

## CHAPTER ONE: INTRODUCTION

### *Statement of the Problem*

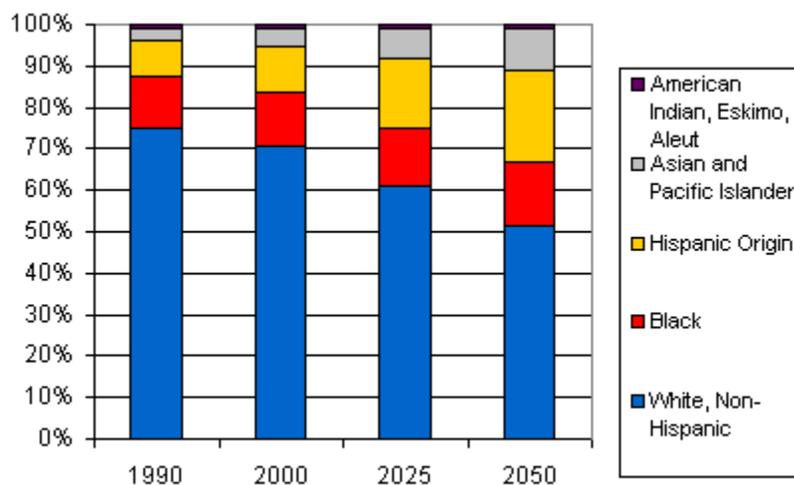
Statistics indicate that the Latino population of the United States is steadily increasing. In fact, "...projections based on the 1990 census suggest that Hispanic American children (combining children on the continent and on the island of Puerto Rico) are the largest minority school-age population" (Guzman, 1996). Hispanic students in secondary education represent thirteen percent of the current population in grades 9-12. Projections estimate that by 2030, Latinos will make up twenty-three percent of the population in grades 9-12 (Brown, et al., 2000). Yet, in spite of this surge in population, in 1996 Hispanics earned only five percent of all bachelors' degrees, four percent of all master's degrees and two percent of all doctoral degrees (Brown, et al., 2000). These numbers indicate that this population remains underrepresented in higher education.

Perhaps this phenomenon can be explained by investigating the educational resources made available to young Latinos. Many argue that Hispanic representation in higher education is a direct result of primary and secondary school districts not having the same resources as non-Latino districts, which in turn leads to high drop-out rates and in some cases poor English skills (Brown, et al., 2000). In fact, the President's Advisory Commission on Educational Excellence for Hispanic Americans in their report, Our Nation on the Fault Line: Hispanic American Education (Guzman, 1996), provides a detailed listing of causes of this phenomenon, including "resource-poor" school districts. The Commission is not alone in enumerating these findings. The Secretary of Education, Richard Riley, as well as the White House Initiative on Educational Excellence for Hispanic Americans, are quick to point out these causes for the Hispanic lag in education (Riley, 1998; Brown, et al., 2000).

However, it seems that all of these initiatives have disregarded a significant sociological cause behind a history of educational disadvantage: institutional discrimination. Knowles and Prewitt (1969), Downs (1970), and Feagin and Eckberg (1980) refer to institutional discrimination as unintentional discriminatory behavior, where perhaps the discriminators are totally unaware of their actions. One could hardly argue that our government intentionally fosters the "obvious" causes of the lag in Hispanic educational attainment, yet the fact remains

that very little is being done to alleviate the situation. “Hispanic students in the major urban educational systems of the United States are not receiving educational opportunities equal to those received by their Anglo classmates” (Meier and Stewart, 1991: 201). Executive Order 12900 was enacted in 1994 to increase opportunities for Hispanic Americans in education programs, yet as the statistics point out it is hardly working. What is perhaps most salient about this education crisis is its implications for the future of the United States.

Currently, 1 in 8 people in the U.S. is of Hispanic decent (Therrien and Ramirez, 2000) and as shown in Figure 1.1, it is estimated that by the year 2050, Latinos will represent twenty-four percent of the total U.S. population (Hispanic Association for Corporate Responsibility, 2000). Many scholars have argued that economic success is directly related to educational attainment. If this is the case what does this mean for Hispanics? In examining the trends in labor market experiences, the Census reports that “...only 14% of Hispanics were in managerial or professional occupations compared with 33.2% of non-Hispanic whites” (Therrien and Ramirez, 2000). In addition to this 19.4% of Hispanics were in service occupations and 22% were employed as operators/laborers.



**Figure 1.1: Ethnic Composition of the U.S. Population: 1990-2050 (Projected)**

Source: Hispanic Association on Corporate Responsibility ([http://www.hacr.org/demographics/population\\_3.html](http://www.hacr.org/demographics/population_3.html))

Moreover, “...[o]nly 8 percent of tomorrow’s jobs will require less than a high school education, while 35 percent of these jobs will require at least a high school education, and a whopping 60

percent of tomorrow's jobs will require three or more years of postsecondary education (Garcia, 2001: 16). This confirms the points that scholars have argued trends in labor market participation can be linked to education.

Some might argue that "...[a]ny comprehensive review of research findings can only conclude that little is known about Hispanic students" (Olivas, 1997: 470). Very few studies have been conducted analyzing the state of Hispanic education and all too often they are lumped together with African Americans, thus making their concerns virtually invisible. This is a common occurrence because "...[t]he historical patterns of exclusion from education that greatly handicapped blacks also applied to Hispanics, even though the precise methods of exclusion differed" (Meier and Stewart, 1991: 201). There are those, however, who could argue that "...[a]lthough Hispanic education has not been examined with the same scrutiny as black education, substantial information is known about the status of Hispanic education in the United States" (Meier and Stewart, 1991: 201). This project aims to highlight these findings. Of particular concern though is that these people have been lumped together into one group, "Hispanics/Latinos", thereby implicitly assuming that their experiences in the United States are all identical.

The primary questions that this study aims to answer are: 1) if Latinos are more or less likely to have access to higher education than their non-Latino peers and, 2) if variations in educational attainment exist among Latino subgroups. For the purpose of this study, access to higher education is defined as the completion of at least a bachelor's degree. To answer the initial query of whether or not Latinos have equal access to higher education as their non-Latino peers, no differentiation will be made for membership in a given Latino subgroup. The terms Latino and Hispanic will be used interchangeably when referring to the aggregate. Hence, in terms of that proposition all subgroups will be combined into one category (Hispanics/Latinos). For the second query, however, it is necessary to break this larger category down by Hispanic subgroup and this will be done to examine the variations in educational attainment for different Latino subgroups. Additionally, these subgroups will then be compared to their non-Latino peers.

In examining this topic in this manner, I aim to outline the flawed practices of previous research projects, which have lead to conclusions which one could argue are not precisely

accurate. Historically, researchers have lumped all subgroups of Latinos into one category (as in my first analysis), essentially ignoring the differences in culture and life experiences that may exist between groups. In most studies the terms Latino, Hispanic, and Hispanic American refer to all individuals “with historical origins in Spanish speaking cultures” (Guzman, 1996). Even though the various ethnic groups encompassed under these terms exhibit a diverse history of culture, since they all share a unifying cultural characteristic -- “common language” -- some researchers feel that their experiences are similar and that combining them into one classification is therefore justified. In reality, Latino subgroup experiences are dramatically different and this study aims to illustrate this. Because of this, I argue that the conclusions that have been drawn in the past may not be accurate.

Following is a discussion of the available literature that analyzes Hispanic education. The literature is quick to identify parents’ educational attainment as a key factor in determining the level of attainment for students, but is this the only key factor? In my analysis, I will be looking at several school variables such as school type, program type and school location. I will also examine several individual variables including, gender, race, Hispanic origin, length of time in the United States and high school academic performance. In addition to this I will also be looking at family variables: parental education, father’s occupation, mother’s occupation (all of which serve as a proxy for socio-economic status), single parent status and length of time in the United States for both the father and mother.

The discussion of institutional discrimination looks at some of the issues limiting Hispanic student enrollment at institutions of higher learning: segregation into vocational curricula, segregation into resource-poor school districts, and other differences between schools. Intertwined throughout this paper is a discussion of racial ideologies (bias, structural discrimination, and deficiency theories). It is an attempt to offer insight into reasons why discrimination occurs.

First, a discussion on the use of a pan-ethnic term such as “Latino” and ethnic identity will be presented. Only by discussing this are we able to understand the situation created by using an all-encompassing term such as “Hispanic” or “Latino”. This section, presented in the following chapter, is important to my research because as mentioned earlier, it highlights the

flaws with historical research projects and creates implications for earlier findings as to the validity of their conclusions.

## CHAPTER TWO: REVIEW OF THE LITERATURE

### *“Latino” or “Hispanic”: What’s in a Name?*

Have you ever considered what the terms “Latino” or “Hispanic” really mean or where they come from? In this country we have devised a term to unify different communities without considering the differences that exist within those same communities. The term “Hispanic” historically had been used to identify people who could trace their origins to Spain (Melville, 1988). And if the history behind its use in politics is traced one will uncover that after a presidential decree in 1968 to establish National Hispanic Week, the term came to replace the names of specific ethnic labels that had once been used for identification (Melville, 1988). However, for many “Latinos” the term Hispanic is offensive because it commemorates the Spanish Empire and the memory of the conquistadors against whom many wars of independence were fought and many lives sacrificed. It is in essence a tribute to colonialism and “...is seen as an attempt by the government to assimilate and Eurocentrize...” (Calderón, 1992: 42). In that sense, many prefer the use of the term “Latino” because it rejects this history of colonization and promulgates their Latin American origin. Yet, it seems that there is essentially something wrong in adopting these pan-ethnic labels and ignoring differences in nationality. “Lumping them together is not too dissimilar from attempting to combine turn-of-the-century Northern Italian, Hungarian, Serbian, and Bohemian immigrants into a unit based on their “common” origin in various patches of the Austro-Hungarian empire” (Portes and Truelove, 1987: 361). Essentially using a pan-ethnic label accomplishes nothing more than “...lump[ing] together scores of nationalities into one-size-fits-all minority group categories...” (Rumbaut and Portes, 2001: 1).

The groups that make up the standardized terms “Hispanic” or “Latino” encompass an array of histories, experience differences in citizenship status, face different factors for migration, vary in physical appearance, and can trace their origins to different countries. “Does a Latino identity even exist? Do Cuban blacks really have much in common with Anglo-Argentines or Mayan Indians from Guatemala? What sort of common blood is there between Honduras and El Salvador, who once went to war over a soccer match? Costa Ricans detest their neighbors so much that they’ve refused to sign a treaty that permits movement between Central American countries without visas. When Puerto Ricans, Mexicans, and Cubans living in the United States

were surveyed in 1992 about whether they preferred to be called 'Latino' or 'Hispanic', they overwhelmingly answered: Puerto Rican, Mexican, Cuban" (Garvin (2000) in Rumbaut and Portes, 2001: 2). Yet, in spite of this they are lumped into one category for ease of statistical analysis and for policymaking based on the notion that they all share a unifying cultural characteristic: a common language. The reality of it is that "...[l]anguage use is not standard or uniform...syntax and phonology differ, and so do nationally specific vocabularies..." (Melville, 1988: 79). Defining individuals "with historical origins in Spanish speaking cultures" (Guzman, 1996) as one group, called for the most part "Hispanics," blurs differences.

In order to determine Hispanic origin, the U.S. Census Bureau asks respondents to select their origin or the origin of a member of the household from a listing of ethnic origins. Based on this, the U.S. Census has defined Hispanic as those who identify their origin as Mexican-American, Chicano, Mexican, Mexicano, Puerto Rican, Cuban, Central or South American or other Hispanic. In addition, the U.S. Census acknowledges that persons of Hispanic origin can be of any race.

In defining this term in this manner and in using the term "Hispanic" as an umbrella for people with distinct cultural backgrounds, problems will arise. Delgado and Stefancic ask "are Latinos a race, an ethnic group, or neither.... Can one be a Latino or Latina as well as something else...?" (Delgado and Stefancic, 1998: 1). Most social researchers follow government guidelines and define individuals with historical origins in Spanish-speaking cultures as "Hispanics". The results of their research do not account for differences among the groups. In essence the homogenization of a people ignores "...class experiences and neglects many different linguistic, racial, and ethnic groups within the different nationalities" (Oboler, 1998: 4). Oboler further argues that the use of this term "...obscures rather than clarifies the varied social and political experiences in U.S. society of more than 23 million citizens, residents, refugees, and immigrants with ties to Caribbean and Central and South American countries" (Oboler, 1998: 4).

Martha Gimenez argues that the label assigns those of "Hispanic" ethnicity into a minority group regardless of life experiences and in spite of the fact that they have not been "historically oppressed as such in the United States" (Gimenez, 1997: 225). She further argues that standardized terminology does nothing but fulfill political functions and strengthen racist stereotypes by oversimplifying the situation. Her argument is similar to that of Richard

Rodriguez's or Linda Chavez's and is based on the notion of human capital. Gimenez (1997) claims that "Hispanics" who are held back by the system (i.e., occupy low wage jobs, perform menial tasks, etc.) are in that position because of a lack of human capital and not for any other reason. Her argument is one that Barrera would claim is based on deficiency theory. Barrera's evaluation of deficiency theories can be summed up with this statement: "deficiency explanations of racial inequality are superfluous in that all of them assume that equal opportunity exists and has existed for the minority races in American society, and that they have failed to seize the opportunity because of their own deficiencies" (Barrera, 1997: 9). For Barrera, deficiency theories are based on the notion that minority groups are somehow inferior. Deficiency theories can be 1) biological, 2) cultural, or 3) can refer to a deficiency in social structure. Biological deficiency theory attributes racial inequality to a genetic inferiority on the part of certain races (Barrera, 1997). Cultural deficiency theory finds "...the source of minority inequality in one or more cultural traits of the group in question" (Barrera, 1997: 5). Theories based on deficiency in social structure state that minorities are held back due to problems in the social structure for that group.

Gimenez (1997) does, however, point out that other factors should be considered when disseminating information regarding this group of people. Factors such as socioeconomic status and social class, nativity and length of time in the U.S. should be considered in addition to ethnicity. In order "...[t]o avoid the possibility of constructing stereotypes in the process of interpreting data, social scientists need to go beyond cultural explanations to examine class and socioeconomic status differences within each aggregate" (Gimenez, 1997: 229).

I cannot agree with all of her points, for the simple fact that in spite of human capital, and regardless of Latino subgroup membership, discrimination is still possible based for many on surname. Hispanic surnames conjure up images for some and carry with them certain expectations that an individual may or may not live up to. This of course can affect success in the system regardless of the amount of human capital that one has to offer.

There is, however, an aspect of her argument with which I can agree. Gimenez (1997) states that as social scientists we have a duty to ensure that when reporting our findings we are aware of the variations that can exist between the populations that make up this group called "Hispanics"; we should be extremely cautious when making blanket statements.

Another point that Gimenez makes and that Eschbach and Gomez deal with extensively is the idea of status inconsistency. According to Eschbach and Gomez (1998), the boundaries of ethnic identification seem to blur for Hispanics and at times, group membership fluctuates. “If inconsistent identification is common for a substantial fraction of an ethnic population, it is essential that we gain a better understanding of these dynamics if we are to understand how ethnicity functions in American society” (Eschbach and Gomez, 1998: 75). For Gimenez this status inconsistency can be explained because many Latin Americans know who they are and prefer to identify themselves in that manner. For the government, more specifically the Census Bureau, the inconsistencies in reporting mean that there is confusion among the people as to the difference between a racial category and ethnic classification. It can be argued that in many cases, questions that attempt to elicit responses on race also include information on national origin and this can be confusing. Added to this is the fact that many “Hispanics” just do not see themselves as White.

Eschbach and Gomez (1998) attempted to analyze the status inconsistency that was reported on the High School and Beyond Survey (HS&B) between the baseline data and the first follow-up data. The HS&B was a longitudinal study of a nationally representative sample of high school sophomores and seniors conducted in 1980, with subsequent follow-ups over a period of years (it is also the source for the data that I will analyze in this study). The respondents were asked at the time of the original survey “What is your origin or descent?” Responses grouped under the heading “Hispanic” included: 1) Mexican, Mexican-American, Chicano; 2) Cuban, Cubano 3) Puerto Rican, Puertorriqueño, or Boriqua; and 4) Other Latin American, Latino, Hispanic or Spanish descent. The remaining response options were grouped under the heading “Non-Hispanic” and included but were not limited to Asian/Pacific Islander, African American and European choices. The items on the first follow-up survey were nearly the same, with two differences: respondents were given a line to identify the “Other Latin American” option and the second category simply said “Non-Hispanic”. Eschbach and Gomez (1998) analyzed the data for respondents who had identified themselves as “Hispanic” during the baseline survey but who reported as “Non-Hispanic” during the first follow-up survey. They considered factors such as English monolingualism, generation, nativity, SES, school composition and area of residence and

found that English monolingualism and school composition were strongly associated with status inconsistency.

Why did the respondents change their mind, what caused the inconsistency in their responses? Portes and MacLeod in their study of children in California and Florida found that "...[I]n general, respondents from immigrant communities of higher average socio-economic status and longer U.S. residence are more prone to shy away from the pan-ethnic label..." (Portes and MacLeod, 1996: 534). This can be partly due to the fact that the term "Hispanic" has many negative connotations tied to it and denotes a minority group with which some do not want to be associated.

After reading the literature on this topic I have started to ask myself whether the appropriate question is which term should be used, "Latino" or "Hispanic" or should a pan-ethnic term be used at all?

### *Ethnic Identity*

According to George Herbert Mead, "the organized community or social group which gives to the individual his unity of self may be called 'the generalized other' (Mead, 1934: 54). Mead's concept of the generalized other can be closely related to what contemporary theorists label social identity. Social identities can be defined as "...constructions of self that relate the person to some collective group or category..." (Deaux and Ethier, 1998: 301). Ethnic identity is a form of social identity. It is a portrait of an individual based on membership to a particular ethnic group and is usually tied to ascribed characteristics of an individual.

Mead's theory supposes that a social group gives an individual their identity and influences their behavior, much in the same way that others have argued that ethnic identity does. Ethnic identity can be defined in terms of three variables: 1) commitment to the group, 2) sense of belonging, and 3) participation in ethnic behaviors and customs (Phinney, Cantu and Kurtz, 1997). A sense of belonging to a group is easily understood, even self-explanatory, but the other variables deserve some clarification. Commitment to the group refers to the degree to which an individual feels obligated to serve, be a part of, and help that group. What is meant by participation in ethnic behaviors and customs is the degree to which an individual "works" at maintaining their cultural heritage. In this case, work can refer to actual physical work, or can

refer to Schwalbe's notion of 'identity work'. Identity work is anything that an individual does to establish or claim meanings as a particular kind of person (Schwalbe, 1996).

