Gender and Generational Status in Immigrants' Educational Achievement:

Evidence for Segmented Assimilation?

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Abstract

Children of immigrants comprise roughly 20 percent of U.S. school-age population. Despite a growing awareness of gender differences in educational performance, prior research on assimilation of immigrant children seldom examines boys and girls separately. Drawing on segmented assimilation theory, we use a nationally representative sample of high school students from the Educational Longitudinal Study of 2002 to examine gendered patterns of generational differences in high school GPA and test scores by race and ethnicity. Third-plus generation Black and multiracial males lag behind earlier generations in grades, Hispanic boys have slightly higher grades over successive generations, and Asian and White boys show little generational differences. Generational differences among females are similar to those for males, except for Blacks, among whom males display declining GPAs whereas second generation females display the highest GPAs. With multivariate analyses we will investigate mechanisms through which gender and generational variations in academic performance emerge.

As a result of sustained high levels of immigration since the 1990s, the proportion of the U.S. school children who are first and second generation immigrants has grown rapidly to comprise nearly 20 percent of all school age children in 2000 (Capps et al. 2005). It is well known that children of immigrant origin differ from native students born to native parents on a wide range of educational outcomes (e.g., Glick & Bates 2010; Kao & Tienda 1995; Pong & Zeiser 2012; Portes & Rumbaut 2001; White & Glick 2009). This research often uses generational differences in educational outcomes as an indicator of assimilation. Following the theory of segmented assimilation that emphasizes differential assimilation experiences and outcomes for individuals from different sending countries, prior research finds that the impact of generational status on educational outcomes varies substantially across racial and ethnic groups (Kao & Tienda 1995; Pong & Zeiser 2012; Portes & Rumbaut 2001). For example, Kao and Tienda (1995) used data from the National Educational Longitudinal Study of 1988 and found better academic performance of children of immigrants than that of their third-plus generation counterparts among Asians, first generation children having the highest educational achievement among Blacks, and no generational differences among Hispanics and Whites.

Given a growing awareness of gender differences in educational performance, attitudes, and social and behavior skills, it is striking that prior research on educational outcomes among immigrant children almost never considers gender or examines boys and girls separately. Examination of the intersection of generational status and gender among immigrants is important for various reasons. First, girls earn better average grades in school at all levels of education, and women are now substantially more likely to enroll in and complete college than men (DiPrete & Buchmann 2013). Additionally, boys often lag behind girls in terms of English-language ability and positive attitudes towards school (DiPrete & Buchmann 2013). Such gender differences may

lead to gendered assimilation outcomes and thereby produce important variations in educational achievement.

Despite the large body of research on immigrant-native student achievement gaps and the growing literature on gender gaps in education (see Buchmann et al. 2008 for a review), we do not know whether generational patterns of educational outcomes apply equally to girls and boys or whether there are important differences in these patterns by gender. Furthermore, while some research has examined academic differentials between boys and girls across race/ethnicity and family background, to the best of our knowledge, no research has investigated the intersection of generational status and gender in determining educational achievement gaps.

This study advances the understanding of the intersection of immigration status, gender, and race and ethnicity in producing educational inequalities in the United States. With a nationally representative sample of 10th graders from the Educational Longitudinal Study (ELS) of 2002, we examine gendered patterns of generational differences in educational achievement across racial and ethnic groups. Whereas most existing studies used data from the 1990s or earlier, to the extent that generational differences in educational outcomes vary by cohorts and time periods (Coll & Marks 2012), it is important to examine the academic performance of more recent cohorts of children of immigrants. High school students are a particularly appropriate population to examine the intersection of gender, generational status, and immigrant origin because the largest share of foreign-born immigrant students are found within secondary schools as opposed to lower levels of schooling (Capps et al. 2005). Moreover, high school academic performance is a strong predictor of college completion which, in turn, profoundly shapes individuals' life chances (DiPrete & Buchmann 2013; Torche 2011).

