

**MINORITY STATUS, GENERATIONAL STATUS, AND EDUCATIONAL  
ATTAINMENT; A TEST OF THE HUMAN CAPITAL AND IMMIGRANT OPTIMISM  
PERSPECTIVES**

Kristina L. Zeiser  
The Pennsylvania State University  
Department of Sociology & Demography

September 9, 2008

Submission for the 2009 Annual Meetings of the Population Association of America

\*This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris, and funded by a grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 17 other agencies. Special acknowledgment is due Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516-2524 (addhealth@unc.edu). No direct support was received from grant P01-HD31921 for this analysis. I thank Michelle L. Frisco and Molly A. Martin for their consultation regarding the data. Direct correspondence to Kristina Zeiser, Department of Sociology and Population Research Institute, The Pennsylvania State University, 211 Oswald Tower, University Park, PA 16802; 814-863-5507, klz124@psu.edu

## ABSTRACT

Despite the increasing equality in college attendance rates between white and Mexican students in America, disparities in college completion persist. The human capital and classical assimilation theories propose that these disparities should decrease over generations as native-born Mexicans achieve English language skills similar to whites. However, the immigrant optimism and segmented assimilation theories suggest that disparities will *increase* as native-born Mexicans reject education as a means of social mobility. Using the National Longitudinal Study of Adolescent Health, multinomial logistic regression is performed to compare the educational attainment of native whites to first, second, and third generation Mexicans and test whether these disparities can be explained by test scores or family background characteristics. Supporting the immigrant optimism perspective, the findings suggest that, relative to native whites, second generation Mexicans are experiencing more success in both 2-year and 4-year institutions than their third-generation counterparts net of test scores and family characteristics.

## INTRODUCTION

To be successful in the American economy today, it is almost necessary to have a college degree. Since the Immigration Act of 1965, the structure of the labor force has transformed into an hourglass figure in which high-paying jobs with benefits are abundant at the top and low-paying, unstable jobs are clustered at the bottom of the social hierarchy (Massey and Hirst 1998; Perlmann and Waldinger 1997). Also like an hourglass, there is very little movement from the bottom up. Such a movement would require the educational credentials that an increasing number of employers demand from their workers.

American society is not only stratified by structured labor market opportunities and the resulting disparities in wealth and income. It is also stratified based on race and ethnicity, with non-white and non-native minorities occupying the lower levels of the social hierarchy. While there is a strong association between race/ethnicity and socioeconomic status, the human capital theory and straight-line assimilation theory suggest that foreign-born minorities will be more victimized by the hourglass economy than US-born minorities. Conversely, theories of

immigrant optimism, oppositional culture, and segmented assimilation suggest that US-born minorities would be more likely to experience downward mobility than their foreign-born counterparts. While these theories are often applied to labor market outcomes and the social or spatial integration of minorities with whites, these theories also apply to research that investigates the educational outcomes of minorities.

Past research has recognized that, while minorities and whites do not significantly differ in their rates of college attendance, whites are much more likely to graduate from college than their fellow minority students (Fry 2002; Ganderton and Santos 1995). Some of these studies have controlled for generation status, but few have looked specifically at the differences in educational attainment between Mexicans of different generational statuses (for exceptions, see Fry 2002; Hagy and Staniec 2002). In this study, I will use the National Longitudinal Study of Adolescent Health to investigate the educational attainment of whites, blacks, and Mexicans of first, second, and third or higher generational status. This study will identify the minority groups' relative likelihood of attaining higher levels of educational attainment compared to whites. I will also investigate whether the lower levels of educational attainment observed for minorities can be explained their family characteristics or their lower levels of human capital, here measured as test scores.

## MINORITIES AND HIGHER EDUCATION

### *Past Studies*

In both the education and the immigration literature, it is relatively well-documented that minorities have lower rates of high school completion than whites (Gonzalez and Torre 2002; Hirschman 2001; Perreira, Harris, and Lee 2006). Interestingly, even though they have lower

rates of high school completion, some studies have shown that Mexicans and blacks do not significantly differ from whites when it comes to college attendance (Fry 2002; Ganderton and Santos 1995). However, researchers have also recognized that rates of college completion are lower for minorities in general and immigrants in particular (Fry 2002; Ganderton and Santos 1995; Gonzalez and Torre 2002), though some argue that minorities have higher rates of college completion after controlling for background characteristics (Jespen 2008).

Some studies have shown that the type of college or university also matters when considering the educational attainment of US-born and foreign-born minorities (Hagy and Staniec 2002; Massey, Mooney, Torres, and Charles 2007). In particular, studies have shown that Mexicans are no less likely than whites to attend two-year college and obtain two-year degrees (Hagy and Staniec 2002; Jespen 2008). To explain this unexpected finding, one qualitative study found that community colleges are more likely to offer remedial courses and English language classes in order to get immigrant students “up to speed” with their white classmates (Szelenyi and Chang 2002).

Interestingly, most research about minorities in higher education has focused on college attendance rates rather than college completion or degree attainment (Hagy and Staniec 2002; Massey, Mooney, Torres, and Charles 2007; Nguyen and Taylor 2003). I argue that degree completion is a more important issue to study due to the increasing importance of this credential in the labor market. While it is observed that minorities are just as likely as whites to attend college, it is also important to know whether they have a higher probability of dropping out of college without obtaining a degree. Research has also shown that Mexican students are more likely to be part-time and older students (Fry 2002; Ganderton and Santos 1995), and this may have long-term consequences because completing a degree on time provides greater economic

benefits to graduates (Fry 2002). Therefore, it is not sufficient to simply see where students enroll. This study contributes to the literature by looking at both rates of dropping out of college and rates of degree completion. While it is clear from the literature that race and ethnicity are strong predictors of educational attainment, the following section describes two theories of immigrant assimilation that suggest that generational status is a crucial factor to consider when looking at the educational attainment of Mexican students.