In the case of Latinos this "other" can take various forms: "...(1) there is the Latino as gendered other, (2) there is the Latino self as a Hispanic other; (3) Then there is the notion of Latino as a class-specific other. (4) There is the Latino self as a racial other – whether that racial other is called *Meztizola* (emphasis in the original), the nonwhite, the White-Hispanic, the person of color, *La Raza* (emphasis in the original) etc. (5) There is the Latino self as an American other – and within the otherness, one must distinguish whether one is referring to the self as a U.S. Citizen or as a member of the populations of the Americas as a whole. (6) There is the Latino self as a Latin American national other: The Puerto Rican self, the Mexican self, the Chicano/a, Colombian, Peruvian, Dominican etc. The question is how, if at all, is this internalized identity tension between self and other(s) articulated and dealt with by those who identify themselves or are designated as Latinos in the United States?" (Oboler, 1992: 19).

Phinney and her colleagues found after surveying over 600 adolescents, that ethnic identity is important during adolescence for it aids teens in understanding more about themselves and has positive effects on self-esteem (Phinney, Cantu and Kurtz, 1997). Surviving in society today is not easy for minority group members. Oftentimes there are many obstacles to overcome, such as prejudice, discrimination, and stigmatization. Because of its positive relationship to the psychological well being of ethnic minority group members, ethnic identity is seen as important and as a way through the hurdles of prejudice and discrimination that members of minority groups encounter in society (Phinney and Chavira, 1992). In this sense, identification with the whole instead of focusing on individual differences can increase self-esteem and can cause an individual to feel like they belong as opposed to suffering in isolation, perhaps an argument in favor of the use of the pan-ethnic terms after all.

Research shows that "...a positive sense of belonging to one's group, would contribute to self-esteem" (Phinney, Cantu and Kurtz, 1997: 166). This is largely derived from social identity theory. Social identity theory, much like Mead's generalized other, implies that an individual's self image is derived from the social categories to which he sees himself as belonging (Phinney, Cantu and Kurtz, 1997; Tajfel and Turner, 1986 in Phinney, Cantu and Kurtz, 1997). Ideally what this means is that higher levels of self-esteem can be related to stronger feelings of

belonging or identifying with certain groups. Thus, it would seem that categorizing individuals as members of a larger group can lead to higher levels of self-esteem. Garcia (2001) takes this point one step further by claiming that "...[t]o honor diversity is to honor the social complexity in which we live – to give the individual and where he or she has developed a sense of integrity....[B]ut to insist on it [unity] without embracing diversity is to destroy that which will allow that unity – individual and collective dignity" (10). Garcia revisits this point though slightly transformed in his discussion of culture. He claims that stressing the importance of common traits does not allow for individual affirmation, that it merely hinders educational attainment through reinforced stereotypes from teachers and classmates (Garcia, 2001).

There are those who argue however, that the plight of Hispanics is due to the failure of assimilation and the leaders of the Hispanic community. Some claim that "...Hispanic leaders who are envisioned, much like the pied piper, [are] leading mesmerized followers to their own demise, all for their personal gain" (Garcia, 2001: 11).

However, my argument is this: Hispanics are too diverse of a population to be labeled as one. Individuals who may be from Argentina would have little in common with someone from Honduras, other than language, and as stated earlier, even this is not always the case. When the pan-ethnic label is used, no consideration is made for differences in culture or heritage. These people are diverse; it is incorrect to assume that all of their experiences in the United States have been the same because they share certain cultural characteristics. For example, if we were to compare the history of Mexican immigration and life experiences to that of Cubans, the picture that we would see would vary tremendously. Many Mexicans are transient, roaming the Southern United States as the seasons change. Oftentimes they are employed as migrant farm workers or laborers and are here in the United States working so that they may send money home to their families in Mexico. A great majority of the Cuban population, on the other hand, is in the United States as a direct result of the rise of Communism and Castro's regime in Cuba. Their flight from their homeland is referred to as the "brain drain"; the educated and wealthy entrepreneurs left Cuba seeking asylum from Castro. For the most part, Cubans brought their educations and their careers with them and turned what was once thought to be a temporary flight from risk into one of the most successful enclave communities in the United States. Although many long to return home, they have become accustomed to Miami and have turned it into a

“Little Havana”. For many of them their experiences in the United States is remarkably different from that of most other Latino aggregates or from Cubans who migrated later as part of the Mariel boatlift, after this study’s data were collected. This alone should be enough justification to analyze subgroups separately but all too often, we see that this does not happen.

Consideration should be made for the negative impact of identity with a particular ethnicity. “American society forces individuals to label themselves by race and gender. Not surprisingly, race and gender are the categories that correlate to power. A person’s race and gender correlate to the likelihood that one will have educational opportunity...” (Espinoza, 1998: 17). “Latino-Americans are growing up in the borderlands of at least two cultures and are affected by and aware of the discrimination and prejudice against them as Latinos” (Oboler, 1992: 20). Oboler (1992) further suggests “...(1) that class and race background and values shape the meaning and social values individuals attribute to the terms they adopt to define both self and other and, (2) that at least in the present conjuncture, both self and other are fundamental to the formation of the ethos of the Latino/a ethnic group in the United States” (20).

Mead’s theory also supposes that a social group influences an individual’s behavior, much in the same way that some argue that ethnic identity does. It has been argued that ethnic identity provides the necessary psychological stability for members of minority groups to grow and thrive in our society. Kao (2000) argues another point, however. She indicates that Hispanic youths are aware of the work roles ascribed to them based on race and ethnicity (i.e. manual labor and factory work) but many find it difficult to develop a self-concept that does not keep them in these roles. In fact “[r]ecent sociological perception data suggest that over the last three decades, ‘majority’ Anglo adults have not changed their view of minority populations – they continue to be perceived as less intelligent, lazy and of lower moral character” (Garcia, 2001: 17). It is important at this point to consider the ideologies behind inequality in this form. “The concept of race continues to play a fundamental role in structuring and representing the social world” (Omi and Winant, 1994: 55). Social theories are necessary to explain this phenomenon. In an attempt to do this, Barrera’s (1997) notion of bias theory comes into play.

Bias theories focus on prejudice and discrimination as the source of inequality. According to Barrera, Gunnar Myrdal’s model is the classic work in this area. “Basically, Myrdal explains the unequal status of Blacks as a function of racial discrimination, which in turn

is a product of White prejudice. ...He places great emphasis on the concept of the vicious circle...arguing that the disadvantage[d] condition of Blacks reinforces the prejudice of Whites by confirming their low opinion of Blacks” (Barrera, 1997: 10). For Barrera, these theories are not wrong, just incomplete; the theories generally lack the historical background necessary to make them complete.

Kao (2000) further points out that others expectations based solely on preconceived notions of race and ethnicity significantly impact the decisions that minority youth make regarding their futures. For her, these youth have been conditioned to fit into a certain category and although they may aspire to different roles, the reality is this is extremely difficult to do. Developing a self-concept that frees them from these racial expectations is all but impossible, especially when they constantly encounter negative stereotypes.

### *Institutional Discrimination in Hispanic Education*

Some argue that education is the vehicle for social and economic mobility, that anyone can achieve an education and therefore success if they work hard enough and meet the academic standards (Darder, Torres and Gutierrez, 1997). However, there are intervening factors that limit access to education and consequently limit economic success. Darder, Torres and Gutierrez (1997) argue that in the United States what exists is an “institution which supports the agenda of the market economy by reproducing particular class relations...”(xii). “Institutional discrimination implies that discrimination is inherent in the rules and procedures of the institution.... The person who makes decisions...therefore might well be part of a pattern of discrimination without even being cognizant of any discrimination” (Meier and Stewart, 1991: 206). If it is unintentional is there cause for concern? Yes, “...[t]he concern is with [the] limitations [placed] on...access of Hispanic students to equal education. Limitations imposed by institutional discrimination need to be addressed, just as limitations based on individual discrimination must be addressed” (Meier and Stewart, 1991: 209) regardless of whether or not there was an intent to discriminate.

Structural discrimination theory, as Barrera terms it, is similar to this notion of institutional discrimination. Structural discrimination theory considers racial inequality to be built into the “structures” of society. “Structures” can be formal institutions such as schools or

the government or informal as in the instance of class structure (Barrera, 1997). “These theories locate the source of minority disadvantage in the social structure of the society as a whole” (Barrera, 1997: 12). Structural theories differ from bias theories in that they are not derived from individual prejudice. Rather structural theories are based on the idea that discrimination is “...inherent in the social patterns of the society” (Barrera, 1997: 12).

It is a cycle according to Barrera (1997) that follows this pattern: cultural disadvantage, poverty and culture conflict between Hispanics and non-Hispanic people, leading to feelings of inadequacy, inferiority and contributing to poor school performance for many young Hispanics. These next sections present an analysis of the literature on a series of important variables affecting educational attainment.

### *School Variables*

Very few Americans would disagree with the statement that all Americans are entitled to equal educational opportunity. Where the disagreements would arise would be in what this notion means precisely. Some would say that the creation of the public school system guarantees an individual equal educational opportunity and therefore nothing more needs to be done. However, Riordan (1997) would argue that this is not enough, and that in fact it is just the beginning in examining equality in educational opportunity. Factors such as equal access, curriculum, segregation and outcomes must be considered when devising an accurate definition for equal educational opportunity (Coleman 1968 in Riordan, 1997).

**School Program.** “To whatever extent people are excluded, therefore, inequality exists” (Riordan, 1997: 2), how is this statement related to school program and curriculum? Riordan (1997) claims that because an individual is granted access to a school does not necessarily mean that they have also been granted full access to all programs within that school. “...[T]racking can serve as an obstacle to equality since it seems to provide unequal opportunities to students *within* (emphasis in the original) the schools themselves” (Riordan, 1997: 2). The under-representation of Hispanics in higher education can be intertwined with these notions of equal access and differential curriculum.

Ballesteros (1986) claims that Hispanics are socialized to aspire only to low status jobs and not professional occupations, therefore limiting their perceived need for education. In

addition, Ballesteros (1986) takes his analysis one step further, arguing that minority students all too often are tracked into vocational programs rather than college preparatory tracks. “Tracking, or the assignment of students to instructional groups by ability, is a common educational practice in American secondary schools...comprehensive high schools generally [have] a three-track structure, designated as the academic, general and vocational tracks.” (Hallinan, 1994: 799). According to Hallinan, those who favor tracking do so because it seems to increase “educational effectiveness” and promote learning. The premise behind tracking is this: if all students with equal abilities and educational aspirations are together, instruction can be tailored to meet their needs, thereby maximizing the quality of instruction that the students receive.

However, problems arise because “students from racial or ethnic minorities and low-income backgrounds...[are]...placed in vocational curricula more often than white, middle-class children, even though some of them...[have]...higher educational aspirations” (Ballesteros, 1986: 48). Olivas (1986), Verdugo (1986), and Meier and Stewart (1991) also share Ballesteros’ view of the segregation of Hispanics into vocational tracks and state that oftentimes Hispanics can be found occupying the lowest tier of academic groupings. For many, tracking creates unequal educational opportunities and those who suffer are all too often minority group members. Tracking is segregation all over again. Meier and Stewart (1991) further argue that although desegregation movements look at school composition they fail to “...tap racial distributions in classrooms, in social activities, and in other school functions” (202).

“Academic groupings including special education, ability grouping, curriculum tracking, and segregated bilingual education can be used to separate Hispanic students...and to limit Hispanic educational opportunities” (Meier and Stewart, 1991: xvii). According to Meier and Stewart, the “discriminatory use of academic grouping...has been termed ‘second-generation educational discrimination’” (1991: xvii). This second generation educational discrimination further separates students, restricting their interactions, while additionally creating a feeling of superiority in the minds of the students in the upper level tracks.

Eventually what happens is that the students at the bottom levels of the academic groupings become disillusioned with the system and drop out rates increase, should a Hispanic student remain in the system, they receive an education that is of lower quality due to enrollment in one of the “special” tracks which have been “dumbed down” (Meier and Stewart, 1991). The

trust that has been put into administrators by parents of these young Hispanics is violated as they are judged by ascriptive criteria rather than by ability and achievement. The frequency with which this is actually happening and its implications for the future of our country is a concern.

**School Location.** Segregation into vocational curricula is not the only factor that limits access to higher education for Latinos, school location can impact equality of educational outcomes. In revisiting this notion of equal access in terms of school location, a parallel can be made to differential curricula. Again it is true that all students do have access to public education, but the "...issue is whether or not equality is possible when some students are constrained to attend poor inner city schools and others attend affluent suburban schools...?" (Riordan, 1997: 7). "...[S]uburban public schools are similar to private schools...parents exercise their choice by moving to the suburbs rather than living in the city..." (Riordan, 1997: 18) and opt to send their children to schools that have more resources. "By contrast, public schools in the inner city with fewer resources are attended by those students with the fewest home resources and the greatest academic needs" (Riordan, 1997: 21).

Latinos have been continually segregated into the resource-poor school districts of metropolitan areas. Vartanian and Gleason (1999) found in their study that "...neighborhood conditions directly affect the educational inclination of students" (21). Vartanian and Gleason (1999) found that school quality tends to be higher in more affluent areas and that living in poor areas would increase the likelihood that a student would dropout of high school. "We strongly believe in an aspect of the 'American dream' in which an individual's or his or her family's wealth is not a deterrent to educational success. Yet such beliefs are not upheld in the ways in which we allocate educational resources" (Garcia, 2001: 38). Hispanic children often reside in metropolitan areas (urban school districts) that often lack funding. "These children are likely to attend troubled schools with fewer resources and larger classes" (National Commission on Children, 1991 in Garcia, 2001: 35), and according to Garcia (2001) these schools are forced to "...spend valuable time seeking resources for basic survival" (37).

Additionally, role models and peers contribute to neighborhood conditions and play an important role in the educational outcomes of individuals (Vartanian and Gleason, 1999). Students who had a positive adult role model and whose friends did well academically and aspired to pursue advanced education were less likely to drop out of high school and more likely

to continue on to college. Following Vartanian and Gleason's model, the location of the school (urban, suburban and rural) is used as a proxy for neighborhood conditions and school district. It is assumed that the more urban the location the more likely the school could be considered resource poor and the more likely that the neighborhood could also be characterized as poor.

**School Type.** In conjunction with the location of the school is the final school variable, school type. Catholic and private schools tend to have more resources available to them and this impacts the equality of educational opportunity for students. In private and often Catholic schools, parents are able to ensure that their children have the best academic tools, resources, equipment and teachers at their disposal; after all they are paying for it. While in comparison, parents who send their children to public schools do not have that same level of control and must settle for what is made available to them through the school (Riordan, 1997). Additionally, Riordan (1997) makes the point that private and Catholic schools can be more selective in who they admit into their institution, public schools must take everyone. Since peer groups can ultimately affect academic performance and motivation, this can make a difference for some students.

Hallinan (1994) also points out that even within tracks, different schools can offer differing learning opportunities and that this affects a student's achievement and the opportunities that they are afforded. In her study, Hallinan uses the example that "...most secondary schools have the same course requirements for graduation, ...[yet]...the availability of elective courses varies dramatically across schools. Consequently, a student in one school may graduate with several more courses in a particular subject area than a peer in another school" (781-782). Another illustration of differences across school types is extra-curricular opportunities and nonacademic programs. In addition to quality of instruction, determinants of achievement, structure, and assignment of tracks can all differ across schools (Hallinan, 1994). As we can clearly see "...differences do exist across public school districts and across private schools" (Hallinan, 1994: 782).

More than two-thirds of Hispanic students are enrolled in public schools in which fifty percent of the enrollment is minority (Olivas, 1986) and according to Darder, et al. (1997) Hispanics are concentrated in major metropolitan areas of the most populous states. The tax base from which public schools draw their money is often not available to these districts,

therefore the school system may lack, adequate funds for materials, instructors and other necessary resources. If this is the case, then it seems that the lag in Hispanic educational achievement is almost guaranteed, but do all Hispanics have the same experiences in the school system?

Presumably, school location, type of school and program are not the only factors that influence educational attainment. There are other factors that play a role in this outcome, such as: parents' education, family structure, parents' occupation, and parents' length of time in the United States. In addition to these family variables, as I have termed them, there are individual factors such as high school academic performance, gender, race, Hispanic subgroup and length of time in the United States that play a role in determining educational attainment.

My focus now becomes a discussion of the literature that describes the effects of these variables on educational attainment.

### *Family Variables*

It seems that family variables play a crucial role in determining the level of educational attainment for an individual. Among the most important are parents' education and occupation, and for Hispanics, recency or length of time in the United States. In reviewing the literature there is one theme that stands out, "...Hispanics have fewer of the family background characteristics that lead to higher educational attainment" (Wojtkeiwicz and Donato, 1995: 559). In this study we will examine recency of residency in the U.S. and several of these important family background characteristics (parental educational attainment and occupation [socio-economic indicators] and family structure [single parent household]) to determine if this premise is true.

**Parental Education.** "Prior research on educational attainment has shown that parental education is a strong predictor of children's education" (Wojtkeiwicz and Donato, 1995: 560). Generally what happens is that parents who themselves are highly educated recognize the importance of education and establish a home environment in which educational attainment is encouraged. "Parents with more education and income probably have more ability and motivation to create educational resources" (Teachman, 1987: 549), which facilitate the academic development of a child. In addition to this, we can refer to the idea of positive role models discussed in Vartanian and Gleason's article. Parents with high levels of education offer

children a role model of the positive value of education and what can be accomplished through education. In their study, Wojtkeiwicz and Donato (1995) found that “almost all respondents with college-educated parents graduated from high school...[while]...less than two-thirds of those with high school dropout parents completed high school” (565). This is key evidence supporting the influence of parental educational attainment on that of their child. However, they also point out in this study that members of certain Hispanic subgroups (Mexicans and Puerto Ricans) were more likely to have parents with educational attainment “considerably less than whites” (Wojtkeiwicz and Donato, 1995: 565) and that this too had a significant effect on the educational attainment of the child.

**Nativity.** Recency of immigration is also an important factor to consider. First, it can be an indicator of proficiency of the English language, an essential tool in negotiating an education in the United States. Second, recency can speak to class and economic status. If we examine the history of the Latino immigrant groups in the U.S., very few of them belonged to the upper crust of their societies prior to making their way here; therefore, we are dealing with relatively poor immigrant populations and this is bound to have an effect on educational attainment. In addition to parental educational levels, Wojtkeiwicz and Donato also examined the effects that length of time in the U.S. had on educational attainment. They studied the length of time in the U.S. for the child as well as for the parents. Their findings indicated that “...both foreign-born Mexicans and foreign-born Puerto Ricans were found to be less likely to graduate from high school...[and]...[t]here are no differences for other groups” (Wojtkeiwicz and Donato, 1995: 569). In terms of recency of immigration for parents, they found that “...foreign-born Mexicans with foreign-born parents had significantly lower chances of high school graduation than U.S.-born whites...[t]hose [U.S.-born Mexicans] with either one or both parents born in the U.S. have significantly lower chances of finishing high school than U.S.-born whites. Mexicans born in the U.S. to foreign-born parents, on the other hand, were more likely to graduate from high school than U.S.-born whites” (Wojtkeiwicz and Donato, 1995: 570). Similar findings held true for an analysis of college completion: “...U.S.-born Mexicans with foreign-born parents were as likely as US-born whites to finish college” (Wojtkeiwicz and Donato, 1995: 571). Unfortunately, due to the constraints of their sample, this type of analysis was only available for Mexicans.

