

Educational Outcomes for Latino Immigrants in Los Angeles County:
The Importance of Gender, Immigrant Generation, and Mother's Education Level

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Abstract

In the United States, the proportion of Latinos is growing at a rate faster than any other minority group; the Pew Research Center reports that Latinos have accounted for 50% of the United States population growth since the year 2000. Research since the 1960s has consistently identified a gap between Latinos and Whites in educational outcomes. In order to expand on this research, this study uses a recent data set from the L.A.FANS (2001) survey to explore the effects of theoretically supported variables on educational attainment. The final logistic regression model was significant ($\chi^2 (8)=90.27, p<0.001$), with gender, mother's educational attainment, and father's nativity as predictors of high school graduation. Contrary to prior studies, income and household language were not significant predictors of educational outcomes in this sample.

Keywords: educational outcomes, high school graduation, Latino immigrants

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Many research studies since the 1960s suggest that there is an educational gap between Latinos and Whites. However, this gap is not solely due to immigration status, and it threatens to increase as the Latino population rises. Iyigun (1999) writes that “schooling is a primary determinant of individuals’ earnings as well as their socioeconomic classes” (p. 707), and that “immigrant children are much more likely to be poor than their native peers” (Mistry, Biesanz, Chien, Howes, & Benner, 2008, p. 195). Yet other immigrant groups do not suffer these gaps as severely as Latinos; Schmid notes that Asian immigrants tend to have a higher socioeconomic status than Latinos, and that the education gap between these two groups is large (2001, p. 72). In fact, Latinos have higher dropout rates than most other racial groups, at 21.1% (Cheeseman Day & Jamieson, 2003, p. 6).

Furthermore, Latinos are growing at a rate faster than any other minority group in the United States (Stamps, 2006, p. 1225); the Pew Research Center reports that Latinos have accounted for 50% of the United States population growth since the year 2000 (Fry, 2008). This population growth has triggered a national immigration debate regarding the fate of Latino immigrants in the U.S. One measure that will bring economic returns to the country is ensuring adequate education to all immigrant children. In order to do this, it is essential to determine what factors have the greatest impact on Latino educational outcomes.

Background

Critical Race Theory

Critical race theory argues that a difference in the definition of success between Latinos and other Americans can lead Latinos to find legitimate reasons to drop out of high school (Villenas & Deyhle, 1999, p. 424). Since Latinos define success in terms of others, and particularly in terms of the family, they may see themselves as being more successful if they drop out of school to be able to contribute to the family. In fact, Cauce and Domenech-Rodriguez (2002) note that *Personalismo* and *Familismo* are characteristics held higher than individual ability and material success, and are part of a collective rather than individualistic culture that values family solidarity, obligation, and parental authority (p. 12). On the other hand, many other Americans define success individually, and see themselves as being more successful if they graduate from high school. In this sense, because of the way the school and educational systems are set up, critical race theory argues that Latinos may already be behind other White Americans when entering high school. However, if educators know which level of intervention most influences educational outcomes, they will be better prepared to help Latinos overcome the barriers described by critical race theory. In the end, this means Latino students may be less likely to drop out.

Language

In contrast to critical race theory, human capital theory provides a more tangible way to measure characteristics important to educational attainment. Human capital is commonly defined through concepts such as knowledge, skills, motivation, and health, which is expected to have eventual payoffs or returns in the future (Schrivers, 2004, p. 503). In this study, human capital is measured through language, mother's education level, immigrant generation, and gender. Bleakley and Chin (2008) propose that a child's English-language skills predict educational outcomes (p. 13). Reese and Goldenberg (2008) then studied the effect of community socio-

demographic characteristics and language and literacy resources on children's literacy development, and found that the language of literacy (reading in Spanish vs. reading in English), rather than literacy itself, is associated with community influences, family influences, and child income (p. 136). Similarly, Ream (2005) writes that teachers who value bi-literacy can help increase bilingual students' social capital by promoting "student engagement and leadership positions" (p. 205). Stanton-Salzar and Dornbusch (1995) also found that "Bilingualism may play a prominent role in determining access to social capital" (p. 127). More specifically, bilinguals may gain the cultural capital needed to share resources with others in the dominant culture, while at the same time maintain enough trust that the education system will provide cultural accommodation that "will ultimately produce desired returns" (p. 132).