### *Straight-Line Assimilation and Human Capital Theory*

According to the human capital theory, individuals who have lower levels of cognitive ability, less-educated parents, or a lack of non-cognitive skills are expected to receive lower wages and experience less success in the labor market (Becker 1962). In the immigration literature, another important indicator of human capital is the ability to understand and speak English (Perreira, Harris, and Lee 2006; Trejo 1997). While human capital is often referred to when looking at labor market outcomes, this theory can also be applied to outcomes in higher education despite the paradox that higher education is a means through which individuals accumulate human capital. The allocation process that exists in American higher education ensures that only those students who experienced success in high school, as indicated by higher grades, higher test scores, and positive teacher references, succeed in college. While current trends indicate that students of all levels of ability are attending college today, the process of becoming “college educated” is itself a means through which the greatest rewards are received by those who demonstrate the highest levels of ability (Clark 1960).

Based on this theory, one would expect that foreign-born minorities, who have lower achievement scores and English skills on average than native white students (Carpenter,

Ramirez, and Severn 2006; Schmid 2001), would also have lower levels of educational attainment. Due to their relatively low test scores, this theory would also predict blacks to have lower levels of educational attainment compared to whites. Crucial to the human capital theory, however, is the insinuation that levels of educational attainment would not differ by race after controlling for measures of human capital.

This perspective lends itself well to the idea of straight-line assimilation (Gans 1973). According to straight-line assimilation theory, as immigrants and their descendents spend more time in the host country, they obtain the skills, language, and values of the society. The second and future generations also experience the host country's education system, and this exposes them to the majority group's culture and common practices. By acquiring these skills and behaviors, the descendents of immigrants are able to reduce the dissimilarities between themselves and the majority group (Alba and Nee 2003; Gans 1973). Similar to the human capital theory, straight-line assimilation assumes that the children and grandchildren of immigrants, who have had more experience with the American school system and therefore have higher test scores and better English skills, will experience upward mobility until their levels of educational attainment are comparable to whites.

Based on these perspectives, the first hypothesis of this study posits that minorities have lower levels of educational attainment than whites, and these disparities can be explained by measures of human capital. While past studies have found that minorities have lower levels of educational attainment than whites in general, based on these theories, I suggest that these differences will disappear once cognitive ability and English skills are controlled for. As a corollary to this hypothesis, I predict that first generation Mexicans will have lower levels of

attainment than the second and third generation Mexicans (in a stepwise fashion) who are likely to have better English skills and more experience with the American education system.

### *Segmented Assimilation and Immigrant Optimism*

In 1995, Kao and Tienda presented a theory of assimilation that suggested that the US-born children of immigrants would experience more educational and occupational success than their first and third (or higher) generation peers. This theory centers on the concept of immigrant optimism, which suggests that immigrants have higher aspirations and expectations of success in their host country than their measures of human capital and ability would predict (Kao and Tienda 1995). According to this theory, the second generation experiences the greatest level of success because they both maintain this optimism of upward social mobility and have the English skills that their first generation counterparts have not yet acquired.

Evidence of immigrant optimism has already been shown in the areas of educational aspirations and occupational success. On average, Mexicans have higher educational aspirations than their test scores would predict (Kao and Tienda 1995). Also, controlling for education, Mexican households have a higher mean income, work more weeks within a year, and experience lower rates of chronic unemployment than black households (Trejo 1997; Waldinger and Feliciano 2004). This evidence suggests that the second generation Mexicans may be more successful in schools and in the labor market than native minorities because of their positive attitudes toward work and their belief that they can achieve parity with whites.

Unfortunately, the theory of immigrant optimism suggests that this positive effect of being an immigrant does not persist beyond the second generation (Hirschman 2001; Kao and Tienda 1995). Both theory and empirical evidence suggest that the third generation, rather than

experiencing upward mobility as straight-line assimilation theory would predict, actually experience worse outcomes than their second generation peers (Waldinger and Feliciano 2004; Wojtkiewicz and Donato 1995).

Similarly, the theory of segmented assimilation suggest that some immigrants, especially those who are non-white and enter within the United States' lower social stratum, are likely to experience "downward assimilation" or downward social mobility rather than climbing up the social ladder (Portes and Rumbaut 2000; Portes and Zhou 1993). Some researchers have suggested that this downward assimilation occurs due to the exposure of Mexicans and other immigrant groups to the "oppositional culture" of native minorities (Ogbu 1987; Ogbu and Simmons 1998). As the third and higher generations of immigrants become more distant from their ancestors' country and experience segregation and discrimination within their neighborhoods and school systems, they are more likely to adopt attitudes and behaviors that reject the idea that hard work and education can lead to future economic success (Callahan, Wilkinson, and Muller 2008; Ogbu 1991; Suarez-Orozco and Orozco 1995; Waters 1999).

Based on the theories of immigrant optimism and segmented assimilation, my second hypothesis posits that the effect of Mexican ethnicity on educational attainment depends on the generational status of the student. In particular, the immigrant optimism theory suggests that second generation Mexicans will experience more success in higher education than third generation Mexicans, but despite the greater optimism of the first-generation, this optimism may not directly influence their educational success due to their lack of extended exposure to the host country's language and education system. Notice that this hypothesis directly contradicts the expectation of straight-line assimilation that future generations will experience more success in a stepwise fashion. Also, I expect that, net of family characteristics and human capital (since



immigrant families disproportionately belong to the lower-SES statuses and do not speak English fluently), first and second generation Mexicans have significantly *higher* levels of educational attainment than whites due to their optimism and high expectations. On the other hand, because native blacks and third (and higher) generation Mexicans do not benefit from this optimism, I do not expect them to have higher levels of attainment than whites even after controlling for human capital and family characteristics.

