**Intergenerational Transfer of Educational Attainment Among Immigrant Families:
Findings from the Los Angeles Family & Neighborhood Study**

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Extended Abstract prepared for PAA 2007

Background

Recent political debates regarding immigration to the United States have stimulated renewed interest in the "plight" or "burden" of immigrants and their families on American societal institutions. Indeed, immigration trends since the 1960's have diversified the overall immigrant population, as more immigrants have arrived from Latin American and Asian countries and fewer from Europe, resulting in a larger "non-white" population representing extremes of socioeconomic status, educational attainment, countries of origin, and even experiences of immigration. The resultant shifts in the racial, ethnic, linguistic, and socioeconomic composition of the foreign-born have raised concerns and stimulated research regarding the educational achievement and attainment experienced by the children of these recent arrivals and their children. Particularly as children of immigrant families have become a substantial proportion of the school age population in the United States. This line of inquiry attempts to shed light on the process of social mobility for these families, as completed educational attainment is a strong predictor of adult occupational status, income, and overall socioeconomic status and social position.

However, research on the outcomes of the children of these more recent immigrants to the United States has yielded a complicated picture. Some studies have demonstrated a decline in educational achievement and attainment among immigrant and second generation youth (those born in the US to at least one foreign-born parent), due to significant educational obstacles such as lower socioeconomic status, immigration during later school years, linguistic barriers, discrimination, and living in poorer neighborhoods with lower quality schools (Portes & Rumbaut, 2001). Other studies have shown that some immigrant and second generation youth outperform their third generation peers (those born in the US to US-born parents) despite the above barriers (Kao & Tienda, 1995; McKeever & Klineberg, 1999). These more favorable outcomes are usually attributed to familial resources and strong educational expectations and aspirations, which appear to protect youth against dropping out of school (Driscoll, 1999; Glick & White, 2004).

The complexity of experiences characterizing the current wave of immigration has challenged the classic model of straight-line assimilation, which holds that immigrants undergo a gradual process of acculturation in which they acquire the attitudes and norms of their new culture over time (Park & Burgess, 1969). The theory stipulates that as immigrant families assimilate into and experience greater exposure to the host society, they will experience absorption into the labor force, exposure to the education system, decreases in residential segregation, and overall observed convergence with the outcomes of the native born. As this theory does not adequately explain the educational experiences of third generation immigrants in comparison to second generation immigrants, a better theoretical framework may be offered by the alternative theory of "segmented" assimilation. This theory posits that the incorporation of this new second generation of immigrants into American society is likely to be segmented and to follow different trajectories to adulthood, depending on a variety of conditions and contexts, resources and vulnerabilities (Portes & Zhou, 1993). The central question of this theory is thus not whether the second generation will assimilate to American society, but to what segment of that society it will assimilate (Portes et al., 2005). In this view, third generation immigrants may

assimilate into "adversarial" cultures that reject mainstream American values, thus restricting upward mobility by leading them to act in ways that jeopardize school and occupational success.

Portes and Rumbaut argue that the crucial case exemplifying the theoretical claims of segmented assimilation is the experience of Mexican immigrants to this country. As they note in their conclusions of *Legacies*, "Mexican immigrants represent *the* textbook example of theoretically anticipated effects of low immigrant human capital combined with a negative context of reception" (Portes & Rumbaut, 2001; p. 277). Moreover, Hispanics, and in particular Mexicans, have become the largest growing minority and immigrant group in the US. As documented by the 2000 Census, Hispanics comprise 12.5% of the overall US population, just outnumbering African-Americans. Of those Hispanic Americans counted in the 2000 Census, 59% or 21 million were Mexican. In addition, 40% of the total number of legal immigrants to the US between 1991 and 1998 were from Latin American countries, the large majority of whom were Mexican (61%, or 1.9 million). And of the US Census-estimated 8.7 million unauthorized migrants living in the U.S. in 2000, 5.4 million (62%) were Hispanic, and 3.9 million (45%) were from Mexico. Furthermore, despite the favorable educational outcomes sometimes detected within second generation Hispanics, there remains a large gap between Hispanic and non-Hispanic white educational attainment in the US: 52% of Hispanics complete high school as compared to 85% of non-Hispanic whites, and only 10% of Hispanics complete a bachelor's degree as compared to 27% of non-Hispanic whites (Bauman & Graf, 2003). Although these data are not broken down by generational status, they illustrate a large disparity that is likely not completely explained by status as a first or second generation immigrant. Together, these trends indicate that exploring the educational and subsequent social mobility experiences of recent immigrants to the US will demand an understanding of the Hispanic and Mexican experience.