Parental Education

Besides language, parental educational attainment is another important measure of human capital. Iyigun (1999) notes that "educated parents create a better learning environment at home, directly influencing the academic potential of their children" (p. 698). Rumberger (1983) reports that children may look at their same-sex parent as a role model for how much education they should have (p. 207). This may be why mother's education is an important predictor of educational outcomes; traditionally, males have more education, so it is easier for boys to see from their fathers that education is important. However, since women traditionally have less education, a mother's education may be an important predictor of how much education a girl receives, especially if she does look to her mother as a role model. Furthermore, Mistry, et al. describe the fact that socioeconomic status affects the cognitive ability of a child in the future, partly through the mother's ability to provide an educationally stimulating environment in the home (2008, p. 207).

Immigrant Generation and Gender

Additionally, immigrant generation is a further component of human capital. Schmid (2001) found that “those whose two parents were foreign born had significantly higher chances of completing high school than did those whose parents were U.S. Born” (p. 74). Wojtkiewicz and Donato (1995) discovered that foreign birth, family structure, and parental education are all important predictors of high school completion. In addition, Pan’s (2007) study revealed gender, mother’s language preference, and family structure to be related to educational achievement (p. 20).

Family Income

One measure of financial capital included in this study is income. Driscoll’s study found that having a higher family income is a protector against early dropout (1999, p. 871). Rumberger (1983) found that having more reading material in the house, as well as a higher socioeconomic status was associated with less high school dropouts (pp. 206, 210). The probability of having reading material in the house, however, may be partly attributable to socioeconomic status. Finally, Warren (1996) found that a majority of the gap between Mexicans and Whites, and almost all between Chicanos and Whites, can be attributed to family background characteristics, irrespective of ethnicity (p. 150).

With such background in mind, this paper uses a different data set than those used for similar studies in the past, aiming to confirm whether household language, mother’s educational attainment, father’s nativity, gender, and income are significant predictors of high school graduation.

Methodology**Data Set**

This research used the Los Angeles Family and Neighborhood Study (L.A.FANS), which surveyed 3,085 households from a stratified random sample of 65 neighborhoods in Los Angeles County, California, with an oversample of poor neighborhoods and households with children under 18. Analysis was conducted on respondents who identified as being Latino(a) (n=3,832).

Analysis

The variables for the final model were identified based on several factors. First, there is literature to support all five variables as having an impact on educational outcomes. Second, many of the variables were previously shown through the researcher's bivariate and stepwise regression analysis to significantly predict high school graduation. Furthermore, the final variables seemed less likely to be collinear, making the model less biased and bringing each variable to a more accurate portrayal of its significance. The final model analyzed with logistic regression included Father's nativity (Born in U.S. or not), Gender, Household language, Income, and Mother's educational attainment (recoded into Primary, Middle School, Some Secondary, Graduated from High School, and Attended or Completed Higher Education). The dependent variable "Have you graduated from high school?" was recoded into a binary variable indicating whether or not the respondent graduated or earned a GED (yes=1; no=0). In order to further ensure the study's model was unbiased and had the best fit, diagnostics were then conducted to test for linearity, independence of errors, multicollinearity, outliers, and influential cases. In the final model, the sample size was 661.

Results and Discussion

Bivariate Analysis

The following Table 1 shows descriptive statistics resulting from a bivariate analysis, including the mean income of the sample, as well as the t and χ^2 statistics:

Table 1: Bivariate Statistics for 1,531 Latino Respondents

| | Graduated (n=1223) | | Did Not Graduate (n=308) | | t (df); p |
|---|--------------------|-------------|--------------------------|-------------|--------------------------------|
| | Mean | SD | Mean | SD | |
| Income (n=731) | \$30,464.53 | \$32,398.72 | \$27,700.00 | \$27,048.76 | t (278.78) = -1.08; p>0.05 |
| | n | % | n | % | χ^2 (df); p |
| Gender (n=1530) | | | | | χ^2 (1) = 2.39; p>0.05 |
| Male | 593 | 48.5 | 164 | 53.4 | |
| Household Language (n=1140) | | | | | χ^2 (1) = 0.001; p>0.05 |
| English | 548 | 60.6 | 142 | 60.4 | |
| Spanish | 357 | 39.4 | 93 | 39.6 | |
| Father's Nativity (n=1508) | | | | | χ^2 (1) = 65.57; p<0.001 |
| Born in U.S. | 684 | 56.6 | 91 | 30.4 | |
| Born in Another Country | 525 | 43.4 | 208 | 69.6 | |
| Mother's Educational Attainment (n=1407) | | | | | χ^2 (4) = 152.66; p<0.001 |
| Primary | 123 | 10.7 | 91 | 35.4 | |
| Middle School | 162 | 14.1 | 58 | 22.6 | |
| Some Secondary | 96 | 8.3 | 34 | 13.2 | |
| Graduated High School | 379 | 33.0 | 46 | 17.9 | |
| Higher Education | 390 | 33.9 | 28 | 10.9 | |

