A New Model of Intergenerational Mobility of Immigrants in the U.S., 1970 to 2000

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ABSTRACT

To measure true intergenerational mobility, the status of the first generation must be compared to their children, the second generation, when they reach a comparable age of maturity some 25 to 30 years later. Questions have also been raised about differences between the 2nd and 2.5 generations. This paper reports new findings from an NICHD-sponsored study of the temporal dynamics of assimilation in America.

A new model design is developed that links 1970 and 1998-2002 data to probe more deeply the process of intergenerational mobility, using indicators of educational attainment, poverty status, and homeownership. Among the questions addressed are how much has the second generation in 2000 closed the gap with a third or higher generation reference group compared to the gap experienced by their "parents" in 1970 *and* how does the relative progress of the second generation vary between those with one immigrant parent and two immigrant parents?

I. INTRODUCTION

Traditionally, assimilation for the immigrant population has been thought to occur over generations with each successive generation becoming more like the American mainstream. To measure the socioeconomic progress across immigrant generations, most researchers have observed all generations at a single point in time. Although this is an effective measurement of *difference* between generations, this methodology does not capture intergenerational mobility or progress of children relative to their parents. However, to measure true intergenerational mobility, the status of the first generation must be compared to their children, the second generation, when they reach a comparable age of maturity some 25 to 30 years later. Hence, the first generation must be observed at a different point in history than the second generation (Smith 2003).

This paper reports new findings from an NICHD-sponsored study of assimilation in America. Intergenerational mobility is addressed across multiple outcome indicators. In this paper, we compare three dimensions of status—educational attainment, poverty status, and homeownership—of the second generation in 2000 to that of the first generation in 1970. Those with one immigrant parent are analyzed separately from those who have two immigrant parents. The analysis is carried out for all immigrants and then for each of the four major race/ethnic groups. Because of the substantial changes occurring in overall socioeconomic conditions between periods our analysis also controls for the status of a reference that is comprised of third or higher generation residents.

Five main research questions will be addressed in this paper. First, is the second generation better off than their parents' generation? Second, how much has the second generation in 2000 closed the gap with a third or higher generation reference group compared to the gap experienced by their "parents" in 1970? Third, how does the relative progress of the second generation vary between those with one immigrant parent and two immigrant parents (Ramakrishnan 2004)? Fourth, is the pattern of intergenerational progress consistent across a range of outcome variables: educational attainment, poverty, and homeownership? Fifth, are there any noteworthy differences between race/ethnic groups?

II. DATA AND METHODS

The dataset to be used in this analysis is constructed from the 1970 decennial census Public Use Microdata Samples (PUMS) and pooled Current Population Survey data at the national level (referred to as "2000"). The sample is designed to repeatedly observe second generation birth cohorts in 1970 and 2000 (when they are 30 years older), and designed to match the first generation observed in 1970 to the second generation matching their children's age in 2000. Note that the sample is constructed from repeated cross-sections and does not longitudinally trace kin between generations.

A. Defining the Second Generation and Their Parents

We identify aggregate intergenerational relationships by defining samples to approximate parent-child spacing between generations. With the hierarchical file structure we identify the immigrant parent sample living with this second generation in 1970. A number of alternate samples are defined for the "second generation": children living with two first generation parents (2nd generation) or children living with one first generation parent (2.5 generation). The presence of these second generation children defines two alternate samples of first generation parents. In addition, because some parents are not co-resident, we will define an alternate "parent" sample comprised of all first generation ages 25-44. In 2000, we identify the second generation cohort ages 30 to 46.[1]

Smith (2003) assumed a 25-year spacing while Reed et al. (2005) assumed a 27-year spacing. For our analysis, the second generation can be identified in 1970 using the available census questions in that year and restricting this to ages 0-16. (In 2000, we identify the second generation cohort now grown 30 years older (ages 30-46). Although this will not match exactly the age range of their parents observed 30 years earlier (largely 25-44), a control for exact age can adjust outcomes for comparing the second generation and their "parents" at age 35.

