

Cleveland State University  
EngagedScholarship@CSU



---

ETD Archive

---

2014

# Individual, Family, and Institutional Factors That Propel Latino/A Students Beyond High School

Regina J. Giraldo-Garcia  
*Cleveland State University*

Follow this and additional works at: <https://engagedscholarship.csuohio.edu/etdarchive>

 Part of the [Education Commons](#)

**How does access to this work benefit you? Let us know!**

---

## Recommended Citation

Giraldo-Garcia, Regina J., "Individual, Family, and Institutional Factors That Propel Latino/A Students Beyond High School" (2014). *ETD Archive*. 110.  
<https://engagedscholarship.csuohio.edu/etdarchive/110>

This Dissertation is brought to you for free and open access by EngagedScholarship@CSU. It has been accepted for inclusion in ETD Archive by an authorized administrator of EngagedScholarship@CSU. For more information, please contact [library.es@csuohio.edu](mailto:library.es@csuohio.edu).

**INDIVIDUAL, FAMILY, AND INSTITUTIONAL FACTORS THAT PROPEL  
LATINO/A STUDENTS BEYOND HIGH SCHOOL**

**REGINA J. GIRALDO-GARCÍA**

**Bachelor of Music in Music Education  
Instituto Universitario de Estudios Musicales  
December, 2006**

**Master of Education in Curriculum and Instruction- Educational Research  
Cleveland State University  
May, 2010**

**Submitted in partial fulfillment of requirements for the degree  
DOCTOR OF PHILOSOPHY IN URBAN EDUCATION  
at the  
CLEVELAND STATE UNIVERSITY  
May, 2014**

© Copyright by Regina J. Giraldo-García 2014

We hereby approve this dissertation of

**Regina J. Giraldo-García**

Candidate for the Doctor of Philosophy in Urban Education degree

This Dissertation has been approved for the

**Office of Doctoral Studies,**

College of Education and Human Services

and

CLEVELAND STATE UNIVERSITY

College of Graduate Studies by:

---

Dr. Anne Galletta, Dissertation Co-Chairperson  
Curriculum and Foundations

---

Dr. Joshua G. Bagaka's, Co-Chairperson and Methodologist  
Curriculum and Foundations

---

Dr. Brian Harper, Committee Member  
Curriculum and Foundations

---

Dr. David Adams, Committee Member  
Curriculum and Foundations

---

Dr. Antonio Medina-Rivera, Committee Member  
Modern Languages

**May 6, 2014**

Student's Date of Defense

**INDIVIDUAL, FAMILY, AND INSTITUTIONAL FACTORS THAT PROPEL  
LATINO/A STUDENTS BEYOND HIGH SCHOOL**

**REGINA JOSEFINA GIRALDO-GARCÍA**

**ABSTRACT**

The study was designed to determine the extent to which individual and institutional support variables can predict Latino/a students' successful completion of high school and enrollment in post-secondary institutions in the U.S. Current research suggests that the Hispanic population will constitute approximately 25% of the national workforce in the USA by the year 2050. However, according to the NCES (2002) data, the high level of dropout rates from high school among Latino/a (11.5 for males and 10.3 for females) is alarming. The study examined individual student factors as well as institutional and family variables that may enhance the likelihood of Latino/a students' completion of secondary education and enrollment in post-secondary institutions. Using the 2002-2006 Education Longitudinal Study data, consisting of a sample of 2,217 Latino/a students, the binary logistic regression model identified students' socioeconomic status, their educational aspirations as well as the aspirations of their parents, and school support programs to be significant predictors of high school completion as well as enrollment in post-secondary education. The findings indicate significant differences between the predictive power of the individual and institutional variables on the completion of high school and enrollment in post-secondary institutions of first, second and third generations of Latino/a students in the U.S. In this study, females of first and second generation Latino/a students were found to be two times more likely than males in the same group to complete high school on time. This trend did not apply to third

generation female students who were found to be less likely than males of the same group to complete high school on time, with males holding 20% more chances of completion of high school. The presence of institutional based Dropout Prevention Programs was significantly associated with less likelihood of Completion of High School and Enrollment in Post-Secondary Institution across all generation of Latino/a students. The presence of Mentoring Programs was found to significantly predict Completion of High School only for second and third generation of students, and Enrollment in Post-Secondary Institutions only for third generation Latino/a students.

The model correctly classified approximately 79 percent of the observations. The findings contribute towards drawing new conclusions regarding Latino/a students' completion of high school and their enrollment in post-secondary institutions in the U.S. The study also informs educational policies regarding school environment and institutional support available for Latino/a students in the U.S. The study recommends that schools should design targeted support programs in order to enhance Latino/a students' success beyond high school. Further research to study the phenomenon of Latino/a students' completion of high school and enrollment in post-secondary institutions, targeting areas with high concentration of Latino/as in the U.S. is recommended.

## TABLE OF CONTENTS

ABSTRACT .....	vi
LIST OF TABLES .....	x
LIST OF FIGURES .....	xii
CHAPTER:	
I. INTRODUCTION .....	1
Statement of the Problem .....	1
Purpose of the Study.....	5
Significance .....	6
Theoretical Framework .....	7
Contextual and educational approaches to learning and development ....	7
Definitions of Key Terms.....	12
Organization of the Study.....	14
II. REVIEW OF THE LITERATURE .....	15
Introduction .....	15
Understanding Adolescents’ Development.....	17
Latinas’ social development .....	21
Latino/a Students’ Educational Aspirations .....	22
Institutional support to reinforce the educational aspirations of Latino/a students .....	25
Mentors and Mentoring Programs.....	31
Society, culture and the role of mentors .....	35
Social Capital and Institutional Agents .....	40
Role Models.....	42

Dropout Rates and Prevention Programs .....	44
Achievement/ Drop out gap .....	47
Family Relationships in Latino/a Adolescents' Lives.....	51
Generational Status and the Language Issue .....	54
III. METHODOLOGY .....	57
Introduction .....	57
Data Source .....	57
ELS-2002 database .....	58
Institutional Review Board.....	59
Variables.....	60
Data Analysis and Procedures .....	62
Logistic regression model .....	62
Odd ratios in logistic regression .....	63
Summary .....	64
IV. FINDINGS .....	65
Introduction .....	65
Findings of the Study .....	66
Descriptive Characteristics.....	67
Research Question #1 .....	68
Timely completion of high school .....	69
Completion of high school.....	75
Research Question #2.....	82
Timely enrollment in post-secondary institutions.....	83



Enrollment in post-secondary institutions .....	89
Summary .....	96
V. SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS	98
Introduction .....	98
Summary of the Findings .....	98
Conclusions .....	101
Discussion .....	103
Research Question #1 .....	105
Gender .....	105
Socioeconomic status .....	106
Poverty concentration .....	107
Students' aspirations .....	107
Parents' aspirations .....	108
English as a first language .....	108
Institutional support programs. Dropout prevention programs.....	109
Mentoring.....	110
Research Question #2 .....	111
Gender.....	111
Socioeconomic status.....	112
School poverty concentration .....	112
Students' aspirations .....	113
Parents' aspirations .....	113
English as a first language .....	114

Institutional support variables. Dropout prevention programs .....	114
Mentoring.....	115
Limitations.....	117
Recommendations .....	118
Recommendations for Future Research .....	120
REFERENCES .....	122
APPENDICES .....	1344
A. INSTITUTIONAL REVIEW BOARD APPROVAL .....	1355
B. VARIABLES CODE SHEET.....	1377

## LIST OF TABLES

I.	Dropout Rate by Race/Ethnicity and Gender as of 2006.....	17
II.	Summary of Logistic Regression Analysis of First Generation of Latino/a students’ Timely Completion of High School. ....	81
III.	Summary of Logistic Regression Analysis of Second Generation of Latino/a students’ Timely Completion of High School.....	83
IV.	Summary of Logistic Regression Analysis of Third Generation of Latino/a Students’ Timely Completion of High School .....	85
V.	Summary of Logistic Regression Analysis of First Generation of Latino/a Students’ Completion of High School.....	87
VI.	Summary of Logistic Regression Analysis of Second Generation of Latino/a Students’ Completion of High School.....	90
VII.	Summary of Logistic Regression Analysis of Third Generation of Latino/a students’ Completion of High School.....	92
VIII.	Summary of Logistic Regression Analysis of First Generation of Latino/a students’ Timely Enrollment in Post-Secondary Education .....	95
IX.	Summary of Logistic Regression Analysis of Second Generation of Latino/a Students’ Timely Enrollment in Post-Secondary Education. ....	97
X.	Summary of Logistic Regression Analysis of Third Generation of Latino/a students’ Timely Enrollment in Post-Secondary Education .....	100
XI.	Summary of Logistic Regression Analysis of First Generation of Latino/a Students’ Enrollment in Post-Secondary Education.....	102

XII.	Summary of Logistic Regression Analysis of Second Generation of Latino/a students' Enrollment in Post-Secondary Education .....	104
XIII.	Summary of Logistic Regression Analysis of Third Generation of Latino/a students' Enrollment in Post-Secondary Education.....	106
XIV.	Odd Ratios by Generational Status. Timely Completion and Completion of High School .....	100
XV.	Odd Ratios by Generational Status. Timely Enrollment and Enrollment in Post-Secondary Institutions. ....	101
XVI.	Description of Dependent (Outcome) Variables for High School Completion and Enrollment in Post-secondary Institutions of Latino/a students.....	150
XVII.	Description of Independent (predictor) Variables for High School Completion and Enrollment in Post-secondary Education of Latino/a students: Educational Aspirations, Language, Mentoring.....	151

## LIST OF FIGURES

Figure 1. Intersection of Theories and Approaches to Education.....	11
Figure 2. English as a First Language by Generational Status .....	67

## **CHAPTER I**

### **INTRODUCTION**

#### **Statement of the Problem**

The Latino population is considered to be the fastest growing minority group in the United States. Llagas and Snyder (2003) estimated that by the year 2050 this group will constitute approximately 24% of the total U.S population and 25% of the national workforce (as cited in Nora & Crisp, 2009), while another report estimated that Latino/as will make up 29% of the U.S. population in 2050, compared with 14% in 2005 (Passel, Cohn, Agarwal, Srivastava, Choudhary, Kaushik, & Banoba, 2007). However, research indicates that there is a high level of dropouts from high school and a low percentage of students who obtain a high school diploma and proceed to obtain college degrees among this population (Llagas & Snyder, 2003). Likewise, a great deal of research on this minority group seems to indicate that for Latino/a adolescents the most salient themes linked to dropout from high school may be related to teen pregnancy and/or parenting, low expectations of staff and teachers, and the perceptions of racism among Latino/a adolescents (Aviles, Guerrero & Howarth, 1999). Similarly, factors related to gender (Carpenter & Ramirez 2007; Velez, 1989) are predictors of dropout, echoing the report of the National Center for Education Statistics (2006) where Latina students had the highest rates of drop out from high school, compared to all female students, while Latino students

had the second highest dropout rate among male students after Native Americans (Laird, Lew, DeBell, & Chapman, 2006). Pirog and Magee (1997) and Friedenber (1999) linked socioeconomic level or poverty level of the participants with teenage pregnancy; and Friedenber (1999) concluded that pregnancy alone is a significant risk factor to cause drop out for this particular population. The reported high rates of dropout from high school have a direct relationship with the low high school graduation rate of Hispanics, which in turn affects their college enrollment (Lozano, Watt & Huerta, 2009). The non-completion of high school or completing but not continuing to enroll in postsecondary education, and ultimately getting a degree, is economically deleterious to students, resulting in their earning less income over their life time (Laird, Lew, DeBell, & Chapman, 2006).

Official reports from U.S Census 2000 highlight that, with the highest dropout rate at the high school level, only 64% of Latino/a eighteen to twenty four year-olds had completed high school. Karcher, Kuperminc, Portwood, Sipe and Taylor (2006) found that in 2001, 43.4 percent of Latino/a sixteen to twenty four year-olds who had been born outside of the United States dropped out of high school while Latinos/as born in the United States had fewer possibilities to be dropouts. Regardless of their generational status in the United States, Latino/a adolescents were more likely to dropout from high school than their counterparts of other ethnic and racial groups. Furthermore, relevant evidence from a series of previous research studies provides additional information on Latino students' completion of high school, enrollment in higher education and whether they enroll in a two-year or four-year higher education program. However, most of the results of the studies point in different directions. For example, the views and findings

drawn from previous research point toward an increasing enrollment of Latino/a students in college, with the highest growth rate, but still remaining as the group least likely to go to college when compared to others (Lozano et al., 2009; Behnke, Gonzalez, & Cox, 2010).

Nevertheless, the influence that individual and institutional variables might have on Hispanics' successful completion of high school and their enrollment in post-secondary institutions needs to be further explored at the national level, considering the possible differences according to the students' generational status and other characteristics. Although the target population of this study is in the adolescent stage of development, it is important to note that their generational status as first, second or third generation of immigrants represents an important factor for the analysis of the students' aspirations, the aspirations of their parents about the educational level they hope to be achieved by their children, and the predictive power of parents' aspirations on the students' successful completion of high school and later enrollment in post-secondary institutions. Likewise, institutional support that includes the delivery of knowledge-based resources, such as guidance for college admission or job advancement, is highly valued among low status and Hispanic students as a form of social capital (Stanton-Salazar & Dornbusch, 1995). Nevertheless, the effect of institutional supports, described as participation in mentoring and dropout-prevention programs, could have a very different impact, benefiting some and having no effect at all for others, when generational status is included as a control variable.

When researchers have addressed the impact that individual and institutional variables might have for Latino students' successful completion of high school and later



enrollment in post-secondary education, their findings present some gaps in terms of the variations of the effects according to the generational status of the participants, prompting the need for further analysis. Nora and Crisp (2009) argued that unless college graduation rates of Latino/a students show significant increases, the unemployment and poverty rates for this group are sure to rise. The authors explained that in Texas, for example, it was projected that by 2030 the average household will be \$4,000 poorer than in 1990, increasing the poverty rate nearly 3% (Nora & Crisp, 2009). The analysis of the influence of individual and institutional pre-college variables becomes relevant to better understand how they impact Latinos/as' high school completion and post-secondary enrollment.

Preliminary analysis of the educational longitudinal study data from the National Center for Education Statistics (NCES) shows that the dropout rate for Hispanic high school students is the second highest after Native Americans, is more than double that of White students and is approximately three times that of Asian students. Likewise, the dropout rate for Hispanic female students is the highest among all female students (NCES, 2006). (See Table I).

Table I

*Dropout Rate by Race/Ethnicity and Gender as of 2006.*

Race/Ethnicity	Gender		
	Male	Female	All
Native Americans	14%	9.0%	11.8%
Asian/Hawai/Pac Isl	4.5%	2.5%	3.6%
African American	12.7%	8.3%	10.6%
Latino/a	12.8%	10.3%	11.5%
Multiracial	9.4%	6.3%	7.8%
White	5.2%	3.8%	4.5%

### **Purpose of the Study**

The purpose of the study is to determine the extent to which individual, family and institutional variables can predict Latino/a students' successful completion of high school and enrollment in post-secondary institutions. The study sought to identify the predictive power of individual student variables such as students' aspiration, parents' aspirations, whether English is the students' first language; and institutional support variables such as participation in mentoring/tutoring programs and dropout prevention programs on the students' successful completion of high school and later enrollment in post-secondary education. The analysis utilized Latino/a students' gender, socioeconomic status and generational status as control variables. The following overarching research questions will guide the study:

1. To what extent do institutional support, family background, and students' educational aspirations predict Latino/a high school students' completion of high school?

2. To what extent do institutional support, family background, and students' educational aspirations predict Latino/a high school students' enrollment in college or post-secondary institutions?

### **Significance**

The Latino population in the United States is having and will have an even greater impact on American socioeconomic life. This study facilitates a better understanding at the national level of the effect of this group's individual and family characteristics and educational aspirations, as well as the effect that institutional supports (e.g. Dropout Prevention Programs, Mentoring programs) have on Latino/a students' secondary education completion and enrollment in higher education. The findings of the study contribute to efforts to drawing new conclusions and making recommendations for practice in the classroom-school environment and for educational policy implementation regarding school environment and institutional support availability for Latino/a students in the United States.

The use of nationally representative data that included information about students, parents, and schools, facilitating the process for identifying Latino/a students' performance along with the influence that individual and institutional support variables might have on their educational attainment at the high school level and their enrollment in college or post-secondary education institutions. These are relevant factors to the educational lives of Latino/a youth in the transition between high school and post-secondary education. The researcher is a member of the Latino population, and being a female with the implications addressed by research on this gender emphasizes the interest in pursuing the objectives of this study.

## **Theoretical Framework**

**Contextual and educational approaches to learning and development.** The theoretical framework of this study is influenced by the socio-cultural approach to learning and development of Lev Vygotsky (John-Steiner & Mahn, 1996) linked to Urie Bronfenbrenner's (1997) ecological approach to education and Patricia Collins' (1998) situated standpoint theory and intersectionality, respectively.

Vygotsky's socio-cultural theory of development holds that knowledge has its primary origin in the social and material history of the culture of which the subject is a part. The theory is influenced by the political and economic philosophy of Marxism that stressed equality of all, and Vygotsky saw human development as a product of culture — one's intellectual abilities were intertwined with one's social interactions and the knowledge of an individual was part of a web of shared knowledge of the individual's culture. These thoughts are explained by the fact that Vygotsky began his work in psychology shortly after the Russian revolution, and the new Marxist philosophy emphasized collectivism and socialism (Kristinsdóttir, 2000). Children acquire both their ability to think and their tools to process their thinking from their environment. For Vygotsky, cognitive development, like material processes, was dialectic; since knowledge was transferred dialogically, language plays a key role in the learning process. Children use language as their “primary tool of intellectual transformation” (Kristinsdottir, 2000) and as they grow, they move from using their parents' speech to using their own internal speech to self-regulate their behavior. “Development,” for Vygotsky, is actually a process of internalizing bodies of knowledge passed down by one's culture, from the outside world to one's inner world. What a child is able to

accomplish on his or her own was termed the “level of actual development,” and to move beyond, the child needed the assistance of a “More Knowledgeable Other” (MKO) to assist within a time-frame known as the Zone of Proximal Development (ZPD); assisted within that zone, a child is lifted from one level of learning to another more advanced level. For Vygotsky, the child must rely on others—on activities that invite exchange of knowledge, transmission of ideas—and an important milestone in children’s development is the acquisition of language— which can be achieved by interactions with adults (Glassman, 2001). For the theorist, it was important to create a community of authentic praxis at school, and initiating children into it. The theoretical framework, focused on Latino/a students’ success beyond high school, also benefits from Bronfenbrenner’s (1979) conception of development which noted that human development is the process through which the growing person acquires a more valid, differentiated, and extended conception of the ecological environment. The adolescents then come to be motivated and able to engage in activities that reveal the properties of, sustaining and restructuring the environment at levels of similar or greater complexity in form and content. Bronfenbrenner’s (1997) ecological framework proposed by emphasizes that the contexts in which an individual resides can either hinder or facilitate development. Although there are many contexts that impact Latino/a adolescents, one cannot understand development without considering the individual within the family context as the family is a powerful and persistent context for youths’ socialization (Parke & Buriel, 1998). Bronfenbrenner proposed that while the child is developing he or she functions across layers of relationships “similar to a set of nested Russian dolls” (1997, p. 3). The inner circle is called the microsystem and it describes each setting in which the child has direct

relationships with significant people such as parents, friends, and teachers on a daily base. According to this approach, when parents talk to teachers, the parents initiate lateral connections that are called the mesosystem (p. 25). Outside this is an external circle of people who are indirectly connected to the child's development, such as the central school administrators and other entities in society; this is called the exosystem (p. 25). Bronfenbrenner also described the prevailing cultural and economic conditions of the society as a macrosystem and a chronosystem indicating that these nested relationships are situated in time and shift accordingly (Leonard, 2011).