Based on a comparison of graduation status and demographics, only Father's Nativity (χ^2 (1) = 65.57; p<0.001) and Mother's Educational Attainment (χ^2 (4) = 152.66; p<0.001) are significantly related to whether or not the respondent graduated. While 56.6 percent of those whose fathers were born in the United States graduated from high school, 69.6 percent of those whose fathers were born abroad did not graduate. Similarly, only 8.3 percent of those whose mothers had some secondary education ended up graduating from high school themselves, and 35.4 percent of those whose mothers had only a primary level of education did not graduate from high school. However, 33 percent of those whose mothers graduated from high school also graduated from high school.

Logistic Analysis

A logistic regression analysis to examine the relationship between high school graduation and household language, mother's educational attainment, immigrant generation, gender, and

income resulted in the following model:

$$\begin{aligned}
 \text{logit (high school graduation)} \\
 &= 17.26 - 2.03 (\text{mother's primary education}) \\
 &\quad - 1.28 (\text{mother's middle school education}) \\
 &\quad - 1.42 (\text{mother's secondary education}) \\
 &\quad - 0.30 (\text{mother's high school graduation}) + 0.45 (\text{gender}) \\
 &\quad - 0.65 (\text{father's nativity}) - 0.10 (\text{household language}) + 0.00 (\text{income})
 \end{aligned}$$

This overall model is significant, at $\chi^2 (8)=90.27$, $p<0.001$, and Nagelkerke's $R^2 = 0.21$.

The significant predictors are gender, father's nativity, and mother's educational attainment – through primary, middle school, and some secondary, as compared to higher education. The odds ratio for gender is 1.56 (CI=1.02-2.39), for father's nativity 0.52 (CI=0.31-0.86), and within mother's educational attainment, 0.13 (CI=0.06-0.27) for primary, 0.27 (CI=0.13-0.58) for middle school, and 0.24 (CI=0.11-0.54) for some secondary. In other words, people whose mothers did not graduate from high school are less likely to graduate themselves, compared to people whose mothers received a higher education. Those whose mothers attained a primary education are 86.9 percent less likely to graduate from high school, those whose mothers had a middle school education are 72.3 percent less likely to graduate, and those whose mothers achieved some secondary education are 75.9 percent less likely to graduate from high school. Similarly, those whose fathers were born outside the United States are 48 percent less likely to graduate from high school. Finally, the odds of graduating from high school are 1.56 higher for females than for males.

Diagnostics

This study assessed the assumptions and conducted diagnostics to determine if the model was unbiased and a good fit for the data. Multicollinearity and the tolerance level were tested, and neither violated their assumptions. Thus, this model is unbiased and can be generalized to a larger population. For diagnostics, studentized residuals were plotted against the case numbers,

and independence of errors was assumed because the graph was homoscedastic. The Cook's D and leverage values shared 12 influential cases, so the model was run again without them. The results were in fact not much different than the model that included the 12 influential cases and outliers; the same predictors were significant in both models, and the model without the 12 cases made those predictors only slightly more significant. Because of the ethical issues involved in taking away data for the sake of good diagnostics, these 12 cases were returned to the data set, and this is the model analyzed in this results and discussion section. In the end, it was concluded that this model is a good fit for the data.

