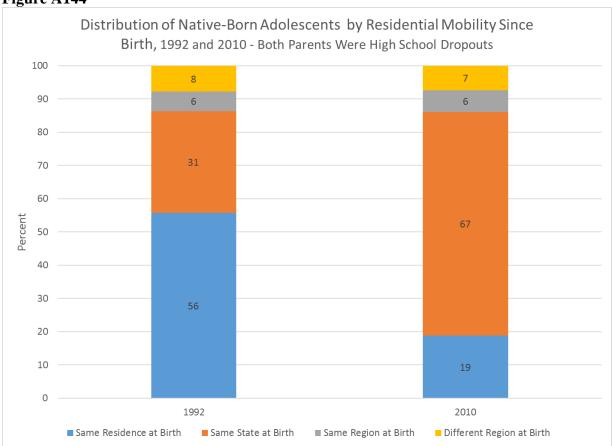


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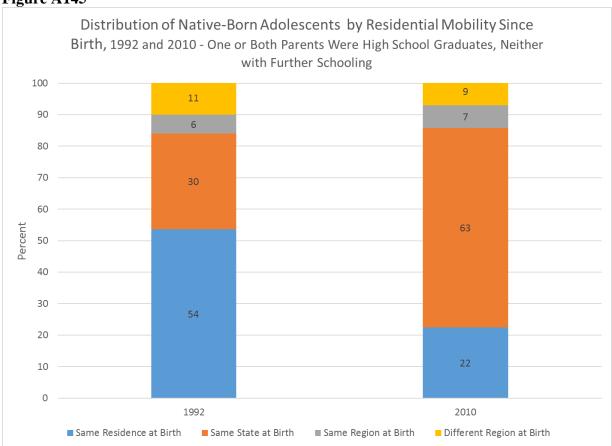


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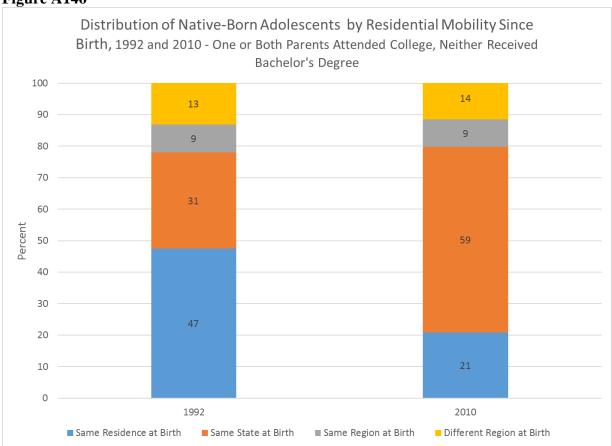


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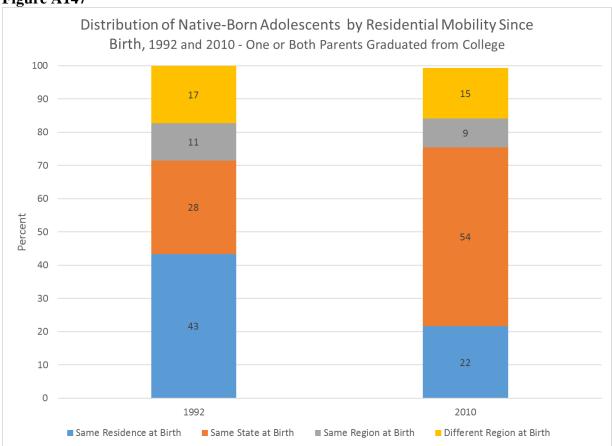


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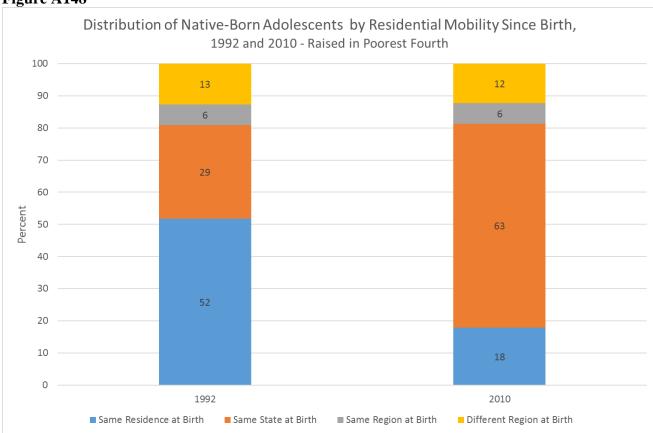


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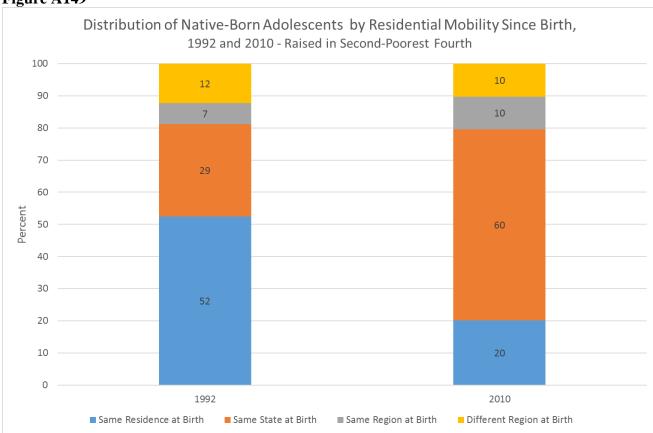