Theoretical Framework

We draw on theories of segmented assimilation and recent research on gender differences in educational achievement to understand generational differences in the educational achievement of male and female high school students across racial and ethnic groups. Segmented assimilation theory considers why these different patterns of adaptations emerge, and how these patterns result in converging or diverging immigrant experiences (Portes & Zhou 1993; Zhou 1997; Zhou & Xiong 2005). The major contribution of segmented assimilation theory is the emphasis on the interaction between the individual and contextual factors, rather than focusing on the effect of each (Zhou 1997; Waters et al. 2010). The theory predicts that differences in adaptation/assimilation are due to individual factors such as language proficiency and age of immigration, but also contextual factors. Kao and Tienda (1995) used segmented assimilation theory to hypothesize three pathways among immigrant children: 1) the straight-line assimilation hypothesis predicts that immigrant children have the lowest educational achievement and achievement increases over generations; 2) the accommodation-without-assimilation hypothesis posits declining educational achievement over successive generations, with first-generation children having the highest achievement because they are not yet influenced by the native peer culture (which for some groups, includes oppositional orientation toward educational achievement); 3) The immigrant optimism hypothesis assumes that second-generation children perform better than either first or third generation students because of their parents' optimistic attitudes towards education and their own English proficiency. These hypotheses, though insightful, receive only partial empirical support and thus need further investigation (Kao & Tienda 1995).

Moreover, as we explain below, given the large female advantage in various measures of academic performance, but especially grades, among the U.S. population of secondary school students (DiPrete and Buchmann 2013), assimilation may mean very different things for girls and boys. For boys, adaptation toward the "native model" may mean declining effort and engagement in school and subsequently lower grades. For girls, adaptation might not entail such declines. Whether any possible gendered patterns differ by race/ethnicity is an open question that we also investigate in detail.

Data and Methods

We use data from the Educational Longitudinal Study (ELS) of 2002 conducted by the National Center for Education Statistics (NCES). The ELS is the only nationally representative survey of high school sophomores that includes sufficient sample sizes for each generational, gender, and racial and ethnic group. From the baseline and first follow-up of the ELS, we examine three measures of educational achievement – math test scores, reading test scores, and grade point average (hereafter GPA). We examine five racial and ethnic groups – Asians, Blacks, Hispanics, Multiracial persons, and Whites.[1] Dropping observations with missing data on the dependent variables yields a sample of 15,757 respondents for analysis of test scores and a sample of 14,670 respondents for analysis of GPA. We present the sample sizes for each race/gender/generational status group in Appendix Table 1. Note that the sample is subject to selection because only those who were enrolled in high school were selected into the ELS and only those who finished high school had cumulative GPA information.

Cumulative GPA for all courses taken in high school is the main dependent variable of interest, given its theoretical and empirical relevance. Compared with test scores, grades are

more sensitive to students' efforts and school-related attitudes, and thus a better indicator of assimilation outcomes. Also, females consistently earn better grades than males on average, and grades are a stronger predictor of college completion than standardized test scores (DiPrete and Buchmann 2013). Students' GPA is reported in seven categories, ranging from 0.00-1.00 to 3.51-4.00. We take the median value of each category. This categorical measure of GPA is less precise than the student's actual GPA, so any results we find with this more conservative measure should be larger when we rerun analyses with actual GPA data from students' transcripts in the next stage of analysis. In addition to GPA, we measure educational achievement with math and reading standardized test scores from the baseline survey. While we present generational differences in test scores by gender and race/ethnicity graphically in Appendix Figures 1 and 2, here we focus solely on the results for grades.

The main independent variables are gender, generational status, and race and ethnicity. Gender is a dummy variable (0 = male; 1 = female). We include five racial and ethnic groups: White, Asians, Blacks, Multiracial, and Hispanics. Generational status is measured by a set of dummy variables: first, second, and third-plus generations. Following the commonly used definition of generational status (Coll & Marks 2012), first generation students were not born in the United States, second generation students were born in the United States with at least one parent born abroad, and third-plus generation students were the native-born with two native-born parents. Following Pong and Zeiser (2012), we keep students with missing values for generational status by including a dummy variable.

Preliminary Results

Figure 1 presents cumulative GPA by generational status, race/ethnicity, and gender. The results indicate clear differences in GPA by race/ethnicity and generational status. Considering first the results for males, we see that GPA does not significantly vary over generational status for Asian or White male students. In contrast, the GPAs of third-plus generation Black and multiracial males significantly lag behind the GPAs of their earlier generation counterparts – a pattern that aligns with the accommodation without assimilation hypothesis. It suggests that Black and Multiracial males' academic performance significantly decreases as they stay longer and assimilate more into the U.S. society. There is some evidence of a straight-line assimilation among Hispanic males; GPAs increase slightly over successive generations, but overall, Hispanic males have low average GPAs. When we compare females to males, we see that generational patterns for females and males are similar for Whites, Asians, Multiracial persons, and Hispanics. It is interesting that for multiracial students, females' GPA declines with generational status, like their male counterparts. But for Blacks, the patterns for males and females are distinctly different. Whereas the generational status pattern of declining GPA for males aligns with the accommodation-without assimilation hypothesis, for females there is support for the immigrant optimism hypothesis, where the second generation outperforms the first generation. Of course, we need to be cautious in interpreting resulting for first generation Blacks and Multiracial children because of their relatively small sample sizes (See Appendix Table 1).