While Bronfenbrenner looked at development and relationships through the lenses of ecological layers, Vygotsky, in his socio-cultural theory posited culture as the core material of thinking. Nevertheless, background, cultural, and social barriers, as well as an educational system with a complex yet limited concept of achievement measurement based on standardized tests, could act as sources of oppression for minority groups like Latino youth in high school. The preceding describes a "one size fits all" approach that restricts not only the students' views about the world through the multiple layers, but also hampers their ability to become productive members of the society in which they live.

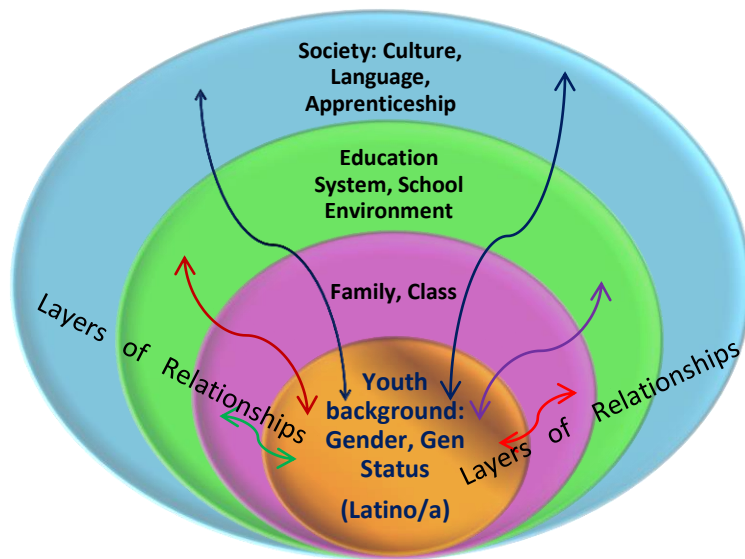
Patricia Collins (1998) analyzes the paradigm of situated standpoint theory and intersectionality, which in the context of her book, *Fighting Words: Black Women and the Search for Justice*, is of great contribution for Black feminists locating a theoretical posture within lived experience as well as a shared notion of community. Collins (1998) emphasized how important is to think through the interaction of power relations and groups and noted that these relations have layers of complexity. The author made a

substantial effort to understand and to study in a more effective way the experiences of black women and their distinctive history as a group.

For this purpose, Collins (1998) uses intersectionality and situated standpoint theories as the framework of her analysis to discuss the multidimensional structure in which groups can be located. She also wants to indicate the need for more effective language and understanding of the nature of power relations and how the interaction of different characteristics of the group come into play in shaping those relationships and the group's experiences. Although the analysis was based on the specific standpoint of Black women, this approach also helps to explain other minority groups' experiences, such as Latino/a students, within hierarchies of power relationships.

Collins argues that intersectionality stresses how African-American women and other social groups are positioned within unjust power relations. The author supports this view through Marx's approach to social classes, introducing added complexity to preexisting race-, class-, and gender-only approaches to social phenomena. Collins noted that all these aspects mutually reinforce one another and considered that the standpoint theory of race-only or gender-only thinking is a limited way of analysis and fails to address hierarchy within groups. Similar to Patricia Collins' work, Freire's (2000) pedagogical proposal also goes beyond the classroom boundaries and effects significant changes in the society as well. Freire's work emphasizes the importance of dialogue as a way of engaging in and recognizing the social and interactive character of knowing, viewing it as an indispensable component of the processes of knowing and learning (Freire, 2000). In like manner, in his work *Pedagogy of the Oppressed* (2000), Freire considered that it was very important to approach the analysis of oppression through a

convergent theoretical framework where the object of oppression is cut across by such factors as race, class, gender, culture, language, and ethnicity. The outcome of the process results in society's working together in the creation of new norms, rules, procedures, and policies. Figure 1 places the student in the center, with various microsystem-level settings and other surrounding social environments or exosystem/macrosystem-level settings arranged concentrically. The generational status analysis of the study allowed us to address the chronosystem that has an effect on different generations of Latino/a students, indicating that their nested relationships in the school environment were situated in time and had a specific effect on every generation accordingly. In the following visual display we observe the intersection of theories and approaches: Vygotsky's socio-cultural theory (Child-Society/Apprenticeship), Bronfenbrenner ecological layers of relationships and the interactions between aspects associated with Patricia Collins' intersectionality and situated standpoint theories.



**Figure 1.** Intersection of Theories and Approaches to Education.



## **Definitions of Key Terms**

*Aspiration:* Johnson (1992) and Williams (1972) stated that educational aspirations were commonly defined as a desire for future status or gaining personal goals toward which an individual will direct behavior (as cited in Lozano et al., 2009) while Liu (2009) noted that “Educational aspiration is one of the most important factors influencing an individual's educational attainment.”

*Dropout:* In this study a dropout is defined simply as the status of a high school student who was neither a high school graduate nor enrolled in high school.

*Hispanic:* Contemporary definitions of the term describe Hispanic (adjective) as being a person of Latin American, commonly of Cuban, Mexican, or Puerto Rican descent, living in the U.S. (Merriam-Webster's Collegiate Dictionary 11th Edition Dictionary 2004). The Oxford Dictionary of English defines Hispanic as relating to Spain or to Spanish-speaking countries or their culture, especially those of Central and South America that are in the US (Stevenson, 2010; Valdeón, 2013).

*Institutional Support:* This study uses the term institutional support as the delivery of knowledge-based resources provided by schools, such as school arranged guidance for college admission and dropout prevention programs.

*Latino/Latina:* The term "Latino", derived from "Latin American," is offered as the term that best reflects both the diverse national origins and the nearly unitary treatment of Latinos in the U.S. The term Latino is operationalized to include all persons of Latin American origin or descent, irrespective of language, race, or culture. Specifically excluded are individuals of Spanish national origin outside the Western Hemisphere. When a synthetic sample has been derived, the term should be modified to

reflect the basis upon which the sample was derived, e.g., "Latino (Spanish surname)." When working with Latinos from a specific national origin, that should be noted, e.g., "Mexican origin Latinos." (Hayes-Bautista & Chapa, 1987).

In 1997 the Office of Management and Budget published a revision of its "Standards for the Classification of Federal Data on Race and Ethnicity". It stated that "the term Hispanic will be changed to Hispanic or Latino." Such a change was justified based on the fact that "there were a few requests to include Latino in the category name for the Hispanic population." The United States Census claimed that origin could be viewed as the nationality group, heritage, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the US (US Census Bureau; Valdeón, 2013). Although the term Hispanic is used by the U.S. Census Bureau to identify Spanish-speaking persons of Latin American or Spanish descent and also remains embedded within academic discourse to a great depth, those dealing with the social sciences are more inclined to embrace the more culturally marked Latino, as it is the case of the researcher of this study. Considering that the terms Hispanic and Latino are often used interchangeably in the literature, both Latino and Hispanic are used among individuals living within the U.S, and for the purpose of consistency in this document, the term Latino/a will be used throughout the study.

*Mentor:* According to Stanton-Salazar (2011), mentors are school agents that have the ability to increase students' access to networks, information and resources, offering empowering relationships to students from historically oppressed groups (as cited in Prange, 2013).

*Mentoring:* This concept was defined by Roberts (2000) as a formalized process whereby a more experienced and knowledgeable person performs a supportive role of encouraging reflection and learning within a less knowledgeable and experienced person, so as to assist that person's personal development and career (as cited in Hu & Ma, 2010). This definition also reflects Vygotsky's socio-cultural approach to learning and development which provides a theoretical framework for this study.

*Role Model:* Stanton-Salazar and Spina (2003) described role models as those exemplary adults that serve as sources of inspiration and pride for (Hispanic) students. In the context of this study mentors and/or persons within institutional support programs and involved in assisting Latino students are considered role models.

### **Organization of the Study**

Chapter one provided an overview of the factors influencing the completion of high school and later enrollment in post-secondary education of Latino/a students, along with the rationale for and an overview for the proposed study. Likewise, chapter one provided the theoretical framework of this study, linking different approaches to development and education within a socio-cultural context to the academic progress of the Latino/a youth in the U.S. This framework locates Latino/a students in a complex intersection of interactions, challenges and limitations for success. Chapter two explores with greater depth the literature on Latino/a high school students' academic attainment and transition to higher education from the theoretical framework of social capital, as well as literature related to individual and family background characteristics. Chapter three describes the proposed study design and methodology, as well as specific description of the variables of interest for this study.

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

#### **Introduction**

The Latino population in the United States constitutes the fastest growing minority group in the United States. It is estimated that by the year 2050 this group will constitute 24% of the total population and one fourth of the national workforce (Nora & Crisp, 2009). On the other hand, research indicates that there is a high level of dropouts from high school in this population and a low percentage of students who obtain a high school diploma achieve college degrees. Those of Latino/as descent are a population whose median age is approximately 27 years old, representing an important potential contribution to the future of the United States of America. It is important to identify the extent to which individual and institutional support variables, such as educational aspirations and participation in school programs, have an effect on Latino/a students' successful completion of high school and enrollment in post-secondary education.

A great deal of the literature based on this minority group seems to indicate that high rates of dropout among Latino/as have a significant impact on the group's completion of high school and consequently on their level of enrollment in post-secondary education. For example, female adolescents have a higher rate of dropout from high school, revealing that the most salient themes linked to Latino/a students' dropout

from high school may be related to teen pregnancy or parenting among adolescents in this group and their socioeconomic status (Aviles, Guerrero & Howrath, 1999; Pirog & Magee, 1997). On the other hand, research also indicates that Latino male students are “vanishing” in a disproportionate way from the ranks of secondary and postsecondary levels in the American education if compared with their female counterparts (Saenz & Ponjuan, 2009). Saenz and Ponjuan (2009) explained how in a period of approximately 30 years (1975-2006) the enrollment by gender at four-year postsecondary education institutions decreased from 57.4% to 39% for Latino males and increased from 42.6% to 61% for Latina female. However, there are other factors that not only play a role in the dropout rate of Latino/a students, but also have an impact on their academic achievement or enrollment in college beyond high school completion. For example, the expectations for the Latino male to work in order to contribute to the family’s well-being are still a current norm for many, as it is the role of the stay-at-home caregiver for Latina females (Suarez-Orozco & Suarez-Orozco, 1995).

Research findings on minority groups’ academic achievement are divergent. Studies indicate that college aspirations are a strong predictor of academic achievement among Latino/a high school students (Buriel & Cardoza, 1988). Another study found that although most Latinos/as had high educational aspirations (Arbona & Novy, 1991), they reported lower college and graduate school attainment than did other racial/ethnic groups. There is a clear paradox between the aspirations of Latino families and their children’s academic outcomes. Similarly, institutional support has been found to play a paramount role in helping to keep high educational aspirations among high school adolescents while

promoting better academic performance at the high school level, especially in the case of students of Hispanic descent (Lozano et al., 2009).

This study looks at the individual and institutional support factors that might predict Latino/a students' successful completion of high school and enrollment in post-secondary institutions. The analysis differentiated the outcomes by gender and generational status in order to establish specific differences that could play a role in the administration of support programs and in the teacher/mentor approach to the Latino/a students in the classroom/school environment.

The following section explores existing literature concerning the period of adolescence in general and the context of the Latino/a youth experiences. The challenges, crises, and influence of the cultural context in a period of apprenticeship for Latino/a adolescents are discussed from a cognitive and socio-cultural perspective. Likewise, this chapter looks at the effect of students' individual and family characteristics and aspirations in relation to that of institutional support programs such as mentoring and dropout prevention programs and their effect on Latino/a students' completion of high school and enrollment in post-secondary education.

### **Understanding Adolescents' Development**

Research on adolescent development specifies stages, influences and characteristics that help in the understanding of this period of human development, providing a perspective from the standpoint of the adolescents in a complex and transitional context.

Theories of human learning and development such as those of Jean Piaget and Lev Vygotsky are helpful to set the cognitive and socio-cultural aspects in the context of

adolescents' lives. Piaget proposed that development follows an invariable sequence in four stages that go from the moment of birth through adulthood. The stages are: 1. Sensorimotor period (birth to 2 years), 2. Preoperational stage (2 to 7 years), 3. Concrete operational (7 to 11 years); and 4. Formal operations (12 years and up). In this study the focus is placed on the last stage of development in the context of Latino/a students in high school. According to Piaget's theory, in the formal operations' stage is when children are able to have advanced logical thinking and abstract thinking. In this stage, adolescents and adults can think about abstract objects, events, and concepts (Feldman, 2004). They develop the ability to use propositional logic, inductive and deductive logic, and are also able to reflect on their own thinking processes (Chapman, 1988). For some Latino/a adolescent students propositional logic and deductive thinking might be influenced by their individual characteristics, the lack of resources they face in most cases, along with their experiences in school with those who play a role as partners in education.

Neoconstructivists support Piaget's fundamental idea, holding that a mind that is biologically prepared interacts in biologically evolved ways with an expectable environment that includes significant variation (Newcombe, 2011). Likewise, development and learning are intrinsically associated concepts but are not exactly the same because development is learning as the learner changes. Piaget treated the processes of transformations of cognitive structures as though they operated on the whole system of structures in the child's repertoire (the-structure-of-the-whole). Later in posterior work, he preferred the notion that such processes operate on one particular subgroup or class of such structures at the time in a dynamic way (Piaget, 1985). This last position has been

adopted by Neo-Piagetians such as Fisher (1980), Pascual-Leone (1988) and Case (1985) (in Case, 1992). These theorists agree that processes driving activities of lower-level skills, attention, learning, or problem solving and exploration, act on one local structure or set of structures at a time, not on the child's entire structural repertoire (Case, 1992).

Recapitulating on Piaget's work, the theorist's most relevant contributions to education are ideas about how educators should help children learn how to learn, and the important role of peer interactions in the child's cognitive development, implying the relevant role of social interactions. These last two ideas are shared by Vygotsky in his socio-cultural approach to learning, where the theorist defines a zone of proximal development (ZPD) as the difference between what the student can learn on his/her own and with the assistance of a more knowledgeable other (MKO), such as a more advanced peer or teacher. This brings about the importance of interactions among teacher-student and student-student that sometimes get disrupted by barriers of varying natures for Hispanic students in high school (Ojeda & Flores, 2008). For many Latino/a students, disadvantage includes parents' immigrant and socio-economic status and little knowledge about the American educational system (Schneider, Martinez, & Owens, 2006).

Considering another aspect of development, Dolgin (2007) defined adolescence as a period of search for identity while everything presents itself as uncertain. Research about the life span and development describes the stage of adolescence as one of complex transitions and self-discovery (Rice & Dolgin, 2002). It is a time of much physical, social, and emotional change as youth are becoming individuals capable of reproduction around the puberty period. It is also a time of opportunity and risk. Stanley Hall (the



father of adolescent psychology) stated that it is a time of “storm and stress” (Hall, 1904), a confusing time for both parents and adolescents (Harris-McKoy & Cui, 2013).

As indicated by Rice and Dolgin (2002), most people tend to think of adolescence as ending with a combination of attaining independence in the financial and emotional aspects, and reaching a change in perspective in which one focuses on issues that are less adolescent and more adult. Nevertheless, adolescents should be given the space by parents and other adults to explore and develop (Erikson, 1968; Steinberg & Silk, 2002), because they are still not fully mature. Therefore, parents and other adults are still very important in providing monitoring and guidance (Steinberg & Silk, 2002), especially for Latino adolescents whose family interactions play a key role in the development of their identity (Schwartz, Mason, Pantin, & Szapocznik, 2009).

According to Zajko (2007), family life can also significantly affect the years of adolescence because many households have both parents working, resulting in less interaction and involvement between parents and children. Similarly, in recent times many adolescents have their own job to save up for college or to buy clothes and other material possessions and, as a result, “many of these adolescents sleep less, often resulting in poorer academic skills, and generally being more tired and unfocused” (Rice & Dolgin, 2002, as cited in Zajko, 2007), noting that educational and vocational issues are also important to an adolescent’s life.

Similarly, Smith (1976) as well as Kenny, Blustein, Chaves, Grossman, and Gallagher (2003) argued that with little exposure to racial and ethnic role models in varied professional occupations, urban minority youth obtain limited knowledge of occupational alternatives that could serve to shape their goals and aspirations

(Constantine, Erickson, Banks, & Timberlake, 1998). According to Constantine et al. (1998), systemic factors (such as poverty and racial/ethnic discrimination) might impact the educational and career development of urban minority youth, diminishing their career aspirations and expectations and having a negative effect on motivation for school and career success. The developmental contextual framework (Lerner, 2002; Vondracek, Lerner, & Schulenberg, 1986), depicts a dynamic and reciprocal interplay between the individual and the social context. This framework allows conceptualization mechanisms through which systemic factors can influence educational and career goals and behaviors of youth. According to this framework, the environment does not shape the individual, but instead he or she gives meaning to environmental experience and behaves according to those interpretations of the environment and builds new meanings about it (Vondracek, Lerner, & Schulenberg, 1986). The developing adolescent is thus affected not only by events occurring in the social context but also by the meaning he or she gives to these events. The meaning attributed to perceived occupational and educational barriers may represent one mechanism through which systemic factors come to impact the adolescent's career attitudes and behaviors (Solberg, Howard, Blustein, & Close, 2002). These attitudes and behaviors might be different for Latino students of different genders considering their role in their familial, community and school environment.

**Latinas' social development.** Colón and Esparza (2005) examined the roles of sense of belonging and gender in the academic outcomes of urban, Latino/a adolescents. As expected, sense of belonging played a different role in males' and females' academic adjustment. The study found that females consistently had more positive academic outcomes than males and that sense of school belonging significantly predicted academic

outcomes, including academic motivation, effort, and absenteeism. However, Colón and Esparza (2005) could not show that gender explained differences in the relationship between sense of belonging and academic outcomes.