## DATA

To test the two hypotheses in this study, I analyze data from the National Longitudinal Study of Adolescent Health (Add Health). Add Health is a school-based, longitudinal, nationally-representative survey of 20,745 adolescents in grades 7 through 12 from 134 public, private, and parochial schools in the 1994 to 1995 school year (Bearman, Jones, and Udry 1997). Respondents were selected from a stratified random sample of students within these schools, and the final sample includes an overrepresentation of ethnic minorities and disabled students. The three waves of in-home survey data were collected in 1995, 1996, and 2000-2001. In this study, I use background information provided at Wave 1 and the highest level of educational attainment these respondents achieved as reported in the Wave 3 survey. Seventy-three percent of the Wave 1 sample responded to the Wave 3 questionnaire, and this study only looks at respondents who are not missing data on any of the covariates in the model. I also removed from the sample any respondents who were still in high school during the Wave 3 survey and those who reported that they were not born in the US but their parents were US natives due to the unsure nature of their generational status. This study also focuses specifically on white, black, and Mexican students. In the end, my sample includes 11,046 respondents.

## MEASURES

### *Educational Attainment*

In this study, I am interested in racial and ethnic disparities in educational attainment. To measure educational attainment, I gather information from the Wave 3 survey about the highest degree that the respondent obtained, whether the respondent is currently attending college, and whether the respondent had ever attended college. Due to the importance that employers place on the credentials of potential employees, respondents who reported that they both obtained a degree and are currently attending college are classified based on the credential they received. For example, a respondent who obtained an associate's degree but currently attends a four-year college is only classified as having an associate's degree.

The variable indicating educational attainment is a categorical variable with seven categories: having not completed high school, having attended some college, currently attending a two-year college, currently attending a four-year college, having obtained an associate's degree, having obtained a bachelor's degree, and having completed a high school degree or GED (the reference group). The category "some college" is composed of respondents who reported that they had attended at least one year of college but did not receive a degree and are not currently attending college. These are the respondents who left college before obtaining a degree or are currently taking a break from their education. Because the respondents' ages range from 18 to 27, it is unsure whether these former college students intend to return, and so results pertaining to this group of respondents must be interpreted with caution.

### *Race, Ethnicity, and Generation*

This study looks specifically at the differences in educational attainment between white, black, and Mexican adolescents. Add Health is a useful dataset when looking at the educational outcomes of minorities because it provides an oversample of certain racial and ethnic groups. In this study's sample, 65% of the adolescents are white, 25% of the adolescents are black, and 10% of the adolescents are Mexican. To measure generational status, I categorize respondents based on their reports of where they and their parents were born. Adolescents who were born outside of the US and have parents who were born outside of the US are classified as first generation immigrants. Adolescents who were born in the US themselves but have at least one parent who was born outside of the US are classified as second generation. Because Add Health does not have information about the birth place of respondents' grandparents, any US-born adolescent who does not have a foreign-born parent is classified as a third or higher generation immigrant. For the sake of brevity, these adolescents will hereafter be referred to as third generation Mexicans.

### *Human Capital*

Based on the human capital and straight-line assimilation theories, my first hypothesis suggests that racial and ethnic differences in educational attainment can be explained by minority students' lower levels of cognitive ability and English language proficiency. To measure both of these concepts, I use a variable that provides scores to an abridged version of the Peabody Picture Vocabulary Test (PVT). This test was conducted by the data collectors during the first wave of data collection. Previous research has recognized that scores to this test are correlated

with speaking English at home (Perreira, Harris, and Lee 2006), and so this variable serves as a proxy for both cognitive ability and English proficiency.

### *Background Characteristics*

This study includes many control variables that are important predictors of educational attainment. Dummy variables are included to account for the respondents' gender and family structure (single parent, cohabiting parent, or other parent structure with two biological parents as the reference group). Also included is a variable for parents' education. This variable is calculated as the average number of years of schooling between the two parents if two parents are in the household or, in single-parent families, the number of years of education the only parent in the household received. Another variable indicates how many children are present in the household as this is likely to influence the resources available for parents to put toward the respondents' higher education.

Finally, all analyses control for the respondents' age. The effect of age on educational attainment is not likely to be linear due to the crucial ages of 20 and 22 for obtaining 2-year and 4-year degrees respectively, and so I control for age by adding three dummy variables. The first variable applies to respondents who are 18 or 19 years old at Wave 3, the second dummy variable gives a value of 1 to respondents who are 20 or 21 at Wave 3, and the last dummy variable applies to those respondents who are 22 or 23 at Wave 3. The reference group includes respondents who are 24 to 28 years old at Wave 3.

## METHODS

The current study's analyses include descriptive statistics and multinomial logistic regression. First, I will present the percentage of white, black, and Mexican respondents in this sample who belong to each of the different categories of educational attainment. Within the group of Mexican respondents, I will also report these percentages separately for those of first, second, and third generation status. To ensure that these statistics and all models are representative of the population, I will account for Add Health's complex survey design and sampling weights by using STATA's *svy* command.

The multinomial logistic regressions begin by looking at the effect of race and ethnicity on educational attainment after controlling for gender and age. In the second model, I disaggregate the Mexican respondents by generational status and retain in the analyses only native white and black respondents. In the remaining models, the educational outcomes of first, second, and third generation Mexicans as well as native blacks will be compared to the outcomes of native whites. Eliminating immigrant whites and blacks reduces my sample size by 5.6% (426 white respondents and 192 black respondents).

The next step is to add PVT scores to the model see if the effects of race, ethnicity, and generational status on attainment can be explained by this measure of human capital. Finally, I control for family characteristics to see if they account for the relatively low levels of educational attainment of racial and ethnic minorities.

## RESULTS

### *Descriptive Statistics*

The proportions and means of all of the variables in the final model are presented in Table 1. This table also presents the descriptive results separately for white, black, and Mexican respondents. Of particular interest in this study, Table 1 provides the percentage of respondents in each category of educational attainment. These proportions are illustrated in Figure 1. It is apparent that patterns of educational attainment differ by race and ethnicity: a much larger proportion of whites in the sample attend four-year schools and obtain bachelor's degrees compared to blacks and Mexicans, and less than 40% fail to continue their education past high school. In fact, the proportion of whites who had obtained a bachelor's degree by the third wave of data collection is over three times the proportion of Mexican respondents who had done so (11.88% of whites and 3.52% of Mexicans). Also, the proportion of Mexicans who dropped out of high school is twice the proportion for whites (8.13% of whites and 16.62% of Mexicans). It is interesting, however, that a larger proportion of Mexicans are attending 2-year schools than whites (14.23% and 10.45% respectively), and the proportion receiving associate's degrees does not differ greatly from whites (6.17% of Mexicans and 6.98% of whites). It appears that attending a two-year school is a strategy that Mexicans use to gain experience in American higher education.