Figure A150

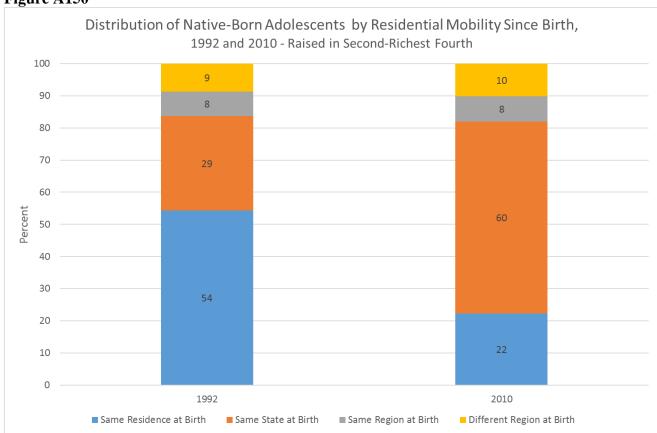
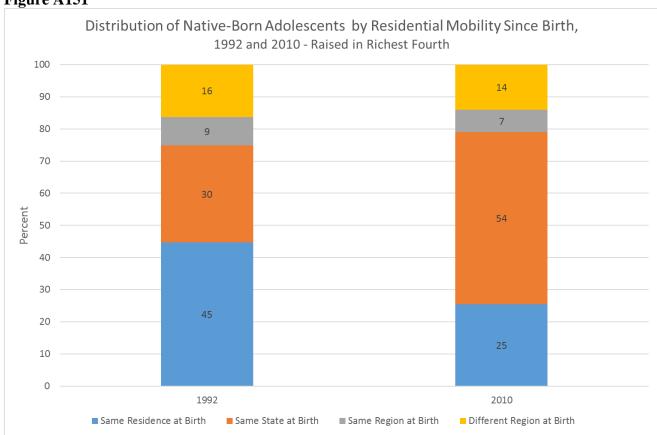