Previous studies examining generational trends in education have discovered that structural characteristics such as familial low income, low parental education, and single-parent family structure may restrict educational attainment by affecting the surrounding opportunity structure and limiting the availability of overall and educational resources within the family. Other studies have examined the role of group characteristics in influencing child educational outcomes. For example, recent voluntary immigrant groups have been found to hold optimistic views of children's educational and occupational success in the US, and thus tend to exhibit high educational expectations and create environments strongly conducive to academic achievement. Although this literature contributes greatly to an understanding of the intergenerational experience of education for immigrants in the US, the majority of these studies have focused on secondary school achievement and completion, rather than educational attainment. Furthermore, these studies often include children less then 18 years old when examining educational achievement, or only several years into young adulthood in order to track post-high school performance. Thus a thorough exploration into the completed lifetime education attainment of adults is critical for our understanding of how immigration effects educational trajectories.

Research Questions

This study aims to examine how immigration status affects the relationship between the educational attainment of parents and that of their adult children. By examining the intergenerational transmission of educational attainment, this study contributes to the literature on social stratification and social mobility among recent immigrants to Los Angeles, CA. This research will draw on key concepts of the segmented assimilation model in order to provide the overarching framework for the possible educational experiences and intergenerational

relationships between first and second generation immigrants and third-or-more generation native-born Americans.

More specifically, this study examines how the effects of family background (in particular, mother's schooling) on offspring's educational attainment vary by generation status. In other words, does immigration weaken or strengthen the effects of a parent's education on that of an offspring's? Grounded in the social stratification literature, this study aims to investigate whether immigrants' social positions are more or less dependent on their parents' statuses.

More specifically, this study explores the following research questions:
1. Does respondent's educational attainment correlate with mother's educational attainment?
2. Does nativity or immigration generational status affect this relationship?
3. Are family effects (as measured by correlations between respondents and their sibling's education) stronger or weaker among immigrants or native-born Americans?

By focusing on adults, this study will be able to properly explore the intergenerational trends of educational attainment among those most likely to have completed their education. Previous studies of adolescents or young adults are unable to capture completed education outcomes as accurately as one conducted among adults.

Mothers of the adults in the sample were selected as the parent of comparison. This decision was made for two reasons: 1) mothers' characteristics are reported more frequently and accurately by adults in the sample, as well as in most surveys; and 2) being less educated than fathers in the sample, mothers' educational attainment is more sensitive to group socioeconomic and cultural differences.

Data

This study draws from the Los Angeles Family and Neighborhood Survey (L.A. FANS), a longitudinal and multilevel study of the effects of neighborhood social conditions and family life on the growth and development of children. The setting for this study is Los Angeles County, California, a distinctive and important context in which to study neighborhoods and families. First of all, it is very large, including 88 separate cities spread over 4,083 square miles, and has a total population of 9.5 million according to the 2000 Census. Moreover, it is diverse, comprised of approximately 45% Latino, 31% white, 13% Asian-Pacific Islander, and 10% African American residents. Los Angeles is also uniquely positioned to explore immigrant experiences, as it is a major destination for immigrants: in 2000, approximately 30% of the population were foreign born. However, these figures actually underestimate the total size of migration streams, since Los Angeles is an initial point of entry into California for immigrants who subsequently move on to other counties or states within the United States, or back and forth between Los Angeles and their country of origin.