TABLE 1 HERE

FIGURE 1 HERE

The descriptive statistics in Table 2 disaggregate the levels of attainment of Mexicans by generation status. The proportions in this table, which are illustrated in Figure 2, demonstrate the

extent to which generation status may affect the Mexican-American population's generally low levels of educational attainment. As would be expected, first generation immigrants generally have lower levels of educational attainment (with approximately 65% failing to continue their education after high school) than Mexicans who were born inside of the US. One thing that stands out in this table is that Mexicans of all generation statuses appear to take advantage of the opportunities available to them at two-year colleges. Rates of both attending a two-year college and obtaining an associate's degree do not appear to vary greatly by generational status.

TABLE 2 HERE

FIGURE 2 HERE

Another interesting finding in Table 2 is the relative success of second generation Mexicans compared to third generation Mexican students. While a larger proportion of third generation respondents are attending two- and four-year colleges, a larger proportion of second generation Mexicans are obtaining both college degrees (associate's degree: 6.33% of 2<sup>nd</sup> generation and 6.05% of third generation, bachelor's degree: 5.70% of 2<sup>nd</sup> generation and 2.48% of third generation). This suggests that straight-line assimilation theory may not apply to the educational attainment of Mexican immigrants: while second generation immigrants fare better in the education system than first generation immigrants, members of the third and higher generations appear to fall behind.

### *Multinomial Logistic Regression*

Though the descriptive statistics themselves are revealing, the use of multinomial logistic regression is necessary to test the significance of the differences in educational attainment between native whites and Mexicans of different generational statuses. The results of the multinomial logistic regressions, which are presented as odds ratios, are provided in Tables 3-6. Table 3 presents the odds ratios for blacks and Mexicans relative to whites after controlling for age and gender, and they refer to the odds of attaining each level of higher education relative to the reference category which is obtaining a high school diploma or GED. These odds ratios indicate that blacks are significantly less likely than whites to obtain any of the higher levels of education. The results for Mexicans are very similar, but it appears that Mexicans do not significantly differ from whites when it comes to attending two-year colleges. As the literature would suggest, there are resources available at two-year colleges that may attract students who do not speak English as a first language, and so it is not surprising that the odds of attending a two-year college do not differ between Mexican and white students.

Mexicans students also do not significantly differ from whites in the attainment of associate's degrees. The results for obtaining a bachelor's degree, however, show that the odds for Mexicans of obtaining a bachelor's degree are approximately 80% lower than the odds for whites, while the odds for blacks are approximately 58% lower. At the other end of the education continuum, Mexican high school students are 67% more likely to drop out compared to white students, and blacks are 33% more likely. The results in Table 3 illustrate that there are clearly racial and ethnic disparities in educational attainment both at the higher, more prestigious levels and at the very basic level of high school completion.

TABLE 3 HERE



Due to this paper's interest in the assimilation process and the outcomes of immigrant Mexicans relative to native blacks and whites, for the remainder of the analyses, I remove first and second generation blacks and whites from the sample. The results, then, depict the odds ratios of attaining levels of higher education relative to native (third generation or higher) whites. Table 4 presents the odds ratios for first, second, and third generation Mexicans as well as native blacks. In this table, it is apparent that all of these minority groups have lower odds than whites of both attending a 4-year college and obtaining a bachelor's degree. First generation Mexicans have the lowest odds of achieving higher levels of education compared to native whites; the odds for this group of attending a 4-year school are 63% lower than the odds for whites, and for obtaining a bachelor's degree, the odds are approximately 94% lower. The relative odds of obtaining a bachelor's degree for third generation Mexicans are also low as they are 84% lower than the odds for whites. While the results for native blacks do not show as large of a disparity, they still have significantly lower odds of achieving each level of higher education and higher odds of dropping out of high school relative to native whites.

The results indicate, however, that the disadvantages minorities face in higher education do not apply to all generational groups of Mexicans at each level of educational attainment. While the odds of dropping out of high school for first and second generation Mexicans are about twice as large as the odds for whites, drop-out rates for 3<sup>rd</sup> generation Mexican and native white students in this sample do not significantly differ. Also, in this basic model that only controls for age and gender, Mexicans of all generational statuses do not significantly differ from whites in their odds of attending a 2-year school or obtaining an associate's degree. It appears that only native blacks have lower odds of attending a two-year college or completing a two-year degree relative to native whites.

TABLE 4 HERE

The model presented in Table 5 adds this study's indicator of human capital: students' PVT scores. The inclusion of this variable drastically changes the results for native blacks. While the preceding tables indicated that blacks had lower odds of achieving every level of higher education, after controlling for test scores, native blacks actually have 43% *higher* odds of attending a four-year college than native whites, while the odds of both dropping out of high school and attaining higher levels of education no longer significantly differ from native whites. This indicates that, for blacks, racial disparities in educational attainment can be explained by students' ability levels.

The results indicate a similar trend for Mexicans. However, after controlling for PVT scores, first and third generation Mexicans still have significantly lower odds than whites of obtaining a bachelor's degree (by 76% and 72% respectively). It appears that the lower odds of bachelor's degree attainment for Mexicans cannot be explained by this measure of human capital. On the other hand, first and second generation Mexicans have significantly higher odds of attending a two-year school than native whites net of human capital. The remaining insignificant odds ratios indicate that PVT scores account for many of the differences in educational attainment between native whites and Mexicans.

TABLE 5 HERE

Finally, Table 6 presents the odds ratios of each level of educational attainment relative to high school completion once respondents' family characteristics are added to the model. After

accounting for family characteristics, the results for native blacks and second generation Mexicans stand out. These two minority groups have significantly higher odds of achieving each level of higher education relative to whites net of human capital and family background characteristics (excepting native blacks obtaining an associate's degree). The odds ratios are especially large for second generation Mexicans; the odds of attending a four-year college are about 3 times larger and the odds of obtaining a bachelor's degree are over five times larger for second generation Mexicans compared to native whites. Even first generation Mexicans have odds of attaining each level of higher education that are greater than or equal to the odds for native whites, and both blacks and 1<sup>st</sup> generation Mexicans have significantly lower odds of dropping out of high school compared to native whites.