We calculate the female-minus-male gender gap in cumulative GPA by generational status and race and ethnicity. With the exception of first generation Blacks, there is a strong evidence

of female advantage in GPA within every other generational and race/ethnicity group (See Appendix Figure 3).

Additionally, consistent with prior research (Kao & Thompson 2003), racial and ethnic gradients in GPA are also evident in our sample. Asian, Multiracial, and White students do better than Black and Hispanic students, regardless of gender and generational status.

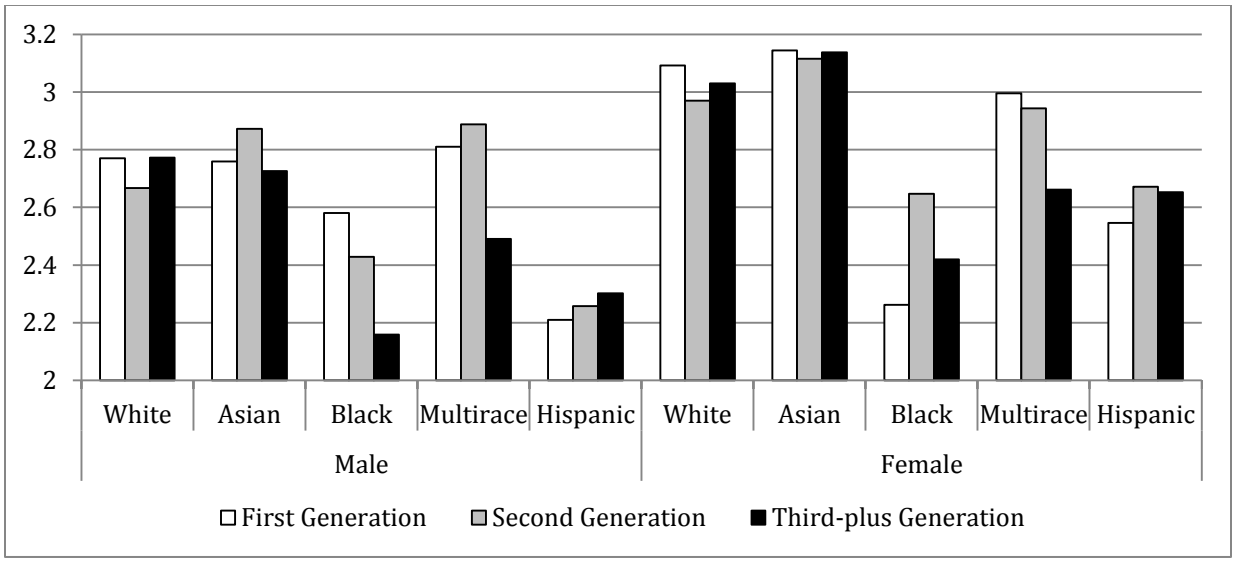

Figure 1. Cumulative GPA in the 9th - 12th Grades by Generational Status, Race/Ethnicity, and Gender

Next Steps

In the next steps of this research, we will build on these descriptive results and use multivariate regression to investigate the generational differences net of many other factors for males and females as well as the mechanisms through which gender and generational variations in academic performance emerge. Drawing on previous literature, we will consider language spoken at home, parental education, parental aspiration for the child, and student's effort. For first generation students, we will also examine age of immigration and length of residence in the U.S. as additional independent variables. We will seek to determine which factors contribute to generational differences in gender gaps, such as the male advantage in educational achievement

among first generation and the female advantage among third-plus generation for Blacks. Thus far, we have found that among first generation Blacks, boys appear to have better educated parents, experience higher expectations from parents, and spend more time on homework than girls, but the reverse is true among native-born Black boys and girls of native-born parents (results not shown). Thus, the reversal of the gender gap in achievement for Blacks across generational status may be attributable to gender differences in family background, parental aspirations, and school effort. This finding suggests that the assimilation processes for Black immigrants are gender specific, whereby Black girls experience positive assimilation for Black girls, but negative assimilation for Black boys.