Predicted Probabilities

The following Table 2 provides predicted probabilities for six cases within the full data set:

Table 2: Selected Predicted Probabilities for Six Latinos, Half of Which Graduated

| Mother's Educational Attainment | Gender | Income | Household Language | Father's Nativity | Predicted Probability of Graduating from High School | Actual High School Graduation Outcome |
|---------------------------------|--------|--------|--------------------|-------------------|--|---------------------------------------|
| Higher Education | Female | 30,000 | English | U.S. | 0.96 | Graduated |
| Graduated High School | Male | 15,000 | Spanish | U.S. | 0.90 | Graduated |
| Higher Education | Female | 13,000 | Spanish | U.S. | 0.95 | Graduated |
| Primary | Male | 13,000 | Spanish | Another Country | 0.44 | Not graduated |
| Primary | Female | 20,000 | English | Another Country | 0.58 | Not graduated |
| Primary | Male | 34,000 | Spanish | Another Country | 0.46 | Not graduated |

As can be seen from the table, the first three cases graduated, while the last three did not. These selected cases show the trends suggested by the results mentioned above. First, the respondents' income varies within the outcome variable; although one individual who graduated has an income of \$30,000, the other two who graduated make \$13,000 and \$15,000, and one individual who did not graduate has an income of \$34,000. This is consistent with the

insignificant chi-squared test and beta value for income. Similarly, household language also varies across the outcome variable. However, those who did not graduate had fathers who were born outside the country, and mothers with only a primary level education. Finally, although there is variation in gender, two of the three who graduated were females, whereas two of the three who did not graduate were males.

One interesting thing to note here is that one respondent's predicted probability was 0.58, and was predicted to graduate but did not. This could have to do with how well the model predicted the actual outcomes; Table 3 shows that the model was more sensitive than specific, meaning it was more accurate at predicting those who graduated than those who did not graduate. Ninety-seven percent of those who graduated were predicted correctly, whereas only 19.2 percent of those who did not graduate were predicted correctly.

Table 3: Observed vs. Predicted Graduation, Using Above Regression Model

| Observed | Predicted | | % Correct |
|----------|-----------|----|-----------|
| | Yes | No | |
| Yes | 522 | 14 | 97.4 |
| No | 101 | 24 | 19.2 |
| Total | | | 82.6 |

Limitations

This study has three major limitations. First, although it focused on the fastest-growing immigrant group with one of the highest education and income gaps, future research should include comparison groups. This will allow researchers and policy-makers to better understand how Latinos differ from others. Second, this model's immigrant generation variable provided a different result than one of the articles read in preparation for the study. Schmid (2001) found that "those whose two parents were foreign born had significantly higher chances of completing high school than did those whose parents were U.S. Born" (p. 74). However, this study's model

predicts the opposite. Further research should therefore be conducted to explore the phenomenon of immigrant generation and its effects on educational outcomes.

The third limitation of this study is that the data is cross-sectional. As such, the family income and household language variables are indicative of the children's educational environment, rather than the adult respondents' environment at the time when they were going through school. Time order therefore likely prevented significance and causation in this study. When the second wave of the L.A.FANS becomes public data, it may be useful to conduct a similar study using the children as respondents, to find whether the variables that were insignificant in this study become significant. Furthermore, future research should use a measurement of the children respondents' educational outcomes, such as achievement, in order to include additional community and family variables that present a broader picture of a Latino's environment. Such additional characteristics could be broken down ecologically, through community, family, and individual factors, or by additional types of capital – social, human, and financial.

Conclusions

Consistent with prior research, this study provides additional evidence that mother's educational attainment, gender, and father's nativity are all significantly associated with the likelihood of high school graduation for Latinos. According to the above model, the following Latino populations are less likely to graduate from high school: males, those whose mother did not graduate from high school, and those whose father was born in another country.

Ultimately, with the Latino population growth, the increasing gap in education, and the intensifying immigration debate, it is crucial to provide accurate information about what most helps these people succeed once arriving in the country. Decision-makers will be better informed

and more able to spend local, state, and federal dollars more efficiently, if they know where to direct interventions, and which interventions are more effective.

With this in mind, future social workers, educators, and community members can create interventions geared specifically towards second-generation males whose mothers did not receive a high school degree or higher education, knowing this is a population that likely needs extra support in navigating the educational system. Even within programs that already exist, such as those for English-as-a-second-language students, this study suggests one best practice for leaders of these programs: a specific targeting of second-generation males whose mothers did not graduate from high school. These interventions will then lead to higher educational attainment and socioeconomic status for Latinos, and a greater contribution to the economy and society of this country.

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