### **Latino/a Students' Educational Aspirations**

The influence of educational aspirations on students' academic achievement has been the subject of substantial research and findings indicate that individual aspirations may vary according to a series of factors, and then those aspirations would have a different effect on the students' academic performance. In the case of comparative studies, low income and Hispanic students are considered to have lower and less stable educational aspirations than other ethnic groups (Wahl & Blackhurst, 2000; Lozano et al., 2009; Lys, 2009; Liu, 2009; Blackhurst, & Auger, 2008; Flores, Navarro, & DeWitz, 2008; Hill et al., 2004). Johnson (1992) and Williams (1972) stated that educational aspirations were commonly defined as a desire for future status or gaining personal goals toward which an individual will direct behavior (as cited in Lozano et al., 2009) while Liu (2009) noted that "Educational aspiration is one of the most important factors influencing an individual's educational attainment." (p. 5)

According to Lozano et al. (2009), the aspiration of Latino/a students' academic attainment do not seem to vary between 10<sup>th</sup> grade and 12<sup>th</sup> grade for groups of students participating in Advancement Via Determination (AVID) and Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP), two college preparatory programs that aim to increase the access of Hispanics to higher education. However, participants in those programs held high aspirations for college, due to the rigor of the AVID and GEAR UP programs (Lozano et al., 2009). These types of interventions

helped Latina/o students to aspire for higher education, consequently, opening a door for better opportunities in life. Contrary to African-Americans, group that experiences discrimination that contributes to inequalities in earnings, Latinas/os are paid comparably to Whites when having the same level of education (Tienda & Mitchell, 2006)

Research indicates that the stability of youth aspirations is important for their goal attainment (Liu, 2009). However, Liu (2009) noted that students' aspirations do change during transitional periods of their lives. The author examined educational aspiration changes during the transition from high school to college or employment; including individual factors, socio-psychological factors, social environmental factors, and prominent college enrollment patterns as predictors of change. The study found a decreasing trend in the sophomore cohort's educational aspirations which started to some extent with high educational aspirations (e.g. between "Graduate from college" and "Obtain Master's degree or equivalent") at the first measurement in 10th grade and then the aspirations decreased over the next two assessment periods throughout the high school years, with approximately 80% of the changes taking place between the first two assessment periods. Liu (2009) concluded that it is important for students to keep high and stable educational aspirations during the critical transition years of high school. Nonetheless, something happens for latino/a students during this critical period of high school years.

However, when Latino/a students participate in college preparatory programs such as AVID and GEAR UP, they are more likely to maintain high aspirations for college, due to the rigor of the programs (Lozano et al., 2009). These findings put some light on the effect that intervention programs might have on the academic aspirations of

Hispanic students and, in turn, on the achievement of their academic goals. Aspirations may vary, but intervention programs play a key role on maintaining high aspirations among Hispanics toward their academic success beyond high school and can lead to upward mobility. In a similar manner, and from the parents' perspective about their adolescent children's participation in GEAR UP programs, a study on low-income Latino students showed that increased student exposure to GEAR UP programs greatly increased the probability that parents would report that their children are going to attend college (Weiher, Hughes, Kaplan & Howard, 2006).

Commonly, students enrolled in intervention programs have had higher aspirations than students not enrolled in such programs (Gándara, 2002); however, according to St John (1991) "aspirations alone are not sufficient to overcome poor academic preparation" (p. 154). In this sense, Gándara (2002) highlights the importance of intervention programs that expose students to information about college opportunities, helping them raise their aspirations over time and have higher, more stable aspirations. A sustained effort to this end is essential. This is especially relevant in the case of Hispanic students, because, according to Wahl and Blackhurst (2000) Hispanic students, along with Native-Americans, had among the lowest and least stable educational aspirations reported and that 8th-, 10th-, and 12th-grade Hispanic students had the lowest aspirations at each of the three grade levels.

With the belief that aspirations are crucial in affecting college enrollment, many preparatory programs have focused their services on this aspect (Wahl & Blackhurst, 2000). However, drawing from the literature, academic aspirations by themselves are insufficient for significant academic achievement. If we want aspirations to increase the

chances for Latino/a student success, those aspirations need to be accompanied by academic preparation and planning for college, through supportive intervention programs. Such a combination would help this minority group achieve their academic goals at the high school level, while molding the path to post-secondary education. However, Latino/a students need to have realistic information about postsecondary options and their own likelihood of success (Valadez, 1998), making the need for more guidance and institutional support at the high school level remarkable.

**Institutional support to reinforce the educational aspirations of Latino/a students.** Educational aspirations of Latino/a students are best sustained through institutional supports in school. However, there are a series of factors that influence the educational aspirations of Latino/a students at the individual and contextual levels indicating that the factors that impact aspirations for different ethnic groups are also different.

Wahl and Blackhurst (2000) noted that the nation's economic future depended on higher levels of educational attainment within those strata of society possessing the lowest levels of education. In addition, a continuous growth in technological advances had made almost a necessity that youth get some kind of postsecondary education. Likewise, that growth made relevant the importance of career guidance services in K-12 institutions that prepared students for postsecondary options that meet the specific needs of each student as well as the needs of the job market and the national economy (Wahl & Blackhurst, 2000).

Wahl and Blackhurst (2000) found that socioeconomic status and racial background played a core part in determining both educational and occupational

aspirations during childhood and adolescence. It might be the students' socioeconomic status and their racial background, accompanied by the often poorly resourced in school settings where Latino/a students are enrolled, make a difference in their academic attainment. This combination may lower the aspirations Latino/a students hold in a context with so many limitations.

Moreover, the effects of race and gender were mediated by socioeconomic status, causing limited or non-existing access to important resources for students from low socioeconomic backgrounds, in consequence leaving them not as skilled at capitalizing on available resources as students from higher socioeconomic backgrounds. It seemed that the issue related to institutional support through career guidance programs have been influenced by demographic and economic factors. In addition, parental expectations and support influenced the aspirations of Hispanic students toward higher education (Wahl & Blackhurst, 2000).

Similarly, Henry, Plunkett, and Sands (2011) found significant differences in fathers' but not mothers' involvement and academic aspirations for youth, depending on the family structure (intact, stepfather, single-mother/nonresident involved father), while parent academic involvement may be interpreted in different ways and serve different purposes across socio-demographic backgrounds (e.g. parent academic involvement in 7th grade - negatively related to 8th-grade behavioral problems and positively related to 11th-grade aspirations. Hill et al., 2004). Furthermore, the parents' role in the development of the educational aspirations of Latina/o students was found in some studies as influential for students' college aspirations (Ceja, 2004), while other studies

point out that parental expectations were not as influential (Arbona & Nora, 2005; Perna & Titus, 2005).

In terms of contextual factors related to the educational aspirations of Mexican American high school students, Ojeda and Flores (2008) found that perceived educational barriers was a stronger predictor of students' educational aspirations when compared to the influence of gender, generational level, and parents' education level. The authors found that Mexican American adolescent girls who perceived fewer career barriers had higher career aspirations than did Mexican American adolescent girls who perceived more barriers. For example, the “system” can become a barrier for Latina/o students’ aspirations and academic outcomes when it facilitates instrumental discrimination (e.g., in employment and wages), relational discrimination (such as social and residential segregation), and symbolic discrimination (e.g., denigration of the minority culture and language) (Ogbu & Simons, 1998).

In another study, Gloria, Castellano and Orozco (2005) examined the influence of Latinas’ perception of educational barriers and cultural fit on their coping responses and subsequent well-being in college. Gloria et al. (2005) included in their study second-generation Mexican-heritage women who held high aspirations about educational achievement and graduate training. The results of their study did not show differences by generation and educational characteristics; however, cultural congruity and the coping response of taking a planned, positive action were the strongest predictors of psychological well-being. Once again, it seems that high aspirations and organized planned action (e.g. guided-organized actions) are keys to youth academic success. Gloria et al. (2005) argued that the findings of their study challenged common stereotypes of



Latina students in higher education, as students firmly believed that they were able to overcome any barriers to achieve their educational goals, valued higher education, and used active coping responses, resulting in a healthy and positive functioning.

Conversely to Ojeda and Flores (2008), Flores et al. (2008) did not find gender or generational status differences in educational aspirations or expectations; and Mexican-oriented acculturation, college self-efficacy, and college outcome expectations were not significantly related to Mexican American students' educational goals aspirations or expectations.

Although findings from Flores et al. (2008) are well supported, the generational status of Latino/a students could play a role in their aspirations about success in high school and beyond if we consider the socio-cultural environment and challenges faced by different generations of Hispanics in the U.S. If we analyze John Ogbu's cultural-ecological theory of minority school performance, we might shed some light on the performance within minority groups that influence the way they perform as a whole. From 1980 to 1997, Ogbu focused his work on the study of voluntary minorities and involuntary minorities and how they differed in socio-cultural adaptation. For example, voluntary minorities were "people who chose to emigrate to the United States permanently because they expected better opportunities (e.g. better jobs, more political or religious freedom, etc.)" and to pursue the "American Dream" (Ogbu, 2003, p. 50). This classification group includes "immigrants from Africa, Central America, India, Japan, Korea, the Caribbean, Mexico, the Middle East, the Philippines, and South American countries" (p. 50). On the other hand, involuntary minority immigrants are described by Ogbu as "people who are in the United States because they were initially colonized,

conquered, or enslaved by White Americans” (p. 50). According to Ogbu (2003) involuntary minorities “interpret their presence in the United States as forced on them”. This group includes “Native Americans, Alaskan Natives, Black Americans, original Mexican Americans in the Southwest, and Native Hawaiians”.

Ogbu’s studies suggest that in most cases, voluntary immigrant minorities outperform their involuntary counterpart (Ogbu, 1993). That phenomenon seems to be true for Hispanic high school students according to their generational status because “second- and third-generation Latinos in the United States perform less well than do recent immigrants” (Hill & Torres, 2010). First generation of Latina/o students hold higher achievement motivation and perceive fewer barriers to attaining their goals (Hill, Ramirez, & Dumka, 2003). According to Hill and Torres (2010), such performance contradicts the hopes and aspirations for upward mobility, a better life, and the deep value for education that are tightly believed by many Latino immigrant families.

According to Ogbu (1993), the voluntary minorities that are performing considerably well are those that keep their ancestral cultural practice in socialization and social orientation instead of those closest to the Western model. Likewise, the author cited Gibson (1976-1991) and Matute-Bianchi (1986-1991) to point out that Mexican immigrants are more likely to do better than Mexican Americans or Chicanos. The possible answer to those differences could rely on the groups’ histories and socio-cultural adaptations, and the skills they develop to survive in the new society (Ogbu & Simons, 1998).

To understand Latino students’ aspirations, then, we need to consider the “big picture”, including their generational status, and the context that draws their achievement

motivation. Atkinson's Achievement Motivation Theory is based on the belief that most persons want to achieve and experience levels of aspiration. In turn, the level of aspiration concept stresses that people tend to want to succeed at the highest possible level while at the same time avoiding the possibility of failure. If students experience success, their need for achievement will thus be strengthened. This concept, in combination with Ogbu's approach, would suggest that even though Latino/a students aspire high levels of achievement, their highest level of success would somehow be shaped by the context and the challenges they face in the new society, for immigrants, and according to the treatment they receive because of pertaining to a minority group, for all members of the group. Latino/a students perceive challenges from the school social and cultural environment and a disconnect between their home and school lives, especially framed by gender and language differences (Lys, 2009). The generational status of Latina/o students and the multiple socio-cultural barriers they encounter might very well explain the differences in school performance and Latino/a youth's aspirations about their academic future.

The Latino population is the fastest growing minority group, with one of the highest level of dropouts from high school, and a low percentage of Latino/a students who get a high school diploma achieve college degrees in the United States (Llagas & Snyder, 2003). Their low academic performance is in many ways socially and economically deleterious to this minority group and to the nation (National Center for Educational Statistics, 1989). The aspirations of Latino/a high school students may vary, and a series of individual and context variables are also proven to have an effect on both their academic aspirations and success. However, the literature indicates that aspirations

have to be high in order to mold this group's academic outcomes, and more importantly that intervention programs play a key role in maintaining those aspirations high while providing resources for Latino/a students in high school that facilitate their access to higher education. Adolescence is in itself a difficult stage, and Latino/a students face it with extra contextual challenges, which justifies additional academic support that in turn will benefit not only this minority group but also the future of the nation as a whole. Such support may come from programs that provide mentoring and/or guidance for Latino/a students' academic achievement attainment.

### **Mentors and Mentoring Programs**

The role that mentors play in supporting students' aspirations, and facilitating the steps necessary for their academic success beyond high school, has been considered to have a relationship with various aspects of youth academic lives. These include their psychosocial growth, family and institutional support, inside and outside the school environment, and performed by formal and/or informal mentors (Hu & Ma, 2010; Larson, 2007; Sanchez & Reyes, 1999; Stanton-Salazar & Spina, 2003).

Mentors are defined as individuals/nonparent adult supporters who provide consistent emotional support and have a positive influence on youth development (Larson, 2006), especially facilitating the means for positive outcomes of children and youth in high-risk settings (Sanchez & Reyes, 1999). According to Stanton-Salazar (2011), mentors as institutional empowerment agents have the ability to increase students' access to networks, information and resources, offering empowering relationships to students from historically oppressed groups (as cited in Prange, 2013). Moreover, "...relations between adult and student, when they become genuinely

supportive, carry the potential to transform a student's life chances in very positive and lasting ways.” (Stanton-Salazar, 2001, p.162). For low status -Latina/o- youth, the relevance of multiple sources of support have to do with their potential to defend the adolescents from ecological dangers and forms of alienation (Stanton-Salazar & Spina, 2003).

On the other hand, the structure of formal mentoring programs could consist of one-on-one mentoring compared to group mentoring and adult-with-youth compared to cross-age peer mentoring (Karcher et al., 2006). Nevertheless, Stanton-Salazar and Spina (2003) explain that even though caring and resourceful adults, as a form of informal mentors, are an enduring feature of the social landscape in low-income communities, very often they remain *outside* the personal networks of adolescents in need of support and the relationships with these informal mentors are transitory, lacking the consistency and commitment typically found in close familial relations (Stanton-Salazar & Spina, 2003). Then, the presence and support of caring and resourceful formal mentors become very important in the academic environment of a vulnerable population such as Latina/o students. These formal mentors often facilitate necessary steps for the achievement of the students’ academic goals and aspirations beyond high school.

In one study about mentoring, Sanchez and Reyes (1999) found that children who developed into autonomous and competent young adults had at least one extra-familial adult who provided consistent emotional support, and the positive influence of nonparent adult supporters or “mentors” was related to positive outcomes of children and youth in high-risk settings. According to Hayes (2005), an affective interaction between mentors and mentees requires a long term commitment, maybe a year, to provide enough time to

develop a relationship, set and meet common goals and evaluate some accomplishments as well as the relationship between both groups. Valadez and Lund (1992) stated that mentees come with concerns about their academic survival, safety, self-esteem needs and belonging, while Benner (1984) noted that mentees progressively assume responsibility and start acting independently under a feeling of protection (as cited in Hayes, 2005). In the case of Hispanic or Latina/o students, mentors become an important form of social capital and a bridge between their aspirations and their academic attainment.

High school youth, particularly members of minority groups such as Hispanics, face increasingly severe obstacles in the attainment of their educational goals (Kenny et al., 2003). Considering that in general this is a very young population whose median age is 27.2 years old, the education of this group and the identification of factors that influence their academic achievement are pivotal to the future of this nation. The results of a study on educational aspirations indicated that perceived educational barriers significantly predicted Mexican American students' educational aspirations in a greater way than did the influence of gender, generation level, and parents' education level (Ojeda & Flores, 2008). Mexican Americans represent 66% of the Hispanic population in the United States, but these findings seem to be relevant for all members of the Hispanic group.

Research demonstrated that Latina/o high school students perceived that teachers and friends had lower educational aspirations for them than for their White and African American peers (Cheng & Starks, 2002, as cited in Ojeda & Flores, 2008). This perception becomes an educational barrier in the sense that it might negatively influence the students' motivation and level of educational aspiration. This finding suggests that

Latinas/os may encounter or expect to encounter environmental and social barriers toward their educational aspirations (Arbona, 1990, as cited in Ojeda & Flores, 2008), in addition to the acculturative stress they experience after leaving their countries of origin to come to the United States (Orozco, 2013).

On the other hand, Clark, Ponjuan, Orrock, Wilson, and Flores (2013) explored how barriers and resources related to Latino male students' postsecondary goals and pursuit of higher education were perceived by counselors and secondary/postsecondary administrators. They found four primary themes: a) lack of awareness of educational obstacles for Latino male students by educators, b) role of Latino families in Latino male students' educational experiences, c) impact of peers and mentoring on Latino male students, and d) role of outreach programs and partnerships focused on young Latino men. Most interviewed participants agreed that if a young Latino man has peer support to attend college, he is more likely to aspire to attend college, but if his peers do not have similar aspirations, it can negatively affect his decision to attend college. In another study, the high school counselors and administrators at all levels agreed that mentoring programs are pivotal in providing ongoing resources and encouragement for Latino male students, emphasizing the importance for Latino male students to have role models or mentors (Clark et al., 2013).

Similarly, parental support and low levels of perceived barriers were related to Mexican American girls' selection of prestigious careers (Flores & O'Brien, 2002), suggesting that background resources, role models, and environmental support may positively influence Latino/a students' educational aspirations, while the lack of them would further emphasize the paradoxical phenomenon of this vulnerable fastest growing

group that holds the lowest rates of educational achievement in the country. In this sense, teachers' support as a socio-cultural resource and role model seems to be relevant for Latino/a students, especially when teacher and students share cultural or other characteristics.

**Society, culture and the role of mentors.** Similar to Piaget's theory of cognitive learning, which lays emphasis on the role of teachers in the learning process as organizers, collaborators, and guides, Vygotsky's theoretical approach also contributed to developmental theories of learning, from the socio-cultural perspective of learning. It is pertinent then to situate Latino/a high school students in their socio-cultural context, with special emphasis on their stage of development, in order to examine the role that mentors/mentoring programs as factors of institutional support might have in term of influencing Hispanic students achieve their academic aspirations of completing high school and enrolling in post-secondary education institutions.

Vygotsky's theory holds that learning occurs through the social and historical context of a culture and the linguistic and intellectual tools that people use. In Vygotsky's view, knowledge is socially constructed and distributed and originates in the social and material history of the culture in which the learner is a part. The socio-cultural view of learning holds that the most important milestone in child development is the acquisition of language, which can be achieved by interactions with adults. Among the major educational contributions of Vygotsky's theory are the role of private speech in cognitive development, the importance of guided participation and scaffolding, and the role of peer interactions in cognitive development.



For some Hispanic students, especially first generation immigrants, language and interpersonal interaction can make a difference in the level of aspirations and achievement expectations in the new culture they might hold (Ojeda & Flores, 2008). That is, as stated in Vygotsky's theory, when referring to the concept of scaffolding, that learning with or receiving guidance from a more knowledgeable other (e.g. more advanced peers, teachers, mentors, etc.) would boost students' effectiveness in the learning process and wider their zone of proximal development (ZPD), which is explained as the difference between what they can learn on their own and with the assistance of a more knowledgeable other.