Bean et al., in a study conducted for the Tomas Rivera Policy Institute, state that education levels tend to increase for second generations and that "...[a]verage schooling levels are about two and a half years higher for the second generation than for immigrants" (Bean et al., 2001: 23). Contrary to Wojtkiewicz and Donato's findings on college completion, Bean et al. (2001) found that "...[c]ompared to Anglos, U.S. born Hispanics are about half as likely to earn a bachelor's degree, and they are two to three times less likely to complete high school" (24). If perhaps, the differences in findings were due to the subgroup analysis of Mexicans in Wojtkiewicz and Donato's study; this thought can be put out of mind because Bean et al. also state that the trends for Mexicans almost mirror those of Latinos as a whole.

**Family Structure.** Another family variable that merits discussion is the structure of the household. Although this typically includes the number of siblings and the impact that has on educational attainment, for the purpose of this study I am only concerned with whether or not both parents are present; i.e., single parent household.

In 1965, the Moynihan Report stated that the "absence of a father is destructive to children, particularly boys because it means that children will lack the economic resources, role model, discipline, structure and guidance that a father provides" (Biblarz and Raftery, 1999: 321). At the time this report was referring to African American female headed households. However, Biblarz and Raftery (1999) claim that it can now apply to a much larger population of households due to the surge in the divorce rate. At issue, though, is whether or not educational attainment is affected by which parent is the head of the household. This variable is complicated, and often interrelated with occupation and poverty. Many times single mothers have low-status occupations, and often are living at or below the poverty level, thus the problems their children face are a result of the combination of the multiple factors. Many of the criticisms of single parent households focus on the inability of one parent (usually the mother) to provide resources for the child, and this is a function of occupational status. "In the 1980's and 1990's, single mothers' low-status occupational positions -- rather than their employment/unemployment status per se -- could account for the negative effect of female headship" (Biblarz and Raftery, 1999: 322). "Children in families with income below the poverty level are nearly twice as likely as their more advantaged classmates to be held back a grade level...[p]articularly vulnerable again will be families headed by persons who are non-white and Hispanic" (Garcia, 2001: 27). Garcia

(2001) also adds that "...[p]oor students are three times more likely to become dropouts than students from more economically advantaged homes" (27).

Many have theorized that since female-headed household are seen as essentially dysfunctional, low educational attainment is inevitable. Battle and Scott (2000) ask if "...educational achievement levels of African American males living in single parent families differ depending on the gender of the parent with whom they live?" (95). Though their article deals with the circumstance of African American males, it is useful in providing some background into an area where little literature is available specifically dealing with Hispanics. Battle and Scott (2000) argue that there are a host of factors working against the educational attainment of young Black males, only one of which is parenting. In evaluating the educational attainment of Black males, one must also consider the discriminatory impact of policies and procedures within the school system. This phenomenon is reminiscent of the earlier discussion on the segregation of Hispanic students into tracks and into resource poor school districts. As is the case with Latinos, for Black students these problems can lead to disillusionment with the system all together, or can lead to a lower quality education. For those students who choose to engage the system, discrimination in access to education is evident. In addition, self-esteem and self-concept can be affected by discrimination and this too can impact educational attainment. Battle and Scott (2000) make a valid point in asking us to consider the many factors leading to low educational attainment for children from single parent households.

I am also brought back to Vartanian and Gleason's article and once again their discussion of role models. An argument that is made against single parent households, regardless of which parent has the headship, is that there is a missing role model for the child. Vartanian and Gleason (1999) point out that role models can come from within the neighborhood, that if there is an overall feeling of living in a good neighborhood, role models will abound from those around.

### *Individual Variables*

**Gender.** In terms of differences in educational attainment between genders, the literature seems to indicate that two things are at play here, gender identity and social structure. Gender identity is "...sex role identification -- the gender-related attitudes, meanings, and expectations

that one holds for oneself” (Burke, 1989: 160). Burke (1989) feels that ultimately this identification will affect a child’s academic performance.

Throughout time men in many societies received certain advantages by virtue of being male. It entitles them to enter the best paying professions; it allows them to receive a solid education and job training when necessary, while women for the most part are unable to participate. In Latin American societies these machistic notions relegate women to the “home sphere”, and it is seen as the only acceptable place for them. As such, female children are taught the skills necessary to perform social functions and tend to familial needs, while male children learn the skills necessary for survival outside of the home. However, Oboler (1992) claims that this way of thinking is beginning to change for Latino immigrants living in the U.S. In her study she found that women were torn between their new lives in the U.S. and the ones they had left behind in their countries of origin. The women who were surveyed were excited at the opportunities that were afforded to them in the U.S., like being able to receive an education. “It’s better [here] because you don’t have to wash [clothes] all day long, and you can get clothes that don’t have to be ironed. You can study. Back home, I wouldn’t be able to do what I do here (Milagros, Peru)” (Oboler, 1992:21). Unfortunately, this is not the case for all women, the reality of the situation is that when families must choose who should further their education, often times the son is selected. It is believed that daughters will marry a man who will provide for them so their education is not as critical as that of the son.

Burke (1989) found in his study that although gender identity was able to account for much of the difference in the academic performance of boys and girls, it could not account for all of it. Sex-linked differences that “...remain after gender identity is controlled must be the result of either: 1) differential (male-female) student behavior that is not based on choice or, 2) the teachers’ differential behavior toward male and female students” (Burke, 1989: 167). These findings lead to the next point which is to address differences due to the social structure.

More often than not we hear that females out-perform their male counterparts in areas that require “verbal competence”, while males tend to excel in more “analytical fields” (Burke, 1989). “...[T]hese gendered beliefs and actions toward education often sabotage academic futures” (Hubbard, 1999: 364). A factor at play here is expectations, both of self and others’ expectations of the individual. When teachers develop preconceived notions as to the abilities of

their students, two things happen: 1) these students fulfill those expectations even if they are lower than their own personal goals and become disillusioned with the system while, 2) simultaneously reinforcing the teachers' low expectations and perpetuating the cycle of educational disadvantage. This clearly satisfies both of Burke's conditions for the sex-linked differences in academic performances even after controlling for gender identity. Unfortunately, this phenomenon persists not only as a gender-based problem, but as a race-based issue as well.

**Race.** Earlier we discussed the problems that minority youth, specifically Hispanics, encounter in the educational system in regards to certain social structures (family structure, parental education, tracking, segregation of school districts etc.), we now turn to a discussion of all races.

Hispanics and African-Americans fall victim to some of the same problems with the structure of the education system in terms of factors influencing levels of attainment. Yet for some reason these factors have had a greater impact on the Hispanic population in comparison to African-Americans. Research indicates that certain Hispanic groups (specifically Mexicans and Puerto Ricans) have lower levels of educational attainment than African-Americans in this country (Wojtkiewicz and Donato, 1995). Asians have been long termed the "model minority" for their ability to excel in academics as well as in the labor market. However, this is a term that as a group they take issue with because of the implications for those who do not live up to those standards and for the pressure that it causes them to be subjected to (Kao, 2000).

**Academic Performance.** Another important predictor of educational attainment is high school academic performance. Academic performance can be measured through various indicators. Some feel that standardized test scores, are an appropriate measure of the academic ability of an individual because they measure "...differences in terms of cognitive skills and abilities..." (Burke, 1989: 160). However, some argue that standardized tests penalize minority students. Keller (1991) argues that standardized tests are a double-edged sword. Before their creation, admission to higher education was directly related to socioeconomic status, college preparatory school attendance, and legacy. Legacy refers to someone who is given preferential treatment solely for being the child of an alumnus. On the one hand, the establishment of standardized tests was an attempt to "level the playing field." However, the other side claims that the test may reflect cultural and/or linguistic bias. Jose P. Mestre (in Keller, 1991) argues

that language differences can effect the interpretation of questions. For example, a student may have a sound understanding of mathematical principles; however their understanding of English may not be so complete. Therefore, the student's interpretation of the problem is incorrect which leads the student to incorrectly set up the math variables; this in turn leads the student to the wrong answer. Another concern Keller (1991) addresses is the technical disadvantage that Hispanic students must deal with when faced with the introduction of the computer-based tests. According to Keller, Latino students are the last to reach new technologies. This technological lag will undoubtedly have a dramatic effect on the scores that Latinos post on standardized tests. Keller's final point is that we must be sure that these tests are designed properly to measure aptitude and not cultural or linguistic peculiarities.

Standardized tests, however, are not the only measure of academic ability; perhaps actual high school academic performance is a more telling predictor of educational ability. "Performance, in essence, 'tells' the individual something about himself..." (Wilson and Portes, 75: 346). Wilson and Portes (1975) found academic performance to be the most important predictor of educational attainment and in addition to this, it is also a main "criteria for admission into higher learning" (Wilson and Portes, 1975: 428).

### *Implications*

By definition, critical positivist research offers a "critique that reveals true conditions" (Neuman, 2000: 85) and aims to discover "preexisting patterns" (Neuman, 2000: 85) and these are my goals. This research project examines whether institutional discrimination and other control variables affect the relationship between ethnicity and educational attainment by analyzing educational experiences after high school and other relevant factors. This study will be key in providing a historical account of the status of Hispanics in higher education and should be instrumental in identifying some of the pitfalls of the gross aggregation that the Latino population is subjected to in social research. This research offers a starting point for answering the question of whether Latinos are less likely than their non-Latino peers to have high levels of educational attainment, and the importance of examining each group separately.

Population estimates indicate that Latinos will be the largest minority population in the United States by 2005, a total of thirteen percent of the U.S. population (Brown, et al., 2000).

We should be prepared to discuss and be able to handle the issues that Latinos are facing, or face the problems that will arise when a group of people is tired of being neglected.

Success in the work force is related to educational attainment. As such, if Latinos are systematically denied access to higher education, their success in the labor force will lag behind that of their non-Latino peers. As the population of Hispanics continues to grow, the dynamic of the work force continues to change. We must be prepared to handle a truly diverse work force in the near future. “At the beginning of the new millennium colleges and universities are placed in the position of either advocating greater democratic participation and social equity or regressing to an older model of privilege for certain groups” (Garcia & Baird, 2000: 117). Research needs to be done and programs need to be established to ensure that Hispanics are prepared to enter college and succeed once they arrive.

## CHAPTER THREE: METHODOLOGY

### *Sample*

The decision was made to perform a secondary data analysis for this study. The data for this study were previously collected as part of the High School and Beyond (HS&B) longitudinal survey administered from 1980-1986 and is provided by the Inter-University Consortium of Political and Social Research (ICPSR). This information is used to determine if there is indeed a correlation between ethnicity and educational attainment. The impetus behind this research proposal is the desire to determine if Latinos have equal access to education as compared to their non-Latino peers, and whether or not there are differences among the different Latino subgroups.

The HS&B senior cohort was first surveyed in 1980. The first follow-up was conducted in 1982, the second follow-up in 1984, and the third and final follow-up in 1986. Thirty-six seniors were selected in each of the over 1,000 randomly selected secondary schools. If a school had fewer than 36 eligible students then all eligible students were selected to participate in the study. This survey design created a highly stratified national probability sample. The survey design additionally allows for the examination of patterns in educational attainment for the respondents.

I have selected the data from this study because it offers insight into my research questions. The study provides the inherent strength of longitudinal data. These methods have been selected to fit in-line with the information detailed earlier in this proposal. "...[T]he focus here is on analyzing [the data] rather than collecting [it]" (Neuman, 2000: 305). Secondary data is more appropriate for this proposal given time constraints, lack of research funds, and ease of examining groups over time to determine trends in education.

In order to begin my analysis using SPSS there is one hurdle that must be overcome. Since I have opted to select variables from each of the waves of the HS&B survey, I must ensure that only those cases which have complete data are part of the analysis. The decision was made that it was best to include all those cases that had complete data for the dependent variable. Therefore, cases that did not have a value for the third follow-up participation flag or who had a response code of illegitimate skip for the composite variable of educational attainment were

excluded from analysis. Our initial sample size was 11,995 cases; however, after eliminating those that did not have complete data for the dependent variable our sample size became 10,534.

### *Dependent Variable*

**Educational Attainment.** For this analysis educational attainment is measured in terms of whether or not the respondent completed at least a bachelor's degree. It is coded as 0-not a college graduate; 1-college graduate. See Appendix A for the frequencies of this variable and recoding procedure.

### *Individual Control Variables*

**Gender.** For the purpose of this analysis, the variable sex, has been recoded as a dummy 0-male; 1-female. See Appendix B for the frequencies and recoding procedure of this variable.

**Race.** During the first follow-up, a composite variable for race was created combining the initial item that measured race and the one that measured origin/descent. It was coded as 1-Hispanic or Spanish; 2-American Indian or Alaskan; 3-Asian or Pacific Islander; 4-Black; 5-White; 6-Other. Appendix C gives frequencies for this variable.

**Hispanic Subgroup.** During the third follow-up a composite was created and coded as follows: 1-Mexican; 2-Cuban; 3-Puerto Rican; 4-Other Hispanic. For the purpose of this project, this variable and the race variable were also combined to create a new variable containing seven categories used to facilitate the comparison between the subgroups and all other racial groups. Frequencies and recoding procedure for this variable are provided in Appendix C. A pre-analysis of the data indicates that the HS&B study over-sampled Hispanics, therefore the sub-sample that we have to work with for this analysis is large enough.

**Respondent's Nativity.** Another important variable for this analysis is the length of time that the respondent has spent in the United States. For this analysis, this variable has been measured by a base year item that asked respondents how much time of their lives they have spent in the United States. This variable was recoded so that higher values corresponded with a longer period of time in the United States. Frequencies and recoding procedure for this variable can be seen in Appendix D.

**Respondent's Academic Performance.** During the base year survey, respondents were asked to best describe their grades in high school so far. For the purpose of this analysis, I derive a composite variable from this original question and created for the third follow-up. It indicates how respondents saw their high school grades; I have recoded it so that the higher values correspond with higher/better grades. See Appendix E for the frequency distribution and recoding procedure for this variable.

### *Family Control Variables*

**Parental Education.** In order to create this variable first, father's education that appeared in the base year questionnaire and asked the respondent what the highest level of education was that their father (stepfather or male guardian) completed was recoded. See Appendix F for the frequency distribution and recoding procedure for father's education.

Once this was completed, the variable measuring mother's education that also appeared in the base year questionnaire and asked the respondent what the highest level of education was that their mother (stepmother or female guardian) completed was recoded. See Appendix F for the frequency distribution and recoding procedure for mother's education.

Finally, the new variable, parental education was created by combining these two new recoded variables and instructing SPSS to only assign a case as missing if both the mother and father had missing educational attainment data. See Appendix F for the frequency distribution and recoding procedure for parental education.

**Father's Occupation.** Father's occupation was assessed in the base year survey with an item that asked the respondents to select the category which best described the job most recently held by the male in the household. In order to handle this variable with ease it was recoded into a dummy variable: 0-All Others; 1-Manual/Professional. Appendix G contains the frequency distribution for this variable and recoding procedure.

**Mother's Occupation.** Mother's occupation was assessed in the exact same way during the base year survey. In the item designed to measure mother's occupation not only was the question asked of respondents phrased in the same way but responses were also coded the same. The only change to the item was substituting the word mother (stepmother or female guardian). Again in order to handle this variable with ease it was recoded as a dummy variable in the

following manner: 0-All Others; 1-Managerial/Professional. See Appendix H for the frequency distributions of this variable and recoding procedure.

**Family Structure.** Family composition is another important variable that deserves examination. During the base year, respondents were asked to identify the family members who lived in the same household with them. This item was divided into several parts and respondents were asked to check whether their father or mother resided in the same household. Responses were coded as 0-not checked; 1-checked. By examining these items more closely, we can determine the impact that a single parent or female-headed household has on educational attainment. Frequencies for these variables are contained in Appendix I.

**Father's Nativity.** Parents' length of time in the United States is also an important variable for this analysis. There were two items in the base year survey created to identify the length of time that the respondent's parents had been in the U.S., one for the father and one for the mother. Respondents were asked to identify how much of his life had their father spent in the United States. This variable was recoded so that higher values corresponded with a longer period of time in the U.S. See Appendix J for the frequencies and recoding procedure.

**Mother's Nativity.** Respondents were also asked to identify how much of her life had their mother spent in the United States. This variable was also recoded so that higher values corresponded with a longer period of time in the U.S. See Appendix K for the frequencies and recoding procedure.

### *School Control Variables*

**High School Type.** High school type is a composite variable created after the third follow-up and it shows the type of school that the respondent attended. For the purpose of this analysis, two dummy variables were created one for public and one for Catholic schools. The dummy variable for public schools is 0-all others; 1-public. The dummy variable for Catholic schools is 0-all others; 1-Catholic. See Appendix L for the frequencies and recoding procedure.

**High School Program.** Another important school variable is the high school program which indicates whether the respondent participated in a general, academic or vocational program. In the base year this item was measured by an item that asked respondents which of a number of choices best describes their present high school program. Dummy variables were also

created to analyze the between program differences. The dummy variable for academic program is 0-all others; 1-academic. The dummy for general program is 0-all others; 1-general. See Appendix M for these frequencies and recoding procedure

**Location.** During the base year a survey item was created to determine if the location of the respondent’s school (the community) was an urban area. The dummy variable for rural is 0-all others; 1-rural. The dummy variable for suburban is 0-all others; 1-suburban. See Appendix N. It contains the frequency distributions and recoding procedure for the dummy variables created to analyze the differences between locations.

### *Descriptive Statistics*

Before the research analyses are presented it is important to present the means and standard deviations for the variables. Table 3.1 presents these descriptive statistics for the variables described above.

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**Table 3.1: Means and Standard Deviations for All Variables Except Race/Ethnicity**

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<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>Standard Deviation</b>
Educational Attainment	10534	0.18	0.38
Respondent’s Gender	10534	0.54	0.50
Respondent’s Nativity	10017	3.85	0.54
Respondent’s Academic Performance	10064	4.72	1.41
Parental Education	9063	3.79	2.57
Father’s Occupation	10534	0.26	0.44
Mother’s Occupation	10534	0.20	0.40
Father’s Nativity	9278	4.71	0.76
Mother’s Nativity	9726	4.70	0.79
Father in the Household	10534	0.68	0.47
Mother in the Household	10534	0.86	0.35
High School Program - Academic	10534	0.37	0.48
High School Program – General	10534	0.34	0.47
High School Type – Public	10534	0.89	0.31
High School Type - Catholic	10534	0.08	0.28
High School Location – Rural	10534	0.28	0.45
High School Location – Suburban	10534	0.45	0.50

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Note: Reported N’s are for each singular variable. Subsequent analyses including these variables in combination with other variables, which have missing data, will hence be lower.