Figure A151



## IX. Additional Figures: Subgroup Distributions by Adolescence-to-Adulthood Residential Mobility (BLS Data)



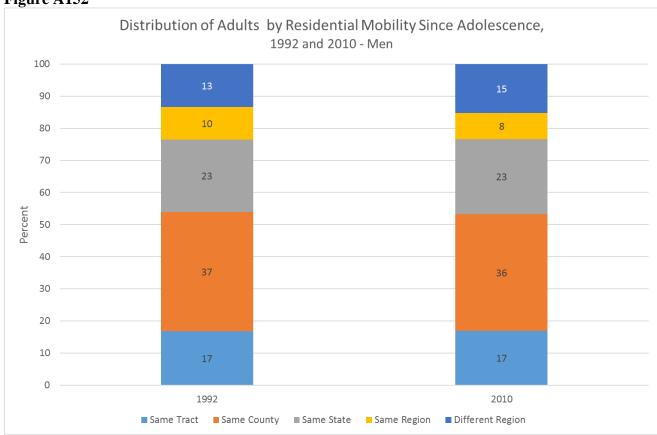


Figure A153

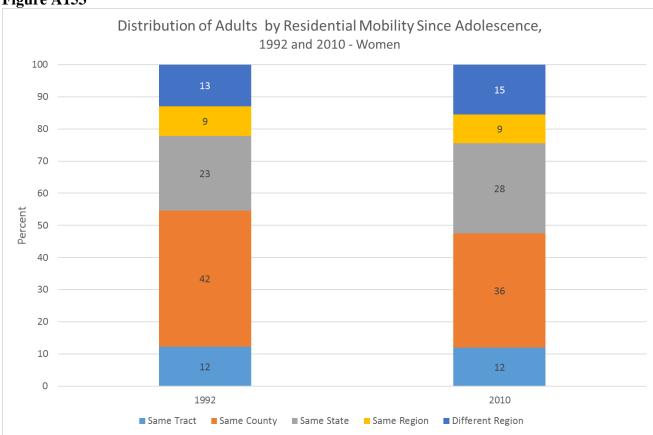


Figure A154

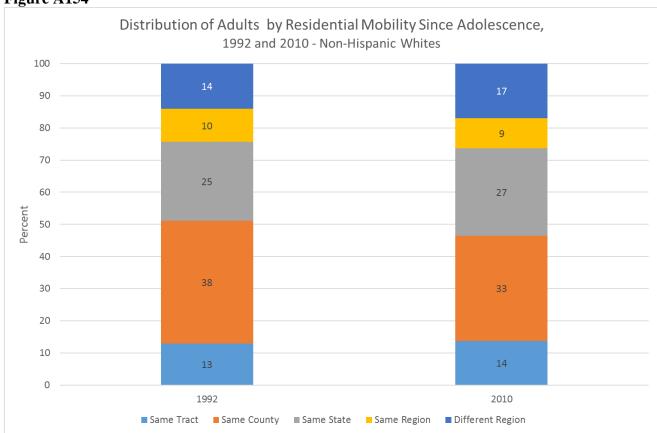


Figure A155

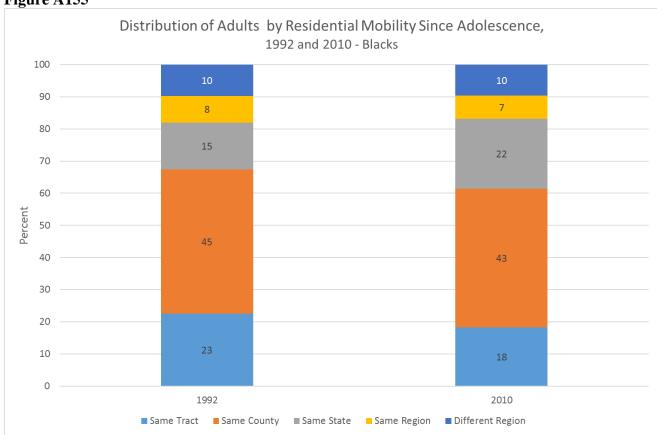


Figure A156

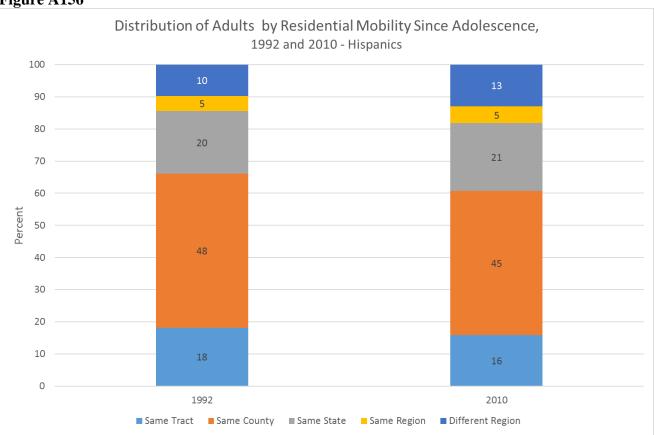


Figure A157

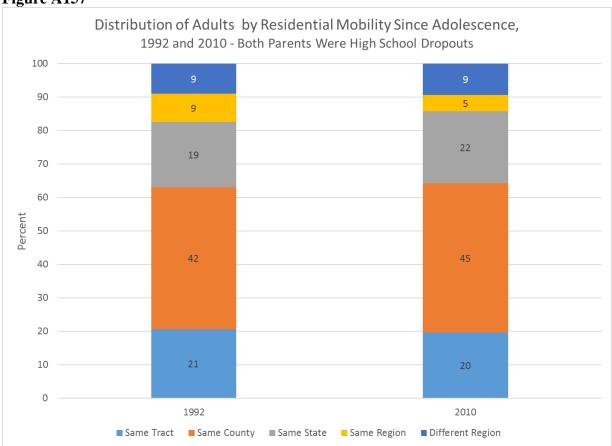


Figure A158

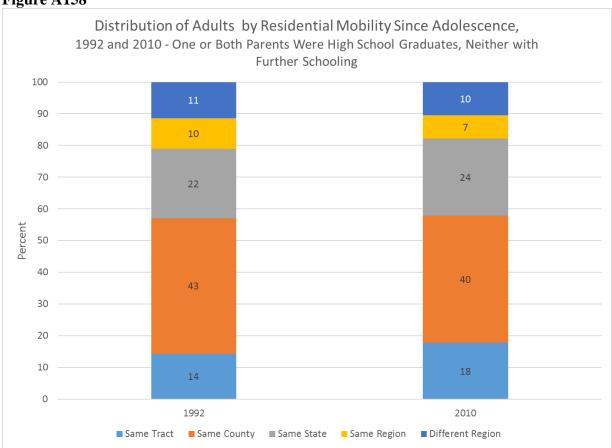


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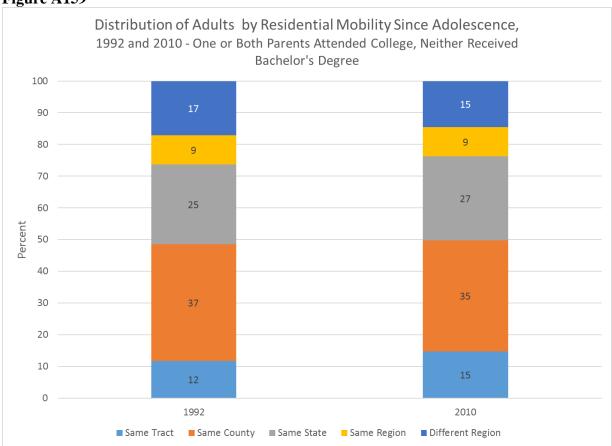