#### TABLE 6 HERE

The results are not as optimistic for third generation Mexicans. First, net of family characteristics and test scores, third generation Mexicans only have significantly higher odds of attending a 2-year school relative to native whites. However, it appears that the “immigrant advantage” in attending a two-year college attenuates over generations. While the odds of attending a 2-year college for first generation Mexicans are about 550% higher than the odds for whites, the odds for second generation Mexicans are 362% higher, and the odds for third generation Mexicans are only 72% higher than the odds for whites. This begs the question of whether future generations of Mexicans will also have this relative advantage in attending two-year colleges. Also, third generation Mexicans are the only minority group in this study that maintain significantly lower odds of obtaining a bachelor's degree relative to whites. Even net

of family background characteristics and test scores, third generation Mexicans still have 56% lower odds of obtaining a bachelor's degree relative to native whites.

## DISCUSSION

This paper began with two distinct hypotheses. First, based on the human capital and straight-line assimilation theories, I predicted that foreign-born minorities and native minorities with lower levels of human capital would have lower levels of educational attainment compared to whites. However, third generation immigrants, who are likely to have higher test scores and better English skills than more recently-arrived immigrants, are likely to have attainment levels similar to whites. Also, once human capital is controlled, differences in educational attainment should disappear. Second, based on segmented assimilation theory and immigrant optimism, I hypothesized that first and second generation Mexicans may achieve higher levels of educational attainment than third generation Mexicans due to the downward assimilation of native-born minorities. In particular, based on the concept of immigrant optimism, second generation Mexicans are expected to have the highest levels of attainment relative to the other Mexican groups because they maintain their parents' optimism toward upward social mobility and have better English skills than their first generation peers. A lack of such optimism and an acceptance of the "oppositional culture" may prevent US-born minorities from overcoming their disadvantaged backgrounds and succeeding in higher education (Ogbu and Simmons 1998).

The results of this study provide some support to the human capital perspective of educational attainment. Within the Add Health sample, African Americans and Mexicans of all generational statuses were less likely than whites to achieve most levels of higher education. However, once statistical models controlled for test scores which measure both cognitive ability

and English proficiency, these differences largely disappeared. Native blacks are actually *more* likely than native whites to attend a four-year college net of cognitive skills. However, the human capital approach did not explain the disparities in bachelor's degree attainment for first and third generation Mexicans. Even net of test scores, these two groups still had significantly lower odds of obtaining a bachelor's degree compared to native whites.

After controlling for family characteristics, however, more support was found for the immigrant optimism and segmented assimilation theories. In line with immigrant optimism, second generation Mexicans had significantly higher odds of achieving each level of higher education than whites with similar family characteristics and test scores. The third generation, however, appeared to regress so that their odds of obtaining a bachelor's degree were 59% lower than the odds for whites. The fact that their odds of achieving other levels of education did not differ from whites may indicate that third generation Mexicans are assimilating to the white peers within their social groups. However, since their outcomes appear to be worse than the outcomes of their second generation Mexican peers, it is unclear whether future generations of Mexicans will continue this trend and experience downward social mobility (Portes and Rumbaut 2000).

While the results of this study consistently illustrate that Mexicans of all generations appear to take advantage of the services that two-year colleges have to offer, the relative odds of attending a two-year college seem to decrease monotonically for later generations. This may be especially problematic since it appears that Mexicans are using two-year schools as a first step toward bachelor's degree attainment (Vernez, Abrahamse, and Quigley 1996). This is particularly likely to be the case in states like California that have higher rates of two-year college enrollments and maintain strong relationships between two-year and four-year colleges

(Kane and Rouse 1999). In general, the results of this study indicate that third generation Mexicans are falling further behind native whites than their second generation peers even net of their test scores and family characteristics. In fact, even native blacks, who have a history of discrimination and lower educational outcomes compared to whites, have higher odds than whites of attaining each level of higher education after controlling for test scores and family background, a finding that can be explained by neither the human capital nor the immigrant optimism perspective. While universities have been able to make up for the inequalities of the past by improving African American students' chances of going to college and getting a degree, universities may not yet have responded to the needs of US-born Mexican students.

Future research is encouraged to further investigate disparities in educational attainment and why these disparities exist. Important factors that may be considered include school attachment, aspirations, access to advisers and supportive adults within the higher education system, and perceptions of discrimination in the academic setting. Also, this study could be replicated using other datasets with larger samples of Mexicans to determine whether these results are sufficiently robust. If these findings are confirmed, then changes in higher education policies and practices may be necessary that focus on the unique experience of US-born Mexicans in America's higher education system.