L.A.FANS is based on a probability sample of *all* neighborhoods throughout Los Angeles County. The sample therefore includes an extremely diverse set of neighborhoods, varying from densely populated central city areas to relatively rural mountain and desert areas to the more suburban neighborhoods of the San Fernando Valley and the coast. The sample also includes neighborhoods with diverse populations with respect to socioeconomic status, race/ethnicity, and immigrant status, as well as diverse neighborhood-level conditions, institutions, and services.

The L.A.FANS data are designed for multilevel analyses on the family and neighborhood level. The survey sample is drawn from a sample of 65 neighborhoods (defined as census tracts) selected from the 1,652 census tracts in Los Angeles County. The sample is based on a stratified sampling design in which poor neighborhoods and households with children are

oversampled relative to their proportion in the population. When adjusted for oversampling, the L.A. FANS sample closely matches the characteristics of Los Angeles County.

Within each of the 65 neighborhoods, households are sampled randomly (with the oversamples noted above). For each household, one adult, child, sibling, and primary caregiver are randomly selected for interview. Fieldwork for Wave 1 occurred between April 2000 and January 2002, and Wave 2 is currently in progress and thus unavailable for this analysis. This study has drawn from the randomly selected adult respondents who completed the adult questionnaire in Wave 1. The total sample of respondents to the adult questionnaire in Wave 1 was 3,557. After excluding those with insufficient data on the key analytic variables, the final sample included 2,187 adults.[1]

Table 1 below provides descriptive statistics of the final sample, including adult respondents' demographic and immigration characteristics, and the immigration characteristics of their mothers. The unweighted number of cases in each category are included, in order to show the frequency of each among survey respondents. However weighted percentages shown here are a more accurate representation of the distributions, as they take into account the clustering effect of L.A.FANS sampling methods, and the oversampling in poor neighborhoods and families with children. Therefore the weighted percentages will be used to discuss the results.

Table 1 shows that the average age of adult respondents is 43.5 years, with the largest proportion between 31 and 40 years of age (26%). The female-to-male ratio is close to 1:1. The majority are White (40%) or Latino (36%). Although the larger proportion are US-born (57%), close to half are foreign-born (43%), and 19% are Mexican. Among the foreign-born, the majority of respondents are documented (74%). However, L.A. FANS captured a substantial proportion of undocumented immigrants (24%) who are typically hard to reach for longitudinal studies, thus affording the unique ability to draw from a realistic sample of immigrants. A larger proportion of mothers than their children are foreign-born (52%), as is expected from the second generation in the adult sample. Similarly, a larger proportion of mothers are from Mexico (23%).

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[1] Respondents with missing data on educational attainment, nativity status, mother's educational attainment and nativity status, and age, race and gender were eliminated from analyses. Analyses of respondents with missing data on these measures were conducted to determine if there was any systematic bias of the study sample. None was found.

Table 1. Respondent Demographic, Immigration, and Mother's Immigration Characteristics (N=2,187 unless stated otherwise)

		Weighted %	Unweighted N
Age		mean=43.5 yrs (SD=.54)	mean=40.2 yrs (SD=13.3.)
	21-30 years	23	552
	31-40 years	26	717
	41-50 years	22	503
	51-60 years	13	227
	61-70 years	8	99
	70+ years	8	89
Gender	Female	51	1,297
	Male	49	886
Race/Ethnicity	White	40	618
	Latino	36	1,170
	Black	10	212
	Asian/Pacific Islander	13	163
	Other	1	24
Nativity	US-born	57	994
	Foreign-born	43	1,193
Generation	First generation: immigrant	43	1,193
	Second gen: mother immigrant	10	194
	Third gen or higher: both US-born	47	800
Country of origin	US	57	990
	Mexico	19	679
	Central America	6	231
	East Asia & Pacific	9	108
	Latin America/Caribbean	2	39
	Other	7	140
Documentation status[2]	Documented	74	788
	Undocumented	24	380
	Missing	2	25
Mother's Nativity	US-born	48	816
	Foreign-born	52	1,371
Mother's Country of origin	US	48	816
	Mexico	23	768
	Central America	7	245
	East Asia & Pacific	10	132
	Latin America/Caribbean	2	43
	Other	10	183

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[2] N=1,193, the number of first generation immigrants in the sample.