Figure A160

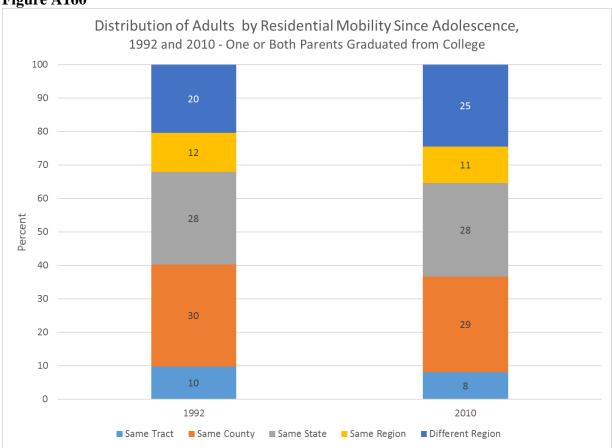


Figure A161

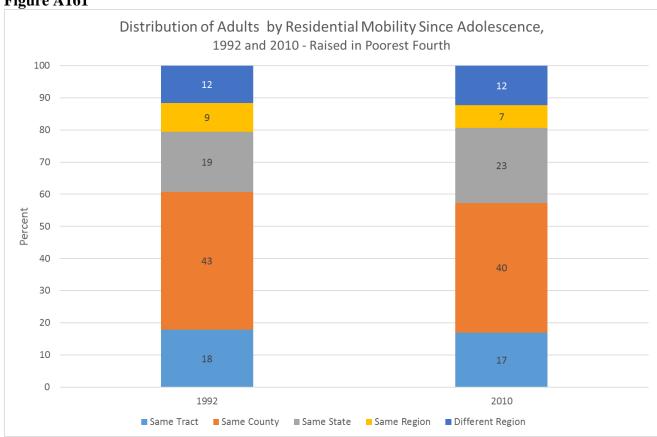


Figure A162

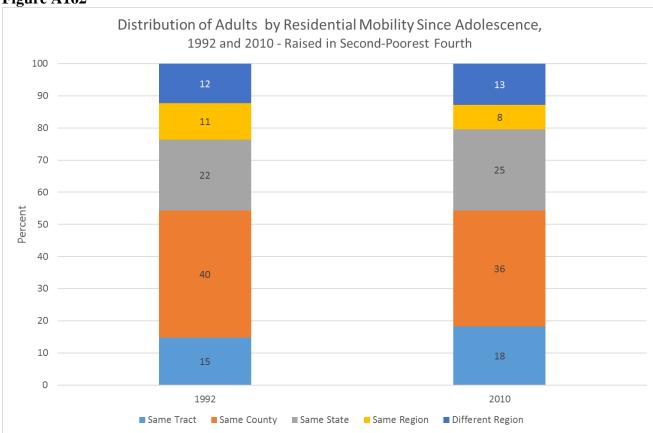


Figure A163

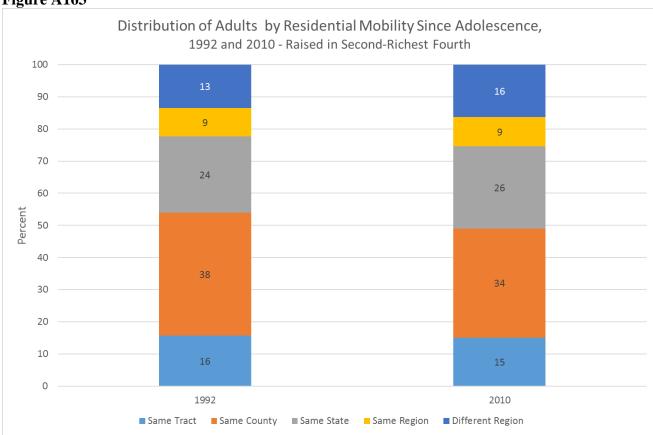
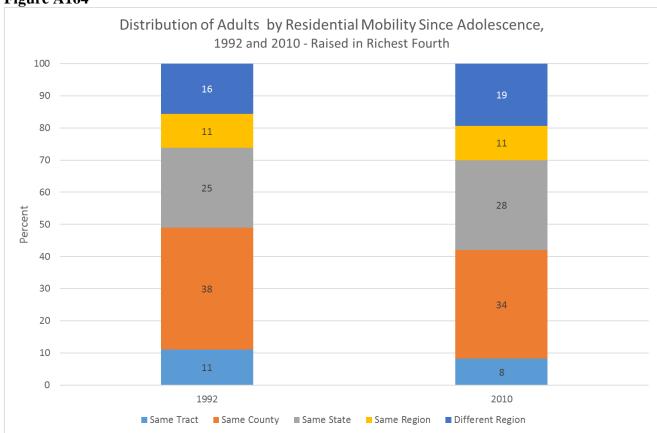