## Works Cited

- Alba, Richard and Victor Nee. 2003. "Assimilation Theory, Old and New." Pp. 17-66 in *Remaking the American Mainstream*. Cambridge, MA: Harvard University Press.
- Bearman, PS, J Jones, and JR Udry. 1997. "The National Longitudinal Study of Adolescent Health: study design."
- Becker, Gary S. 1962. "Investment in Human Capital: A Theoretical Analysis." *The Journal of Political Economy* 70:9-49.
- Callahan, Rebecca, Lindsey Wilkinson, and Chandra Muller. 2008. "School Context and the Effect of ESL Placement on Mexican-Origin Adolescents' Achievement." *Social Science Quarterly* 89:177-198.
- Carpenter, Dick M. II, Al Ramirez, and Laura Severn. 2006. "Gap or Gaps: Challenging the Singular Definition of the Achievement Gap." *Education and Urban Society* 39:113-127.
- Clark, Burton R. 1960. "The "Cooling-Out" Function in Higher Education." *The American Journal of Sociology* 65:569-576.
- Fry, Richard. 2002. "Latinos in Higher Education: Many Enroll, Too Few Graduate." Pew Hispanic Center, Washington, DC.
- Ganderton, Philip T. and Richard Santos. 1995. "Hispanic College Attendance and Completion: Evidence from the High School and Beyond Surveys." *Economics of Education Review* 14:35-46.
- Gans, Herbert J. 1973. in *Ethnic Identity and Assimilation: The Polish Community*, edited by N. Sandberg. New York: Praeger.
- Gonzalez, Arturo and Adela de la Torre. 2002. "The Educational Outcomes of Hispanics and Non-Hispanics in Arizona: Implications for National and State Policy Makers." *Educational Policy* 16:288-310.
- Hagy, Alison P. and J. Farley Ordozensky Staniec. 2002. "Immigrant Status, Race, and Institutional Choice in Higher Education." *Economics of Education Review* 21:381-392.
- Hirschman, Charles. 2001. "The Educational Enrollment of Immigrant Youth: A Test of the Segmented-Assimilation Hypothesis." *Demography* 38:317-336.
- Jespen, Christopher. 2008. "Multinomial Probit Estimates of College Completion at 2-year and 4-year Schools." *Economics Letter* 98:155-160.
- Kane, Thomas J. and Cecilia Elena Rouse. 1999. "The Community College: Educating Students at the Margin between College and Work." *The Journal of Economic Perspectives* 13:63-84.
- Kao, Grace and Marta Tienda. 1995. "Optimism and Achievement: The Educational Performance of Immigrant Youth." *Social Science Quarterly* 76:1-19.
- Massey, Douglas S. and Deborah S. Hirst. 1998. "From Escalator to Hourglass: changes in the U.S. Occupational Wage Structure 1949-1989." *Social Science Research* 27:51-71.
- Massey, Douglas S., Margarita Mooney, Kimberly C. Torres, and Camille Z. Charles. 2007. "Black Immigrants and Black Natives Attending Selective Colleges and Universities in the United States." *American Journal of Education* 113:243-271.
- Nguyen, Anh Ngoc and Jim Taylor. 2003. "Post-High School Choices: New Evidence from a Multinomial Logit Model." *Journal of Population Economics* 16:287-306.
- Ogbu, John U. 1987. "Variability in Minority School Performance: A Problem in Search of an Explanation." *Anthropology and Education Quarterly* 18:312-334.

- . 1991. "Immigrant and Involuntary Minorities in Comparative Perspective." in *Minority Status and Schooling: A Comparative Study*, edited by M. A. G. a. J. U. Ogbu. New York: Garland Publishing, Inc.
- Ogbu, John U. and Herbert D. Simmons. 1998. "Voluntary and Involuntary Minorities: A Cultural-Ecological Theory of School Performance with Some Implications for Education." *Anthropology and Education Quarterly* 29:155-188.
- Perlmann, Joel and Roger Waldinger. 1997. "Second Generation Decline? Children of Immigrants, Past and Present-A Reconsideration." *International Migration Review* 31:893-922.
- Perreira, Krista M., Kathleen Mullan Harris, and Dohoon Lee. 2006. "Making it in America: High School Completion by Immigrant and Native Youth." *Demography* 43:511-536.
- Portes, Alejandro and Ruben Rumbaut. 2000. "Not Everyone is Chosen: Segmented Assimilation and Its Determinants." in *Legacies: The Story of the Immigrant Second Generation*. Berkely, CA: University of California Press.
- Portes, Alejandro and Min Zhou. 1993. "The New Second Generation: Segmented Assimilation and Its Variants." *Annals of the American Political and Social Sciences* 530:74-96.
- Schmid, Carol L. 2001. "Educational Achievement, Language-Minority Students, and the New Second Generation." *Sociology of Education* 74:71-87.
- Suarez-Orozco, Marcelo and Carola Suarez Orozco. 1995. "The Cultural Patterning of Achievement Motivation: A comparison on Mexican, Mexican Immigrant, and Non-Latino White Students." in *California's Immigrant Children*, edited by R. R. a. W. Cornelius. San Diego, CA: Center for US Mexican Studies, University of California.
- Szelenyi, Katalin and June C. Chang. 2002. "ERIC Review: Educating Immigrants: The Community College Role." *Community College Review* 30:55-73.
- Trejo, Stephen. 1997. "Why do Mexicans Earn Low Wages?" *The Journal of Political Economy* 105:1235-1268.
- Vernez, Georges, Allan Abrahamse, and Denise D. Quigley. 1996. "How Immigrants Fare in U.S. Education." RAND Corporation, Santa Monica, CA.
- Waldinger, Roger and Cynthia Feliciano. 2004. "Will the New Second Generation Experience 'Downward Assimilation'? Segmented Assimilation Re-assessed." *Ethnic and Racial Studies* 27:376-402.
- Waters, Mary C. 1999. *Black Identities: West Indian Immigrant Dreams and American Realities*. Cambridge: Harvard University Press.
- Wojtkiewicz, Roger A. and Katharine M. Donato. 1995. "Hispanic Educational Attainment: The Effects of Family Background and Nativity." *Social Forces* 74:559-574.



APPENDIX A: TABLES AND FIGURES

Table 1: Weighted Descriptive Statistics, means and proportions

	Total	White	Black	Mexican
female	49.56	49.93	49.72	46.00
Generation Status				
First Generation	2.25	0.68	1.65	19.63
Second Generation	7.80	5.44	4.88	38.67
Third or Higher Generation	89.95	93.88	93.47	45.40
Parent Structure				
Single Parent	22.49	17.45	45.48	19.74
Cohabiting Parent	15.81	16.61	13.26	13.58
Other Parent Structure	5.05	3.69	10.65	5.74
Age (24-27 ref.)				
18-19	12.80	13.04	11.31	13.78
20-21	32.98	33.87	31.52	27.30
22-23	32.64	32.31	33.00	35.18
24-27	21.58	20.78	24.17	23.74
Parents' education	13.26	13.613	12.812	10.720
	(0.114)	(0.117)	(0.165)	(0.268)
Number of children in household	2.284	2.147	2.580	2.983
	(0.033)	(0.033)	(0.092)	(0.077)
PVT test score	102.037	105.201	92.481	92.283
	(0.633)	(0.490)	(1.087)	(1.082)
Highest Attainment				
High School degree or GED	32.22	30.26	38.11	38.35
High School dropout	9.64	8.13	13.21	16.62
Some College	11.98	12.06	12.23	10.56
In two-year college	10.47	10.45	8.96	14.23
In four-year college	18.84	20.25	16.27	10.55
Associate's Degree	6.41	6.98	4.06	6.17
Bachelor's Degree	10.44	11.88	7.15	3.52
N	11046	7178	2751	1117