B. Model Design

For each of our outcome measures of assimilation, we contrast second generation status in 2000 and first generation status in 1970, controlling for the status of the third or higher generation in each period. In this paper, we are introducing a new model design. The analysis borrows from part of the double cohort design of Myers and Lee (1996, 1998). In place of arrival cohorts, we have generational status (G). For this intergenerational mobility analysis, G has four groups pooled: first generation from the 1970 sample, and second generation from the 2000 sample, both coded G=1, and 3rd or higher generation from both 1970 and 2000, both coded G=0. For this analysis, the reference group is a pooled sample of all native-borns combined who are 3rd or higher generation. This is consistent with Alba and Nee's notion of a merged mainstream (2003). The main effect of Year represents period change in outcomes for the reference group between 1970 (Year=0) and 2000 (Year=1). The differential effect of passage between immigrant generations is represented by Year*G. The resulting intergenerational model can be represented:

$$(O) = Year + G + (Year * G) + Age + X$$

where:

(O) = outcome variable of interest,

Year = observation year (1970 = 0 and 2000 = 1), capturing period effects for the 3rd+ generation reference group,

[1] Two samples of second generation will be defined in both 1970 and 2000: one following convention of at least one immigrant parent and, second, following Ramakrishnan (2004) of two immigrant parents.

G = generation, represented by second generation in 2000 and first generation in 1970, contrasted to a reference group of 3rd or higher generation,

(Year*G) = the differential effect of passing of time between first and second generations, over and above changes for the 3rd or higher generation,

Age = exact age in years as described above, and

X = a vector of covariates (gender, marital status, education, area contextual factors, or other).

It is important to grasp that the interpretation of G and Year*G effects depends on the sample structure of the dataset. As noted above, the 1970 portion of the data only includes the first generation while the 2000 portion only includes the second generation. Thus the passage of time (Year*G) represents the shift from first to second generation.

The selected outcome variables are used to measure key socioeconomic characteristics for the total population as well as for Hispanics, non-Hispanic whites, non-Hispanic blacks, non-Hispanic Asian and Pacific Islanders: educational attainment is determined by measuring the percent of the population that has completed a high school degree or higher, and a bachelor's degree or higher. The universe for educational attainment is adults 25 year of age and older. Poverty is measured by the percentage of persons who fall below the federally determined poverty level. The universe used is total persons. Homeownership is measured by the percentage of householders who live in homes that are owner-occupied. Householders (household heads) are the universe for this analysis.

III. FINDINGS

A. Descriptive Results

The descriptive results with this intergenerational approach are shown in the following three tables. First, Table 1 compares educational attainment of the generations in 1970 and 2000 (pooled 1998-2002). The key comparison is between the second generation children in 2000 and the first generation parents of second generation in 1970. For example, among all races, the percent achieving a BA degree is 36.4% in 2000 and 13.0% in 1970. Alternately, we can compare the BA degrees for 2.5 generation children (34.3%) with first generation parents who were living in households with one immigrant parent in 1970 (12.0%). Between 1970 and 2000, there has been a wholesale shift in the prevalence of BA degrees and a dramatic shrinkage in the likelihood of not completing high school. At the same, we observe a large increase in educational attainment between generations, the educational standard of the 3rd and higher generation has also grown, e.g., from 13.7% with BAs in 1970 to 26.4% in 2000. The most noteworthy finding is that not only are the second generation achieving higher levels of education than their immigrant parents, but they are also surpassing the educational attainment levels of the third or higher generation. These second generation adults with two immigrant parents

also surpassed the educational attainment of the 2.5 generation with only one immigrant parent. For each of the race/ethnic groups identified in Table 1, the same intergenerational relationships can be observed. It is important to observe that this appears to contradict Ramakrishnan's finding (2004) that the percent with BA is slightly higher for the 2.5 generation. However, Ramakrishnan shows the detailed age structure of the 2nd and the 2.5 generation (2004: Figure 1) revealing that the 2nd generation has a younger age structure in 2000, a factor at work even in our subject age range. Those younger adults come from birth cohorts with a higher likelihood of a college education, thus creating an apparent, spurious correlation between educational attainment and generation status. We will need to control for exact age difference in our model to eliminate such spurious effects.

[insert Table 1 here]

Secondly, Table 2 shows the percent of each generation that is in poverty. For the total population, the 2nd and 2.5 generation have lower poverty in 2000 (6.8% and 5.7% respectively) than all of the first generation samples in 1970. In fact, the second generation has a markedly lower poverty rate than those of the third generation (9.1%). Similar patterns are found for every race/ethnic group with the exception of blacks where the 2.5 generation has a high rate of poverty (17.4%) similar to that of their parents in 1970 (the small sample sizes are shown in Table 2).