Additional analyses will examine the degree to which gender gaps in GPAs for different racial/ethnic and generational status groups hold net of standardized test scores. Our study improves over prior research in that it will determine the degree to which theories of segmented assimilation hold or must be modified when we consider how gender interacts with race/ethnicity and generational status in determining educational achievement gaps. In the process, our findings will serve to illuminate particularly vulnerable groups for whom more research is warranted in the goal of improving educational outcomes and social mobility.

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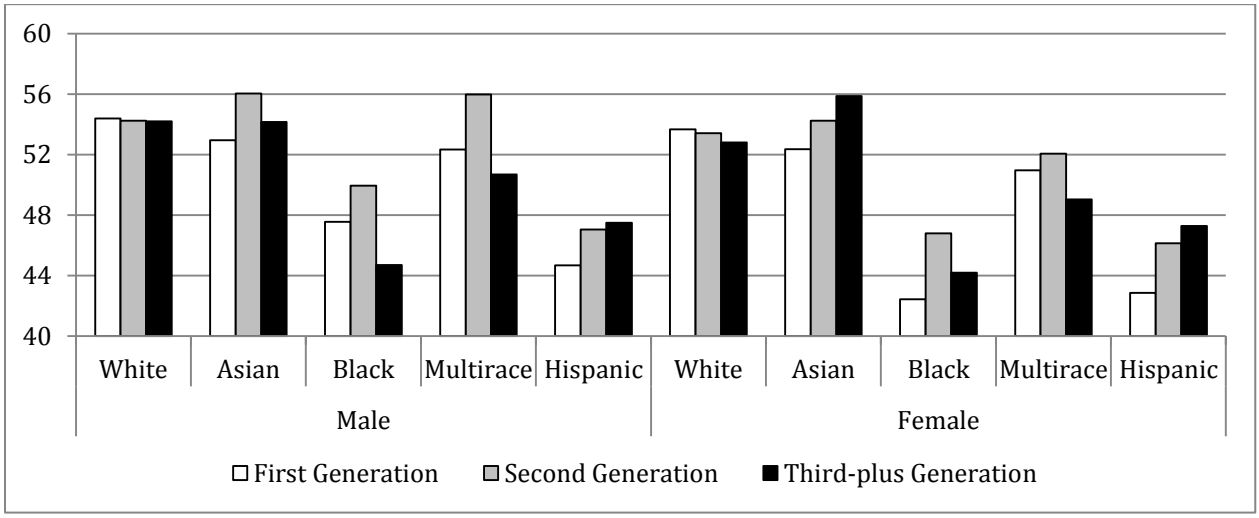
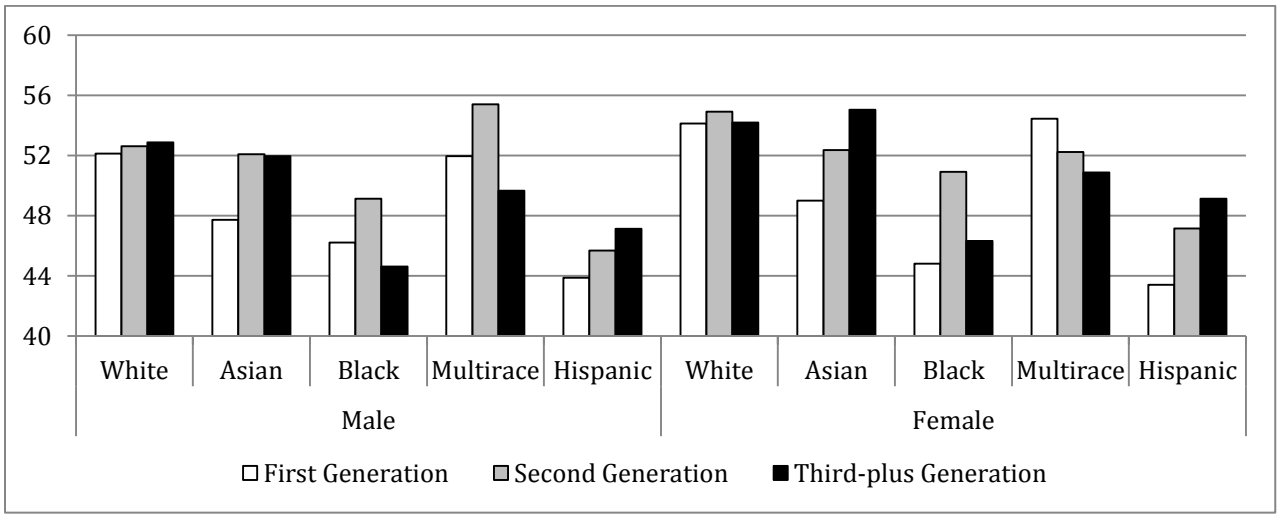
Appendix Table 1. Sample Sizes by Dependent Variables, Gender, Generational Status, and Race and Ethnicity