**Figure 1: Educational Attainment by Race/Ethnicity**

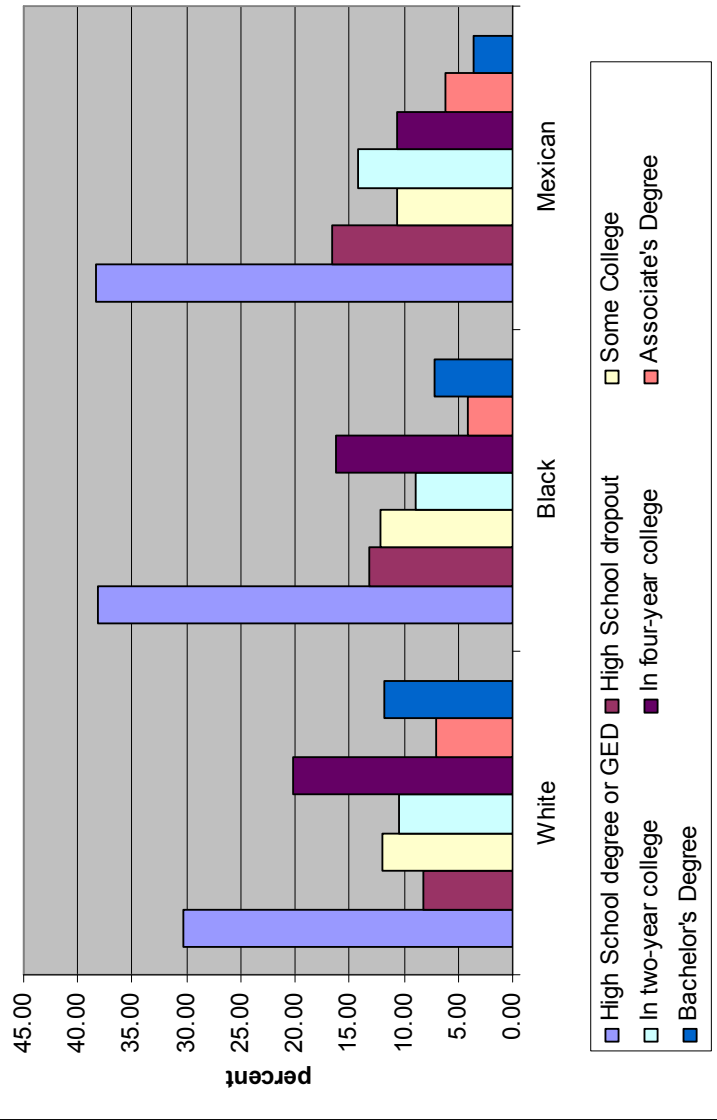


Table 2: The Educational Attainment of Mexicans by Generation

Highest Attainment	First Generation	Second Generation	Third+ Generation
High School degree or GED	43.46	35.82	38.29
High School dropout	21.17	17.87	13.32
Some College	5.99	11.12	12.20
In two-year college	14.14	13.76	14.72
In four-year college	7.73	9.40	12.94
Associate's Degree	6.08	6.33	6.05
Bachelor's Degree	1.44	5.70	2.48
N	177	539	401