### *Form of the Analysis*

My plan for analysis includes a logit analysis since my dependent variable is dichotomous. “Logistic regression parallels multiple regression analysis, with the dependent variable as the log odds of a dichotomy rather than a continuous measure” (Bohrnstedt and Knoke, 1994: 341) and when used properly is a very effective statistical tool (Morgan and Teachman, 1988).

“The concept necessary to understand log-linear models and logistic regression is the odds ratio, a measure of association” (Morgan and Teachman, 1988: 929). Essentially the odds ratio indicates the chances of one variable occurring in relation to the occurrence (or not) of another variable. “Thus, a coefficient [in logistic regression] can be interpreted similarly to a linear regression parameter, as long as you remember that the dependent variable is not a probability, but rather a logarithm of the odds of two probabilities” (Bohrnstedt and Knoke, 1994: 343).

Recall that “odds” refers to “...the frequency of being in one category relative to the frequency of not being in that category [while probability] is the ratio between a category of interest to all categories” (Bohrnstedt and Knoke, 1994: 178). The odds ratio (OR) is then calculated “...by dividing one conditional odds by another” (Bohrnstedt and Knoke, 1994: 179). “An odds ratio greater than 1.0 indicates an increased likelihood of the event occurring, while an odds ratio less than 1.0 indicates a decreased likelihood of the event occurring” (Morgan and Teachman, 1988: 930).

For this study it was necessary to conduct several analyses. First, in order to determine how “Hispanics”, as a larger group, were fairing in terms of educational attainment (as defined for the purpose of this study) in comparison to their non-Latino peers, an analysis of educational attainment in relation to race (using the broadest categories for identification) was conducted (omitting control variables) (Figure 3.1, Model 1 A). Once this analysis was done, a second comparison was done including the control variables outlined earlier, to determine what role if any race still has in educational attainment (Figure 3.1, Model 1 B).

After this was finished an analysis of educational attainment for Hispanic subgroups was done (omitting control variables) (Figure 3.2, Model 2 A). A second analysis of educational attainment for Hispanic subgroups was then conducted, this time including the control variables

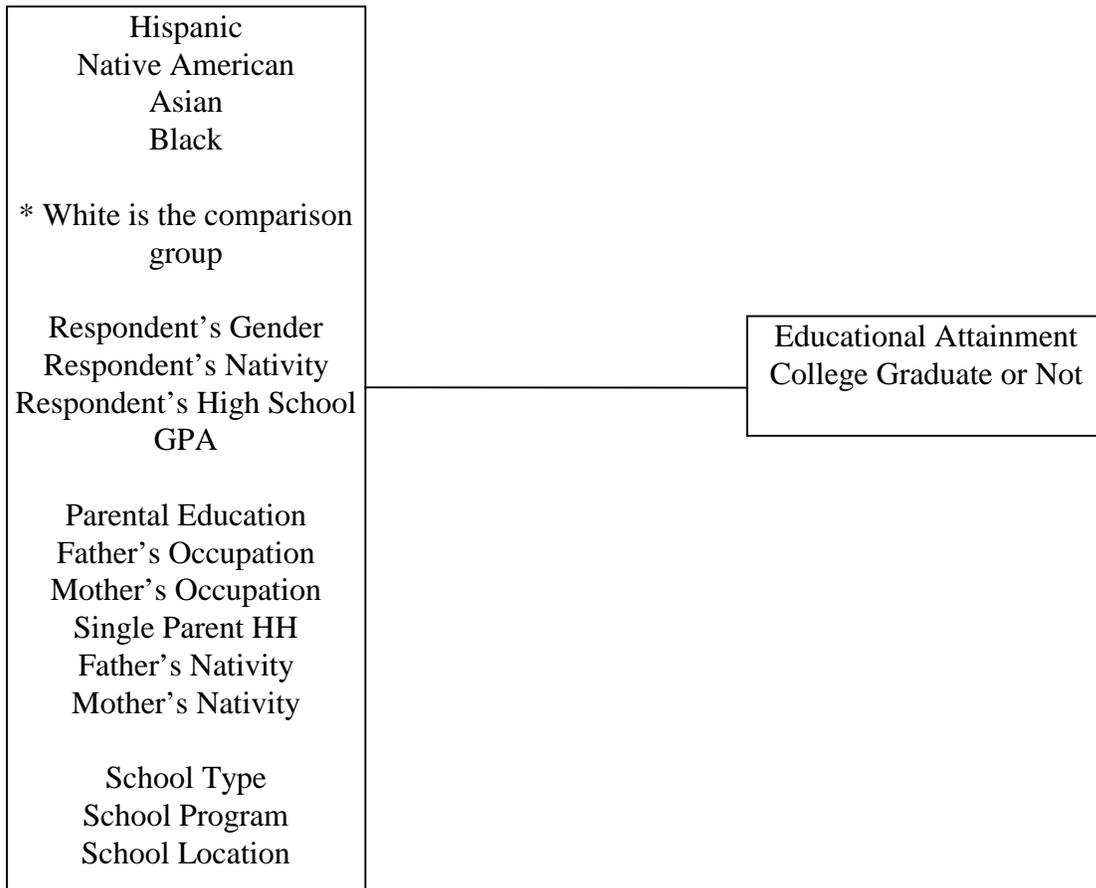
detailed earlier (Figure 3.2, Model 2 B). This analysis is important because it highlights the differences within the subgroups.

A third and final analysis was done on educational attainment this time analyzing each of the Hispanic subgroups as well as Asians, Blacks, and Native Americans, first without the control variables (Figure 3.3, Model 3 A) and then again with the additional variables included (Figure 3.3, Model 3 B). It was necessary to conduct this analysis in this form to illustrate what happens when using an umbrella term.

**Model 1 A**



**Model 1 B**

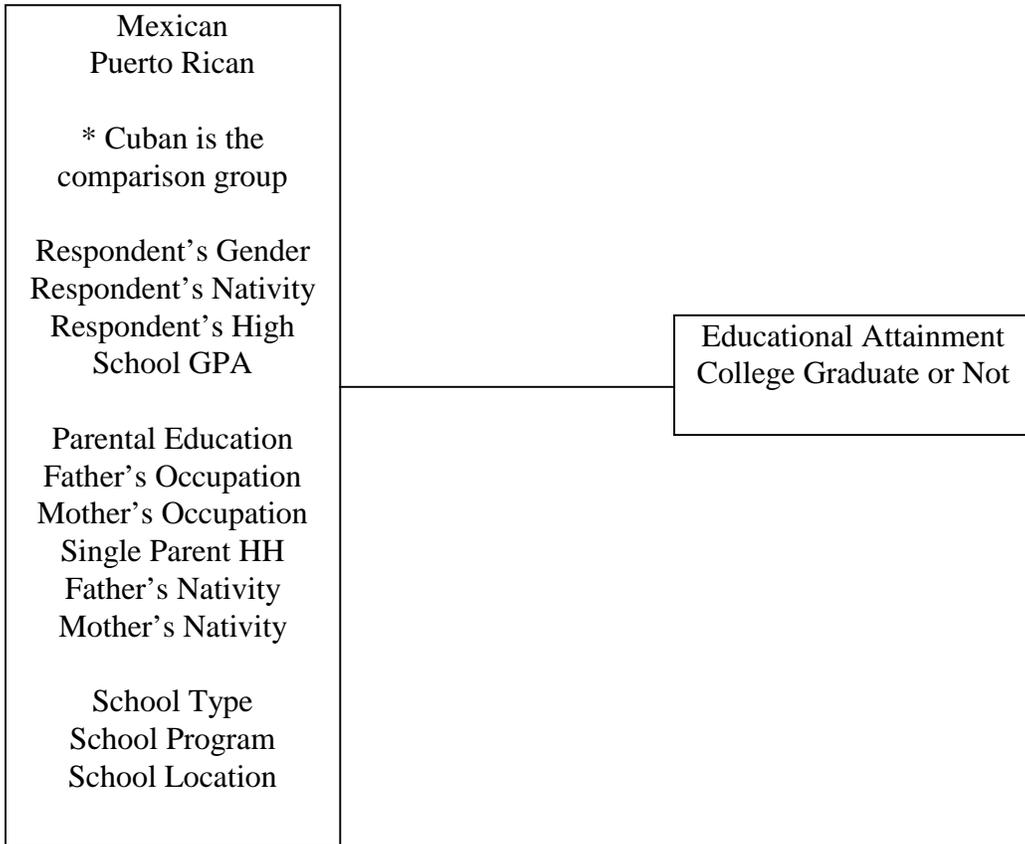


**Figure 3.1 Model 1 A and Model 1 B**

**Model 2 A**



**Model 2 B**

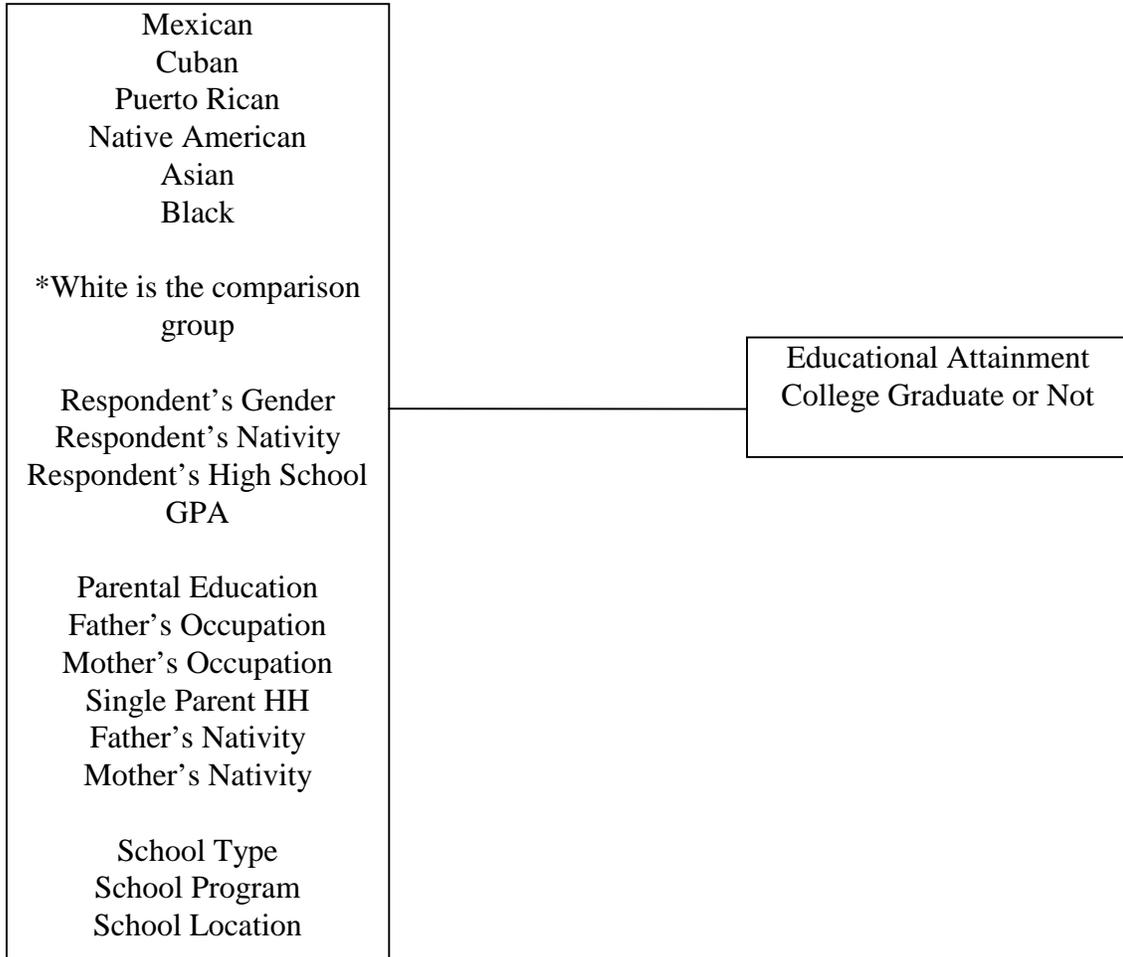


**Figure 3.2 Model 2 A and Model 2 B**

**Model 3 A**



**Model 3 B**



**Figure 3.3 Model 3 A and Model 3 B**

## CHAPTER FOUR: FINDINGS

This chapter first presents the results of the analyses of variance (ANOVA) that were done first using the umbrella term and then analyzing the subgroups separately. Subsequently, this chapter will then focus on the logit analyses that were conducted.

### *Analyses of Variance*

“An ANOVA asks what proportion of the total variation in dependent variable Y can be attributed to individual i’s membership in the j<sup>th</sup> group classification” (Bohrstedt and Knoke, 1994:124). Separate ANOVAs were done to examine the variation within each racial/ethnic group classification for each of the variables. This was done to determine the effect of racial/ethnic group membership on the other variables. Table 4.1 presents the differences among means for all variables by racial/ethnic group membership using the umbrella term, Hispanic. The next several paragraphs present descriptions of the information shown in Table 4.1.

### *Dependent Variable*

**Educational Attainment.** As shown in Table 4.1, the proportion of the sample who have completed at least a bachelor’s degree ranges from a low of nine percent for Native Americans to a high of twenty-nine percent for Asians. The mean level of educational attainment for Native Americans, Hispanics, and Blacks do not differ in a statistically significant way from each other. However, the mean level of educational attainment between these groups and Whites and Asians do differ significantly. Additionally, the mean level of educational attainment between Whites and Asians differ significantly.

**Table 4.1: Differences Among Means for All Variables by Racial/Ethnic Group Membership**

	<i>Race/Ethnic Group Membership</i>					F	DF
	Hispanic	Native American	Asian	Black	White		
<i>Dependent Variable</i>							
Educational Attainment	0.11 <sub>a</sub>	0.09 <sub>a</sub>	0.29 <sub>c</sub>	0.12 <sub>a</sub>	0.24 <sub>b</sub>	80.41*	4, 10475
<i>Individual Variables</i>							
Gender	0.54 <sub>bc</sub>	0.45 <sub>a</sub>	0.50 <sub>ab</sub>	0.57 <sub>c</sub>	0.54 <sub>bc</sub>	4.08*	4, 10475
Nativity	3.74 <sub>b</sub>	3.88 <sub>c</sub>	2.83 <sub>a</sub>	3.90 <sub>c</sub>	3.96 <sub>d</sub>	423.26*	4, 9993
Academic Performance	4.42 <sub>a</sub>	4.37 <sub>a</sub>	5.24 <sub>c</sub>	4.37 <sub>a</sub>	5.04 <sub>b</sub>	147.08*	4, 10038
<i>Family Variables</i>							
Parental Education	3.02 <sub>a</sub>	3.90 <sub>c</sub>	5.00 <sub>e</sub>	3.40 <sub>b</sub>	4.27 <sub>d</sub>	122.13*	4, 9041
Father's Occupation	0.20 <sub>b</sub>	0.26 <sub>c</sub>	0.40 <sub>d</sub>	0.14 <sub>a</sub>	0.35 <sub>d</sub>	122.65*	4, 10475
Father's Nativity	4.39 <sub>b</sub>	4.84 <sub>cd</sub>	3.31 <sub>a</sub>	4.81 <sub>c</sub>	4.91 <sub>d</sub>	545.83*	4, 9256
Father in Household	0.71 <sub>c</sub>	0.63 <sub>b</sub>	0.79 <sub>d</sub>	0.50 <sub>a</sub>	0.76 <sub>cd</sub>	136.90*	4, 10475
Mother's Occupation	0.15 <sub>a</sub>	0.23 <sub>b</sub>	0.28 <sub>c</sub>	0.22 <sub>b</sub>	0.21 <sub>b</sub>	15.78*	4, 10475
Mother's Nativity	4.36 <sub>b</sub>	4.90 <sub>c</sub>	3.15 <sub>a</sub>	4.90 <sub>c</sub>	4.90 <sub>c</sub>	632.53*	4, 9702
Mother in Household	0.88 <sub>b</sub>	0.81 <sub>a</sub>	0.81 <sub>a</sub>	0.85 <sub>ab</sub>	0.86 <sub>ab</sub>	4.76*	4, 10475
<i>School Variables</i>							
School Program, Academic	0.30 <sub>ab</sub>	0.25 <sub>a</sub>	0.52 <sub>d</sub>	0.35 <sub>b</sub>	0.42 <sub>c</sub>	37.95*	4, 10475
School Program, General	0.39 <sub>b</sub>	0.47 <sub>c</sub>	0.30 <sub>a</sub>	0.32 <sub>a</sub>	0.32 <sub>a</sub>	14.29*	4, 10475
School Type, Public	0.87 <sub>a</sub>	0.92 <sub>bc</sub>	0.87 <sub>a</sub>	0.92 <sub>c</sub>	0.88 <sub>bc</sub>	10.68*	4, 10475
School Type, Catholic	0.11 <sub>c</sub>	0.06 <sub>a</sub>	0.11 <sub>bc</sub>	0.06 <sub>a</sub>	0.08 <sub>ab</sub>	12.57*	4, 10475
School Location, Rural	0.25 <sub>b</sub>	0.48 <sub>d</sub>	0.08 <sub>a</sub>	0.23 <sub>b</sub>	0.33 <sub>c</sub>	52.68*	4, 10475
School Location, Suburban	0.44 <sub>b</sub>	0.36 <sub>a</sub>	0.60 <sub>d</sub>	0.33 <sub>a</sub>	0.52 <sub>c</sub>	72.20*	4, 10475

\* Significant at  $\alpha < .01$

NOTE: Means with the same subscripts across the rows do not differ significantly according to Duncan's Multiple Range Test at  $\alpha = .05$

### *Individual Control Variables*

**Gender.** Table 4.1 shows us that the proportion of the sample who are female ranges from a low of 45 percent for Native Americans to a high of 57 percent for Blacks. In terms of respondent's gender, we find that the means for Native Americans and Asians do not differ significantly, however the mean for Native Americans and all other groups does differ. The mean for Asians only differs significantly from that of Blacks. The mean for Hispanics does not differ in a statistically significant way from that of Asians or that of Whites. However, it does differ significantly from that of Blacks and that of Native Americans. The mean for Blacks differs significantly from that of Asians and that of Native Americans but not from that of Hispanics or that of Whites. The mean for Whites only differs significantly from that of Native Americans.