In terms of knowledge about the American educational system, experienced mentors can help Latina/o students to navigate the system and guide them through the more appropriate path according to the students' needs and capabilities. Researchers agree that mentoring as institutional support is helpful to students and more so to minority students, as long as it is a long-term commitment (Gándara & Bial, 2001, as cited in Nora & Crisp, 2009). However, and with a more restrictive focus than that of Vygotsky's concept of scaffolding and learning with the help of a more knowledgeable other, Gándara and Bial stated that mentoring should not be assigned to other students but that a key person should be formally assigned and responsible for individual students (as cited in Nora & Crisp, 2009). Clark et al. (2003) note, "The good thing about Latino students is that when they identify somebody who cares about them they will latch on, and most importantly, they will tell others this is a person that will be here to support you" (p. 463). Hu and Ma (2010) found that Hispanic students were more likely than

White students to turn to their college mentors for support and encouragement and had a higher level of perceived importance of their overall experiences with mentors.

Nevertheless, Vygotsky's framework of learning is a perfect fit for Latina/o students who have aspirations about their academic future because they, as members of this minority group, act as apprentices engaging in the praxis of the culture while finding many barriers and challenges in their academic journey. The socio-cultural framework proposed by Vygotsky, assumes that with guidance children are generally able to perform at a higher level of mental functioning. Likewise, during the adolescence stage, youth engage in active socialization processes where they interact with peers, authority figures, and networks, in addition to family, school, and community, which makes relevant the role of mentors for students in transitional stages of life and of their educational career.

On another aspect, and according to Erikson's psychosocial theory, adolescents from approximately thirteen to nineteen years of age are in the stage known as fidelity, which presents itself as a period of significant physical and emotional changes where the identities of youth enter in conflict with their role. For Erikson (1968) one challenging task is "to survive this period and to establish a sense of identity as a unique individual" (as cited in Stanton-Salazar & Spina, 2003). Then, the challenges of a stage not successfully completed in terms of identity discovery and role in society may be expected to reappear as problems in the future, while if the ability to settle on a school or occupational identity is pleasant for individuals in this stage it would allow them to overcome the identity crisis of adolescence and transition towards adulthood. As stated by Moje and Martinez (2007), "identities [are] always situated in and mediated by social contexts and social group memberships" (p. 1). Similarly, Moje and Martinez (2007)

added that “educational achievement is a socially mediated phenomenon”, while “identities can be viewed as socially mediated enactments of self that are molded in the intersection of space, time, and relationships” (Moje, 2004; as cited in Moje & Martinez, 2007, p.1). A caring formal mentor would identify the characteristic of the student and re-affirm their unique identity, ensuring that these students survive this period of identity crisis and achieve their academic goals.

In the case of urbanized minority youth in general, Stanton-Salazar and Spina (2000) argue that healthy psychosocial development presupposes a certain kind of resiliency-acculturation styles and coping strategies that moderate the effects of racial segregation, economic marginality, and institutionalized racism (as cited in Stanton-Salazar & Spina, 2003). Such coping strategies and orientations are most likely to develop in the context of positive relationships with resourceful individuals such as mentors and groups in the community.

The interactions they have and the role that Latina/o students play in and outside the school environment might have implications for the level of aspirations they hold and the academic achievement they attain. Nora and Crisp (2009) noted that, in addition to economic circumstances, college decisions of minority and low-income students are limited as a consequence of a lack of cultural and social capital. Explaining that, these students may not have the cultural knowledge or access to informal social networks needed to engage in seeking and acquiring the appropriate college-related information that could provide easier access to college participation (Nora & Crisp, 2009). Mentors of Latina/o students can, as institutional agents, provide those resources to Latina/o youth and facilitate their transition towards higher education.

At the post-secondary level, research also shows positive influences of mentoring programs with Latino/a students. The results from a study indicated that Hispanic students were more likely than White students to turn to their college mentors for support and encouragement and had a higher level of perceived importance of their overall experiences with mentors, and having an assigned college mentor was positively related to the probability of persisting in college; among those who had an assigned college mentor, the probability of persisting was positively associated with the extent to which the recipients turn to mentors for support and encouragement and with their perceived importance of experiences with mentors (Hu & Ma, 2010).

The study performed by Zarate and Gallimore (2005) found that the enrollment in college for Hispanic students was driven by their academic achievement in high school. Nevertheless, the low level of enrollment in post-secondary education and college choices was limited by a lack of knowledge about higher education in general, misinformation about financial aid and admissions requirements, reported by Hispanic students as the result of inadequate guidance from parents or counselors (Immerwahr, 2003, as cited in Nora & Crisp, 2009). Additionally, as reported by the Pew Hispanic Center (2005), Hispanics have low levels of formal schooling, causing an overrepresentation of this group in low-skill occupations and/or higher unemployment rates than other groups (6.8 percent for Hispanics versus 4.3 percent for Whites), the role of mentors becomes more relevant for facilitating the access to information about higher education and admission requirements that would increase the possibilities for completion of high school and enrollment in post-secondary education (Pew Hispanic Center, 2005).

## **Social Capital and Institutional Agents**

In the context of this framework, it is appropriate to introduce the concept of social capital and the implications of its lack for Latina/o students with aspirations of a higher education opportunity. Social capital is defined by Coleman (1988) as the non-monetary benefits people obtain through relationships, providing participants in those relationships with resources that facilitate the accomplishment of their goals as well as “key forms of social support embedded in one’s network or associations, and accessible through direct or indirect ties with institutional agents” (Stanton-Salazar, 2011, p 5). In the educational context, students’ experience of social capital can either support or constrain their access to assets such as information, resources, and opportunities (e.g. role of institutional agents /mentors) (Bourdieu, 1986, as cited in Stanton-Salazar, 2011).

Stanton-Salazar (1995) stated that institutional agents are those individuals that have the capacity of providing or facilitating access to key resources such as information about school, programs, academic tutoring and mentoring, college admission, and assistance with career decision making. Similarly, institutional agents (e.g. mentors) are capable of enabling the authentic empowerment of the student or young person, and identify themselves as responsible for advocating on behalf of low-status students (e.g. Latina/o students) and for providing them with various forms of institutional support are considered by Stanton-Salazar (2011) as empowerment agents. This empowerment develops from the process of creating networks through socialization, which in term is defined as the process by which young people, engage with various agents and significant others, learn to negotiate and participate effectively in multiple socio-cultural worlds (Stanton-Salazar, 2011).

Access to resources and supportive ties to institutional agents in the school success and social development of children and youth is referred to as a form of institutional support by Stanton-Salazar (2011), who argued that institutional support ensures that youth become effective participants within institutional spheres. Again, mentors as institutional agents play an important role on facilitating the steps necessary to help Hispanics students achieve their academic dreams beyond high school.

Mentors as caring adults can support the process of Latina/o students' development in different frameworks. Mentors who provide guidance and models for success while supporting youth's development as agents of their own growth can make a difference in Latina/o students' academic achievement and future of the American society. While Hispanic students may not have the cultural knowledge or access to informal social networks needed to engage in seeking and obtaining the appropriate college-related information that could provide easier access to college participation (Nora & Crisp, 2009), mentors serve as more knowledgeable others in their interaction with Hispanic students providing them with assistance to navigate the educational system and guiding them through the more appropriate path according to the students' needs and capabilities.

Research suggests that background resources, role models, and environmental support may positively influence Latina/o students' educational aspirations, while the lack of them would further emphasize the paradoxical phenomenon of this vulnerable fastest growing group that holds the lowest rates of educational achievement in the country (Flores & O'Brien 2002). In addition, Moje (2004) stated that "educational achievement is a socially mediated phenomenon", and identities can be viewed as socially mediated

enactments of self that are molded in the intersection of space- [High school], time- [adolescence], and relationships- [mentor-student] (as cited in Moje & Martinez, 2007.)

Mentors are empowerment agents who make an impact in the lives of the students they guide, in doing so they invest time and energy by having prolonged contact with them. For Latino/a students, the impact of their interaction with resourceful mentors makes a significant difference because mentors provide the needed support that locates Latino/a students a step closer to the accomplishment of their academic dreams.

Stanton-Salazar and Dornbusch (1995) stated that institutional agents are those individuals who have the capacity of providing or facilitating access to key resources such as information about school, programs, academic tutoring and mentoring, college admission, and assistance with career decision making. Similarly, institutional agents (e.g. mentors) are capable of enabling the authentic empowerment of the student or young person, and identify themselves as responsible for advocating on behalf of low-status students (e.g. Latina/o students) and for providing them with various forms of institutional support are considered by Stanton-Salazar (2011) as empowerment agents. This empowerment develops from the process of creating networks through socialization, which in turn is defined as the process by which young people, engage with various agents and significant others, learn to negotiate and participate effectively in multiple socio-cultural worlds (Stanton-Salazar, 2011).

**Role Models.** According to Phelan (1998) Hispanic youth, similarly to other low-status minority adolescents, face the challenge of devising a consistent strategy for managing and developing multiple identities, commitments, and behavioral repertoires that are tied to heterogeneous cultural spheres and institutional domains whose values and

cultural perspectives are often in disagreement (as cited in Stanton-Salazar & Spina, 2003). For the development of such identities and social competencies youth require attachments to and identifications with persons and networks. Stanton-Salazar and Spina (2003) argued that given the prospect of difficult choices and decisions, minority youth are likely to be "shopping around for behavioral models" that offer some solution to this quandary, some way to bridge multiple identities and attachments. The results of the study by Stanton-Salazar and Spina (2003) showed that the theme of exemplary adult role models as sources of inspiration and pride was consistent across interviews with Hispanic students where they expressed how role models "make you want to keep going. You look up to those people and say I want to do what they are doing, if not better" (p. 244).

In the classroom context of white students and students of color, Zirkel (2002) argued that youths' internalized representations of the opportunities available to them in adulthood are partly based on their perception of the gendering and racialized structure of the society in which they live. That perception and understanding have significant implications in students' aspirations about their education and achievement. The results of this study indicated that race- and gender-matched role models provide a straight message about the opportunities available not to everybody in general but to the youth's own [racial] social group. Furthermore, the lack of minority teachers in schools that serve communities with large minority populations is detrimental for Latino/a youth, especially because of the teachers' scarce understanding of the students' perceptions about the school environment (Munsch & Wampler, 1993). In another study, Calderon (1998) found that the culture of the school has an effect on learning and the level of comfort of the students, which might not be recognized by non-minority teachers. For example,



white non-Hispanic teachers may instead tend to think of minority students as deficient rather than excluded and not assimilated. The presence of Latino/a teachers in large minority population schools would be a positive influence for youth of this group making them like school and do better academically.

### **Dropout Rates and Prevention Programs**

Aviles, Guerrero and Howrath (1999) reported that problems in participation in school activities, attendance, alternative educational programs, low expectations of staff and teachers, and personal situations such as perceptions of racism or pregnancy were significant in predicting dropout rates among Latino/a students in high school. Moreover, according to Pirog and Magee (1997) teenage parenting had a negative consequence on on-time graduation, reducing educational attainment, which would affect youth marketability, earning capability, and ability to support their children. Pirog and Magee (1997) explored the determinants of high school completion in the U.S., focusing on the effects of individual characteristics, family background, school resources, student body characteristics and labor conditions of the market. They also examined the influence of teenage parenting as predictor of educational attainment.

Pirog and Magee (1997) argued that the proportion of students completing high school had risen steadily in the past fifty years, by the moment of the study. They provided statistics including that in 1940, over 60% of Americans twenty-five to twenty-nine years old had not graduated from high school, whereas by 1991 that ratio was only 14.2%. The study used multivariate methods and data from the National Longitudinal Survey of labor Market Experience-Youth Cohort to examine these relationships for men and women. The explanatory variables in their model described individual, household,

labor market, and school characteristics. Individual traits included sex and race (black, Hispanic). The cultural-capital variable was the sum of three dummies indicating whether or not the respondent had access to newspapers, magazines, or lived in a home with a member who had a library card.

The one common finding was that school variables had very little, if any, influence on educational success relative to student characteristics. Parents' education, number of siblings, socioeconomic status, local unemployment and wage rates and genetic factors had much larger effects on educational achievement than did variables measuring school quality. Likewise, teenage parenting had an adverse consequence on on-time graduation, reducing educational attainment, affecting youth marketability, earning capability, and ability to support their children.

On the other hand, Carpenter and Ramirez (2007) concluded that within-group gaps were often more significant than gaps between groups. Hispanic and White students showed three additional predictors in common-time spent on homework, gender, and family composition. All these findings include pregnancy and gender (Carpenter & Ramirez 2007; Velez, 1989) as predictors of drop out and reflect on the report from the National Center for Education Statistics (2006) where Hispanic female had one of the highest rates of drop out from high school compared to Hispanic males and other groups.

Another common factor emerging from the articles is the socioeconomic level or poverty level of the participants (Pirog and Magee, 1997; Friedenberg, 1999). With the same focus, and linking SES with teenage pregnancy, the results of the study developed by Friedenberg (1999) suggested that pregnancy alone may be a strong enough risk factor to cause dropout for this particular population. However, that culture plays a critical role

in many risk factors, but it may play an even stronger role in how a pregnancy might be handled. He indicated that this population had a high degree of moving around and changing schools which could be related to culture and economic situations. It can be drawn from those findings that pregnancy rates along with socioeconomic and cultural factors might play a decisive role in high school dropout, especially for Hispanic adolescents.

The indicators of dropout have been studied in different ways, including differences within and between groups, age differences and race. For example, in a pilot study, whose purpose was to examine issues related to the identification of potential dropouts among Hispanic youth and young children, Friedenberg (1999) starts by discussing that although dropout experts suspect that a potential dropout can be identified at the elementary school level most dropout prediction instruments have been targeted to high school students. The author attempts to develop and field-test a procedure for identifying at-risk Spanish-dominant adolescents and then adapt that procedure for elementary school children. The author also presents national statistics about Hispanics including poverty level, percentage of households headed by women, high school completion rates, among others (National Commission on Employment Policy, 1987).

The approach used by Friedenberg (1999) aimed to compare the responses of a dropout prediction survey administered to (a) Hispanic youth who had already dropped out with the responses of (b) Hispanic elementary school children. The results of the survey of dropouts suggested that pregnancy alone may be a strong enough risk factor to cause dropout for this particular population. Friedenberg noted (1999) that culture plays a critical role in many risk factors, but it may play an even stronger role in how a

pregnancy might be handled. The reader is reminded that the subjects for this study were Spanish-dominant Mexican immigrants and that other Latino populations, including later generation Mexican-Americans, might have reacted differently to pregnancy (i.e., might not have left school). If the results show that most pregnancies among this population lead to dropping out, then it may become necessary to weight certain variables, such as pregnancy, based on local conditions (i.e., culture), as well as to address the issue of pregnancy among Mexican girls and women in schools, social service agencies, and community-based organizations by providing effective and culturally sensitive bilingual sex education along with mechanisms to continue schooling during and after a pregnancy. The results of this survey also suggested a high degree of moving around and changing schools. This, again, could be related to culture and economic situations. In addition, most children were not really sophisticated enough to consider, thoughtfully, questions concerning their futures.

**Achievement/ Drop out gap.** The study developed by Velez in 1989 examined the effects of a number of factors on the dropout behavior of high school students drawn from the base year and first follow-up of High School and Beyond. The author sought to identify the characteristics and experiences that linked dropout behavior among Hispanic and non-Hispanic white youth, all through a probabilistic approach. The sample for this study was the sophomore cohort of the data set from HSB, a national longitudinal study of the nation's high schools conducted by the National Center for Education Statistics. The base year questionnaire of HSB was administered in 1980, and the first follow-up was conducted in 1982. After selecting all available Hispanic respondents with no missing data, Velez (1989) obtained the following sample of students: 1,116 Chicanos;

195 Cubans; and 192 Puerto Ricans. A 50 percent random sample of non-Hispanic white students was also drawn, yielding 4,906 cases. After selecting those cases with no missing data, the author obtained a sample of 4,170 non-Hispanic white students. The statistical techniques used included the application of a logit model to each group. The dependent variable was dropout/retained. A dropout was defined simply as any 1980 high school sophomore who was neither a high school graduate nor enrolled in high school in 1982. Hence, the likelihood or probability of a randomly chosen individual, having dropped out or stayed in school may be modeled in terms of the individual's personal characteristics and experiences.

Back then, the author found that cutting classes, suspensions, dating, being older, and being female substantially increased the odds of Chicano students dropping out. Among Cuban students, suspensions increased the odds of dropping out, but having disciplinary problems at school, high socioeconomic status, and having two parents at home substantially decreased them. For Puerto Rican students, cutting classes, suspension, being older, and being female increased the odds, but having two parents at home decreased them. Intra-Hispanic differences in the effects of immigration on school attrition were also observed.

More recently, Carpenter and Ramirez (2007) examined the achievement gap, which they considered has been traditionally measured by test scores, and state that it also can be documented by dropout behavior. The authors examined dropout behavior among Black, White, and Hispanic students, with a particular focus on gaps within groups and not just between Whites and minorities. Carpenter and Ramirez (2007) used data the National Educational Longitudinal Study of 1988 (NELS: 88) conducted by the

National Center for Education Statistics (NCES). The procedures followed in this study were implemented in two phases. The study applied models resulting from their 2006 research (called Study 1 hereafter) using dropout status as the dependent variable, rather than academic achievement. There, they sought to determine if (a) the same predictors from Study 1 and (b) the pattern of within-group and between-group gaps proved consistent with a different dependent variable. That model did not produce similar results with the dropout status dependent variable, and the authors proceeded to a second phase wherein they modeled dropout status among Black, White, and Hispanic students using variables more conceptually aligned to dropping out such as socioeconomic status (SES), inclusion in an ESL program, and parental involvement.

The results of their study showed multiple achievement gaps both between and within groups, ultimately concluding that within-group gaps were often more significant than gaps between groups. Through hierarchical linear modeling, they found two common predictors for all three groups-being held back and number of suspensions. Hispanic and White students showed three additional predictors in common-time spent on homework, gender, and family composition. White and Black students shared only one common predictor beyond suspensions and being held back: Parental involvement. Black and Hispanic students shared no additional common predictors. Finally, race/ethnicity generally proved not to be a significant predictor of dropping out. Gaps within groups may be more significant than those between groups.

From a different perspective about the achievement gap and its analysis through methods that could imply omitting cases, Verdugo (2011) stated that it can have significant effects on the resulting statistics. Verdugo (2011) examined the achievement

gap (AG) by noting that the NAEP reported math scores among 17-year-olds is upwardly biased when compared with the scores of this same cohort 4 years earlier when they were 13 years old. The author states that it is upwardly biased because an important event happens over the 4-year period between 8th and 12th grade—a large percentage of students leave school without graduating, and they tend to be the poorest performing students.