[insert Table 2 here]

Lastly, Table 3 shows homeownership attainment. For all households, the 2nd and 2.5 generation have higher homeownership in 2000 (70.7% and 73.8% respectively) than all of the first generation samples in 1970. In this case, the 2.5 generation has higher homeownership that the 2nd generation, again at least partially due to their older age structure. Whereas this was a detriment for educational attainment, older age is an assist for homeownership (Logan and Alba 1992; Myers and Lee 1998). However, it is important to note that the 3rd or higher generation reference group in 2000 also has higher homeownership than in 1970 (67.0% vs. 59.2%).

[insert Table 3 here]

B. Preliminary Model Results

Research is still underway in this new project but preliminary results have been attained for some model estimations. Here we present the estimation for homeownership, comparing results estimating intergenerational mobility of the 2nd and the 2.5 generations (Table 4). Age is controlled in the model, center coded to age 35, so that we can compare generations at comparable life stages. Marital status is also controlled to married couples, and a simple binary variable indicates whether the householder is Latino or non-Latino. Educational attainment is also controlled to less than a high school degree.

[insert Table 4 here]

In 2000, the homeownership rate is substantially higher for the 3rd or higher generation than in 1970, as indicated by the logit for the Year variable. This effect is the same for both the 2nd and the 2.5 generation models. The generation effect (Gen) is more negative for the 2nd generation sample than for the 2.5 generation, indicating that two immigrant parents are at a greater disadvantage relative to those with only one immigrant parent. The progress between generations (from first to second, between 1970 and 2000) is given by the Year*Gen logit coefficient which is approximately twice as great as for the 2nd generation (0.638) as for the 2.5 generation (0.327). Apparently the 2nd generation group is able to make up its initial parental disadvantage because the sum of the coefficients of Gen and Year*Gen is virtually identical to that of the 2.5 generation (.14 vs. .13).

IV. CONCLUSION

To measure true intergenerational mobility, the status of the first generation was compared to that of their children, the second generation, when they reach a comparable age of maturity some 30 years later. This new model of intergenerational mobility allows for further distinction between the second generation with one immigrant parent (the 2.5 generation) and those with two immigrant parents (the 2nd generation).

The preliminary findings begin to speak to the five main research questions laid out in the beginning of this paper. First, we found that the 2nd and the 2.5 generation are doing considerably better than their first generation parents for all of the outcome variables. Due to the younger age structure of the 2nd generation, they are more likely to have higher educational attainment yet lower homeownership than the 2.5 generation.

Due to period effects, the socioeconomic status of immigrant generations is compared to a 3rd or higher generation reference group at the point of observation. For instance, as discussed earlier the educational standard of the 3rd and higher generation has almost doubled from 1970 to 2000. The most noteworthy finding is that not only are the second generation achieving higher socioeconomic status than their immigrant parents, but they are also surpassing that of the 3rd or higher generation.

To better understand the difference in socioeconomic mobility between the 2nd and the 2.5 generation relative to their parents, the preliminary model results show that those with two immigrant parents (the 2nd generation) are able to catch up to those with only one immigrant parent. Beyond homeownership, models for educational attainment and poverty will be run to examine various aspects of socioeconomic mobility.

With relatively few exceptions, the findings were consistent across the four major race/ethnic groups which is an indication that the process of intergenerational mobility is persistent for all groups. Further analysis will be conducted to gauge what are the varying degrees of mobility, if any, for the various race/ethnic groups.

This new model of intergenerational mobility provides a window to new insights to the assimilation process of immigrants through the generations in America.

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Table 1. Education Attainment by Generations