**Nativity.** In examining respondents' nativity, the mean for Asians did differ significantly from all the other groups and was the lowest (2.83) of all the groups, indicating that on average the Asian children had lived in the U.S. less time than the rest of the respondents. Additionally the mean for Whites differed significantly from all other groups and was the highest (3.96) in the range, indicating that these respondents had spent more time in the U.S. The mean for Hispanics also differed significantly from all other groups. The mean for Native Americans and Blacks did not differ from each other; however they did differ significantly from the remaining groups.

**Academic Performance.** As shown in Table 4.1, for this sample, Asians had the highest mean value for academic performance (5.24), while Native Americans and Blacks had the lowest value in the range (4.37), indicating that their academic performance was lowest. The ANOVA for academic performance indicates that the mean level of academic performance between Blacks, Native Americans, and Hispanics do not differ significantly from each other. However, they do differ from that of Whites and Asians, who also differ significantly from each other.

### *Family Control Variables*

**Parental Education.** Table 4.1 also shows us that for this sample Asians had the highest mean value (5.00) for parental education, while Hispanics had the lowest mean value (3.02) for

this variable. In this analysis the mean level of parental education for all the groups differ significantly from each other.

**Father's Occupation.** As shown in Table 4.1, the proportion of the sample whose fathers held professional positions ranged from a high of 40 percent for Asians to a low of 14 percent for Blacks. The mean level of father's occupation for Hispanics differs significantly from that of all the other groups. Additionally, the mean level of father's occupation for Blacks and Native Americans also differs significantly from all the groups but do not differ from each other. The means between Whites and Asians do not differ significantly from each other.

**Father's Nativity.** The mean level of father's nativity for Asians was the lowest in the range (3.31), indicating that the fathers of the Asian respondents in this sample had spent the least amount of time in the U.S. as compared to the others. Whites had the highest mean value (4.91) for this sample, seeming to indicate that these fathers had spent the most time in the U.S. The mean for Asians differs significantly from the means of the remaining ethnic groups, as does the mean for Hispanics. The mean level of father's nativity for Native Americans differs significantly from that of Asians and Hispanics but not from that of Blacks or Whites. Additionally, the mean for Blacks differs significantly from all groups except from that of Native Americans, as does the mean for Whites.

**Father in the Household.** Table 4.1 also shows that the proportion of the sample whose fathers were in the household ranges from a low of 50 percent for Blacks to a high of 79 percent for Asians. The ANOVA for father in the household shows us that the mean for Blacks differs significantly from that of all the other ethnic groups. The mean for Native Americans also differs significantly from that of all groups. Additionally, the mean for Hispanics does not differ from the mean of Whites, but does differ significantly from that of the remaining groups. Finally, the mean of Asians also does not differ significantly from that of Whites, but does differ significantly from that of the other groups.

**Mother's Occupation.** As shown in Table 4.1 the proportion of the sample whose mothers held professional positions ranges from 15 percent for Hispanics to 28 percent for Asians. The ANOVA for mother's occupation shows us that the mean for Hispanics differs from that of all other groups. Additionally, the mean for Asians differs significantly from that of all

groups. The means of Native Americans, Blacks, and Whites do not differ from each other but do, however, differ from Asians and Hispanics.

**Mother's Nativity.** As shown in Table 4.1, Asians have the lowest mean (3.15) for this variable, indicating that the mothers of the Asian respondents in this sample have spent the least amount of time in the United States. Native Americans, Blacks, and Whites, however, all have the highest value (4.90) in the range for this variable, which seems to indicate that the mothers of these students have spent the most amount of time in the U.S. In terms of this analysis we see that the mean level of mother's nativity for Asians differs significantly from that of all groups. Additionally, the mean for Hispanics also differs significantly for all groups. The means for Native Americans, Blacks, and Whites do not differ from each other.

**Mother in the Household.** Table 4.1 also shows that the values for this variable range from a high of 88 percent for Hispanics to 81 percent for Asians and Native Americans. The mean for Hispanics does differ significantly from that of Native Americans and Asians but does not differ from that of Blacks and Whites. The means for Native Americans, Asians, Blacks and Whites do not differ significantly from each other.

### *School Control Variables*

**High School Program.** Table 4.1 shows us that the proportion of the sample who are in academic programs range from a high of 52 percent for Asians to a low of 25 percent for Native Americans. In terms of high school program- academic, we see that the mean of Asians differs significantly from that of all other ethnic groups, as does that of Whites. Additionally, the mean for Hispanics does not differ from that of Native Americans or Blacks but does differ significantly from that of Whites and Asians. The mean for Native Americans does not differ for Hispanics but the difference is statistically significant from Asians, Blacks, and Whites. The mean for Blacks again, does not differ from that of Hispanics but does differ significantly from that of the other remaining groups

Additionally, Table 4.1 shows us the proportion of the sample who are in general programs ranges from a low of 30 percent for Asians to a high of 47 percent for Native Americans. In looking at high school program – general, we find that the mean for Asians only differs significantly from that of Hispanics and Native Americans, while the difference between

Blacks and Whites is not significant. Additionally, the mean for Hispanics differs significantly from that of all the remaining groups, as does that of Native Americans. The means for Blacks, Asians, and Whites do not differ significantly from each other.

**High School Type.** As shown in Table 4.1, the proportion of the sample who are in public high schools ranges from a high of 92 percent for Blacks and Native Americans to a low of 87 percent for Asians and Hispanics. In analyzing the results of the ANOVA for high school type – public, we find that the mean for Hispanics and Asians do not differ significantly from each other, however they do differ from the means of the remaining groups. The mean of Native Americans, Blacks, and Whites do not differ significantly from each other.

Table 4.1 shows that the proportion of the sample enrolled in Catholic high schools ranges from a low of six percent for Native Americans and Blacks to a high of 11 percent for Hispanics and Asians. In examining the results of the analysis on high school type - Catholic, we find the mean of Hispanics does not differ from that of Asians but does differ significantly from the remaining groups. The mean for Native Americans does not differ from that of Blacks or Whites, but does differ significantly from that of Hispanics and Asians. The mean for Asians does not differ significantly from that of Whites. Additionally, the mean for Blacks does differ significantly from that of Hispanics and Asians but not from that of Whites or Native Americans.

**Location.** Table 4.1 shows that the proportion of the sample whose schools are located in rural areas ranges from a low of eight percent for Asians to a high of 48 percent for Native Americans. In the ANOVA of school location – rural, we see that the mean of Hispanics does not differ significantly from that of Blacks but does differ significantly from the remaining groups. The mean for Native Americans differs significantly from that of all the groups, as does that of Asians and Whites.

As shown in Table 4.1, the proportion of the sample whose schools are in suburban areas ranges from a high of 60 percent for Asians to a low of 33 percent for Blacks. In the analysis of high school location - suburban we find that the mean of Hispanics differs significantly from that of all the groups, as does the mean of Asians and Whites. The means of Native Americans and Blacks do not differ significantly from each other but both these groups differ significantly from the remaining groups.

Table 4.2 presents the results of the ANOVA when the larger group, Hispanic, is broken down into the different subgroups. It presents the differences among the means for each variable by racial/ethnic group membership using the Hispanic subgroups.

#### *Dependent Variable*

**Educational Attainment.** As shown in Table 4.2, the proportion of the sample who have completed at least a bachelor's degree ranges from a low of nine percent for Mexicans and Native Americans to a high of 29 percent for Cubans and Asians. Additionally, the proportion of Puerto Ricans who have completed at least a bachelor's degree is 10 percent. The mean level of educational attainment for Native Americans, Puerto Ricans, Mexicans, and Blacks do not differ significantly from each other. However, the mean level of educational attainment between these groups and Whites, Cubans, and Asians do differ. The means for Whites, Cubans, and Asians do not however, differ significantly from each other.

#### *Individual Control Variables*

**Gender.** Table 4.2 shows that the proportion of the sample who are female ranges from a high of 64 percent for Puerto Ricans to a low of 45 percent for Asians. Additionally, the proportion of Cubans who are female is 60 percent and the proportion of Mexicans who are female is 54 percent. In terms of respondent's gender, we find that the means for Native Americans and Asians do not differ significantly from each other, however the means for Native Americans and Asians do differ from all other groups. The mean for Mexicans does not differ significantly from that of Cubans, Blacks or Whites. However, it does differ significantly from that of Puerto Ricans and Native Americans. The mean for Cubans does not differ significantly from that of Puerto Ricans, Mexicans, Blacks, or Whites, but does differ from Native Americans and Asians. The mean of Puerto Ricans does not differ from that of Cubans or Blacks but does differ from all remaining groups. The mean for Blacks differs significantly from that of Asians and Native Americans but not from the means of the remaining groups. The mean for Whites only differs significantly from that of Native Americans, Asians, and Puerto Ricans.

**Table 4.2: Differences Among Means for All Variables by Racial/Ethnic Group Membership Including Hispanic Subgroups**

	<i>Race/Ethnic Group Membership</i>							F	DF
	Mexican	Cuban	Puerto Rican	Native American	Asian	Black	White		
<i>Dependent Variable</i>									
Educational Attainment	0.09 <sub>a</sub>	0.29 <sub>b</sub>	0.10 <sub>a</sub>	0.09 <sub>a</sub>	0.29 <sub>b</sub>	0.12 <sub>a</sub>	0.24 <sub>b</sub>	51.99*	6, 9487
<i>Individual Variables</i>									
Gender	0.54 <sub>bc</sub>	0.60 <sub>cd</sub>	0.64 <sub>d</sub>	0.45 <sub>a</sub>	0.50 <sub>a</sub>	0.57 <sub>bcd</sub>	0.54 <sub>bc</sub>	4.15*	6, 9487
Nativity	3.84 <sub>d</sub>	3.31 <sub>b</sub>	3.63 <sub>c</sub>	3.88 <sub>d</sub>	2.83 <sub>a</sub>	3.90 <sub>de</sub>	3.96 <sub>e</sub>	351.65*	6, 9038
Academic Performance	4.38 <sub>a</sub>	5.07 <sub>b</sub>	4.55 <sub>a</sub>	4.37 <sub>a</sub>	5.24 <sub>b</sub>	4.37 <sub>a</sub>	5.04 <sub>b</sub>	91.13*	6, 9066
<i>Family Variables</i>									
Parental Education	2.50 <sub>a</sub>	4.34 <sub>d</sub>	2.43 <sub>a</sub>	3.90 <sub>c</sub>	5.00 <sub>e</sub>	3.40 <sub>b</sub>	4.27 <sub>cd</sub>	100.90*	6, 8186
Father's Occupation	0.15 <sub>a</sub>	0.37 <sub>c</sub>	0.11 <sub>a</sub>	0.26 <sub>b</sub>	0.40 <sub>c</sub>	0.14 <sub>a</sub>	0.35 <sub>c</sub>	91.36*	6, 9487
Father's Nativity	4.53 <sub>d</sub>	3.02 <sub>a</sub>	4.02 <sub>c</sub>	4.84 <sub>e</sub>	3.31 <sub>b</sub>	4.81 <sub>e</sub>	4.91 <sub>e</sub>	629.61*	6, 8389
Father in Household	0.73 <sub>c</sub>	0.87 <sub>d</sub>	0.57 <sub>b</sub>	0.63 <sub>b</sub>	0.79 <sub>c</sub>	0.50 <sub>a</sub>	0.76 <sub>c</sub>	100.78*	6, 9487
Mother's Occupation	0.13 <sub>ab</sub>	0.18 <sub>bc</sub>	0.09 <sub>a</sub>	0.23 <sub>cd</sub>	0.28 <sub>d</sub>	0.22 <sub>cd</sub>	0.21 <sub>cd</sub>	12.47*	6, 9487
Mother's Nativity	4.51 <sub>d</sub>	3.20 <sub>a</sub>	3.86 <sub>c</sub>	4.90 <sub>e</sub>	3.15 <sub>b</sub>	4.84 <sub>e</sub>	4.90 <sub>e</sub>	699.64*	6, 8787
Mother in Household	0.88 <sub>b</sub>	0.97 <sub>c</sub>	0.86 <sub>ab</sub>	0.81 <sub>a</sub>	0.81 <sub>a</sub>	0.85 <sub>ab</sub>	0.86 <sub>ab</sub>	6.04	6, 9487
<i>School Variables</i>									
School Program, Academic	0.27 <sub>a</sub>	0.53 <sub>e</sub>	0.45 <sub>cd</sub>	0.25 <sub>a</sub>	0.52 <sub>de</sub>	0.35 <sub>b</sub>	0.42 <sub>bc</sub>	27.17*	6, 9487
School Program, General	0.42 <sub>c</sub>	0.30 <sub>b</sub>	0.21 <sub>a</sub>	0.47 <sub>c</sub>	0.30 <sub>b</sub>	0.32 <sub>b</sub>	0.32 <sub>b</sub>	11.50*	6, 9487
School Type, Public	0.90 <sub>c</sub>	0.55 <sub>a</sub>	0.82 <sub>b</sub>	0.92 <sub>c</sub>	0.87 <sub>c</sub>	0.92 <sub>c</sub>	0.88 <sub>c</sub>	48.36*	6, 9487
School Type, Catholic	0.08 <sub>a</sub>	0.45 <sub>c</sub>	0.18 <sub>b</sub>	0.06 <sub>a</sub>	0.11 <sub>a</sub>	0.06 <sub>a</sub>	0.08 <sub>a</sub>	66.22*	6, 9487
School Location, Rural	0.25 <sub>b</sub>	0.01 <sub>a</sub>	0.03 <sub>a</sub>	0.48 <sub>d</sub>	0.08 <sub>a</sub>	0.23 <sub>b</sub>	0.33 <sub>c</sub>	55.50*	6, 9487
School Location, Suburban	0.45 <sub>c</sub>	0.74 <sub>e</sub>	0.21 <sub>a</sub>	0.36 <sub>b</sub>	0.60 <sub>d</sub>	0.33 <sub>b</sub>	0.52 <sub>c</sub>	66.01*	6, 9487

\* Significant at  $\alpha < .01$

NOTE: Means with the same subscripts across the rows do not differ significantly according to Duncan's Multiple Range Test at  $\alpha = .05$ .

**Nativity.** As shown in Table 4.2, Asians had the lowest mean value (2.83) for this variable indicating that these respondents had spent the least amount of time in the U.S., Whites on the other hand had the highest value (3.96) in the range. Additionally the mean for Mexicans was 3.84, for Cubans 3.31, and for Puerto Ricans 3.63. In examining respondent's nativity, the mean for Asians did differ significantly from all the other groups. The mean for Cubans differed significantly from all other groups as did the mean for Puerto Ricans. Additionally the mean for Whites did not differ from that of Blacks but did differ significantly from all other groups. The mean for Mexicans did not differ from that of Native Americans or Blacks but did differ from the means of the remaining groups. The mean for Native Americans did not differ from that of Blacks but it did differ significantly from the remaining groups.

**Academic Performance.** As shown in Table 4.2, for this sample, Asians had the highest mean value for academic performance (5.24), while Native Americans and Blacks had the lowest value in the range (4.37), indicating that their academic performance was lowest. Additionally, Mexicans had a mean value of 4.38, Cubans 5.07, and Puerto Ricans 4.55. The ANOVA for academic performance indicates that the mean level of academic performance between Mexicans, Puerto Ricans, Blacks, and Native Americans do not differ significantly from each other. However, they do differ from that of Cubans, Whites and Asians, who also do not differ significantly from each other.

#### *Family Control Variables*

**Parental Education.** Table 4.2 also shows us that for this sample Asians had the highest mean value (5.00) for parental education, while Puerto Ricans and Mexicans had the lowest mean values (2.43 and 2.50 respectively) for this variable. The mean value for parental education for Cubans is 4.34. In this analysis the mean level of parental education for Asians differs significantly from that of all the other ethnic groups. Also, the mean level of parental education for Mexicans and Puerto Ricans do not differ significantly from that of each other but do differ from the remaining groups. The mean for Blacks differs significantly from that of all groups. The mean for Native Americans does not differ significantly from that of Whites but

does from all remaining groups. The mean for Cubans also does not differ from that of Whites but does differ from all remaining groups.

**Father's Occupation.** As shown in Table 4.2, the proportion of the sample whose fathers held professional positions ranged from a high of 40 percent for Asians to a low of 11 percent for Puerto Ricans. The proportion of Mexicans in this sample whose fathers held professional positions is 15 percent and the proportion of Cubans is 37 percent. In terms of father's occupation, the means for Mexicans, Puerto Ricans and Blacks do not differ significantly from each other however they do differ significantly from that of all the other groups. Additionally, the means for Cubans, Asians, and Whites do not differ significantly from each other but they do differ significantly from that of Mexicans, Puerto Ricans, Blacks and Native Americans. The mean for Native Americans differs significantly from that of all the groups.

**Father's Nativity.** The mean level of father's nativity for Cubans was the lowest in the range (3.02), indicating that the fathers of the Cuban respondents in this sample had spent the least amount of time in the U.S. as compared to the others. Whites had the highest mean value (4.91) for this sample, seeming to indicate that these fathers had spent the most time in the U.S. Additionally, the mean level of father's nativity for Mexicans is 4.53 and 4.02 for Puerto Ricans. The mean level of father's nativity for Asians differs significantly from all the remaining ethnic groups, as does the mean for Cubans, Puerto Ricans, and Mexicans. The mean level of father's nativity for Native Americans, Blacks and Whites do not differ significantly from each other, however they do differ significantly from that of Asians and Mexicans, Cubans, and Puerto Ricans.

**Father in the Household.** As shown in Table 4.2, the proportion of the sample whose fathers are in the household ranges from a high of 87 percent for Cubans to a low of 50 percent for Blacks. The proportion of the sample of Mexicans whose fathers are in the household is 73 percent. The proportion of the sample of Puerto Ricans whose father's are in the household is 57 percent. The ANOVA for father in the household shows us that the mean for Blacks differs significantly from that of all the other ethnic groups. The means for Native Americans and Puerto Ricans do not differ from each other but they do differ significantly from the remaining groups. The means for Mexicans, Asians, and Whites do not differ from each other; however

they do differ significantly from that of Cubans, Blacks, Native Americans and Puerto Ricans. Additionally, the mean for Cubans does differ from the mean of the other groups.

**Mother's Occupation.** Table 4.2 shows that the proportion of the sample whose mother held a professional position ranges from a high of 28 percent for Asians to a low of nine percent for Puerto Ricans. Additionally, the proportion of the sample of Cubans whose mothers held a professional position is 18 percent and 13 percent for Mexicans. The ANOVA for mother's occupation shows us that the mean of Mexicans does not differ from the mean of Puerto Ricans or Cubans, but does differ significantly from that of Native Americans, Asians, Blacks, and Whites. Additionally, the mean for Cubans differs significantly from that of Puerto Ricans and Asians, but not Mexicans, Native Americans, Blacks and Whites. The mean for Puerto Ricans differs significantly from all groups except Mexicans. The mean for Asians does not differ significantly from the means of Native Americans, Blacks and Whites but does differ from the other groups. The means for Native Americans, Blacks and Whites do not differ significantly from each other but do differ significantly from Mexicans and Puerto Ricans.