In this study, Verdugo (2011) first provided a detailed explanation of such bias by discussing two statistical concepts: selectivity bias and robustness. Then, the author develops a model for estimating the bias in the NAEP math scores. The author describes statistical robustness as a concept with a long history in statistics that is concerned with the sensitivity of results to deviations in the assumptions that are made in obtaining those results. He also explains that selectivity bias is related to robustness in that omitting cases can have significant effects on the resulting statistics.

The analyses indicated that there is indeed a considerable amount of bias in these test scores, for all three ethnic-racial groups and thus for the reported achievement gaps. Verdugo (2011) argues that such bias presents an inaccurate picture of the achievements gaps existing between Blacks and Whites, and between Hispanics and Whites. The author made two conclusions from the analysis. First, it is inappropriate to compare the eighth-grade scores with those that occur 4 years later when the students were 17 year old. Over the 4-year period, the population of high school students has changed as a result of significant events, such as dropout rates. These rates are especially significant among Black and Hispanic students. Second, because of such bias, the achievement gap, as reported, is misleading and adjustments need to be made if we are to get an accurate

portrait of student achievement and the achievement gap. Here again we see that dropout rates among Hispanic students is having an impact on the achievement rates at the high school level.

### **Family Relationships in Latino/a Adolescents' Lives**

The power of relationships has implications for almost everything people do. Research about the life span and development shows that the stage of adolescence is a difficult one, in which adolescents grow to maturity. Adolescence is commonly placed at the time in which children begin to physically mature into individuals capable of reproduction, around the puberty period. The upper boundary of adolescence is not as easy to determine as the beginning of it. As indicated by Dolgin (2007), most people tend to think of adolescence as ending with a combination of attaining financial independence, attaining emotional independence, and attaining a change in perspective in which one focuses on issues that are less adolescent and more adult.

Steinberg (2001) examined the most important ideas that had emerged, from the previous 25 years to the moment of the study, of research on adolescent development in the family context and suggested some directions for the future. Two major sets of questions organize the review. First, how can we best characterize normative family relationships during adolescence, and, more specifically, is adolescence a time of parent—child conflict? Second, how do variations in parent—child relationships affect the developing adolescent? The answer to the first question depends on what is meant by conflict and, more importantly, from whom one gathers data. Steinberg discussed a new perspective on the family emphasizing the different viewpoints and stakes that parents and adolescents bring to their relationship with each other. In terms of the second



question, it was argued that there was enough evidence to conclude that adolescents benefit from having parents who are authoritative: warm, firm, and accepting of their needs for psychological autonomy. The author recommended instituting a systematic, large-scale, multifaceted, and ongoing public health campaign to educate parents about adolescence, drawing on the collective resources and expertise of health-care professionals, scientists, governmental agencies, community organizations, schools, religious institutions, and the mass media.

Kaplan, Turner, and Badger (2007) in their study argued about the degree of mutuality between girls and their mothers. Mutuality is defined by Kaplan et al. (2007) as a pattern of thoughts and exchanges in relationships where understanding, interest and responsiveness are the leading characteristics, “[fostering] emotional resilience, positive coping and feelings of support” (Goldberg, 1995, as cited in Kaplan et al., 2007, p. 176). This factor is one which implications might be considered for prevention of school drop-out. Kaplan et al. (2007) found that the results supported their hypothesis that girls who have a higher degree of mutuality with their mothers will be more likely to like school a lot. In addition, girls who liked school a lot were significantly more likely to have higher overall grades and to be somewhat religious. The authors explored factors related to Hispanic adolescent girls’ elevated risk for dropping out of school. The procedures included interviewing 54 Hispanic adolescent girls who were attending after-school programs in the New York metropolitan area. The study investigated how the multiple factors of mother–daughter and friend mutuality, coping, acculturation, self-esteem, depression and family environment influenced the way these girls felt about school.

The final logistical regression analysis appeared to support the authors' hypothesis that girls who have a higher degree of mutuality with their mothers are more likely to like school a lot. In addition, girls who liked school a lot were significantly more likely to have higher overall grades and to be somewhat religious. Forty percent liked school a lot, just over half (56%) liked it somewhat, and 4% did not like school at all. Even by asking only one question about liking school, interesting differences among the girls emerged. The authors discussed the findings within the context of the empirical and theoretical literature and considered implications for prevention of school drop-out.

Most of the literature on this topic indicates that degree of mutuality is a leading factor in Hispanic females' high school dropout and that educational policy makers should take it into account for the implementation of intervention programs in the schools in connection with students' families. It is important that teachers and counselors acknowledge these factors in order to better understand the risk factors that their students face, which might be also determined by gender differences.

Family relationships are markedly important for Latino/ youth in general and have a strong influence on their academic success. By instance, Crosnoe, Mistry, and Elder (2002) found that attitudes of disadvantaged parents, especially mothers, had a great influence in determining the school success of their children. Moreover, that parents who believed in their own power to make a difference in their children's future, even when they were facing severe economic hardship, were more likely to support and guide them toward positive educational and social opportunities (Crosnoe et al., 2002).

Similarly, Behnke, Gonzalez, and Cox (2010), discussed in their study that Latino youth are more likely than any other ethnic group to drop out of high school in the United

States. The authors emphasized that, though some research has helped us understand the factors leading to dropout, very few studies have assessed Latino students' opinions of services and factors that would help them stay in school (e.g., family, school, peers, and policies). This study presented the results of an in-depth survey of 501 Latino students in North Carolina public schools. Its findings suggest that Latino youth drop out because of the difficulty of their school work, personal problems (e.g., pregnancy or problems at home), the need to work to support their family economically, and peer pressure. Students suggest improved academic and personal support in the form of tutoring, mentoring, after-school programs; improved English as a second language classes; and more Spanish-speaking staff/teachers. In general, there is an overarching component built upon the importance of relationships among all those involved in the student's life and the student during the period of high school.

### **Generational Status and the Language Issue**

The study developed by Fry (2007) brings an interesting analysis as it relates to foreign born Latino/a students' change in their academic performance and their dropout rates from high school over a decade. The author argues that, in spite of the growing numbers and geographic dispersion of foreign-born children, the school outcomes of foreign-born teens improved during the 1990's. This investigation carefully examined the change over the decade in the school outcomes of foreign-born high-school-age youth, general trends for youth from a large array of countries of origin, and the national changes in the demographic and family background of foreign-born teens (Fry, 2007.)

The study used a multivariate analysis, and the sample was represented by all the foreign-born 15- to 17-year-old respondents in the 1990 and 2000 Integrated Public Use

Micro Samples of the Decennial Census. Youth born in Puerto Rico were included in the analysis. Youth residing in institutions are included; however, some independent variables (such as poverty status) were not defined for institutionalized youth. The secondary school outcomes analyzed were, first, the school dropout rate, or the fraction of youth that are not enrolled in school at the date of interview and have not completed high school. Second, the limited English proficiency rate or the fraction of youth who do not speak only English at home and self-report speaking English “well,” “not well,” or “not at all.” The multivariate analysis revealed that there was a large decline in the likelihood of immigrant teens dropping out of school above and beyond the demographic changes over the decade. For example, the likelihood that a Mexican-born teen educated in U.S. schools drops out of school declined by an estimated 43 percent over the 1990s. The author found little evidence that U.S. schools have improved in their English language instruction over the decade.

Similarly, Heilig and Holme (2013) found that 7% of the schools they studied in Texas were double segregated by language and poverty, including a 66% of students that were extremely economically disadvantaged. The study found a linguistic isolation of schools and neighborhoods for language barrier.

In summary, this chapter highlights studies that were particularly influential in looking at ways in which some variables such as SES, parenting and teen pregnancy might not operate in isolation but instead be influenced by cultural variables that create barriers for young Latino/a students.

As noted in the literature in this chapter, educational barriers emphasizing family relationships, responsibility to parents and siblings and the presence of limited social

capital were reviewed as relevant factors of influence for Latino students' educational success. Similarly, issues related to Latino youth interactions with teachers, mentors and their experiences in institutional support programs were addressed in the literature review, showing the significant role of role models and the value of social capital for Latino high school students, especially during their transition to higher education and into the adult world in the American society. In the next chapter, the analyses of individual and institutional variables are proposed through the quantitative analysis of national data, as it relates to Latino students completion of high school and enrollment in post-secondary educational institutions.

## **CHAPTER III**

### **METHODOLOGY**

#### **Introduction**

Chapter III describes the methods used in the study. It includes a description of the study's overall design and its participants. The chapter also explains the characteristics of the database used in the study as well as the data analysis methods that will be used to address the research questions. In addition, procedures including meeting the Institutional Review Board (IRB) conditions are described.

#### **Data Source**

The data source in the study is the Education Longitudinal Study of 2002 (ELS: 2002), from the National Center for Education Statistics (NCES) of the United States Department of Education. Data collection was developed by the Research Triangle Institute (RTI), a not-for-profit university-affiliated research organization with headquarters in North Carolina on behalf of the NCES.

ELS: 2002 monitored the transition of a nationally representative cohort of high school students from their sophomore to senior years, and on to postsecondary education and/or work experience. The main data collection instrument used by the National Center for Education Statistics (NCES) was a multi-level survey administered to obtain

information from participants over time, making it possible to record the changes taking place among the participants' lives and assist in explaining those changes by revealing the ways in which earlier experiences (e.g. achievements, aspirations, school environment, etc...) influence the participants future lives.

**ELS-2002 database.** The ELS: 2002 has a combination of three important features. First, it is a longitudinal study where the same individuals are surveyed in multiple occasions over a period of time. The base year of data collection was the participants' entrance into 10<sup>th</sup> grade in 2002. This first collection, which serves as the base year for the current study, measured students' tested achievement and obtained information about their attitudes and experiences. A second survey and test were administered to these students two years later in 2004 to measure, among other things the change in their status, such as [early] completion of high school or leaving high school before graduation. The third round of data collection in 2006, gathered information about colleges to which the students applied and their enrollment in postsecondary education, among other factors. This longitudinal nature of data allows for the analysis of different students' characteristics and their experiences in their academic lives. The second important feature is its multi-level nature, where information is collected from multiple respondents at different levels (e.g. students, their parents, their teachers, their librarians, and their schools). This feature provides an in-built mechanism to validate the information thereby enhancing the credibility of the data. The third feature of these data is the fact that, it is a nationally representative sample of students; drawn from several schools across a number of states in the country. In order to maximize the benefits of this

feature, all estimates were weighted using the base year weight and therefore estimates are generalizable to the U.S population of Latino/a students in 10th grade in 2002.

The general ELS: 2002 data set contains information from 16,197 students with varying demographic characteristics. The current study is delimited to Latino/a adolescents in 10th grade of high school and their information from 10th grade through the two first years after the end of high school. The data at the student level included information of 2,217 Hispanic participants (1099 males and 1,118 females), their socioeconomic status, the institutional support they received, described as participation in mentoring programs and dropout prevention programs, and students' college enrollment status. Analysis of the first two waves of data (2002 & 2004) can help in the understanding of the influence that this minority group's earlier aspirations and high school experiences provided through institutional support (mentoring programs), as well as their parents' aspirations have on their completion of high school. In addition, analysis of the third wave would help to identify the students' enrollment status in postsecondary education.

### **Institutional Review Board**

The data set used in this study is open for public use, from the National Center for Education Statistics (NCES), since there are no identifiable information for study participants. This public-use data file includes all data collected in the Base Year (2002) and First Follow-up (2004), as well as the Second Follow-up (2006). The Cleveland State University's Institutional Review Board (IRB) for human subjects in research requires that even in the case that a project may qualify as "exempt" according to Federal regulations, such as is the case; it is the policy of the university that protocols for all



research conducted be scrutinized by the CSU's IRB. Considering that CSU's IRB is responsible for ensuring compliance with all federal and state regulations regarding human subjects, the IRB formal approval was sought and received for the development of the current study (See Appendix A).

## **Variables**

The variables in the study included students' demographic information such as race/ethnicity, gender, generational status along with the students' socio-economic status and the school poverty concentration level. Generational status was an important control variable in the study. It was operationalized as follows: first generation (the student was born in Puerto Rico or non-US country), second generation (the student was born in US; mother born in PR/non-U.S.) and third generation (both student and mother were born in US). The variable used for measuring the students' socioeconomic status is a composite variable that takes into account the following factors: family income, parents/guardians' educational level, and the parents/guardians occupation. In addition, the study used the percentage of 10<sup>th</sup> graders that were eligible for free or reduced price lunch as the school level indicator of poverty concentration.

Latino/a students' educational aspirations and their parents' educational aspirations for their children were included as predictor variables in the study as well as whether or not English was the students' first language. The exact question asked to the students for collecting information about their first language was: "Is English your native language (the first language you learned to speak when you were a child)? (NCES, 2002).

In the case of students' and their parents' aspirations of the students' future academic achievement, the variable is based on a scale of seven categories that include

the following: 1= Less than high school graduation; 2= High school graduation or GED only; 3= Attend or complete 2-year college/school; 4= Attend college, 4-year degree incomplete; 5= Graduate from college; 6= Obtain Master's degree or equivalent; 7= Obtain PhD, MD, or other advanced degree; respectively for students' and parents aspiration variable. In terms of whether English is the students' first language, the study used the data that referred to the students' answers on whether English was the first language they learned to speak at home when they were children.

Furthermore, other school variables that represent institutional support such as mentoring and high school dropout prevention programs were considered independent variables in the study. The mentoring variable refers to the mentoring offered to 10th graders, which is a school level variable drawn from the questionnaire of the school administrators. This kind of institutional support consisted of a match with an adult, arranged by the school that would provide advice and support to the students. The school administrators were asked whether or not they provided mentoring or guidance to the students for each work-based learning experience program or service. The second institutional support independent variable, dropout prevention programs, was based on the base year -10<sup>th</sup> grade- questionnaire item that inquired whether or not the students had been in dropout prevention, alternative or stay-in-school programs in high school.

The outcome variables in the study are a measure of students' success at high school, operationalized at four progressive levels:

- Timely completion of high school (within one year)
- Completion of high school (within two years)
- Timely enrollment in post-secondary institution (within one year)

- Enrollment in post-secondary institution (within two years)

(See Tables XVI and XVII in appendix B for description and coding of variables).

### **Data Analysis and Procedures**

The data in this study was analyzed using descriptive statistics and the logistic regression model. The descriptive statistics such as means, frequencies and percentages were used to describe the profile of Latino/a adolescents in the study. Since the primary outcome variable of the study is dichotomous, the logistic regression model was used to determine the extent to which individual and institutional variables can predict high school success.

**Logistic regression model.** Logistic regression, as a method of analysis, is best suited for analyzing dichotomous (binary) outcome variables with mixed independent variables, including dummy and continuous variables. “Logistic regression is a specialized form of regression that is formulated to predict and explain a binary (two group) categorical outcome variable rather than a metric dependent measure” (Hair, Anderson, Tatham, & Black, 1998, p.246). In order to meet classical linear regression assumptions, with dichotomous dependent variables, the logistic model provides the maximum likelihood estimation by transforming  $Y(1, 0)$  into a logit (log of the odds of falling into the “1” category) (Menard, 2002).

The linear logistic regression model is derived from the mathematical function:

$$f(y) = \frac{1}{1 + e^{-y}}, \quad -\infty \leq y \leq \infty$$

Where  $y_i = \beta_0 + \beta_1(MENTORING_i) + \beta_2(ASPIRE_i) + \varepsilon_i$  in the context of the present study. As a probabilistic value,  $f(y)$  ranges from 0 to 1 in a monotonically increasing manner as  $y$  increases in value from  $-\infty$  to  $\infty$ .

**Odds ratios in logistic regression.** An odds ratio (OR) is a measure of association between an exposure and an outcome variable. The OR represents the odds that an outcome will occur given a particular exposure, compared to the odds of the outcome occurring in the absence of that exposure. In a logistic regression analysis, the regression coefficient ( $\beta$ ) is the estimated increase in the log odds of the outcome per each unit increase in the value of the exposure. This value means that the exponential function of the regression coefficient,  $\text{Exp}(\beta)$  is the odds ratio associated with a one-unit increase in the exposure. In this study Odds ratios are used to compare the relative odds of the occurrence of the outcome of interest (e.g. completion of HS and enrollment in post-secondary education), given exposure to the variables of interest (e.g. students' educational aspirations, whether or not English is the students' first language, etc.). The odds ratio can also be used to determine whether a particular exposure is a risk factor for a particular outcome, and to compare the magnitude of various risk factors for that outcome. For instance, the  $\text{Exp}(\beta)$  associated with the coefficient for StudAsp, gives the odd ratio associated with the student's aspirations. In the context of this study, the values of the odds ratio can be interpreted as follows:

- $\text{Exp}(\beta) = 1$  Exposure does not impact high school success.
- $\text{Exp}(\beta) > 1$  Exposure increases the odds of high school success.
- $\text{Exp}(\beta) < 1$  Exposure decreases the odds of high school success

## **Summary**

Chapter III described the research methodology used in the study, as well as the logistic regression model as the primary data analytic technique. The chapter described the characteristics of the ELS: 2002 data set, which is the primary data source of the study. The chapter also explained the characteristics of the variables, including how the independent and dependent variables were coded. The findings of the study will be presented in chapter IV.

## **CHAPTER IV**

### **FINDINGS**

#### **Introduction**

Chapters I to III provided an introduction of the study, reviewed the literature, and the research methodology, respectively. Chapter IV highlights the findings of the study. It includes a descriptive analysis of the students' characteristics and the logistic regression analyses results of the study. These analyses examined individual and institutional variables associated with Latino/a students' academic success beyond high school based on their generational status and the time of completion and or enrollment.

The study sought to identify individual students and family factors, as well as institutional support variables that predict Latino/a students' successful completion of high school and enrollment in post-secondary institutions in the U.S. Considering the relevance of this group, the study used the 2002-2006 Education Longitudinal Study data, consisting of a sample of 2,217 Latino/a students. The study employed the binary logistic regression model to identify students' gender, SES, their educational aspirations as well as the aspirations of their parents, school poverty concentration and school support programs as significant predictors of high school completion and enrollment in post-secondary education. In this chapter, the data are organized in relation to each research

question. The analyses were performed using the base year student weight, allowing the generalization of the findings to all Latino/a students in the United States.

### **Findings of the Study**

Logistic regression analyses were conducted to examine the extent to which institutional support, individual and family background and students' educational aspirations predict Latino/a high school students' completion of high school and enrollment in post-secondary institutions. A sample of 2,217 students was analyzed in three steps using descriptive and logistic regression analyses as indicated as follows: 1. Descriptive analysis of the sample; 2. Logistic regression analysis for research question number 1; 3. Logistic regression analysis for research question number 2.