Figure A164



## X. Additional Figures: Subgroup Distributions by Short-Term (Preceding-Five-Years) Residential Mobility

Figure A165

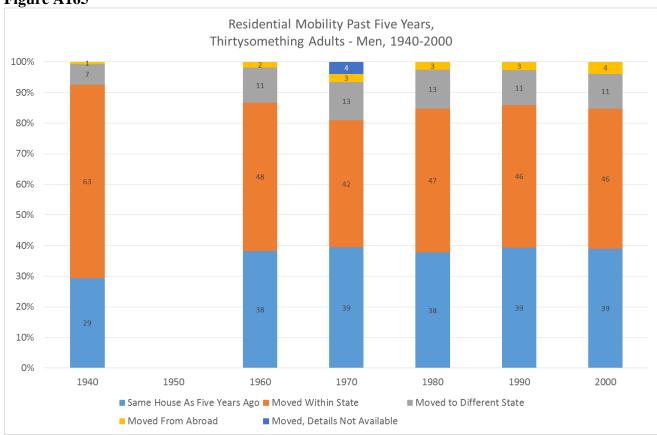


Figure A166

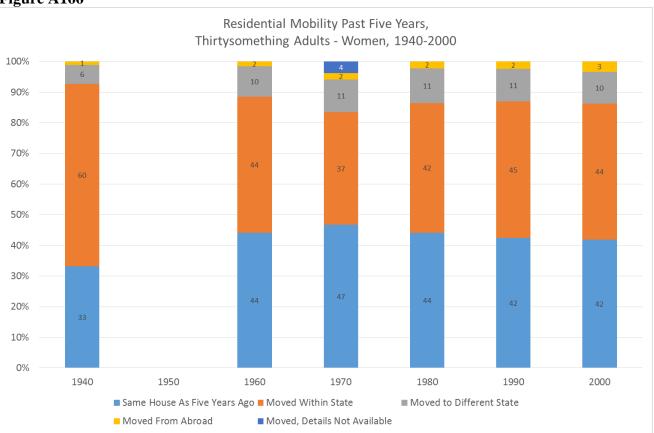


Figure A167

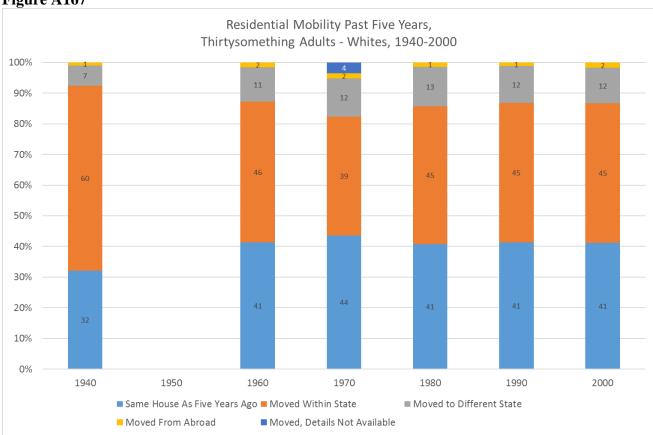


Figure A168

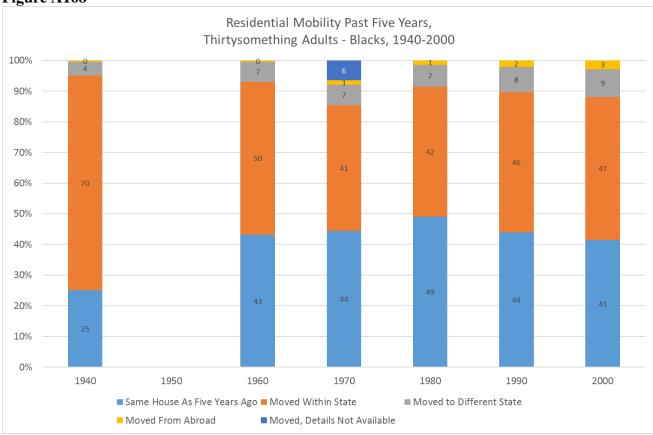


Figure A169

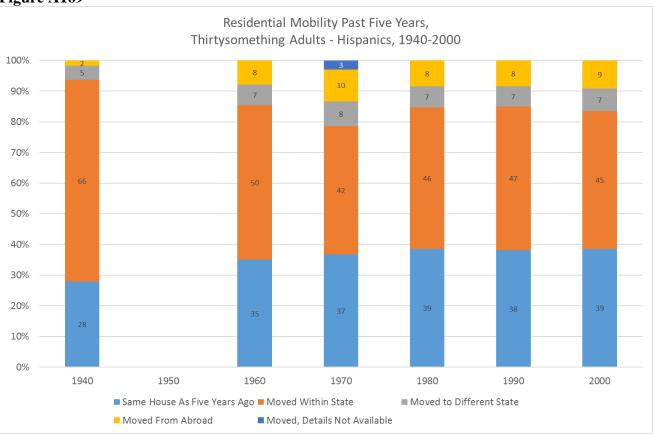


Figure A170

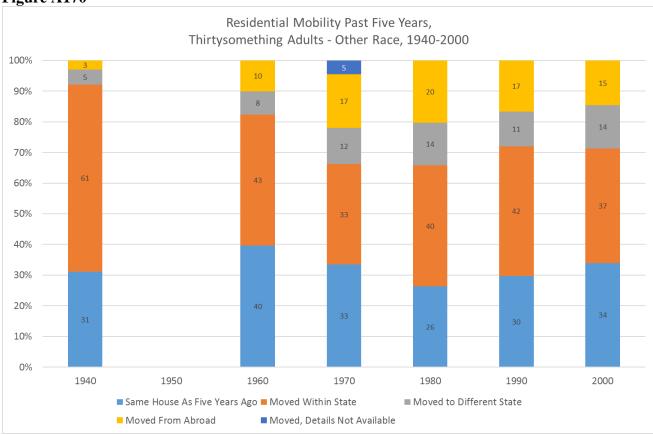


Figure A171

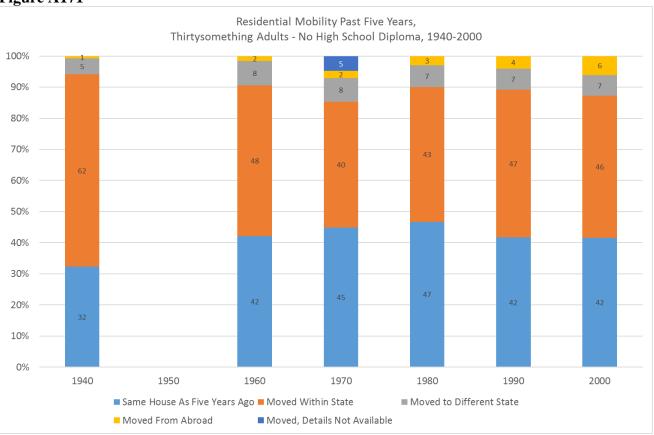