Study Variables

The dependent variable in this study is respondent's educational attainment. There are different ways of measuring educational attainment in the research literature: as a continuous measure of years of completed education, or as a categorical measure reflecting the completion of important educational degree milestones (Mare, 1995). Therefore, this study examined educational attainment in both ways. Table 2 below shows the educational attainment distribution of the adult respondents in the sample. The focal independent variable is mother's educational attainment, which in L.A. FANS was only collected as a categorical measure. This table demonstrates that mothers are significantly less educated than their adult children in this L.A. FANS sample.

Table 2. Respondent & Mother's Educational Attainment Distributions (N=2,187)

	Weighted %	Unweighted N
Respondent completed education	mean=12.8 yrs (SD=.12)	mean=11.8 yrs (SD=4.42)
< 9th grade	13	458
9th-11th grade	10	305
High school or GED	19	385
Some college/ AA	30	558
Bachelor's or more	28	481
Mother's completed education		
< 9th grade	38	1,066
9th-11th grade	7	154
High school or GED	34	580
Some college/ AA	10	168
Bachelor's or more	12	219

This study also examines the role of nativity status as a mediating factor between respondents' and their mothers' educational status. Age and gender, demographic characteristics known to be significant predictors of educational attainment, are included in analyses as control factors.

Analytic Methods

Univariate analyses were conducted to determine the averages and frequencies of the independent and dependent variables and the other predictors. Bivariate analyses were then conducted to examine whether adult respondents' educational attainment differed significantly from their mothers' educational attainment. Multivariate analyses were conducted first using linear regression models, which allowed for the use of the continuous measure of years of respondent education as the dependent variable. These models allowed for the detection of the effect of mother's education on respondent's education, while holding generational status and important demographic variables constant. Interaction terms between generational status and mothers' educational attainment were also included, in order to detect whether and to what extent immigration weakens or strengthens the effects of parent's educational attainment on offspring's.

Logistic regression models were then estimated with the categorical variable of respondent's educational attainment as the dependent variable. These models demonstrated the relationship between adult's and mother's completion of each educational milestone, while holding generational status, age, race, and gender constant.

L.A. FANS sampling weights were used in the estimation of all models, in order to account for clustered sampling design (Sastry et al., 2003).

Lastly, correlations were calculated between respondent and their sibling's educational attainment. These correlations are, roughly, a summary measure of the effects of the respondent's childhood household and family environments, whereas the regression estimates only focus on specific measured variables in L.A. FANS. These correlations demonstrate whether family effects are stronger or weaker among immigrants vs. natives.

Preliminary Results

Table 3 shows the results of three estimated linear regression models, where the dependent variable is a continuous measure of respondent's number of years of completed education. These preliminary results indicate that in model 1, each higher degree attained by mothers, when compared to less than a 9th grade education, is reflected by an increase in numbers of years of completed education among the adult respondents. The magnitude of these coefficients range from 3.52 years to 5.02 years, and each are statistically significant at p<.001.

Model 2 shows that the gain in respondents' years of completed education at each subsequent level of mothers' education reduces in magnitude slightly once generational status is controlled for, but that the magnitude and statistical significance of the adult/mother educational association remains. In addition, being a second or third generation immigrant is correlated with an increase in numbers of years of education, as compared to first generation, even after controlling for mother's educational attainment. These results confirm previous studies of the positive educational outcomes of the second generation; being second generation is associated with a 1.51 increase in number of years of completed education when compared to first generation immigrants (p<.001). Being third generation or higher is associated with only a 1.10 increase in years of completed education over first generation immigrants (p<.001).