							N	
			Less Than High School	High School and Some College	Bachelors Degree or More	Total Percent	Un-weighted	Weighted
All Races	PUMS 1970	1st_all	42.3	41.3	16.4	100	24,891	2,493,234
		1st_2nd	52.9	34.0	13.0	100	10,666	1,068,449
		1st_2.5	38.2	49.8	12.0	100	9,431	944,671
		3rd+	33.4	52.9	13.7	100	396,804	39,746,581
	CPS 1998-2002	2nd	9.3	54.3	36.4	100	2,390	4,092,863
		2.5	8.0	57.8	34.3	100	4,466	7,664,539
		3rd+	9.0	64.6	26.4	100	108,243	199,219,234
Hispanic	PUMS 1970	1st_all	61.2	29.9	8.9	100	5,149	515,760
		1st_2nd	67.2	26.0	6.8	100	2,511	251,568
		1st_2.5	63.0	29.4	7.6	100	1,626	162,883
		3rd+	55.9	37.3	6.8	100	12,437	1,245,700
	CPS 1998-2002	2nd	18.5	62.8	18.7	100	1,010	1,450,194
		2.5	20.6	62.8	16.6	100	1,147	1,630,757
		3rd+	21.6	66.2	12.2	100	7,665	10,174,963
NH White	PUMS 1970	1st_all	38.8	45.3	15.8	100	16,279	1,630,636
		1st_2nd	50.7	37.0	12.2	100	6,912	692,392
		1st_2.5	32.6	54.9	12.6	100	6,989	700,047
		3rd+	29.3	55.5	15.2	100	334,030	33,458,869
	CPS 1998-2002	2nd	3.3	52.2	44.5	100	1,114	2,093,903
		2.5	4.0	56.5	39.5	100	2,923	5,284,856
		3rd+	7.2	63.2	29.6	100	85,848	156,755,086
NH Black	PUMS 1970	1st_all	43.8	44.8	11.4	100	918	91,928
		1st_2nd	41.4	48.2	10.4	100	307	30,750
		1st_2.5	43.2	41.3	15.5	100	155	15,524
		3rd+	55.5	39.2	5.3	100	47,666	4,774,441
	CPS 1998-2002	2nd	6.0	49.4	44.6	100	57	139,203
		2.5	12.9	60.4	26.7	100	120	285,261
		3rd+	13.4	71.9	14.8	100	12,049	29,046,226
NH Asian & PI	PUMS 1970	1st_all	26.1	36.6	37.3	100	2,242	224,563
		1st_2nd	34.4	27.8	37.8	100	870	87,128
		1st_2.5	34.9	49.7	15.4	100	592	59,304
		3rd+	21.0	59.1	20.0	100	1,041	104,268
	CPS 1998-2002	2nd	7.2	36.4	56.4	100	196	379,927
		2.5	5.4	51.3	43.3	100	249	409,728
		3rd+	5.4	55.7	38.9	100	924	1,119,508

Note: 1st_all: All immigrants ages 25-44, irrespective of children present
1st_2nd: Immigrant parents (any age) living with the 2nd generation ages 0-16
1st_2.5: Immigrant parents (any age) living with the 2.5 generation ages 0-16
2nd: 2nd generation of two immigrant parents
2.5: 2nd generation of one immigrant parent
3rd+: Native-born ages 25-44 of native-born parents

Table 2. Poverty by Generations

			Below Poverty	N	
				Un-weighted	Weighted
All Races	PUMS 1970	1st_all	9.8	24,543	2,458,383
		1st_2nd	9.4	10,666	1,068,449
		1st_2.5	8.3	9,431	944,671
		3rd+	9.2	390,945	39,159,747
	CPS 1998-2002	2nd	6.8	2,390	4,092,863
		2.5	5.7	4,466	7,664,539
		3rd+	9.1	108,243	199,219,234
Hispanic	PUMS 1970	1st_all	18.0	5,073	508,149
		1st_2nd	20.3	2,511	251,568
		1st_2.5	19.2	1,626	162,883
		3rd+	18.3	12,254	1,227,373
	CPS 1998-2002	2nd	12.3	1,010	1,450,194
		2.5	11.7	1,147	1,630,757
		3rd+	16.8	7,665	10,174,963
NH White	PUMS 1970	1st_all	6.6	16,115	1,614,213
		1st_2nd	5.0	6,912	692,392
		1st_2.5	5.6	6,989	700,047
		3rd+	6.5	329,791	33,034,299
	CPS 1998-2002	2nd	3.5	1,114	2,093,903
		2.5	3.3	2,923	5,284,856
		3rd+	6.5	85,848	156,755,086
NH Black	PUMS 1970	1st_all	14.5	902	90,324
		1st_2nd	11.4	307	30,750
		1st_2.5	17.4	155	15,524
		3rd+	25.2	46,320	4,639,621
	CPS 1998-2002	2nd	4.6	57	139,203
		2.5	17.4	120	285,261
		3rd+	19.2	12,049	29,046,226
NH Asian & PI	PUMS 1970	1st_all	11.8	2,162	216,552
		1st_2nd	12.0	870	87,128
		1st_2.5	7.4	592	59,304
		3rd+	7.5	1,016	101,761
	CPS 1998-2002	2nd	2.9	196	379,927
		2.5	5.8	249	409,728
		3rd+	8.1	924	1,119,508