Figure A172

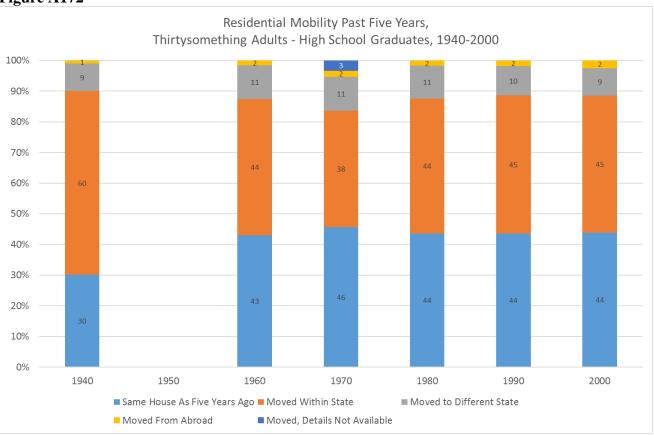


Figure A173

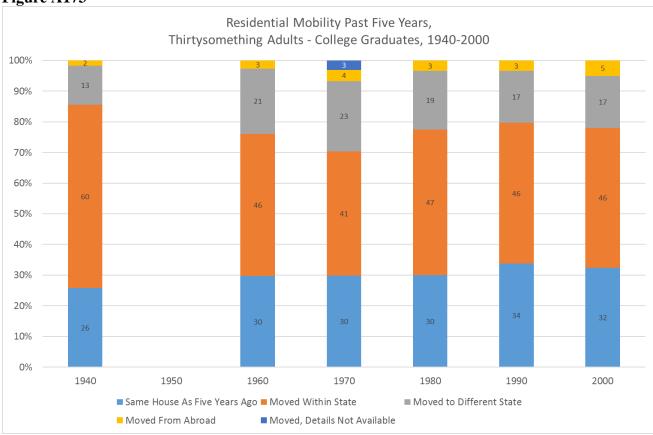


Figure A174

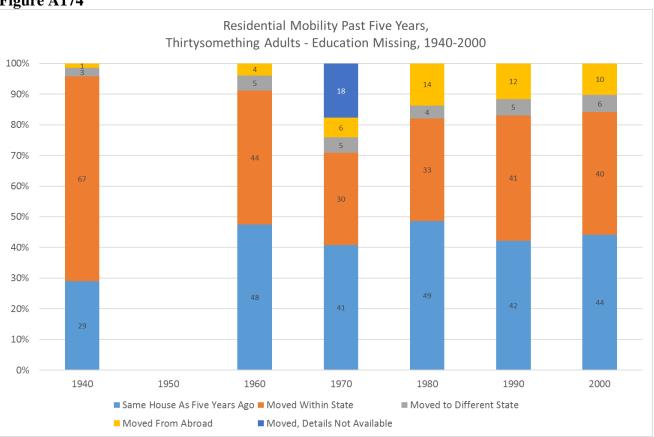


Figure A175

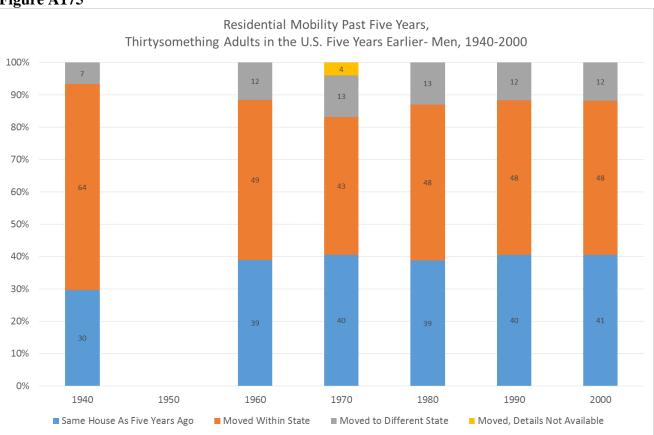


Figure A176

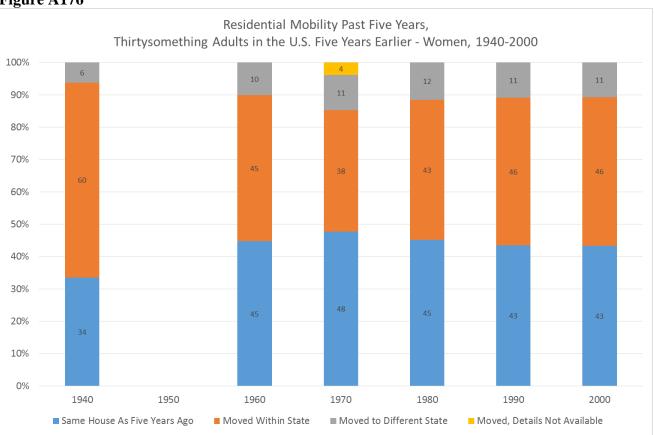


Figure A177

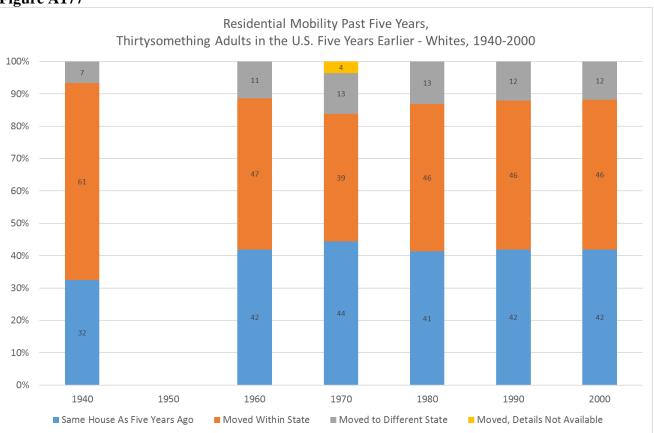


Figure A178

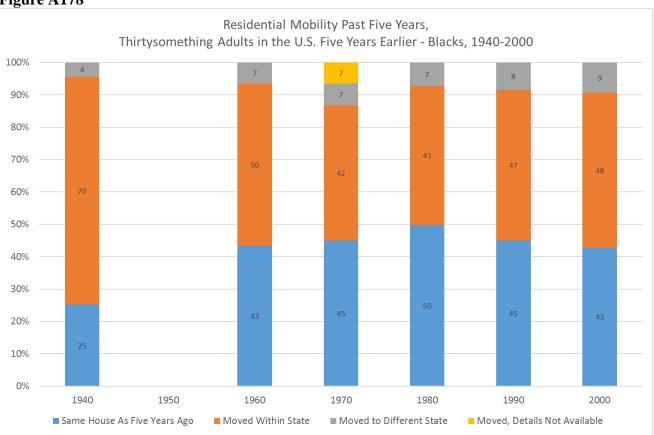


Figure A179

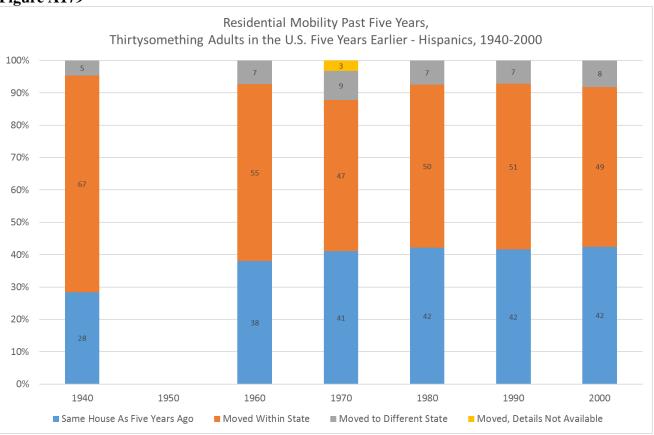


Figure A180

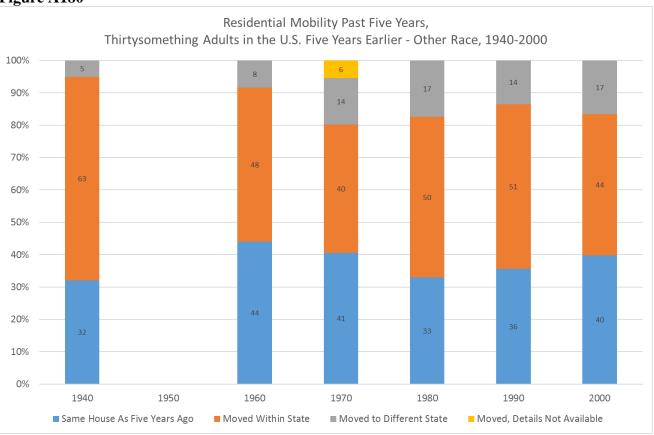