Model 3 shows that controlling for age, gender, and race significantly reduces the magnitude of the relationship between respondents' and their mothers' educational attainment, however the relationship is still statistically significant. These results confirm the importance of these demographic characteristics on educational attainment. Furthermore, we see that being Latino is associated with a 3-year decrease in number of years of completed education, despite already controlling for immigration status. This may reflect effects of socioeconomic status during school-age years that this study was unable to account for. The only available childhood socioeconomic measures in L.A. FANS include whether the family received public assistance when the respondent was a child, and the respondent's father's occupational status. However, both measures contained significant missing data, and thus exerted no change to the already described relationship. Model 3 also indicates that being male is associated with a slight increase in completed education, and that there is a slight cohort effect demonstrated by lower educational attainment amongst the oldest category of respondents. In this model, the relationship between generational status and educational attainment remains after controlling for demographic factors, however we see that the improvement in the second generation as compared to the first and third-and-more is greater in magnitude.

Table 3. Linear regression coefficients and standard errors from 3 multivariate models: Dependent variable is respondent's number of years of completed education

		Model 1	Model 2	Model 3
Mother's education (ref <9th grade)	9th-11th grade	3.52 (.37)***	3.11 (.38)***	1.87 (.33)***
	High school or GED	4.22 (.26)***	3.58 (.27)***	1.99 (.25)***
	Some college/ AA	4.37 (.31)***	3.72 (.32)***	2.00 (.34)***
	Bachelor's or more	5.06 (.32)***	4.53 (.33)***	2.46 (.35)***
Generation (ref First generation)	Second generation		1.51 (.24)***	1.71 (.31)***
	Third generation		1.10 (.23)***	.84 (.28)**
Age (ref 21-30 years)	31-40 years			-.30 (.25)
	41-50 years			-.43 (.27)
	51-60 years			-.03 (.36)
	61-70 years			-.28 (.50)
	70+ years			-1.00 (.42)*
Race/ethnicity (ref White)	Latino			-3.00 (.32)***
	Black			-.53 (.30)±
	Asian/Pacific Islander			1.05 (.31)**
	Other			.79 (.85)
Gender (ref Female)	Male			.40 (.19)*
	Constant	10.11 (.21)***	9.80 (.23)***	12.00 (.41)***
		N=2,187	N=2,187	N=2,187
R^2		.2807	.2970	.3962

Note: ±p<.10;*p<.05;**p<.01;***p<.001

Conclusions

This preliminary analysis demonstrates several interesting results. One is that mother's education strongly predicts respondent's education. Second, this relationship varies by respondent's generational status. Further analyses utilizing interaction terms and logistic regression models will illuminate the magnitude of the effect of generational status on the focal relationship between respondent and mother's education, by examining this relationship at each generation, and between each educational milestone. Third, the focal relationship also varies by Latino ethnicity, over and above the effect of immigrant generation. This suggests there are other socioeconomic forces on respondent education conferred by a Latino background, above and beyond of the effects of recent immigration. Further analyses exploring the correlation between respondent and sibling's educational attainment will shed additional light on the above findings, by determining whether observed patterns in educational attainment are likely due to some features of the childhood household or family environment not captured by available study variables.

The L.A. FANS data are uniquely suited to exploring issues of intergenerational transmission of educational attainment among first and second generation immigrants, as compared to third-or-more generation Americans, due to the large sample of immigrants reflecting the ethnic and country of origin trends of recent immigration to the US. Exploring the educational experiences of multiple generations of adults in the same family will provide

important insight into the social mobility of these immigrant families, as well as illuminate whether, for the population as a whole, intergenerational educational effects are different within a context like Los Angeles, which is comprised of a higher proportion of recent immigrants.

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