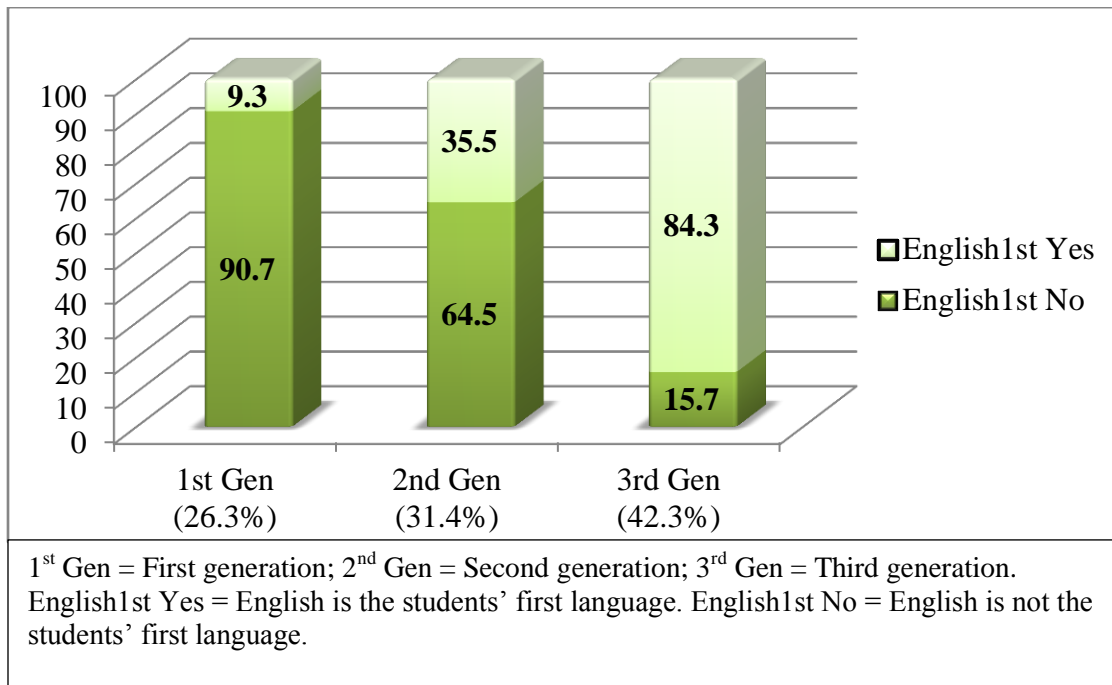
The first step consisted of the analysis of the students' profile using descriptive statistics where percentages and frequencies helped to explain the students' characteristics. The logistic regression model used for the analyses of the data required two steps, with each step aiming to answer one of the research questions stated in the study. The second step included the organization and analysis to answer the first research question "To what extent do institutional support, family background, and students' educational aspirations predict Latino/a students' completion of high school?" The third step of the analysis followed a similar process and sought to answer the second research question: "To what extent do institutional support, family background, and students' educational aspirations predict Latino/a high school students' enrollment in college or post-secondary institutions?"

Although the descriptive analysis was based on a sample of Latino/a students from the nation, the logistic regression analyses used the base year student weight in

order to allow the generalization of the results to the population of Latino/a students in the U.S. Lastly, chapter IV describes the results of the descriptive and logistic regression analyses for the sample and for each research question respectively.

### Descriptive Characteristics

The descriptive analysis of the Latino/a students included information on their representation generational status and the proportion of students according to their generational status whose first language, or the language spoken at home when they were children, was English. From the original sample of 2,217 Latino/a students only 1,883 reported their generational status from which 50.8 % were females and 49.2 % were males. Figure 2 provides a comparison of the percentages for these demographic variables.



**Figure 2.** English as a First Language by Generational Status



The descriptive analysis of the demographic characteristics of Latino/a students differed significantly from one generation of Latino/a students to the others. This analysis showed that English was not the first language spoken at home for most of the first generation of students. On the other hand, approximately two thirds of second generation students reported that English was not their first language, while slightly above one third responded that English was the language spoken at home when they were children. In comparison to the first generation of Latino/a students, most of the students of third generation reported that English was the language spoken at home in their childhood.

### **Research Question #1**

*To what extent do institutional support, family background, and students' educational aspirations predict Latino/a high school students' completion of high school?*

A logistic regression analysis was used to determine the extent to which institutional support, family background, and students' educational aspirations predict Latino/a high school students' completion of high school while controlling for generational status. The variables used in the analysis included Gender (Female = 1; Male = 0); English as first language (English1) (1 = Yes; 0 = No); Socioeconomic status (SES); School poverty concentration (PovertyC); Students' educational aspirations (StudAsp); Parents' aspirations (ParAsp); Dropout prevention programs (DropoutP) (1 = Yes; 0 = No); and Mentoring offered to 10<sup>th</sup> graders (Mentoring) (1 = Yes; 0 = No).

The research question is addressed separately for each of the generational statuses of Latino/a students. First, for the students' timely completion of high school within one year of the regular expected date, and then for students that completed high school within

two years of the expected date. This approach implies that the results for the second round of analysis, completion of high school within two years, includes in the analysis the students considered for the first analysis of timely completion within one year.

**Timely completion of high school.** In this section, the analysis of data for Research Question #1 was developed according to the generational status of the students. It includes only data from students that completed high school within one year of the expected date. Table II presents the results of the logistic regression analysis for the first generation of Latino/a students' Timely Completion of High School.

Table II

*Summary of Logistic Regression Analysis of First Generation of Latino/a students' Timely Completion of High School.*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	1.144	.020	.000	3.140
Socioeconomic Status	.135	.015	.000	1.145
Poverty Concentration	.019	.005	.000	1.019
Student's Aspirations	.318	.007	.000	1.375
Parents' Aspirations	-.001	.007	.886	.999
English as a First Language	1.412	.049	.000	4.105
Dropout Prevention Programs	-.807	.027	.000	.446
Mentoring	-.635	.020	.000	.530

The results indicate that for the first generation of Latino/a students, there is a statistically significant relationship between the dependent variable of Timely

Completion of High School and the set of independent variables in the model. The model correctly classified 77.8 % of the cases. In terms of the contribution of the independent variables to predict first generation of Latino/a students' Timely Completion of High School, all variables, except for Parents' Aspirations, were found to be statistically significant predictors in the model. The results suggest that first generation female students were more likely to complete high school on time ( $\beta = 1.144$ ,  $p < .001$ ). In fact, they were approximately two times more likely than males to complete high school in a timely manner. The coefficient for Socioeconomic Status showed that students with high Socioeconomic Status had more chances of completing high school on time ( $\beta = .135$ ,  $p < .001$ ). It would represent approximately 15% more opportunities of completion by every unit level increased in Socioeconomic Status. In addition, School Poverty Concentration was also found to be statistically significant in predicting Timely Completion of High School ( $\beta = .019$ ,  $p < .001$ ), indicating that for every 1% group increased in Poverty Concentration it enhances the chances of Timely Completion by 2%.

In addition, Students' Aspirations was a significant predictor of Timely Completion ( $\beta = .318$ ,  $p < .001$ ), indicating that for every higher educational level a student aspires to achieve, his or her chances of timely completion of high school increase approximately 38%. Likewise, the findings show that when English is the first language of first generation students', the chances for this sub-group timely completing high school significantly increase ( $\beta = 1.412$ ,  $p < .001$ ) making them a little more than three times more likely to timely complete high school. The institutional support variables Dropout ( $\beta = -.808$ ,  $p < .001$ ) and Mentoring ( $\beta = -.635$ ,  $p < .001$ ) were also statistically significant predictors of Timely Completion. Contrary to expectations, results

indicate that participating in Dropout Prevention Programs or having been offered Mentoring decreased the chances of timely completion of high school for these students by 65.4% and 47% respectively.

For the second generation of Latino/a students' Timely Completion of High School, Table III summarizes the results of the logistic regression analysis for this group and provides a report of the most relevant information found in the analysis.

Table III

*Summary of Logistic Regression Analysis of Second Generation of Latino/a students' Timely Completion of High School.*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	1.237	.022	.000	3.447
Socioeconomic Status	.381	.018	.000	1.463
Poverty Concentration	-.329	.006	.000	.720
Student's Aspirations	.194	.006	.000	1.214
Parents' Aspirations	.325	.008	.000	1.385
English as a First Language	.291	.023	.000	1.338
Dropout Prevention Programs	-.957	.041	.000	.384
Mentoring	.636	.024	.000	1.889

In terms of the contribution of the independent variables to predict second generation of Latino/a students' timely completion of high school, all the variables were found to be statistically significant in contributing to the model. The model correctly classified 84.6 % of the cases, indicating the second generation of Latino/a students'

Timely Completion of High School. The results suggest that for second generation of female students the chances of timely completing high school are better than that of their male counterpart ( $\beta = 1.237, p < .001$ ), actually being more than two and a half times more likely to complete high school on time than males of the same generation. The coefficient for Socioeconomic Status showed that when the Socioeconomic Status of the student is high ( $\beta = .381, p < .001$ ) it increases the chances of timely completing high school, giving them 46% more chances of Timely Completion. Conversely, school Poverty Concentration was found statistically significant in predicting Timely Completion, but negative ( $\beta = -.329, p < .001$ ), suggesting that by every 1% group increased in Poverty Concentration it decreases the chances of Timely Completion by approximately 28%.

Likewise, second generation Student's Aspirations were significant for Timely Completion ( $\beta = .194, p < .001$ ), indicating that for every higher educational level a student aspires to achieve in his or her education, he or she has 21% more chances of Timely Completing high school. In a similar way, Parents' Aspirations were found to be significant ( $\beta = .325, p < .001$ ) and predicted that for every higher educational level that the parents aspire their children to achieve, the students' chances of timely completing high school would be 38% higher. It was also found that when English is the first language of second generation students', their chances of Timely Completion of High School increase ( $\beta = .291, p < .001$ ). This makes them approximately 34% more likely to complete high school on time than those students that do not have English as their first language. The institutional support variable Dropout Prevention Programs was a statistically significant predictor of Timely Completion ( $\beta = -.957, p < .001$ ). It indicates

that second generation Latino/a students who had participated in dropout prevention programs had 62% less chances of Timely Completion. On the other hand, when Mentoring programs were available in the tenth grade ( $\beta = .636$ ,  $p < .001$ ), second generation students were 89% more likely to Timely Complete high school.

For the third generation of Latino/a students' Timely Completion of High School, Table IV summarizes the results of the logistic regression analysis for this group. The summary is followed by a report of the most relevant information found in the analysis.

Table IV

*Summary of Logistic Regression Analysis of Third Generation of Latino/a Students' Timely Completion of High School*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	-.170	.016	.000	.844
Socioeconomic Status	.166	.013	.000	1.180
Poverty Concentration	.023	.004	.000	1.024
Student's Aspirations	.285	.005	.000	1.330
Parents' Aspirations	.068	.006	.000	1.070
English as a First Language	.749	.019	.000	2.114
Dropout Prevention Programs	-.845	.029	.000	.430
Mentoring	-.214	.017	.000	.807

The analysis of the contribution of the independent variables to predict third generation of Latino/a students' Timely Completion of High School revealed that all the variables were statistically significant in contributing to the model. The model correctly

classified 81.1 % of the cases, indicating the third generation of Latino/a students' Timely Completion of High School. Unlike the first and second generation, the results suggest that for third generation of female students the chances of completing high school on time significantly decrease ( $\beta = -.170, p < .001$ ). In fact, third generation female students are approximately 16% less likely to complete high school on time compared to their male counterpart. It was also found that high Socioeconomic Status increased the chances of Timely Completion of high school for third generation Latino/a students, improving their chances by 18% for every unit level increased in Socioeconomic Status ( $\beta = .166, p < .001$ ). Poverty concentration was found to be statistically significant ( $\beta = .023, p < .001$ ) predictor, suggesting that for every 1% group increased in Poverty Concentration it slightly increased the chances of Timely Completion by approximately 2%.

Student's Aspirations significantly increased the likelihood of Timely Completion for third generation Latino/a students ( $\beta = .285, p < .001$ ). It was also found that for every higher educational level third generation students aspire to achieve they become 33% more likely to timely complete high school. In addition, Parents' Aspirations predicted Timely Completion for third generation of Latino/a students ( $\beta = .068, p < .001$ ), indicating that for every higher educational level that the parents aspire for their children, the students are 7% more likely to Timely Complete high school. Likewise, the findings show that when English is the first language of third generation students', they were also more likely to Timely Complete High School than those students from the same generation that did not report English as their first language ( $\beta = .749, p < .001$ ). On the other hand, both institutional support variables were found to be statistically significant

predictors of Timely Completion of High School. In the case of Dropout Prevention Programs, the results indicate that third generation students that had participated in Dropout Prevention Programs were less likely to timely complete high school ( $\beta = -.845$ ,  $p < .001$ ). For third generation students, it represents approximately 57% less chances of timely completion than those students that did not participate in the programs. Moreover, it was found that when the schools arranged Mentoring sessions for this group of students, they were 19% less likely to timely complete high school ( $\beta = -.214$ ,  $p < .001$ ).

**Completion of high school.** The analysis of data for Research Question #1 was also developed for the three generation of students who completed high school within two years of the expected graduation date. Table V shows the summary of the results of the logistic regression analysis for the first generation of Latino/a students' Completion of High School.

Table V

*Summary of Logistic Regression Analysis of First Generation of Latino/a Students' Completion of High School.*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	.772	.021	.000	2.164
Socioeconomic Status	-.050	.016	.002	.951
Poverty Concentration	-.024	.006	.000	.976
Student's Aspirations	.341	.007	.000	1.407
Parents' Aspirations	-.036	.008	.000	.965
English as a First Language	1.098	.048	.000	2.999
Dropout Prevention Programs	-.866	.027	.000	.420
Mentoring	-.804	.021	.000	.447



All predictor variables were found to be statistically significant in terms of their contribution to the model. The model correctly classified 79.1 % of the cases, indicating whether the first generation of Latino/a students completed High School. The results suggest that first generation female students are more likely to complete high school ( $\beta = .772, p < .001$ ) than their male counterpart (116% higher than males). In addition, higher Socioeconomic Status was also found to be significant, but it decreased the chances of Completion of High School for first generation Latino/a students ( $\beta = -.050, p < .05$ ). It indicates that by every unit level increased in Socioeconomic Status, the chances of completing high school decrease in approximately 5%.

A similar result was found for the variable referred to school Poverty Concentration. The logistic regression analysis showed that high Poverty Concentration was statistically significant in predicting whether a student completed high school. As expected, by every 1% group increased in Poverty Concentration the students were less likely to complete high school ( $\beta = -.024, p < .001$ ). The higher the Poverty Concentration of the school is, the less likely the chances of completion.

Students' Educational Aspirations were found to be predictors of higher levels of high school completion. The results indicate that for every higher level of education a student aspires to achieve, his or her chances of completing high school increase approximately 41% ( $\beta = .341, p < .001$ ). In contrast, the variable Parents' Aspirations was statistically significant in decreasing the probabilities of completion for Latino/a students ( $\beta = -.036, p < .001$ ), the higher the parents' aspirations about their children's educational attainment, the less likely were their children of completion of high school. In terms of first language of the students, the findings show that first generation of

Latino/a students that reported that English was their first language were twice more likely to complete high school than students whose first language was not English, nor was English the language they spoke at home when they were children ( $\beta = 1.098$ ,  $p < .001$ ).

Again, institutional support variables such as participation in Dropout Prevention Programs - or other stay-in-school programs, - as well as having been offered Mentoring in 10<sup>th</sup> grade, were negative predictors of high school completion for first generation of Latino/a students. Participation in both institutional support programs was significantly negative for this generation of Latino/a students. Students who participated in Dropout Prevention Programs were 58% less likely to complete high school ( $\beta = -.866$ ,  $p < .001$ ) than those who did not participate in the programs. In addition, first generation students that had Mentoring available at school were 55% less likely to complete high school ( $\beta = -.804$ ,  $p < .001$ ) than those who were in schools where Mentoring was not offered for school related activities.

For the second generation of Latino/a students' Completion of High School, Table VI summarizes the results of the logistic regression analysis for this group. The summary is followed by a report of the most relevant information found in the analysis.

Table VI

*Summary of Logistic Regression Analysis of Second Generation of Latino/a Students' Completion of High School.*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	.896	.024	.000	2.449
Socioeconomic Status	.335	.020	.000	1.398
Poverty Concentration	-.303	.007	.000	.739
Student's Aspirations	.179	.007	.000	1.196
Parents' Aspirations	.296	.008	.000	1.345
English as a First Language	.233	.026	.000	1.263
Dropout Prevention Programs	-.150	.050	.003	.861
Mentoring	.280	.026	.000	1.324

All predictor variables were found to be statistically significant in contributing to the model. The model correctly classified 88.4 % of the cases, indicating the second generation of Latino/a students' Completion of High School. The results of the analysis suggest that second generation female students are more likely to complete high school than males of the same group ( $\beta = .896$ ,  $p < .001$ ). In fact, they have almost twice more chances of completion of high school. The Socioeconomic Status indicator shows that when it is high the students have more chances of Timely Completing of High School ( $\beta = .335$ ,  $p < .001$ ). It indicates that by every unit level increased in the Socioeconomic Status of second generation Latino/a students, their chances of completion increased in approximately 40%. However, School Poverty Concentration was a negative predictor of

Completion of High School, decreasing the chances of timely completion ( $\beta = -.303$ ,  $p < .001$ ). The findings suggest that for every 1% group increased in Poverty Concentration it decreases the chances of Completion by approximately 26%.

Likewise, high Student's Aspirations were found to be significant for second generation students' Completion of High School ( $\beta = .179$ ,  $p < .001$ ). It indicated that by every higher educational level that second generation students aspire to achieve, they are more likely to Complete High School (Approx. 20%). Similarly, Parents' Aspirations were found to be significant for this generation's Completion of High School ( $\beta = .296$ ,  $p < .001$ ), suggesting that by every higher educational level that the parents aspire their children to achieve, the students' chances of completing high school increase in approximately 35%.

In addition, it was found that when English is second generation students' first language, these students are 26% more likely to Complete High School ( $\beta = .233$ ,  $p < .001$ ). Participation in Dropout Prevention Programs was a statistically significant predictor of Completion of High School, but negative ( $\beta = -.150$ ,  $p < .05$ ), decreasing the chances of Completion 14% for second generation of Latino/a students. However, having been offered mentoring in the tenth grade was statistically significant and positive, increasing in 32% the chances of second generation students' Completion of High School ( $\beta = .280$ ,  $p < .001$ ).

The analysis performed using this logistic regression model was statistically significant in predicting Completion of High School. The findings indicated that although the individual, family and institutional factors had different influences on Completion of

High School, all these independent variables were predictors of Completion of High School for second generation of Latino/a students in the U.S.

For the third generation of Latino/a students' Completion of High School, Table VII summarizes the results of the logistic regression analysis and is followed by a report of the most relevant information found in the analysis for this group.

Table VII

*Summary of Logistic Regression Analysis of Third Generation of Latino/a students' Completion of High School.*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	-.206	.018	.000	.813
Socioeconomic Status	.337	.015	.000	1.400
Poverty Concentration	.077	.005	.000	1.080
Student's Aspirations	.358	.006	.000	1.431
Parents' Aspirations	.007	.007	.333	1.007
English as a First Language	.806	.021	.000	2.238
Dropout Prevention Programs	-1.019	.030	.000	.361
Mentoring	.115	.020	.000	1.122

The results of the analysis to determine the contribution of the independent variables to predict third generation of Latino/a students' Completion of High School were varied. In the analysis all variables, except for Parents' Aspirations, were found to be statistically significant in contributing to the model. The model correctly classified 86.4 % of the cases, indicating the third generation of Latino/a students' Completion of High School.