**Mother's Nativity.** The mean level of mother's nativity for Asians was the lowest in the range (3.15), indicating that the mothers of the Asian respondents in this sample had spent the least amount of time in the U.S. as compared to the others. Whites and Native Americans had the highest mean values (4.90) for this sample, seeming to indicate that these mothers had spent the most time in the U.S. Additionally the mean level of mother's nativity is 4.51 for Mexicans, 3.20 for Cubans, and 3.86 for Puerto Ricans. In terms of this analysis we see that the mean level of mother's nativity for Cubans differs significantly from that of all groups, as does that of Mexicans. Additionally, the mean for Asians also differs significantly from that of all groups. The mean for Puerto Ricans also differs significantly from that of the remaining groups. The means for Native Americans, Blacks, and Whites do not differ from each other but do, however, differ from Asians, Mexicans, Cubans, and Puerto Ricans.

**Mother in the Household.** As shown in Table 4.2 the proportion of the sample whose mother is in the household ranges from a high of 97 percent for Cubans to a low of 81 percent for Asians and Native Americans. The proportion of the population of the sample of Mexicans whose mothers are in the household is 88 percent and it is 86 percent for Puerto Ricans. The mean for Cubans differs significantly from that of all the other groups. The means for Puerto

Ricans, Native Americans, Asians, Blacks and Whites do not differ significantly from each other. Additionally the means of Whites, Blacks, and Puerto Ricans do not differ from the mean of Mexicans. However, the mean of Mexicans does differ significantly from that of Cubans.

### *School Control Variables*

**High School Program.** Table 4.2 shows the proportion of the sample who are enrolled in an academic program ranges from a high of 53 percent for Cubans to a low of 25 percent for Native Americans. The proportion of the sample of Mexicans and Puerto Ricans who are enrolled in academic programs is 27 percent and 45 percent respectively. In terms of high school program - academic, we see that the means of Mexicans and Native Americans do not differ significantly from each other but they do differ significantly from that of all other ethnic groups. Additionally, the mean for Blacks does not differ from that of Whites but does differ significantly from that of all other groups. The mean for Puerto Ricans does not differ from that of Asians or Whites but does differ significantly from the remaining groups. The mean for Asians does not differ significantly from that of Puerto Ricans or Cubans but does differ significantly from all the other groups. The mean for Cubans again, does not differ from that of Asians but does differ significantly from that of the other remaining groups

As shown in Table 4.2, the proportion of the sample who are in general high school programs ranges from a high of 47 percent for Native Americans to a low of 21 percent for Puerto Ricans. Additionally, the proportion the sample of Mexicans and Cubans who are enrolled in general programs is 42 percent and 30 percent respectively. In looking at high school program – general, we find that the mean for Puerto Ricans differs significantly from that of all the groups. While the mean for Cubans, Asians, Blacks and Whites do not differ significantly from each other but do differ significantly from the means of Mexicans, Puerto Ricans and Native Americans. Additionally, the means for Mexicans and Native Americans do not differ significantly from each other.

**High School Type.** Table 4.2 also shows that the proportion of the sample attending a public school ranges from a high of 92 percent for Native Americans to a low of 55 percent for Cubans. The proportion of the sample of Mexicans and Puerto Ricans who are attending public school is 90 percent and 82 percent respectively. In analyzing the results of the ANOVA for high

school type – public, we find that the mean for Cubans differs significantly from the means of all the other groups. The mean of Puerto Ricans also differ significantly from the means of all the other groups. Mexicans, Native Americans, Asians, Blacks, and Whites do not differ significantly from each other.

As shown in Table 4.2, the proportion of the sample who are attending a Catholic high school ranges from a high of 45 percent for Cubans to a low of six percent for Native Americans and Blacks. Additionally, the proportions for Mexicans and Puerto Ricans are eight percent and 18 percent respectively. In examining the results of the analysis on high school type- Catholic, we find again that the mean of Cubans does differ significantly from all the other groups, as does the mean for Puerto Ricans. Additionally, the mean for Mexicans, Native Americans, Asians, Blacks, and Whites do not differ significantly from each other.

**Location.** As shown in Table 4.2, the proportion of the sample attending a high school located in a rural area ranges from a low of one percent for Cubans to a high of 48 percent for Native Americans. The proportion for Mexicans and Puerto Ricans are 25 percent and three percent respectively. In the ANOVA of school location – rural, we see that the mean of Cubans, Puerto Ricans, and Asians do not differ significantly from each other, but do differ significantly from the remaining groups. The mean for Mexicans does not differ from the mean of Blacks but does differ from the remainder of the groups. The mean of Native Americans differs significantly from that of all the groups, as does that of Whites.

Table 4.2 shows us that the proportion of the sample that is attending a school in a suburban area ranges from a low of 21 percent for Puerto Ricans to a high of 74 percent for Cubans. Additionally, the proportion of the sample of Mexicans who are attending school in a suburban area is 45 percent. In the analysis of high school location - suburban we find that the mean of Cubans differs significantly from that of all the groups, as does the mean of Asians and Puerto Ricans. The means of Mexicans and Whites do not differ significantly from each other but both these groups differ significantly from the remaining groups. Additionally, the means of Native Americans and Blacks do not differ significantly from each other but both these groups differ significantly from the remaining groups.

This next section presents the findings of the logit analyses. In the first analyses the larger umbrella term is used. Subsequently, the findings using the subgroups are presented.

*Logit Analysis*

Table 4.3 illustrates the logistic regression of educational attainment on race/ethnicity with and without the various control variables that were outlined earlier (Models 1 A and 1 B). Here we see that after controlling for these key variables, some of the difference between Asians and Whites can be explained and we can see that almost half of the difference between Whites and Blacks can also be accounted for. We also see that about half of the difference for Hispanics and some of the difference for Native Americans has been explained, however there is still a statistically significant difference for Hispanics (significant at  $\alpha < .01$ ) and Native Americans (significant at  $\alpha < .05$ ) that cannot be completely explained even after controlling for the additional variables.

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**Table 4.3: Logistic Regression Analysis of Educational Attainment on Race/Ethnicity with and without Control Variables**

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	<b>Model 1 A</b>		<b>Model 1 B</b>	
	<b>B</b>	<b>Odds Ratio</b>	<b>B</b>	<b>Odds Ratio</b>
Hispanic	-.953	.386**	-.340	.712**
Native American	-1.149	.317**	-.753	.471*
Asian	.267	1.306*	.089	1.093
Black	-.851	.427**	-.109	.897
White	----	----	----	----
Respondent's Gender			-.188	.829
Respondent's Nativity			.083	1.087
Respondent's Academic Performance			.620	1.859**
Parental Education			.137	1.147**
Father's Occupation			.217	1.243**
Mother's Occupation			.078	1.081
Father's Nativity			.005	1.005
Mother's Nativity			-.001	.999
Father in Household			.269	1.309**
Mother in Household			.470	1.600**
High School Program-Academic			1.693	5.434**
High School Program-General			.849	2.336**
High School Type-Public			-.506	.603**
High School Type-Catholic			-.230	.794
High School Location-Rural			-.041	.960
High School Location-Suburban			.088	1.092

\* Significant at  $\alpha < .05$ ; \*\* Significant at  $\alpha < .01$

In terms of the control variables, Table 4.3 highlights that many of these factors do increase the likelihood of completing at least a bachelor’s degree. Recall from the previous chapter that an odds ratio (OR) greater than one means that there is an increased likelihood of the occurrence of the desired outcome (in this case completing at least a bachelor’s degree).

So in this analysis we find that only respondent’s gender, mother’s nativity, high school type - public, high school type – Catholic, and high school location - rural do not have ORs greater than one and thus are not factors that will increase the likelihood of completing at least a bachelor’s degree.

Table 4.4 presents the logistic regression analysis of educational attainment on Hispanic subgroup (Model 2 A). In this analysis we see that when looking at Hispanic subgroups individually, we find that both Mexicans and Puerto Ricans are less likely to complete at least a bachelor’s degree as compared to Cubans (significant at  $\alpha < .01$ ).

**Table 4.4: Logistic Regression Analysis of Educational Attainment on Hispanic Subgroups with and without Control Variables**

	<b>Model 2 A</b>		<b>Model 2 B</b>	
	<b>B</b>	<b>Odds Ratio</b>	<b>B</b>	<b>Odds Ratio</b>
Mexican	-1.434	.238**	-.741	.477*
Puerto Rican	-1.273	.280**	-.738	.478
Cuban	---	---	---	---
Respondent’s Gender			-.392	.676*
Respondent’s Nativity			.110	1.116
Respondent’s Academic Performance			.819	2.268**
Parental Education			.047	1.048
Father’s Occupation			.577	1.782*
Mother’s Occupation			-.501	.606
Father’s Nativity			-.111	.895
Mother’s Nativity			.117	1.124
Father in Household			.290	1.336
Mother in Household			.132	1.141
High School Program-Academic			1.613	5.017**
High School Program-General			1.014	2.757**
High School Type-Public			-1.511	.221*
High School Type-Catholic			-1.339	.262
High School Location-Rural			-.109	.897
High School Location-Suburban			-.143	.867

\* Significant at  $\alpha < .05$ ; \*\* Significant at  $\alpha < .01$

In Table 4.4 we are additionally given the logistic regression analysis of educational attainment on Hispanic subgroup, but this time including the control variables (Model 2B). After controlling for the other potentially relevant correlates of educational attainment we find that although some of the difference between Cubans and Puerto Ricans has been explained, it is no longer statistically significant. However, this is not the case for Mexicans, as the difference is still statistically significant (at  $\alpha < .05$ ).

Table 4.4 also presents us with an analysis of the effects that the control variables would have on the likelihood of completing at least a bachelor's degree. Again, an OR greater than one indicates increased likelihood of the occurrence of the desired outcome. In this case respondent's gender, mother's occupation, father's nativity, high school type - public, high school type - Catholic, high school location - rural, and high school location - suburban have ORs less than one and consequently would not increase the likelihood of completing at least a bachelor's degree.

Table 4.5 highlights the regression analysis of educational attainment on race/ethnicity including the separate Hispanic subgroups in place of the larger aggregate (Model 3 A). Here we find that Asians are more likely to complete at least a bachelor's degree in comparison to Whites. Though it seems that Cubans are also more likely to complete at least a bachelor's degree, the difference is not statistically significant. Mexicans, Puerto Ricans, Native Americans and Blacks are all less likely than Whites to complete at least a bachelor's degree, with Mexicans being the least likely out of all of these groups.

**Table 4.5: Logistic Regression Analysis of Educational Attainment on Race/Ethnicity including Hispanic Subgroups, with and without Control Variables**

	<b>Model 3 A</b>		<b>Model 3 B</b>	
	<b>B</b>	<b>Odds Ratio</b>	<b>B</b>	<b>Odds Ratio</b>
Mexican	-1.196	.302**	-.369	.691**
Puerto Rican	-1.035	.355**	-.315	.730
Cuban	.238	1.269	.244	1.276
Native American	-1.149	.317**	-.749	.473*
Asian	.267	1.306*	.209	1.233
Black	-.851	.427**	-.106	.899
White	----	----	----	----
Respondent's Gender			-.189	.828**
Respondent's Nativity			.037	1.038
Respondent's Academic Performance			.616	1.852**
Parental Education			.136	1.146**
Father's Occupation			.215	1.240**
Mother's Occupation			.086	1.089
Father's Nativity			.014	1.014
Mother's Nativity			.089	1.093
Father in Household			.272	1.313**
Mother in Household			.437	1.548**
High School Program-Academic			1.649	5.203**
High School Program-General			.844	2.325**
High School Type-Public			-.558	.572**
High School Type-Catholic			-.351	.704
High School Location-Rural			-.026	.974
High School Location-Suburban			.086	1.090

\* Significant at  $\alpha < .05$ ; \*\* Significant at  $\alpha < .01$

Additionally, Table 4.5 also presents us with the analysis of educational attainment on race/ethnicity including the separate Hispanic subgroups and the control variables. Here we find that about half of the difference in educational attainment between Mexicans and Whites, Puerto Ricans and Whites, and Blacks and Whites can be explained by controlling for the key variables but only the difference between Mexicans and Whites is statistically significant. We also see that the some of the difference between Asians and Whites and Native Americans and Whites can be accounted for by controlling for these variables however only the difference between Native Americans and Whites is statistically significant.

Finally, Table 4.5 shows us that there are very few control variables which will not increase the likelihood of completing at least a bachelor's degree. In this analysis only respondent's gender, high school type - public, high school type - Catholic and high school location - rural do not have ORs greater than one.

The next chapter presents a discussion of the key findings from this study. Additionally the policy implications and recommendations for future research are also presented.

## CHAPTER FIVE: DISCUSSION AND CONCLUSION

This study assesses the relationship between Hispanic ethnicity and other racial groups and completion of a bachelor's degree. The sample from this study comes from the High School and Beyond data set available through the Inter-University Consortium of Political and Social Research. The purpose of this study was to determine whether or not Latinos are less likely to have completed at least a bachelor's degree than their non-Latino peers, and to determine if there are variations in educational attainment (as defined for this study) among the different Latino subgroups.

The primary findings of the analysis of variance (ANOVA) using the umbrella term Hispanics are:

- In terms of mean level of educational attainment (as defined for this analysis) Hispanics, Blacks, and Native Americans do not differ in a statistically significant way from each other. However they do differ significantly from Whites and Asians. Additionally, Whites and Asians also differ significantly from each other in terms of educational attainment.
- The proportion of the sample who have completed at least a bachelor's degree ranges from a low of nine percent for Native Americans to a high of 29 percent for Asians.

Using the Hispanic subgroups in the ANOVA the findings indicate that:

- Mexicans, Puerto Ricans, Native Americans, and Blacks do not differ in a statistically significant way from each other, yet they do differ from Cubans, Asians, and Whites when looking at mean levels of educational attainment. The mean levels of educational attainment (as defined for this analysis) for Whites, Cubans, and Asians do not differ in a statistically significant way from each other.
- The proportion of the sample who have completed at least a bachelor's degree ranges from a low of nine percent for Mexicans and Native Americans to a high of 29 percent for Cubans and Asians.

The primary finding of the logit analysis when using the umbrella term, Hispanics, and controlling for the potentially relevant correlates of educational attainment (Model 1 B) are:

- Even after controlling for the other potentially relevant correlates of educational attainment, in this study Hispanics are less likely to complete at least a bachelor's degree than Whites.
- The findings for Native Americans mirror those of Hispanics.
- Some of the difference in educational attainment between Blacks and Whites could be explained after controlling for the other potentially relevant correlates of educational attainment.
- Once the key variables were introduced the some of difference between Asians and Whites was explained.

Among Hispanics with control variables (Model 2 B) the primary findings are:

- In comparison to Cubans we find that Mexicans are less likely to complete at least a bachelor's degree even after including the other potentially relevant correlates of educational attainment in the analysis.
- However, after introducing the control variables, some of the difference between Puerto Ricans and Cubans has been explained and it is no longer statistically significant.

Comparing the Hispanic subgroups to the other racial/ethnic groups with controls (Model 3 B) the findings indicate that:

- Half of the difference in educational attainment between Mexicans and Whites that had appeared in the analysis sans the control variables can be explained once those variables are introduced into the analysis and this finding is significant.
- The findings for Native Americans indicate that even after including the other potentially relevant correlates of educational attainment in the analysis, hardly any of the difference in educational attainment between Native Americans and Whites can be explained, and this finding is significant.

- Some of the difference that had existed between Whites and Cubans and Whites and Asians, can be explained by introducing the control variables into the equation, however this finding is not statistically significant.
- Half of the difference that had existed between Whites and Blacks and Whites and Puerto Ricans can be explained through the use of the controls; however, once again these findings are not statistically significant.

Now that the findings of the research analyses have been presented, my task becomes to explain what has happened. First is a discussion of the results of the analysis of variance (ANOVA), followed by a discussion of the logit analyses.

### *Discussion*

Let us examine the findings of the ANOVA for the dependent variable, educational attainment, further. When the large aggregate, Hispanic, is used we find that the mean level of educational attainment for Hispanics does not differ significantly from the mean level of educational attainment of Native Americans and Blacks but does differ significantly from that of Asians and Whites, implying in a sense that Hispanics are a disadvantaged group facing similar situations as African Americans in this country. One could argue that in this case discrimination plays a role in the perpetual disadvantage of Hispanics.

However, when the analysis is conducted using the subgroups rather than the umbrella term we find that the mean level of educational attainment for Cubans differs significantly from that of Mexicans, Puerto Ricans, Native Americans and Blacks but does not differ significantly from that of Whites or Asians. So in this case we see that Cubans have had a different experience in terms of educational attainment than the other Hispanic subgroups, and in fact are not facing a disadvantage but rather are aligned with those who society sees as excelling academically. Looking more closely at the numbers, the mean level of educational attainment for that of Cubans is three times greater than that of Hispanics as a whole. While the mean level of educational attainment for Mexicans and Puerto Ricans is actually lower than that of Hispanics as a whole, indicating that perhaps Cubans were driving the mean for the aggregate higher than it

would otherwise be. In this case we see that there are differences, within the subgroups that would have gone misreported if only the aggregate Hispanic category was used.

In fact, if we examine the results for the ANOVA further we find that Cubans differ significantly from Mexicans in all but two instances, gender and mother's occupation and from Puerto Ricans again in all but two instances, gender and school location – rural. In comparison to Mexicans and Puerto Ricans, Cubans have higher mean levels of educational attainment, higher academic performance, higher levels of parental education, have fathers who hold professional positions, have both parents present, are in academic programs, have lower public school attendance while having the highest mean value for Catholic school attendance and seem to be more likely to attend school in suburban areas. Additionally, Cuban respondents had spent less time in the U.S. as had their parents, in comparison to either Mexicans or Puerto Ricans.

Turning now to the discussion of the findings of the logit analysis we see that there are two important items to consider. First is whether or not there is actually a difference in educational attainment due to just ethnic group membership, as well if the control variables can be seen as increasing the likelihood of completing at least a bachelor's degree. To determine the influence of ethnic group membership or whether or not the control variables actually increase the likelihood of completing at least a bachelor's degree we must revisit the odds ratio (OR) again. Remember that the odds ratio is a measure of association that indicates the chances of one variable occurring in relation to another; and that an odds ratio greater than one indicates the increased likelihood of an event occurring.

In looking at the ORs for the race groups presented in Model 1 B we find that after controlling for the variables presented in the model, Asians have an OR just greater than one, indicating that being Asian increases the likelihood of completing at least a bachelor's degree in Model 1 B. While in Model 1 B Hispanics have an OR of less than one, indicating that being Hispanic does not increase the likelihood of completing at least a bachelor's degree.