Note: 1st_all: All immigrants ages 25-44, irrespective of children present
1st_2nd: Immigrant parents (any age) living with the 2nd generation ages 0-16
1st_2.5: Immigrant parents (any age) living with the 2.5 generation ages 0-16
2nd: 2nd generation of two immigrant parents
2.5: 2nd generation of one immigrant parent
3rd+: Native-born ages 25-44 of native-born parents
Except GQ

Table 3. Homeownership by Generations

			Percent Homeowners	N	
				Un-weighted	Weighted
All Races	PUMS 1970	1st_all	41.9	11,002	1,102,018
		1st_2nd	59.1	5,560	556,968
		1st_2.5	66.4	4,298	430,526
		3rd+	59.2	194,946	19,527,090
	CPS 1998-2002	2nd	70.7	1,125	1,862,392
		2.5	73.8	2,255	3,775,367
		3rd+	67.0	52,699	93,652,935
Hispanic	PUMS 1970	1st_all	33.4	2,364	236,795
		1st_2nd	46.5	1,336	133,849
		1st_2.5	54.7	853	85,446
		3rd+	40.8	6,338	634,823
	CPS 1998-2002	2nd	62.9	504	701,550
		2.5	65.4	623	879,740
		3rd+	48.8	3,946	5,005,708
NH White	PUMS 1970	1st_all	48.0	7,190	720,203
		1st_2nd	66.5	3,574	358,021
		1st_2.5	71.0	3,129	313,426
		3rd+	63.6	163,386	16,365,885
	CPS 1998-2002	2nd	76.8	515	955,790
		2.5	78.9	1,449	2,565,599
		3rd+	73.4	41,019	72,232,791
NH Black	PUMS 1970	1st_all	19.8	480	48,068
		1st_2nd	28.0	168	16,829
		1st_2.5	44.3	97	9,715
		3rd+	34.9	24,092	2,413,178
	CPS 1998-2002	2nd	54.3	22	48,068
		2.5	39.5	61	136,181
		3rd+	43.0	6,469	14,931,879
NH Asian & PI	PUMS 1970	1st_all	28.2	826	82,729
		1st_2nd	50.3	443	44,363
		1st_2.5	57.3	185	18,532
		3rd+	43.0	402	40,263
	CPS 1998-2002	2nd	80.6	78	141,874
		2.5	70.9	113	176,573
		3rd+	61.7	402	479,135

Note: 1st_all: All immigrants ages 25-44, irrespective of children present
1st_2nd: Immigrant parents (any age) living with the 2nd generation ages 0-16
1st_2.5: Immigrant parents (any age) living with the 2.5 generation ages 0-16
2nd: 2nd generation of two immigrant parents
2.5: 2nd generation of one immigrant parent
3rd+: Native-born ages 25-44 of native-born parents
Householders only (excpet GQ)

Table 4. Estimation Results for Homeownership in the U.S., 1970-2000

Parameter			2nd Generation		2.5 Generation	
Intercept			-0.1712	***	-0.1802	***
Year	1970	Ref.				
	2000		0.4392	***	0.4389	***
Gen	1st & 2nd generation		-0.4954	***	-0.2002	***
	3rd generation	Ref.				
Year*Gen	2000*1st & 2nd generation		0.6383	***	0.3273	***
	1970*3rd generation	Ref.				
Race	Non-Latino		0.6166	***	0.6233	***
	Latino	Ref.				
Age	age 35=0		0.0939	***	0.0939	***
Marital	married	Ref.				
	male-unmarried		-1.5741	***	-1.5750	***
	femal-unmarried		-1.5907	***	-1.5926	***
Education	less than HS	Ref.				
	HS and some college		0.5304	***	0.5331	***
	BA +		0.5605	***	0.5694	***
Obs.			254,330		254,198	
-2 Log Likelihood			339,659		338,993	
DF			9		9	
Pseudo R-Square			0.1525		0.1535	

*** p<0.01 ** p<0.05 * p<0.1