The results suggest that, in contrast to first and second generation, third generation female students are less likely to Complete High School than their male counterpart ( $\beta = -.206, p < .001$ ). In addition, Socioeconomic Status was found to be predictive of Completion of High School ( $\beta = .337, p < .001$ ). High Socioeconomic Status significantly increased the chances of Completion of High School for third generation of Latino/a students in approximately 40% by every unit level increased in Socioeconomic status. Similarly, school Poverty Concentration was found to be statistically significant in predicting Completion of High School for the group ( $\beta = .077, p < .001$ ), suggesting that by every 1% group increased in school Poverty Concentration the students are 8% more likely to complete high school.

On the other hand, it was found that high Student's Aspirations were predictive of third generation students' Completion of High School ( $\beta = .358, p < .001$ ). The findings show that for every higher educational level a student aspires to achieve, his or her chances of completing high school are 43% higher. English as a first language was also found to be a significant predictor of Completion of High School for this group ( $\beta = .806, p < .001$ ), almost doubling the chances of completion for those students that spoke English at home when they were children. For third generation of Latino/a students, participating in Dropout Prevention Programs was found to be significant predictor of Completion of High School, but negative ( $\beta = -1.019, p < .001$ ). For instance, third generation of Latino/a students that had participated in Dropout Prevention Programs were 64% less likely to Complete High School than those that did not participate in the program. However, having been offered mentoring in the tenth grade was found to be a

significant and positive predictor of Completion of High School ( $\beta = .115$ ,  $p < .001$ ), increasing the chances of completing high school in 12% for this group of students.

This logistic regression analysis was statistically significant in predicting Completion of High School as a model. The findings indicated that all individual and family variables, except from Parents' Aspirations, were significant predictors of completion for third generation of Latino/a students. Likewise, institutional support variables were also significant predictors of Completion of High School for this group of students in the U.S.

## **Research Question #2**

*To what extent do institutional support, family background, and students' educational aspirations predict Latino/a high school students' enrollment in college or post-secondary institutions?*

A logistic regression model was used to determine the extent to which institutional support, family background, and students' educational aspirations predict Latino/a high school students' enrollment in postsecondary education based on generational status. The variables used in the analysis included Gender (Female = 1; Male = 0); English as a First Language (English1st) (1 = Yes; 0 = No); Socioeconomic Status (SES); School Poverty Concentration (PovertyC); Students' educational Aspirations (StudAsp); Parents' Aspirations (ParAsp); Dropout prevention programs (DropoutP) (1 = Yes; 0 = No); and Mentoring offered to 10<sup>th</sup> graders (Mentoring) (1 = Yes; 0 = No).

The research question is addressed for every generation of Latino/a students. First, according to the students' Timely Enrollment in Post-Secondary Institutions within one year of the regular expected date, and then answered for students' Enrollment in

Post-Secondary Institutions within two years of the expected date. This approach implies that the results for the second round of analysis, Enrollment in Post-Secondary Institutions within two years, includes the students considered for the first analysis of Timely Enrollment in Post-Secondary Institutions within one year.

**Timely enrollment in post-secondary institutions.** The analysis of data for Research Question #2 was developed for each generation of Latino/a students timely enrolled in Post-Secondary Institutions within one year of completing high school. Table VIII shows the summary of the results of the logistic regression analysis for the first generation of Latino/a students' Timely Enrollment in Post-Secondary Institutions. The summary is followed by a report of the most relevant findings of the analysis.

Table VIII

*Summary of Logistic Regression Analysis of First Generation of Latino/a students' Timely Enrollment in Post-Secondary Education*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	.162	.023	.000	1.176
Socioeconomic Status	.433	.016	.000	1.543
Poverty Concentration	.078	.006	.000	1.081
Student's Aspirations	.390	.011	.000	1.477
Parents' Aspirations	.319	.010	.000	1.375
English as a First Language	.660	.035	.000	1.936
Dropout Prevention Programs	-.564	.041	.000	.569
Mentoring	-.289	.024	.000	.749



As a result of the logistic regression analysis, it was found that all the independent variables in the model are significant predictors of first generation of Latino/a students' timely enrollment in post-secondary institutions. The model correctly classified 84.7 % of the cases included in the analysis, indicating whether the first generation of Latino/a students timely enrolled in post-secondary institutions. The results suggest that first generation female students are more likely to timely enroll in post-secondary institutions than males ( $\beta = .162, p < .001$ ), having approximately 18% more chances of timely enrollment than male students from the same group. Similarly, Socioeconomic Status was found to be predictor of Timely Enrollment ( $\beta = .433, p < .001$ ). In fact, first generation of Latino/a students that had higher Socioeconomic Status were 54% more likely to timely enroll in post-secondary institutions by every unit level increased in their Socioeconomic Status. School Poverty Concentration was also found statistically significant ( $\beta = .078, p < .001$ ), slightly increasing in 2% the chances of Timely Enrollment for first generation student.

In this analysis, high Student's Aspirations were also predictive of Timely Enrollment ( $\beta = .390, p < .001$ ). The findings indicate that by every higher educational level a student aspires to achieve, his or her chances of timely enrolling in post-secondary institutions increase approximately 48%. Likewise, high Parents' Aspirations were significant predictors indicating that by every higher educational level that the parents aspire their children to achieve, the students' chances of Timely Enrollment in Post-Secondary Institutions increase approximately 38%. In terms of the language variable, the findings show that when English is the first language of first generation students', the chances significantly increase in 94% for this group's Timely Enrollment in Post-

Secondary Institutions ( $\beta = .660, p < .001$ ). The institutional support variables Dropout Prevention Programs and Mentoring were both negative and statistically significant predictors of Timely Enrollment. It was found that having participated in Dropout Prevention Programs ( $\beta = -.564, p < .001$ ) or having been offered Mentoring in tenth grade ( $\beta = -.289, p < .001$ ) decreased the chances of Timely Enrollment in Post-Secondary Institutions in 43% and 25% respectively.

Table IX presents the summary of the results of the logistic regression analysis for the second generation of Latino/a students' Timely Enrollment in Post-Secondary Institutions.

Table IX

*Summary of Logistic Regression Analysis of Second Generation of Latino/a Students' Timely Enrollment in Post-Secondary Education.*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	.684	.017	.000	1.982
Socioeconomic Status	-.106	.013	.000	.900
Poverty Concentration	-.089	.004	.000	.915
Student's Aspirations	.451	.007	.000	1.570
Parents' Aspirations	.344	.008	.000	1.410
English as a First Language	-.276	.018	.000	.759
Dropout Prevention Programs	-.624	.049	.000	.536
Mentoring	-.107	.018	.000	.898

The results of the logistic regression model indicate that all the independent variables are statistically significant and contribute to the model and predict second

generation of Latino/a students' Timely Enrollment in Post-Secondary Institutions. The model correctly classified 77.1 % of the cases in predicting whether the second generation of Latino/a students timely enrolled in post-secondary institutions. The results suggest that for second generation of female students, the chances of Timely Enrolling in Post-Secondary Institutions after high school are 98% higher than those of their male counterpart ( $\beta = .684, p < .001$ ). The coefficient for Socioeconomic Status is negative, indicating in this case that a higher Socioeconomic Status decreases the chances of second generation of Latino/a students' Timely Enrollment in Post-Secondary Institutions ( $\beta = -.106, p < .001$ ). In fact, there are 10% less chances for second generation Latino/a students of Timely Enrollment in Post-Secondary Institutions by every unit level increased in their Socioeconomic Status. Likewise, high Poverty Concentration was found to be significant in decreasing second generation students' chances of Timely enrollment ( $\beta = -.089, p < .001$ ). It suggested approximately 10% of a decrease in Timely Enrollment by every 1% group increased in Poverty Concentration.

Student's Aspirations ( $\beta = .451, p < .001$ ) and Parents' Aspirations ( $\beta = .344, p < .001$ ) were found to be significant predictors of Timely Enrollment, indicating that by every higher educational level a student or a parent/guardian aspires the student to achieve, the student is significantly more likely to Timely Enroll in Post-Secondary Institutions. Nevertheless, another finding indicates that when English is the first language for second generation of Latino/a students, they are less likely to timely enroll in post-secondary institutions ( $\beta = -.2.76, p < .001$ ), decreasing their chances in 24%.

Again, the institutional support variables Dropout Prevention Programs ( $\beta = -.624, p < .001$ ) and Mentoring ( $\beta = -.107, p < .001$ ) were both negative and statistically

significant predictors of Timely Enrollment. The findings suggest that having participated in Dropout Prevention Programs or when the schools provided school related Mentoring, the students' chances of Timely Enrollment in Post-Secondary Institutions decreased in 46% and 10% respectively. This logistic regression analysis was statistically significant in predicting Timely Enrollment in post-secondary institutions as a model. The findings indicate that individual, family, and institutional support variables were statistically significant predictors of Timely Enrollment in Post-Secondary Institutions for second generation of Latino/a students in the U.S. However, the only variables that contributed in a positive manner to the students' Timely Enrollment were Gender, Student Educational Aspirations, and Parents' Aspirations about their children's education.

Table X presents the summary of the results of the logistic regression analysis for the third generation of Latino/a students' Timely Enrollment in Post-Secondary Institutions. The summary is followed by a report of the most relevant information found in the analysis.

Table X

*Summary of Logistic Regression Analysis of Third Generation of Latino/a students' Timely Enrollment in Post-Secondary Education.*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	.117	.016	.000	1.124
Socioeconomic Status	.419	.013	.000	1.521
Poverty Concentration	-.102	.004	.000	.903
Student's Aspirations	.377	.006	.000	1.458
Parents' Aspirations	.034	.007	.000	1.034
English as a First Language	.602	.025	.000	1.826
Dropout Prevention Programs	-19.200	465.105	.967	.000
Mentoring	.326	.016	.000	1.385

The results of the logistic regression analysis indicate that all the independent variables are statistically significant and contributing to the model, except for Dropout Prevention Programs, and that the model predicts third generation of Latino/a students' Timely Enrollment in Post-Secondary Institutions. The model correctly classified 78.7 % of the cases included in the analysis, predicting the third generation of Latino/a students Timely Enrollment in Post-Secondary Institutions. The results suggest that for third generation of female students, the chances of Timely Enrollment in Post-Secondary Institutions are 12% higher than those of male students in the same group ( $\beta = .117$ ,  $p < .001$ ). The findings also suggest that high Socioeconomic Status gives third generation Latino/a students more chances of Timely Enrollment in Post-Secondary Institutions ( $\beta = .419$ ,  $p < .001$ ) making them 52% more likely of timely enrollment compared to low

Socioeconomic Status students. Conversely, students in schools with high Poverty Concentration were less likely to Timely Enroll ( $\beta = -.102, p < .001$ ); they had approximately 10% less chances of Timely Enrollment in Post-Secondary Institutions for every 1% group increased in Poverty Concentration.

Much like with the first and second generation of Latino/a students, both Student's Aspirations ( $\beta = .377, p < .001$ ) and Parents' Aspirations ( $\beta = .034, p < .001$ ) were positive predictors of Timely Enrollment for third generation students. The findings indicate that by every higher educational level a student or a parent/guardian aspires the student to achieve, the more likely that the student would be Timely Enrolled in Post-Secondary Institutions. Another positive finding indicates that when English is the first language for third generation of Latino/a students, they are approximately 83% more likely to timely enroll in post-secondary institutions ( $\beta = .602, p < .001$ ). In the case of the institutional support variable Mentoring, it was found to be a statistically significant predictor of Timely Enrollment ( $\beta = .326, p < .001$ ), and that when the school offered Mentoring for school related activities in tenth grade, the students were 39% more likely to Timely Enroll in Post-Secondary Institutions. This logistic regression model was statistically significant in predicting Timely Enrollment in Post-Secondary Institutions. The findings indicate that with the exception of Dropout Prevention Programs; individual, family, and institutional support variables were statistically significant predictors of Timely Enrollment in Post-Secondary Institutions for third generation of Latino/a students in the US.

**Enrollment in post-secondary institutions.** Identically to the analysis for Timely Enrollment, the analysis of data for Research Question #2 in terms of Enrollment in Post-

Secondary Institutions within two years of completion of high school was developed according to the generational status of the students. Table XI summarizes the results of the logistic regression analysis for the first generation of Latino/a students' Enrollment in Post-Secondary Institutions.

Table XI

*Summary of Logistic Regression Analysis of First Generation of Latino/a Students' Enrollment in Post-Secondary Education*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	.039	.019	.039	1.039
Socioeconomic Status	.783	.014	.000	2.187
Poverty Concentration	.093	.005	.000	1.097
Student's Aspirations	.206	.008	.000	1.229
Parents' Aspirations	.144	.008	.000	1.155
English as a First Language	1.123	.031	.000	3.073
Dropout Prevention Programs	-.770	.032	.000	.463
Mentoring	-.604	.020	.000	.547

The logistic regression analysis indicates that all the independent variables contribute to predict first generation of Latino/a students' Enrollment in Post-Secondary Institutions. The model correctly classified 72.5 % of the cases included in the analysis, predicting the first generation of Latino/a students' enrollment in post-secondary institutions.

The set of independent variables were statistically significant in contributing to the model. The findings show that first generation female students are slightly more

likely than males to Enroll in Post-Secondary Institutions within two years of completing high school ( $\beta = .039$ ,  $p = .05$ ). It was also found that high Socioeconomic Status is a significant predictor of first generation Latino/a students' Enrollment in Post-Secondary Institutions ( $\beta = .783$ ,  $p < .001$ ), increasing their chances of Enrollment in 119% for every unit level increased in Socioeconomic Status.

High Poverty Concentration was also found statistically significant ( $\beta = .093$ ,  $p < .001$ ), making first generation students 10% more likely to Enroll in Post-Secondary by every 1% group increased in School Poverty Concentration. In addition, first generation Student's Aspirations were also found to be predictive of Enrollment ( $\beta = .206$ ,  $p < .001$ ), suggesting that high aspirations made this group approximately 23% more likely to enroll in post-secondary institutions. On the other hand, Parents' Aspirations were predictive of Enrollment ( $\beta = .144$ ,  $p < .001$ ), indicating that parents' high aspirations about their children educational level increased in approximately 16% the students' chances of enrolling in post-secondary institutions. English as a first language was significant for first generation of Latino/a students enrollment ( $\beta = 1.123$ ,  $p < .001$ ). These students were significantly more likely to enroll in post-secondary institutions than those that did not speak the language at home when they were children. Once again, the institutional support programs Dropout Prevention ( $\beta = -.770$ ,  $p < .001$ ) and Mentoring ( $\beta = -.604$ ,  $p < .001$ ) were both negative and statistically significant predictors of enrollment. The findings indicate that having participated in Dropout Prevention Programs or having been provided with Mentoring programs in high school significantly decreased the chances of enrollment in post-secondary institutions for first generation students. This logistic regression analysis was found to be statistically significant in predicting Enrollment in



Post-Secondary Institutions as a model. The findings indicate that individual, family, and institutional support variables were statistically significant predictors of Enrollment in Post-Secondary Institutions for first generation of Latino/a students. Although institutional support variables were statistically significant, it is important to emphasize that they were negative predictors of Enrollment in Post-Secondary Institutions for Latino/a students that are considered as first generation in the U.S.

Table XII presents the summary of the results of the logistic regression analysis for the second generation of Latino/a students' Enrollment in Post-Secondary Institutions. This summary is followed by a report of the most relevant findings of the analysis.

Table XII

*Summary of Logistic Regression Analysis of Second Generation of Latino/a students' Enrollment in Post-Secondary Education*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	.831	.015	.000	2.296
Socioeconomic Status	.120	.012	.000	1.128
Poverty Concentration	-.125	.004	.000	.883
Student's Aspirations	.370	.006	.000	1.448
Parents' Aspirations	.402	.007	.000	1.495
English as a First Language	-.101	.017	.000	.904
Dropout Prevention Programs	-.424	.041	.000	.655
Mentoring	-.027	.017	.107	.974

The logistic regression analysis indicates that all the independent variables, except for Mentoring, contribute to predict second generation of Latino/a students' Enrollment

in Post-Secondary Institutions. The model correctly classified 70.1 % of the cases included in the analysis, predicting whether the second generation of Latino/a students enrolled in post-secondary institutions within two years of completing high school.

The results suggest that second generation female students are significantly more likely than males to Enroll in Post-Secondary Institutions ( $\beta = .831$ ,  $p < .001$ ). Socioeconomic Status was found to be a significant predictor of Enrollment ( $\beta = .120$ ,  $p < .001$ ), suggesting that second generation Latino/a students with high SES are 13% more likely to enroll in post-secondary institutions by every unit level increased in Socioeconomic Status. Contrarily to Socioeconomic Status, high Poverty Concentration was found to be significant but had a negative influence on chances of Enrollment ( $\beta = -.125$ ,  $p < .001$ ). This finding suggests that by every 1% group increased in School Poverty Concentration the students are 11% less likely to enroll in post-secondary institutions. As a constant finding, high Student's Aspirations were predictive of enrollment ( $\beta = .370$ ,  $p < .001$ ), indicating that by every higher educational level second generation students aspire to achieve, they are 45% more likely to enroll in post-secondary institutions. Likewise, Parents' Aspirations are also significant predictors of enrollment ( $\beta = .402$ ,  $p < .001$ ). The findings suggest that by every higher educational level that the parents aspire for their children; the students are 50% more likely to Enroll in Post-Secondary Institutions.

Contrarily to first generation of students, English as a first language was found to be significant but negative for second generation of Latino/a students ( $\beta = -.101$ ,  $p < .001$ ). Students that reported speaking English at home when they were children were slightly less likely to enroll in post-secondary institutions. Lastly, the institutional support

variable Dropout Prevention Programs was statistically significant but negative predictor of enrollment ( $\beta = -.424, p < .001$ ). This finding indicates that students that participated in Dropout Prevention Programs had 34% less chances to enroll in post-secondary institutions. This logistic regression analysis was statistically significant in predicting Enrollment in Post-Secondary Institutions as a model. The findings indicate that individual, family, and institutional support variables, except for Mentoring, were statistically significant predictors of Enrollment in Post-Secondary Institutions for second generation of Latino/a students in the U.S.

Table XIII presents the summary of the results of the logistic regression analysis for the third generation of Latino/a students' Enrollment in Post-Secondary Institutions. This summary is followed by a report of the most relevant findings of the analysis.