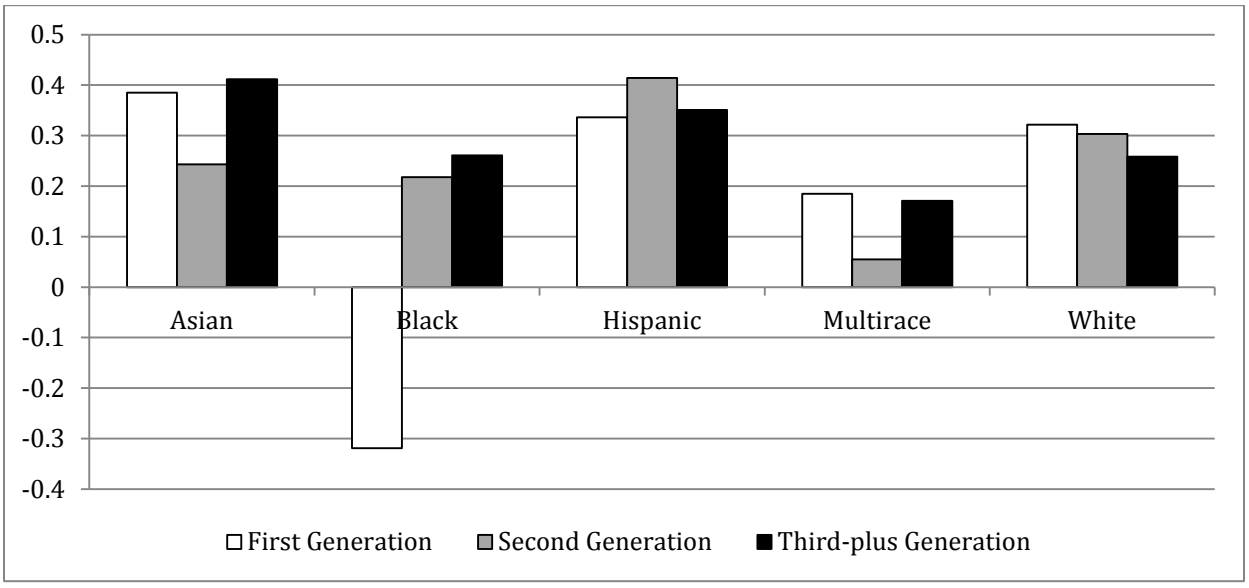
	Asian		Black		Hispanic		Multi-race		White	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Math/reading test scores										
First generation	278	285	48	39	218	278	32	27	88	96
Second generation	294	307	67	65	396	375	71	65	210	194
Third-plus generation	52	33	686	740	303	298	210	203	3,496	3,576
Generational Status Missing	192	151	261	224	246	245	64	88	629	627
Total	816	776	1,062	1,068	1,163	1,196	377	383	4,423	4,493
GPA										
First generation	251	261	36	34	197	255	27	25	81	89
Second generation	280	289	60	56	362	343	64	64	201	180
Third-plus generation	52	30	616	678	285	273	199	188	3,271	3,329
Generational Status Missing	192	150	219	202	238	236	59	78	613	607
Total	775	730	931	970	1,082	1,107	349	355	4,166	4,205



Appendix Figure 1. Math Standardized Test Scores by Generational Status, Race/Ethnicity, and Gender



Appendix Figure 2. Reading Standardized Test Scores by Generational Status, Race/Ethnicity, and Gender



Appendix Figure 3. Gender Gap (Female - Male) in Cumulative GPA in the 9th - 12th Grades by Generational Status and Race/Ethnicity

[1]140 Native Americans out of 16,197 respondents at the base line are dropped from our analytic sample because of the small sample size.