Figure A181

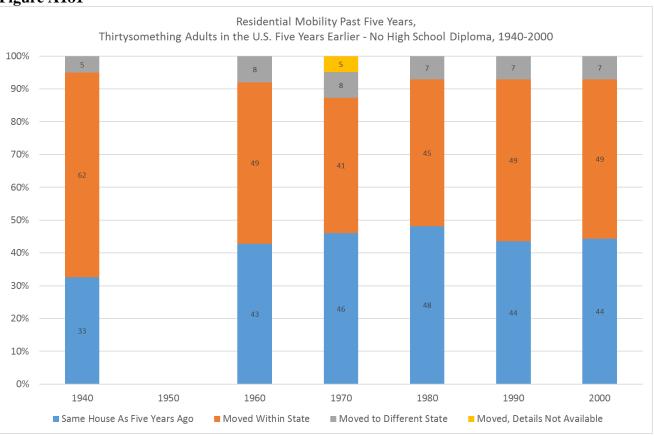


Figure A182

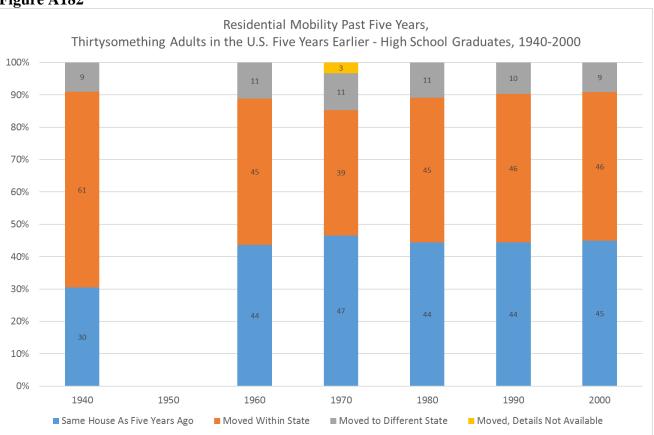


Figure A183

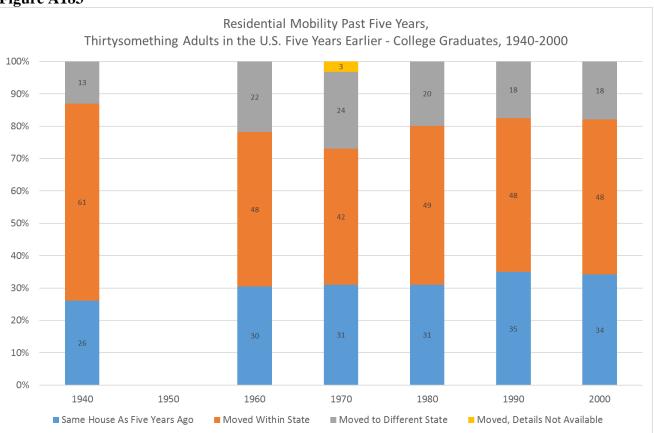
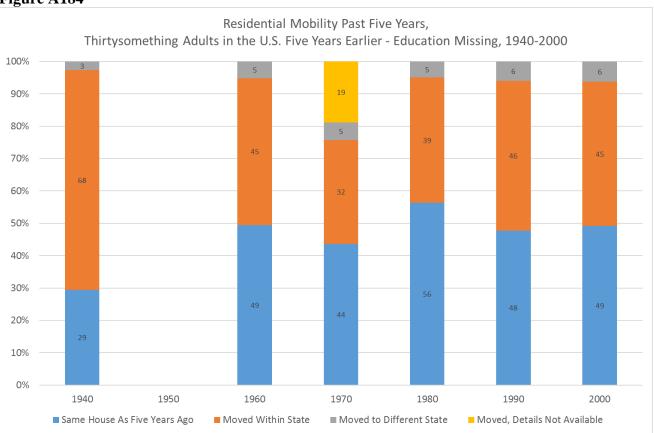


Figure A184



## **Endnotes**

<sup>&</sup>lt;sup>1</sup> I use "high school dropout" synonymously with having less than 12 years of schooling—though in reality, someone might obtain a GED without having 12 years of schooling. Similarly, I use "college graduate" synonymously with having at least 16 years of schooling. Before 1990, the data relate to the highest year of school completed; from 1990 forward, the highest degree earned was recorded for those who had completed at least high school. The IPUMS data recode the recent years for comparability with the pre-1990 data, assigning people the number of years of schooling typical of a given degree.

<sup>&</sup>lt;sup>2</sup> The self-employed were not included by the Census Bureau in the employment status estimates in 1910 but are included in other years.