**Figure 2: Educational Attainment of Mexicans by Generational Status**

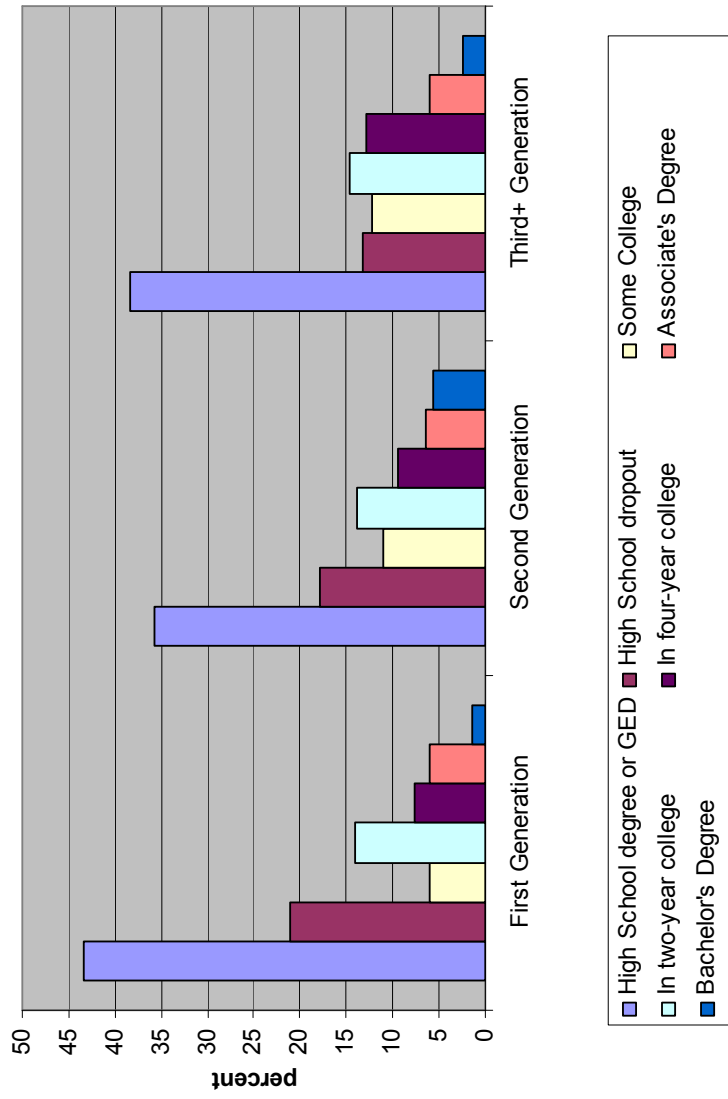


Table 3: Predicting Educational Attainment

	HS Dropout	Some College	two-year	four-year	Associate's	Bachelor's
Intercept	0.1846 ***	0.4949 ***	0.1397 ***	0.1987 ***	0.2781 ***	0.5935 **
female	0.8672	1.1989 *	1.4386 ***	1.2761 **	1.5915 ***	1.8386 ***
Age						
18-19	1.7912 **	0.3404 ***	4.8028 ***	5.5667 ***	0.0632 ***	0.0000 ***
20-21	1.8278 **	0.6116 ***	2.4853 ***	4.1363 ***	0.5314 ***	0.0386 ***
22-23	1.5168 *	0.8586	1.2531	2.0824 ***	0.7960	0.8200
Race/Ethnicity						
Black	1.3327 *	0.7722	0.7301 *	0.6875 *	0.4336 ***	0.4190 **
Mexican	1.6713 **	0.6637 **	1.1752	0.4558 ***	0.6633	0.2000 ***

\* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Table 4: Predicting Educational Attainment

	HS Dropout	Some College	two-year	four-year	Associate's	Bachelor's
Intercept	0.1777 ***	0.5056 ***	0.1391 ***	0.1913 ***	0.2749 ***	0.5663 **
female	0.9217	1.1953 *	1.4538 ***	1.3379 **	1.6389 ***	1.8978 ***
Age						
18-19	1.7086 *	0.3454 ***	4.6927 ***	5.3623 ***	0.0656 ***	0.0000
20-21	1.8489 **	0.6081 ***	2.3936 ***	4.0865 ***	0.5257 ***	0.0369 ***
22-23	1.5357 *	0.8081	1.1880	2.0610 ***	0.7812	0.8183 *
Race/Ethnicity						
Black	1.3606 *	0.7855	0.7096 *	0.6672 *	0.4327 ***	0.4152 **
1st. Gen. Mexican	2.0350 **	0.3077 **	1.2817	0.3718 *	0.5140	0.0586 ***
2nd. Gen. Mexican	1.9223 **	0.7534	1.2974	0.4508 **	0.7375	0.3710 *
3rd. + Gen. Mexican	1.3259	0.8069	1.1210	0.5252 *	0.7036	0.1635 ***

\* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Table 5: Predicting Educational Attainment

	HS Dropout	Some College	two-year	four-year	Associate's	Bachelor's
Intercept	17.3849 ***	0.0070 ***	0.0044 ***	0.0001 ***	0.0028 ***	0.0000 ***
female	0.8194 *	1.3164 **	1.5784 ***	1.5920 ***	1.8139 ***	2.3294 ***
Age						
18-19	1.7844 *	0.3469 ***	4.7247 ***	5.2709 ***	0.0658 ***	0.0000 ***
20-21	2.0160 ***	0.5933 ***	2.3514 ***	3.8853 ***	0.5115 ***	0.0329 ***
22-23	1.6661 *	0.7834 *	1.1593	1.9556 ***	0.7562 *	0.7572 **
Race/Ethnicity						
Black	0.7707	1.2406	1.0388	1.4265 *	0.7031	1.1299
1st. Gen. Mexican	0.6780	0.6930	2.4677 **	1.3215	1.2070	0.2358 *
2nd. Gen. Mexican	1.1159	1.1077	1.8218 *	0.8636	1.1015	0.8628
3rd. + Gen. Mexican	0.9072	1.0318	1.4016	0.8179	0.9114	0.2775 ***
PVT test scores	0.9544 ***	1.0417 ***	1.0337 ***	1.0699 ***	1.0449 ***	1.1074 ***

\* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Table 6: Predicting Educational Attainment

	HS Dropout	Some College	two-year	four-year	Associate's	Bachelor's
Intercept	67.7212 ***	0.0010 ***	0.0009 ***	0.0000 ***	0.0004 ***	0.0000 ***
female	0.7964 *	1.3999 ***	1.6651 ***	1.7665 ***	1.9848 ***	2.7994 ***
Age						
18-19	1.9075 **	0.3041 ***	4.0923 ***	4.0467 ***	0.0547 ***	0.0000 ***
20-21	2.0772 ***	0.5370 ***	2.1071 ***	3.0864 ***	0.4406 ***	0.0246 ***
22-23	1.6670 *	0.7349 **	1.0800 **	1.7157 ***	0.6909 **	0.6528 ***
Race/Ethnicity						
Black	0.6140 ***	1.3652 *	1.2355 *	1.9192 ***	0.9197 ***	1.6883 *
1st. Gen. Mexican	0.3398 **	1.6453 ***	5.4992 ***	5.8439 ***	3.4722 **	1.7463 ***
2nd. Gen. Mexican	0.6281	2.3401 ***	3.6241 ***	3.0201 ***	2.7467 *	5.3345 ***
3rd. + Gen. Mexican	0.7269	1.2446	1.7219 *	1.1654 *	1.1760	0.4387 *
PVT test scores	0.9596 ***	1.0331 ***	1.0255 ***	1.0522 ***	1.0342 ***	1.0848 ***
Parent Structure						
Single Parent	1.4742 **	0.8559	0.7246	0.4748 ***	0.5276 ***	0.3365 ***
Cohabiting Parent	1.3406	0.6875 ***	0.6904 **	0.4450 ***	0.6225 ***	0.2975 ***
Other Parent Structure	1.5784 *	0.5820 **	0.3725 ***	0.2604 ***	0.2425 ***	0.2258 ***
Parents' education	0.8295 ***	1.2652 ***	1.2380 ***	1.5479 ***	1.3128 ***	1.7083 ***
Number of children in household	1.0989 **	0.9396	0.9215 *	0.9509 **	0.8827 **	0.9028 *

\* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001