Additionally, of the individual variables only respondent's nativity and academic performance had ORs greater than one, indicating that they could be factors leading to the increased likelihood of completing at least a bachelor's degree. It seems though, that respondent's gender does not increase the likelihood of completing at least a bachelor's degree in this case.

In examining the ORs of the family variables we find that parental education, father's occupation, nativity, and presence in the household, as well as, mother's occupation and presence in the household, all had ORs greater than one; seemingly indicating that they are important factors in influencing educational attainment. Only mother's nativity did not have an OR greater than one and it is unclear why.

In terms of the school variables we see that only high school program - academic and high school program - general, as well as high school location - suburban had ORs greater than one. The other school factors in this analysis presumably did not impact the likelihood of completing at least a bachelor's degree.

If we are to analyze the results of the ORs for Model 2 B, the logit analysis that breaks down the larger group Hispanic into several subgroups and compares them to Cubans, we find that Mexicans and Puerto Ricans have an OR of about .50 indicating that identifying with either one of those groups does not increase the likelihood of completing at least a bachelor's degree in comparison to being Cuban.

The analysis of the individual variables is the same as that of the prior model in that, only nativity and academic performance, have ORs greater than one.

When examining the family control variables we find that parental education, father's occupation and presence in the household, along with mother's nativity and presence in the household are the only factors that can lead to an increased likelihood of completing at least a bachelor's degree.

In terms of the school variables the findings show that school program – academic and school program - general have ORs greater than one.

In looking at the analysis of Model 3 B, the logit analysis that includes the subgroups and the other racial categories, we find that among the Hispanic subgroups, Cubans have an OR greater than one seemingly indicating that being Cuban increases the likelihood of completing at least a bachelor's degree in comparison to being White. In looking at the OR for the other race groups, we find that after controlling for the other potentially relevant correlates of educational attainment, Asians have an OR just greater than one, indicating that being Asian increases the likelihood of completing at least a bachelor's degree.

Additionally, the findings in Model 3 B, in terms of the individual variables, mirror the findings of Models 1 B and 2 B. In terms of the individual variables only respondent's nativity and academic performance had ORs greater than one, again, seeming to indicate that they could be factors leading to the increased likelihood of completing at least a bachelor's degree. Yet again, respondent's gender did not increase the likelihood of completing at least a bachelor's degree.

In examining the ORs of the family variables we find that all of these potentially relevant correlates of educational attainment have ORs greater than one; indicating that all are important factors influencing educational attainment.

Finally, in examining the results of the school variables we see that the findings of this model (3 B) mirror those of Model 1 B. High school program - academic and high school program - general, as well as high school location - suburban all have ORs greater than one. All other school factors included in this analysis did not impact the likelihood of completing at least a bachelor's degree.

This leads into a discussion of these findings in relation to the primary questions that this study aimed to answer. The first research question proposed earlier in this study was if Latinos are more or less likely to complete at least a bachelor's degree than their non-Latino peers. Revisiting the findings from Model 1 B we do see that Hispanics are less likely to complete at least a bachelor's degree in comparison to some of their non-Latino peers. When the other potentially relevant correlates of educational attainment are introduced into the model, this difference can only be partly explained, indicating that perhaps ethnic group membership leads to discrimination in educational attainment in this case.

To address the second research question of whether or not there are variations in educational attainment (as defined in this analysis) for the different Latino subgroups a comparison of the findings of Models 1 B and 3 B is necessary. In Model 1 B we see that Hispanics in comparison to Asians, Blacks, and Whites, were less likely to complete at least a bachelor's degree. However, the findings are different when the subgroup analysis is included. In Model 3 B, Cubans are more likely to complete at least a bachelor's degree in comparison to any of the other Hispanic subgroups and even in comparison to Whites and Blacks.

### *Implications for Policy*

This project attempts to illustrate that the state of Hispanic education in the United States is in a serious need of examination for two main reasons. Primarily because the population continues to grow and that in fact if population estimates are correct, by the year 2050 Latinos will be twenty-four percent of the total population (Hispanic Association for Corporate Responsibility, 2000). In spite of this, their concerns go unnoticed and these children are not receiving equal educational opportunities. Since education is the stepping-stone for mobility, both social and economic, the systematic denial of access to educational resources and opportunity creates disadvantages for an entire population. If the changing global market requires education and or training to secure positions, what does this mean for the ethnic minority who continually is not achieving advanced levels of education? This education crisis must be addressed before it is too late.

This study was meant to be instrumental in identifying the pitfalls of the gross aggregation that the Latino population is subjected to in social research. Often times Latinos are lumped into one group essentially ignoring the differences that may exist between the differing ethnic groups that comprise this larger group. As such great care must be taken when conducting research and especially when reporting findings so as to avoid misrepresentation and additional error if separate subgroup analyses are not possible.

Additionally, the findings of this analysis offer support for my argument against the lumping of all Hispanic subgroups into one larger category. As shown in this study there are certain Hispanic subgroups that in terms of educational attainment do not lag behind that of their non-Latino peers and that in fact exceed the attainment of their own Latino peers. Some would argue that perhaps some of the difference could be accounted for as a result of differences in social class. “The half million Cubans who fled Castro’s rise to power in 1959, for example, represented the intelligentsia. In general, they were well-educated, financially comfortable professionals or businesspeople” (Henslin, 1996: 297). In addition to this they have been quite successful in re-establishing themselves in this country, transferring some of those same levels of success to their children, social reproduction at work. For the most part these Cubans do not see themselves sharing similarities with later waves of Cuban immigrants or with members of other

Latino subgroups. Yet in spite of these differences, the use of the larger term is prevalent not only in social research but also in everyday interactions.

This final section presents some recommendations for future research. My main hope for the future is that researchers will continue to research this group, but be cautious when using the aggregate term for research and when interpreting their findings so as to not make invalid assumptions.

### *Recommendations for Future Research*

This analysis was meant to offer a historical perspective into Hispanic higher education. Using a data set that provided the strength of longitudinal data we were able to gain some insight into the state of Hispanic education in the United States. However, this analysis is not without its limitations.

Some might argue that perhaps the chosen data set was indeed dated and therefore could not accurately reflect the true status of Hispanic education. Since this study was meant to offer a historical perspective that point is moot, however, if that remains a concern my recommendation is that social researchers replicate the initial survey with a few minor adjustments. Conducting a similar research project today would provide current data and offer a look into the current trends of Hispanic students. Additionally, a longer survey time period would allow for multiple measures of educational attainment to be examined, allowing an in depth examination of education with details not available in this case, and alleviating the concern of whether or not the respondents' had had a reasonable time since high school graduation to really complete post-secondary work. Only through this can educational opportunity for Hispanics be measured adequately.

Another typical limitation of secondary data analyses is that often not all key variables are present, or measured in an ideal way. For example, there are other variables that may be determinants of educational attainment which were not available in this data set. For instance, it would have been ideal if data measuring parental information were actually collected from the parents rather than asking the students. Though the High School and Beyond survey initially included a parental survey, it contained too much missing data to be useful for this analysis. Collecting information from the parents would not only ensure that the data is accurate but would

also allow items directly measuring SES to be developed as opposed to using certain correlates as proxies for SES (as was the case in this analysis).

Furthermore, our key variable of Hispanic heritage was only broken down to include Cubans, Puerto Ricans, Mexicans, and other Hispanic. Future analyses should employ data sets which expressly include other separately identifiable Hispanic groups.

Though this study per se was not concerned with the interactions of the independent variables, future researchers would be wise to examine precisely what is going on in terms of the other potentially relevant correlates of educational attainment. Conducting a study in that manner could provide more insight into differences in educational attainment.

Further, it would seem that in the case of this analysis, that Cubans possess more of the resources that have been deemed as important factors leading to success in education, while Mexicans and Puerto Ricans seem to be lacking said resources. As previously mentioned this can be due to differences in social class, which can ultimately lead to differences in such things as neighborhood resources, location, and educational aspirations. We must however, consider institutional discrimination as a factor at play here. Few will argue that differences in social class which lead to differences in neighborhood resources, location, and educational resources do not exist, but it is the root of these differences that must be examined closely. Perhaps these differences can be attributed to something beyond the individual's control, something inherent in the system. Simply claiming that social class is the end all, be all cause to differences in educational attainment across racial and ethnic groups ignores the possibility of institutional discrimination. Minority groups members historically have had limited access to resources, first through overt discrimination and consequently through the structures built into society. As previously mentioned it is these limitations that additionally need to be addressed, it is not enough to simply deal with individual level racism. This study illustrates that even after controlling for the potentially relevant correlates of educational attainment, there are still differences that are not explained. Future studies need to be conducted to explain why these differences still exist.

The recommendations for future research are to continue with separate subgroup analyses so that the true picture can be presented and to examine other possible causes that hinder the

success of certain groups. Additionally, more research into topics concerning Hispanics is needed.

## Appendix A

### Frequency Distributions of Educational Attainment

Educational Classification	Frequency Distribution	Percent
Less than High School Diploma	73	0.7
High School Diploma	6538	62.1
License or Certificate	1276	12.1
2-3 yr. Vocational Degree	760	7.2
4 yr. Bachelors Degree	1824	17.3
Master's Degree	56	0.5
PHD, MD, LLB, Etc.	7	0.1
<b>Total</b>	<b>10534</b>	<b>100</b>

### Frequency Distributions of Educational Attainment Recoded

Educational Classification	Frequency Distribution	Percent
Not College	8647	82.1
College	1887	17.9
<b>Total</b>	<b>10534</b>	<b>100</b>

For the purposes of this analysis, I am using a recoded form of a composite variable measuring educational attainment from the third follow-up of the HS&B. It was originally coded as follows: 1-less than high school diploma; 2-high school diploma; 3-license or certificate; 4-2-3 yr. vocational degree; 5-4 yr. bachelor's degree; 6-master's degree; 7-PhD,MD,LLB, etc. As previously mentioned this variable has been recoded as follows: 0-not a college graduate (consisting of old values 1-4); 1-college graduate (consisting of old values 5-7).

## Appendix B

### Frequency Distribution of Gender

<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
Male	4830	45.9
Female	5704	54.1
<b>Total</b>	<b>10534</b>	<b>100</b>

Respondents were asked their sex during each wave of the study and were coded as 1-male; 2-female. According to the data user's manual, a composite was created since there were several questions during the base year and follow-ups designed to measure sex. This composite was designed to reduce error, to correct for missing data, and to resolve any inconsistencies from the various waves of the survey. For the purpose of this analysis, this variable has been recoded as a dummy 0-male; 1-female.

## Appendix C

### Frequency Distribution of Race (5 Categories)

Racial Classification	Frequency Distribution	Percent
Hispanic	2512	23.8
Native American	186	1.8
Asian	331	3.1
Black	2513	23.9
White	4938	46.9
Other/Missing	54	0.5
<b>Total</b>	<b>10534</b>	<b>100</b>

On the initial questionnaire race was measured by asking the respondents simply what their race was, it was coded in the following manner: 1-Black; 2-White; 3- American Indian or Alaskan Native; 4-Asian or Pacific Islander; 5-other. They were then asked what their origin or descent was and were instructed to only mark one, the one that they considered most important. Responses were coded as follows: 1-Mexican, Mexican-American, Chicano; 2-Cuban, Cubano; 3- Puerto Rican, Puertorriqueno, or Boricua; 4-Other Latin American, Latino, Hispanic, or Spanish descent; 5-Afro-American; 6-West Indian or Caribbean; 7- Alaskan Native; 8-American Indian; 9-Chinese; 10-Filipino; 11-Indian, Pakistani or other South Asian; 12-Japanese; 13-Korean; 14-Vietnamese; 15-Other Pacific Islander; 16-Other Asian; 17-English; 18-French; 19-German; 20-Greek; 21-Irish; 22-Italian; 23-Polish; 24-Portugese; 25-Russian; 26-Scottish; 27-Other European; 28-Canadian (French); 29- Canadian (Other); 30-United States Only; 31-Other. During the first follow-up, a composite variable for race was created combining the initial item that measured race and the one that measured origin/descent. It was coded as 1-Hispanic or Spanish; 2-American Indian or Alaskan; 3- Asian or Pacific Islander; 4-Black; 5- White; 6-Other.

## Appendix C Continued

### Frequency Distributions of Hispanic Subgroups

Hispanic Subgroup	Frequency Distribution	Percent
Mexican	1176	60.3
Cuban	202	10.4
Puerto Rican	148	7.6
Other Hispanic/Missing	424	21.7
<b>Total</b>	<b>1950</b>	<b>100</b>

This is also being measure by a composite created during the third follow-up and coded as follows: 1-Mexican; 2-Cuban; 3-Puerto Rican; 4-Other Hispanic. These codes were assigned based on the following rules: code 1-Mexican if the composite of race from the first follow-up =1 (Hispanic or Spanish) and the questions pertaining to origin/descent from the base year and first follow-up are either both =1 (Mexican) or one is missing and the other =1 (Mexican); code 2-Cuban if the composite of race from the first follow-up =1 (Hispanic or Spanish) and the questions pertaining to origin/descent from the base year and first follow-up are either both =2 (Cuban) or one is missing and the other =2 (Cuban); code 3-Puerto Rican if the composite of race from the first follow-up =1 (Hispanic or Spanish) and the questions pertaining to origin/descent from the base year and first follow-up are either both =3 (Puerto Rican) or one is missing and the other =3 (Puerto Rican); code 4-other Hispanic if the composite of race from the first follow-up =1 (Hispanic or Spanish) and the questions pertaining to origin/descent from the base year and first follow-up are either one is missing and the other =4 (other Hispanic) or if both are equal to responses in the range of 1-4 (Mexican, Cuban, Puerto Rican and other Hispanic) or if one response is in the range of 1-4 (Mexican, Cuban, Puerto Rican and other Hispanic) and the other response is in the range of 5-31 (any non-Hispanic) and no other race information is available from the base year or first follow-up. Note that if the composite and the item initially designed to measure race in the base year disagree and one indicates a non-Hispanic response then the respondent is classified according to a hierarchy of Native American, Asian, Black, White, other Hispanic and finally other.

**Appendix C Continued**

**Frequency Distribution of Race (7 Categories)**

<b>Racial Classification</b>	<b>Frequency Distribution</b>	<b>Percent</b>
Mexican	1176	11.7
Cuban	202	2.0
Puerto Rican	148	1.5
Native American	186	1.8
Asian	331	3.3
Black	2513	25.0
White	4938	49.0
Other/Missing	571	5.7
<b>Total</b>	<b>10065</b>	<b>100</b>

Additionally a new variable was created to include each Hispanic subgroup along with Native Americans, Asians, Blacks and Whites.

## Appendix D

### Frequency Distribution of Respondent's Length of Time in US

Length of Time	Frequency	Percent
All or almost all	9185	87.2
More than 10 years but not all	392	3.7
About 6-10 years	243	2.3
About 1-5 years	197	1.9
Missing	517	4.9
<b>Total</b>	<b>10534</b>	<b>100</b>

### Frequency Distribution of Respondent's Length of Time in US Reverse Coded

Length of Time	Frequency	Percent
About 1-5 years	197	1.9
About 6-10 years	243	2.3
More than 10 years but not all	392	3.7
All or almost all	9185	87.2
Missing	517	4.9
<b>Total</b>	<b>10534</b>	<b>100</b>

Responses were coded: 1-all or almost all; 2-more than 10 years but not all; 3-about 6-10 years; 4-about 1-5 years. This variable was recoded so that higher values corresponded with a longer period of time in the US; the new values are 1- about 1-5 years; 2- about 6-10 years; 3-more than 10 years but not all; 4- all or almost all.

## Appendix E

### Frequency Distribution of Respondent's High School Grade Average

<b>Grade</b>	<b>Frequency</b>	<b>Percent</b>
Mostly A's	1190	11.3
A's & B's	2108	20.0
Mostly B's	2031	19.3
B's & C's	2794	26.5
Mostly C's	1339	12.7
C's & D's	533	5.1
Mostly D's	69	0.7
Missing	470	4.5
<b>Total</b>	<b>10534</b>	<b>100</b>

## Appendix E Continued

### Frequency Distribution of Respondent's High School Grade Average

Grade	Frequency	Percent
Mostly D's	69	0.7
C's & D's	533	5.1
Mostly C's	1339	12.7
B's & C's	2794	26.5
Mostly B's	2031	19.3
A's & B's	2108	20.0
Mostly A's	1190	11.3
Missing	470	4.5
<b>Total</b>	<b>10534</b>	<b>100</b>

Responses were coded as: 1-mostly A's (or numerical average of 90-100); 2-about half A's and half B's (or 85-90); 3-mostly B's (or 80-84); 4-about half B's and half C's (or 75-79); 5-mostly C's (or 70-74); 6-about half C's and half D's (or 65-69); 7-mostly D's (or 60-64); 8-mostly below D's (or below 60). For the purpose of this analysis, I will consider a composite variable derived from this original question and created for the third follow-up. It indicates how respondents saw their high school grades; I have recoded it so that the higher values correspond with higher/better grades. It is now coded as 1- mostly below D's (or below 60); 2- mostly D's (or 60-64); 3- about half C's and half D's (or 65-69); 4- mostly C's (or 70-74); 5- about half B's and half C's (or 75-79); 6- mostly B's (or 80-84); 7- about half A's and half B's (or 85-90); 8- mostly A's (or numerical average of 90-100).

## Appendix F

### Frequency Distributions of Father's Educational Attainment

Educational Classification	Frequency Distribution	Percent
Not Living with Father	1002	9.5
Less than High School Diploma	2261	21.5
High School Diploma	2089	19.8
Less than 2 yrs. Voc/Technical	274	2.6
2 yrs. or Greater Vocational	426	4.0
Less than 2 yrs. College	454	4.3
2 yrs. or Greater College	408	3.9
College Graduate	809	7.7
Master's Degree	418	4.0
PHD, MD, LLB, Etc.	335	3.2
Missing	2058	19.5
<b>Total</b>	<b>10534</b>	<b>100</b>

**Appendix F Continued**

**Frequency Distributions of Recoded Father's Educational Attainment**

<b>Educational Classification</b>	<b>Frequency Distribution</b>	<b>Percent</b>
Less than High School Diploma	2261	21.5
High School Diploma	2089	19.8
Less than 2 yrs. Voc/Technical	274	2.6
2 yrs. or Greater Vocational	426	4.0
Less than 2 yrs. College	454	4.3
2 yrs. or Greater College	408	3.9
College Graduate	809	7.7
Master's Degree	418	4.0
PHD, MD, LLB, Etc.	335	3.2
Missing	3060	29.0
<b>Total</b>	<b>10534</b>	<b>100</b>

Responses were coded as follows: 1-do not live with father (stepfather or male guardian); 2-less than high school graduation; 3-high school graduation only; 4-less than two years of vocational, trade, or business school after high school; 5-2 years or more of vocational, trade, or business school after high school; 6-less than two years of college; 7-two or more years of college (including two year degree); 8-finished college (four or five year degree); 9-master's degree or equivalent; 10-PhD., MD, or other advanced professional degree; 11-don't know. This variable was recoded so that the old values of 1-not living with father and 11-don't know became missing values, the remaining old values were recoded as follows: 1- less than high school graduation; 2-high school graduation only; 3-less than two years of vocational, trade, or business school after high school; 4-2 years or more of vocational, trade, or business school after high school; 5-less than two years of college; 6-two or more years of college (including two year degree); 7-finished college (four or five year degree); 8-master's degree or equivalent; 9-PhD., MD, or other advanced professional degree.

**Appendix F Continued**

**Frequency Distributions of Mother's Educational Attainment**

<b>Educational Classification</b>	<b>Frequency Distribution</b>	<b>Percent</b>
Not Living with Mother	151	1.4
Less than High School Diploma	2160	20.5
High School Diploma	3365	31.9
Less than 2 yrs. Voc/Technical	378	3.6
2 yrs. or Greater Vocational	461	4.4
Less than 2 yrs. College	573	5.4
2 yrs. or Greater College	547	5.2
College Graduate	720	6.8
Master's Degree	331	3.1
PHD, MD, LLB, Etc.	85	0.8
Missing	1763	16.7
<b>Total</b>	<b>10534</b>	<b>100</b>

## Appendix F Continued

### Frequency Distributions of Recoded Mother's Educational Attainment

Educational Classification	Frequency Distribution	Percent
Less than High School Diploma	2160	20.5
High School Diploma	3365	31.9
Less than 2 yrs. Voc/Technical	378	3.6
2 yrs. or Greater Vocational	461	4.4
Less than 2 yrs. College	573	5.4
2 yrs. or Greater College	547	5.2
College Graduate	720	6.8
Master's Degree	331	3.1
PHD, MD, LLB, Etc.	85	0.8
Missing	1914	18.2
<b>Total</b>	<b>10534</b>	<b>100</b>

Responses were coded as follows: 1-do not live with mother (stepmother or female guardian); 2-less than high school graduation; 3-high school graduation only; 4-less than two years of vocational, trade, or business school after high school; 5-2 years or more of vocational, trade, or business school after high school; 6-less than two years of college; 7-two or more years of college (including two year degree); 8-finished college (four or five year degree); 9-master's degree or equivalent; 10-PhD., MD, or other advanced professional degree; 11-don't know. This variable was recoded so that the old values of 1-not living with father and 11-don't know became missing values, the remaining old values were recoded as follows: 1- less than high school graduation; 2-high school graduation only; 3- less than two years of vocational, trade, or business school after high school; 4-2 years or more of vocational, trade, or business school after high school; 5-less than two years of college; 6-two or more years of college (including two year degree); 7-finished college (four or five year degree); 8-master's degree or equivalent; 9-PhD., MD, or other advanced professional degree.

## Appendix F Continued

### Frequency Distributions of Parental Educational Attainment

Educational Classification	Frequency Distribution	Percent
Less than High School Diploma	1731	16.4
High School Diploma	2915	27.7
Less than 2 yrs. Voc/Technical	426	4.0
2 yrs. or Greater Vocational	584	5.5
Less than 2 yrs. College	681	6.5
2 yrs. or Greater College	667	6.3
College Graduate	1063	10.1
Master's Degree	606	5.8
PHD, MD, LLB, Etc.	390	3.7
Missing	1471	14.0
<b>Total</b>	<b>10534</b>	<b>100</b>

To reduce the number of missing cases a new variable was created. This variable was created from the recoded father's and mother's education variables and essentially only labeled a case as missing if both mother's and father's education was missing from the recoded variables. SPSS was instructed to let parental education equal recoded mother's education if recoded father's education was missing or if the value for mother's education was greater than that of father's education. SPSS was also instructed to let parental education equal recoded father's education if recoded mother's education was missing or if the value for father's education was greater than that of mother's education. Again, SPSS was instructed to make parental education missing if both parents had missing data on the educational attainment variable. The new classifications were recoded as follows: 1- less than high school graduation; 2-high school graduation only; 3-less than two years of vocational, trade, or business school after high school; 4-2 years or more of vocational, trade, or business school after high school; 5-less than two years of college; 6-two or more years of college (including two year degree); 7-finished college (four or five year degree); 8-master's degree or equivalent; 9-PhD., MD, or other advanced professional degree.

## Appendix G

### Frequency Distribution of Father's Occupation

Occupational Category	Frequency	Percent
Do not live with father	1190	11.3
Clerical	180	1.7
Craftsman	1238	11.8
Farmer	359	3.4
Homemaker	22	0.2
Laborer	1004	9.5
Manager	880	8.4
Military	177	1.7
Operative	1055	10.0
Professional	508	4.8
Professional, Doctor	405	3.8
Proprietor	562	5.3
Protective Service	216	2.1
Sales	314	3.0
School Teacher	129	1.2
Service	253	2.4
Technical	266	2.5
Never Worked	21	0.2
Don't Know	889	8.4
Missing	866	8.2
<b>Total</b>	<b>10534</b>	<b>100</b>

## Appendix G Continued

### Frequency Distribution of Father's Occupation Recoded

Occupational Category	Frequency	Percent
All Others	7784	73.9
Managerial/Professional	2750	26.1
<b>Total</b>	<b>10534</b>	<b>100</b>

Responses were coded: 1-do not live with father (stepfather or male guardian); 2-clerical such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent; 3-craftsman such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter; 4-farmer, farm manager; 5-homemaker or housewife only; 6-laborer such as construction worker, car washer, sanitary worker, farm laborer; 7-manager, administrator such as sales manager, office manager, school administrator, buyer, restaurant manager, government official; 8- military such as career officer, enlisted man or woman in armed forces; 9- operative such as meat cutter, assembler, machine operator, welder, taxicab, bus, or truck driver; 10-professional such as accountant, artist, registered nurse, engineer, librarian, writer, social worker, actor, actress, athlete, politician, but not including school teacher; 11-professional such as clergyman, dentist, physician, lawyer, scientist, college teacher; 12-proprietor or owner such as owner of a small business, contractor, restaurant owner; 13-protective service such as detective, police officer or guard, sheriff, fire fighter; 14-sales such as salesperson, advertising or insurance agent, real estate broker; 15-school teacher such as elementary or secondary; 16-service such as barber, beautician, practical nurse, private household worker, janitor, waiter; 17-technical such as draftsman, medical or dental technician, computer programmer; 18-never worked;19-don't know. In order to handle this variable with ease it was recoded into a dummy variable: 0-All Others (which includes codes 1-6,8,9,13,14, 16, 18-19); 1-Managerial/Professional (which includes codes 7, 10-12, 15, 17).

## Appendix H

### Frequency Distribution of Mother's Occupation

Occupational Category	Frequency	Percent
Do not live with mother	206	2.0
Clerical	1749	16.6
Craftsman	188	1.8
Farmer	59	0.6
Homemaker	1349	12.8
Laborer	292	2.8
Manager	351	3.3
Military	14	0.1
Operative	582	5.5
Professional	722	6.9
Professional, Doctor	155	1.5
Proprietor	166	1.6
Protective Service	22	0.2
Sales	443	4.2
School Teacher	586	5.6
Service	1058	10.0
Technical	142	1.3
Never Worked	593	5.6
Don't Know	1022	9.7
Missing	835	7.9
<b>Total</b>	<b>10534</b>	<b>100</b>

## Appendix H Continued

### Frequency Distribution of Mother's Occupation Recoded

Occupational Category	Frequency	Percent
All Others	8412	79.9
Managerial/Professional	2122	20.1
<b>Total</b>	<b>10534</b>	<b>100</b>

Respondents were asked to select the category which best described the job most recently held job by the female in the household. Responses were coded: 1- do not live with mother (stepmother or female guardian); 2-clerical such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent; 3-craftsman such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter; 4-farmer, farm manager; 5-homemaker or housewife only; 6-laborer such as construction worker, car washer, sanitary worker, farm laborer; 7-manager, administrator such as sales manager, office manager, school administrator, buyer, restaurant manager, government official; 8- military such as career officer, enlisted man or woman in armed forces; 9-operative such as meat cutter, assembler, machine operator, welder, taxicab, bus, or truck driver; 10-professional such as accountant, artist, registered nurse, engineer, librarian, writer, social worker, actor, actress, athlete, politician, but not including school teacher; 11-professional such as clergyman, dentist, physician, lawyer, scientist, college teacher; 12-proprietor or owner such as owner of a small business, contractor, restaurant owner; 13-protective service such as detective, police officer or guard, sheriff, fire fighter; 14-sales such as salesperson, advertising or insurance agent, real estate broker; 15-school teacher such as elementary or secondary; 16- service such as barber, beautician, practical nurse, private household worker, janitor, waiter; 17-technical such as draftsman, medical or dental technician, computer programmer; 18-never worked;19-don't know. Again in order to handle this variable with ease it was recoded as a dummy variable in the following manner: 0 All others (which includes codes 1-6, 8, 9, 13, 14, 16, 18-19); 1-Managerial/Professional (which includes codes 7, 10-12, 15, 17).

## Appendix I

### Frequency Distribution of Single Parent Household (Mother Present)

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
Other	1514	14.4
Yes, mom in household	9020	85.6
<b>Total</b>	<b>10534</b>	<b>100</b>

### Frequency Distribution of Single Parent Household (Father Present)

<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
Other	3364	31.9
Yes, dad in household	7170	68.1
<b>Total</b>	<b>10534</b>	<b>100</b>

## Appendix J

### Frequency Distribution of Father's Length of Time in US

Length of Time	Frequency	Percent
All or almost all	7756	73.6
More than 20 years but not all	763	7.2
About 11-20 years	471	4.5
About 6-10 years	164	1.6
About 1-5 years	124	1.2
Don't know	507	4.8
Missing	749	7.1
<b>Total</b>	<b>10534</b>	<b>100</b>

### Frequency Distribution of Father's Length of Time in US Reverse Coded

Length of Time	Frequency	Percent
About 1-5 years	124	1.2
About 6-10 years	164	1.6
About 11-20 years	471	4.5
More than 20 years but not all	763	7.2
All or almost all	7756	73.6
Missing	1256	11.9
<b>Total</b>	<b>10534</b>	<b>100</b>

Responses were coded: 1-all or almost all; 2-more than 20 years but not all; 3-about 11-20 years; 4-about 6-10 years; 5-about 1-5 years; 6-don't know. This variable was recoded so that higher values corresponded with a longer period of time in the US, its new values are 1-about 1-5 years; 2- about 6-10 years; 3- about 11-20 years; 4- more than 20 years but not all; 5- all or almost all; the old value 6-don't know was recoded as missing.

## Appendix K

### Frequency Distribution of Mother's Length of Time in US

Length of Time	Frequency	Percent
All or almost all	8156	77.4
More than 20 years but not all	682	6.5
About 11-20 years	554	5.3
About 6-10 years	191	1.8
About 1-5 years	143	1.4
Don't know	240	2.3
Missing	568	5.4
<b>Total</b>	<b>10534</b>	<b>100</b>

### Frequency Distribution of Mother's Length of Time in US Reverse Coded

Length of Time	Frequency	Percent
About 1-5 years	143	1.4
About 6-10 years	191	1.8
About 11-20 years	554	5.3
More than 20 years but not all	682	6.5
All or almost all	8156	77.4
Missing	808	7.7
<b>Total</b>	<b>10534</b>	<b>100</b>

Responses were coded: 1-all or almost all; 2-more than 20 years but not all; 3-about 11-20 years; 4-about 6-10 years; 5-about 1-5 years; 6-don't know. This variable was also recoded so that higher values corresponded with a longer period of time in the US, its new values are 1-about 1-5 years; 2- about 6-10 years; 3- about 11-20 years; 4- more than 20 years but not all; 5- all or almost all; the old value 6-don't know was recoded as missing.

## Appendix L

### Frequency Distribution of School Type

Type	Frequency	Percent
Public	9383	89.1
Catholic	876	8.3
Private	275	2.6
<b>Total</b>	<b>10534</b>	<b>100</b>

### Public Schools

Category	Frequency	Percent
All Others	1151	10.9
Public	9383	89.1
<b>Total</b>	<b>10534</b>	<b>100</b>

### Catholic Schools

Category	Frequency	Percent
All Others	9658	91.7
Catholic	876	8.3
<b>Total</b>	<b>10534</b>	<b>100</b>

Responses were coded as 1-public; 2-Catholic; 3-private. In the base year questionnaire, this item was designed to provide information about the school and respondents were given more response choices to identify what type of school they attended. Responses were coded as 0-regular public; 1-alternative school; 2-Cuban Hispanic public; 3-other Hispanic public; 4-not used; 5-regular Catholic; 6-Black Catholic; 7-Cuban Hispanic Catholic; 8-private school, elite; 9-private school, other. These categories were collapsed when the composite was created and responses 0-3 became 1-public, responses 5-7 became 2-Catholic, and responses 8-9 became 3-private. For the purpose of this analysis two dummy variables were created one for public and one for catholic schools. Note that these were recoded following the same convention in terms of the category "all others". "All others" is comprised of two of the three types of schools not including the one for which the dummy was created. The dummy variable for public schools is 0-all others; 1-public. The dummy variable for Catholic schools is 0-all others; 1-Catholic.

## Appendix M

### Frequency Distribution of School Program

<b>Type of Curricula</b>	<b>Frequency</b>	<b>Percent</b>
General	3602	34.2
Academic	3897	37.0
Vocational	2481	23.6
Missing	554	5.3
<b>Total</b>	<b>10534</b>	<b>100</b>

### Academic Program

<b>Type</b>	<b>Frequency</b>	<b>Percent</b>
All Others	6637	63.0
Academic	3897	37.0
<b>Total</b>	<b>10534</b>	<b>100</b>

### General Program

<b>Type</b>	<b>Frequency</b>	<b>Percent</b>
All Others	6932	65.8
General	3602	34.2
<b>Total</b>	<b>10534</b>	<b>100</b>

Responses were coded as 1-general; 2-academic or college preparatory; 3- agricultural occupations; 4-business or office occupations; 5-distributive education; 6-health occupations; 7-home economics occupations; 8-technical occupations; 9-trade or industrial occupations. This question was recoded during the third follow-up to create a composite variable of high school type whose responses were 1-general; 2-academic; 3-vocational. The item listed as vocational contained the response choices 3-9 from the original base year survey. This is recoded composite is the item that I will use in my analysis. Dummy variables were also created to analyze the between program differences. Note that all of these were recoded following the same convention in terms of the category "all others". "All others" is comprised of two of the three program types not including the one for which the dummy was created and any missing data. The dummy variable for academic program is 0-all others; 1-academic. The dummy for general program is 0-all others; 1-general.

## Appendix N

### Frequency Distribution of School Location

Location	Frequency	Percent
Urban	2866	27.2
Suburban	4742	45.0
Rural	2926	27.8
<b>Total</b>	<b>10534</b>	<b>100</b>

#### Rural

Category	Frequency	Percent
All Others	7608	72.2
Rural	2926	27.8
<b>Total</b>	<b>10534</b>	<b>100</b>

#### Suburban

Category	Frequency	Percent
All Others	5792	55.0
Suburban	4742	45.0
<b>Total</b>	<b>10534</b>	<b>100</b>

Responses for this item were categorized based on the CIC urbanization code: 1-urban or central city; 2-suburban in SMSA but not in central city; 3-rural, or not in SMSA. This item appeared as a composite in the third follow-up and items had been recoded to read as follows: 1-urban; 2-suburban; 3-rural. Note that all of these were recoded following the same convention in terms of the category "all others". "All others" is comprised of two of the three school locations not including the one for which the dummy was created. The dummy variable for rural is 0-all others; 1-rural. The dummy variable for suburban is 0-all others; 1-suburban.

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## VITA

### Lisette M. Garcia

#### Home Address

P.O. Box 10444  
Blacksburg, VA 24062  
Email: [lisette@vt.edu](mailto:lisette@vt.edu)

#### Business Address

Department of Sociology  
Virginia Polytechnic Institute  
and State University  
560 McBryde Hall  
Blacksburg, VA 24061  
Phone: 540-230-8971

#### Education:

*Doctoral Studies, Sociology, The Ohio State University,*  
Columbus, OH, degree in process

*Masters of Science, Sociology,*

Virginia Polytechnic Institute and State University, Blacksburg, VA, December 2002

*Thesis: Variations in Educational Attainment Among Different Latino Subgroups.*

*Advisor: Dr. Alan Bayer*

*Bachelor of Arts, Sociology, Race and Ethnic Relations emphasis,*

The Pennsylvania State University, University Park, PA, May 1996

*Bachelor of Science, Labor and Industrial Relations, Employee Relations Option*

The Pennsylvania State University, University Park, PA, May 1996

*Minors in Business Administration and Spanish*

#### Professional Experience:

2000-2002 Tutor, Department of Athletics,

Virginia Polytechnic Institute and State University, Blacksburg, VA

2000-2001 Teaching Assistant, Department of Sociology

Virginia Polytechnic Institute and State University, Blacksburg, VA

2000-2001 Graduate Assistant to the Vice President for Multicultural Affairs

Virginia Polytechnic Institute and State University, Blacksburg, VA

1995-1996 Teaching Assistant, Department of Sociology,

The Pennsylvania State University, University Park, PA

1995-1996 Teaching Assistant, Department of Labor and Industrial Relations,

The Pennsylvania State University, University Park, PA

**Work Experience:**

2001-2002 Assistant Director of Undergraduate Admissions,  
Virginia Polytechnic Institute and State University, Blacksburg, VA

1998-2000 Financial Aid Counselor,  
University of Richmond, Richmond, VA

1997-1998 Financial Aid Counselor,  
Peirce College, Philadelphia, PA

**Workshops:**

Spring 2002 Moderator, Southern Sociological Conference,  
Baltimore, MD

Spring 2002 Presenter, Southern Sociological Conference,  
Baltimore, MD

Fall 2000 Team Leader for the Minority Graduate Transition Retreat,  
Virginia Polytechnic Institute and State University, Blacksburg, VA

**Professional Affiliations:**

Member, Alpha Kappa Delta, the Sociological Honor Society  
Virginia Polytechnic Institute and State University, Blacksburg, VA

Member, Southern Sociological Society

Member, American Sociological Association

Member, Latino/a Sociology Association, a division of the American Sociological Association

Member, Race and Ethnic Relations, a division of the American Sociological Association

Member, Black Graduate Student Organization  
Virginia Polytechnic Institute and State University, Blacksburg, VA

Founder, Latin Link  
Virginia Polytechnic Institute and State University, Blacksburg, VA

President, Sigma Lambda Upsilon/Senoritas Latinas Unidas Sorority Inc., Theta Theta Chapter,  
DC/Maryland/Virginia