Table XIII

*Summary of Logistic Regression Analysis of Third Generation of Latino/a students' Enrollment in Post-Secondary Education*

Predictor	$\beta$	S.E	Sig.	Exp ( $\beta$ )
Gender	.272	.014	.000	1.313
Socioeconomic Status	.623	.012	.000	1.865
Poverty Concentration	-.063	.004	.000	.939
Student's Aspirations	.256	.005	.000	1.292
Parents' Aspirations	.286	.006	.000	1.331
English as a First Language	.682	.021	.000	1.978
Dropout Prevention Programs	-2.150	.068	.000	.117
Mentoring	.501	.014	.000	1.650

The logistic regression analysis indicates that all the independent variables contribute to predict third generation of Latino/a students' Enrollment in Post-Secondary Institutions. The model correctly classified 70.2 % of the cases included in the analysis, and predicted the third generation of Latino/a students' enrollment in post-secondary institutions.

In this analysis, the findings suggest that third generation female students are more likely than males of the same group to enroll in post-secondary institutions after completing high school ( $\beta = .272, p < .001$ ). It seems that female students' chances of completion are 31% higher than those of third generation males. For third generation Latino/a students, high Socioeconomic Status was a significant and positive indicator of enrollment ( $\beta = .623, p < .001$ ), suggesting that the students were 87% more likely to enroll in post-secondary institutions by every unit level increased in Socioeconomic Status. Poverty Concentration, however, was found to be a significant but negative indicator of Enrollment ( $\beta = -.063, p < .001$ ). It was found that third generation students were 6% less likely to enroll in post-secondary institutions by every 1% group increased in school Poverty Concentration.

In addition, students that held high aspirations were 29% more likely to enroll in post-secondary institutions than other students of the same generation ( $\beta = .256, p < .001$ ). The findings indicate that by every higher educational level a student aspires to achieve, his or her chances of enrolling in post-secondary institutions increased. Likewise, high Parents' Aspirations were significantly predictive of enrollment ( $\beta = .286, p < .001$ ), indicating that by every higher educational level that the parents aspire their children to achieve, the students' chances of Enrollment in Post-Secondary Institutions

increased in 33%. The findings also indicate that when English was the first language for third generation of Latino/a students, they were significantly more likely to enroll in post-secondary institutions ( $\beta = .682, p < .001$ ). This group had approximately 98% more chances of enrollment than those who did not have English as their first language.

In this analysis, the institutional support variable Dropout Prevention Programs was negative and statistically significant predictor of Enrollment. The findings indicate that students that had participated in Dropout Prevention Programs were significantly less likely to Enroll in Post-Secondary Institutions ( $\beta = -2.150, p < .001$ ): In fact, they were 88% likely to Enroll than were students that did not participate in the programs. Contrarily, when schools provided Mentoring for school related work, third generation students were significantly more likely to Enroll ( $\beta = .501, p < .001$ ). It indicates an increase of 65% more chances of Enrollment.

This logistic regression model was statistically significant in predicting Latino/a students' Enrollment in Post-Secondary Institutions. The findings indicate that individual, family, and institutional support variables are statistically significant predictors of Enrollment in Post-Secondary Institutions for third generation of Latino/a students in the U.S.

## **Summary**

The overarching research questions guiding the study were:

1. “To what extent do institutional support, family background, and students' educational aspirations predict Latino/a students' completion of high school?”

2. “To what extent do institutional support, family background, and students' educational aspirations predict Latino/a high school students' enrollment in college or post-secondary institutions?”

This study sought to identify individual students and family factors, as well as institutional support variables that predict Latino/a students' successful completion of high school and enrollment in post-secondary institutions in the U.S. Chapter IV described the findings of the data analyses. The chapter included a descriptive analysis of the students' characteristics and the logistic regression analyses by generational status of Latino/a students in the U.S. These analyses examined individual and institutional variables associated with Latino/a students' Completion of High School and Enrollment in Post-Secondary Institutions as indicators of academic success beyond high school. The findings suggest that the logistic regression models considered for the analyses were statistically significant in predicting the outcomes for both research questions. The next chapter addresses the conclusions based on the findings of the study and provides a discussion and recommendations for further research.

## **CHAPTER V**

### **SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS**

#### **Introduction**

This chapter provides a summary of the findings, discussion, conclusions, and the recommendations of the study. Based on the findings, the theoretical framework presented in chapter I is discussed in order to include suggestions for practice, policy, and future research.

#### **Summary of the Findings**

The study sought to identify individual students and family factors, as well as institutional support variables that predict Latino/a students' academic success beyond high school. The examination of the literature included a review of the individual, family, and institutional support variables identified in the study. The study used the 2002-2006 Education Longitudinal Study data from the National Center for Education Statistics. The logistic regression model identified students' gender, socioeconomic status, first language, their educational aspirations as well as the aspirations of their parents, school poverty concentration and school support programs to be significant predictors of high school completion as well as enrollment in post-secondary education. Approximately 79% of the subjects were correctly classified by the model. The findings indicate marked

differences between the predictive influence of the individual and institutional variables on the completion of high school and enrollment in post-secondary institutions of three generations of Latino/a students in the U.S. For example, females of first and second generation Latino/a students are two times more likely than males in the same group to Timely/Complete high school. This trend does not apply to third generation female students because they were found to be less likely than males of the same group to Timely/Complete High School, with males holding 20% more chances of completion of high school.

It is also noteworthy to mention that the institutional support variable Dropout Prevention Programs had a significant negative predictive power for both students' Completion of High School and Enrollment in Post-Secondary Institution across all generation of Latino/a students. The variable Mentoring was found to be predictive of Completion of High School only for second and third generation of students, while it was found to be predictive of Enrollment in Post-Secondary Institutions only for third generation Latino/a students in the U.S.

Table XIV is a comparative summary of the odds ratios by generational status that helps illustrate the influence of individual and institutional factors across generations within levels of completion.



Table XIV

*Odds Ratios by Generational Status. Timely Completion and Completion of High School*

Predictor	Timely Completion High School Generational Status			Completion of High School Generational Status		
	1 <sup>st</sup> Exp (B)	2 <sup>nd</sup> Exp (B)	3 <sup>rd</sup> Exp (B)	1 <sup>st</sup> Exp (B)	2 <sup>nd</sup> Exp (B)	3 <sup>rd</sup> Exp (B)
Gender	3.14	3.45	0.84	2.16	2.45	0.81
Socioeconomic Status	1.15	1.46	1.18	0.95	1.40	1.40
Poverty Concentration	1.02	0.72	1.02	0.98	0.74	1.08
Student's Aspirations	1.38	1.21	1.33	1.41	1.20	1.43
Parents' Aspirations	NS	1.39	1.07	0.97	1.35	NS
English as a First Language	4.11	1.34	2.11	3.00	1.26	2.24
Dropout Prevention P	0.45	0.38	0.43	0.42	0.86	0.36
Mentoring	0.53	1.89	0.81	0.45	1.32	1.12

Note: Independent predictor variables with no statistical significance association with levels of completion were indicated as not significant (NS).

Table XV is a comparative summary of the odds ratios by generational status that helps illustrating the influence of individual and institutional factors across generations within levels of Enrollment in Post-Secondary Institutions.

Table XV

*Odd Ratios by Generational Status. Timely Enrollment and Enrollment in Post-Secondary Institutions.*

Predictor	Timely Enrollment in Post-Secondary Institutions			Enrollment in Post-Secondary Institutions		
	Generational Status			Generational Status		
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
	Exp (B)	Exp (B)	Exp (B)	Exp (B)	Exp (B)	Exp (B)
Gender	1.18	1.98	1.12	1.04	2.30	1.31
Socioeconomic Status	1.54	0.90	1.52	2.19	1.13	1.87
Poverty Concentration	1.08	0.92	0.90	1.10	0.88	0.94
Student's Aspirations	1.48	1.57	1.46	1.23	1.45	1.29
Parents' Aspirations	1.38	1.41	1.03	1.16	1.50	1.33
English as a First Language	1.94	0.76	1.83	3.07	0.90	1.98
Dropout Prevention P	0.57	0.54	NS	0.46	0.66	0.12
Mentoring	0.75	0.90	1.39	0.55	NS	1.65

Note: Independent predictor variables with no statistical significance association with levels of enrollment were indicated as not significant (NS).

## Conclusions

The study focused on the influential power of individual, family and institutional variables to predict high school Completion and Enrollment in Post-Secondary Institutions. Based on the findings of the study, the following conclusions can be drawn:

1. The results indicate marked differences between the direction of the influence of individual and institutional variables on students' completion of high school and enrollment in college. Although the models of analysis used in the study showed statistical significance in general, the factors represented here by individual and institutional variables might not necessarily operate in isolation but instead they might be influenced by cultural variables that create barriers for young Latino/a students. The

literature supports that Latino/a students perceive challenges in their school social and cultural environment that disconnects home and school lives, especially framed by language and gender differences (Lys, 2009). The generational status of Latina/o students, their academic attainment aspirations, and the multiple socio-cultural barriers they encounter seem to explain the differences in school performance among Latino/a youth in the U.S.

2. It is important to note that while other variables had mixed, positive and/or negative, influences on students' completion of high school and their enrollment in post-secondary educational institutions, students' aspirations were positive predictors of success for all generations of students. This finding suggests that institutional support programs should focus their efforts on keeping high students' aspirations as a crucial influence for academic success. In this sense, mentors in mentoring programs could play a paramount role. As noted in the literature, issues related to Latino/a youth interactions with teachers/mentors and the students' experiences in institutional support programs showed the significant role of role models and the value of social capital for Latino students. Social capital is especially important to facilitate the students' transition from high school to higher education and into the world of adulthood in the American society.
3. Students' interactions and transitions might be diminished or altered when such a high number of students, especially first and second generation

Latino/a youth, do not consider English as their first language or their level of proficiency in the language is compromised. This fact could be influencing their academic success as well as the development of substantial social capital beyond high school.

4. The findings of the study suggest that generational differences are linked to within group gaps and achievement, and those differences clearly influence the effect that institutional support programs might have especially for first generation Latino/a students' completion of high school and their later enrollment in post-secondary institutions. It seems that the layers of interactions discussed by Bronfenbrenner (1997), at the individual, family and institutional level vary in how they influence high school completion and college enrollment. In consequence, different generations of students should be seen through different lenses of their particular characteristics.

## **Discussion**

Findings of the descriptive and logistic regression analyses allowed for objective examination of the individual, family and institutional support variables that might have contributed to the completion of high school and/or enrollment in post-secondary institution of Latino/a students in the U.S. Likewise, a discussion of the findings in connection with the theoretical framework of the study provides a more nuanced approach to the problem and considers how contextual implications possibly contribute to the specific educational outcomes experienced by Latino/a high school students of

first, second, and third generation in the U.S. The findings are stated and discussed according to the research question being answered.

The descriptive analysis of this study indicate that although first generation Latino youth included in the sample represent just above a quarter of the Latino/a student population in the US, approximately 91 % of this group did not report English as their first language or the language spoken at home when they were children. Similarly, a relevant number of second generation youth represent 31% of Latino/a students, and almost 65% of them do not consider English as their first language. Conversely, in the case of third generation Latino students, which represents 42% of the whole sample, most of the students reported that English was their first language (84%). Considering the percentages of first, second and third generation of Latino/a students that reported that English was not their first language, the findings indicate that about 51% of the Latino student population in the US does not have English as their first language, which might have implications for their academic performance in regular classrooms if the students do not have support programs for second language learners. Behnke, Gonzalez, and Cox (2010) discussed that Latino/a youth are more likely than any other ethnic group to drop out of high school in the United States and that the students surveyed in their study expressed their need for improved academic and personal support in the form of tutoring, mentoring, after-school programs as well as improved English as a second language courses. The students also expressed the need for more Spanish-speaking staff/teachers. It is evident that there is a high value posed on the importance of relationships between the students, and all those involved in the students' life during their educational experience in high school.

The analysis based on the logistic regression model also provided relevant information about the influences of individual, family and institutional variables on Latino/a students' completion of high school. In the next section the research question and a comprehensive summary of the logistic regression analysis for Research Question #1 are presented and discussed.

**Research Question #1:** *To what extent do institutional support, family background, and students' educational aspirations predict Latino/a high school students' completion of high school?*

The theoretical framework of this study is influenced by the socio-cultural approach to learning and development of Lev Vygotsky (1934) in conjunction with Urie Bronfenbrenner's (1997) ecological approach to learning and development. Within that frame, individual, family and institutional variables are considered relevant factors to the educational lives of Latino/a youth in the transition between high school and post-secondary education. The educational experiences of this group seem to be influenced by socio-cultural aspects present in the multiple layers surrounding them as a whole, and the way the group, or the different generations of the group, interact within those contexts. According to the findings of this study in relation to research question #1, individual, family and institutional variables showed statistical significance in predicting Latino/a students' completion of high school at different moments in time, although the effects may vary across generations of students.

**Gender.** The study found that only first and second generation Latino female students in high school had increased chances of completion when compared to Latino males. Conversely, third generation female students had less of a chance than males of

completing high school. In this scenario third generation female students could be “vanishing” from the ranks of high school and contributing to the dropout rate instead of their male counterparts as suggested by Saenz and Ponjuan (2009). This is an important finding that could have implications linked to the high dropout rates reported in the literature for Latino female students (NCES, 2006) given that third generation of Latino females represent the highest percent of students within the group.

One answer to those differences between first and second generation successful completion of high school, and third generation non-completion could rely on the groups’ histories and socio-cultural adaptations. The literature says that voluntary minorities, such as first and second generation Latino/a students, develop skills to survive in the new society, (Ogbu & Simons, 1998). However, the possible influences of institutional factors that influence the academic attainment of third generation female students could be the reflection of a fading of the American dream, because they are U.S. born and might be symptomatic of an oppressive/poor resourced school system. The literature addresses this phenomenon suggesting that “U.S.-born youth from low-income communities are themselves symptomatic of the ways that schooling is organized to subtract resources from them” (Valenzuela, 1999).

*Socioeconomic status.* As it was expected, a higher socioeconomic status predicted higher rates of high school completion for most generations of Latino/a students, except for first generation students’ completion of high school within two years. This finding has implications for first generation students whose chances of completion decrease even when they have a higher socioeconomic status. Research shows that the effects of race and gender are mediated by socioeconomic status, causing limited or non-

existing access to important resources for students from low socioeconomic backgrounds (Wahl & Blackhurst, 2000).

***Poverty concentration.*** The findings showed that Poverty Concentration had either negative or slightly positive influence on Timely/Completion of High School across generations. This phenomenon seems to reflect on research findings indicating that institutional support through guidance programs have been influenced by demographic and economic factors (Wahl & Blackhurst, 2000). It would be expected that economic factors like poverty concentration have a significant influence on high school completion among Latino/a students. Likewise, the literature says that students' experience of social capital could either support or constrain the students' access to assets such as resources, information and opportunities (Stanton-Salazar, 2011). Based on the findings of the study, building social capital in low resourced educational settings, with high concentration of poverty, can be a challenge especially in schools where Latino students' are double and sometimes triple segregated by race, language and/or poverty (Vasquez & Holme, 2013).

***Students' aspirations.*** The review of the literature showed that research findings on minority groups' academic achievement are diverse in terms of the influence of the students' aspirations on their academic attainment. However, the results of this study agree with research indicating that students' college aspirations are a strong predictor of academic achievement among Latino/a high school students (Buriel & Cardoza, 1988). The current study found that students' aspirations about their academic attainment were always statistically significant, positive, and behaved similarly across first, second, and third generation of Latino/a students. It was found that students' aspirations about their



academic attainment increase their probabilities of completion of high school. There was an average of 32% increase of chances of school completion across generations per every higher educational level the students aspired to achieve. This finding is relevant to the purpose of the study, which looks at the influence of individual, family and institutional support on students' academic success through the lenses of three generations of Latino/a students in the U.S.

*Parents' aspirations.* Theorists on adolescence hold that adolescents should be given the space by parents and other adults to explore and develop (Erikson, 1968; Steinberg & Silk, 2002), because they are still not fully mature. At the same time, parents and other adults are still very important in providing monitoring and also providing guidance (Steinberg & Silk, 2002), especially for Latino adolescents whose family interactions play a key role in the development of their identity (Schwartz, Mason, Pantin, & Szapocznik, 2009). However, the findings of this study suggest that parents' aspirations have mixed influences on different generations of Latino/a students' completion of high school. For example, the study found that Parents' Aspirations significantly improve the probabilities of completion for second generation students, but have little, none or negative influence on the other generations' completion of high school at different time moments (e.g. completion within one year/ within two years).

*English as a first language.* The study found that having English as a first language would improve the students' chances of high school completion for all generations. This outcome seems relevant for Latino/a students' academic success given that above 50% of this group reported that English was not their first language. The finding highlights the importance of support programs enhancing students' language

proficiency. Vasquez and Holme (2013) found that two thirds (66%) of the schools that they studied in Texas had a “vast majority” economically disadvantaged population, which were also majority English Language Learners. This phenomenon is seen by Vasquez and Holme as representing a double segregation.

As we see from English 1st and the analysis of SES, There could be an intersection of overlapping spheres of language and poverty for those with low language proficiency and low Socioeconomic status accounting for non-completion and enrollment.

**Institutional support programs. *Dropout prevention programs.*** In terms of the influence of Dropout Prevention Programs on successful completion of high school, it showed to be significant in decreasing the chances of completion across all generations of Latino/a students included in the study. This finding is very important in terms of understanding and framing such dropout prevention programs that would engage Latino/a students effectively so that they complete high school. There is a need for quality, well-structured programs, like those suggested in the literature review which are scarce in low resourced schools, especially those in educational settings with high levels of poverty concentration reflected on their free/reduced lunch rates.

Individual, family and institutional variables are relevant factors to the educational lives of Latino/a youth in the transition from high school to post-secondary education. In particular, a review of the literature indicated that institutional support plays a critical role in helping students to keep high educational aspirations while promoting better academic performance at the high school level, which seems to be decisive especially for Latino/a students (Lozano, Watt, & Huerta, 2009). However, in this study,

Dropout Prevention Programs did not have a positive influence on students' completion of high school or on enrollment in post-secondary institutions while Mentoring had a positive influence only for some generations of Latino/a students' academic success. This becomes an important finding that provides helpful insight given that the study looks at the extent to which institutional variables like Dropout prevention programs and Mentoring influence Latino/a students' academic success.

***Mentoring.*** In this study, the findings on Mentoring programs as institutional support had mixed influences on this population according to generational status. The current study found that Mentoring was statistically significant, and that it positively contributed to students' success only for the second generation of Latino/a students Timely/Completion of high school, and for third generation students' Completion of High School. The first generation of Latino/a students had considerably fewer chances of Completion of High School when they had been offered Mentoring in tenth grade, drawing the attention to the possibility of other factors related to culture that could have had an influence in that particular effect. The literature indicates that institutional support programs are influenced by demographic and economic factors (Wahl & Blackhurst, 2000). This statement could be true for Mentoring programs that are offered in schools with high Poverty Concentration rates, limiting the access to resources provided to Latino/a students. The findings could also suggest that the type of Mentoring offered in schools should be aligned to educational practice that addresses the possible academic weaknesses or particular characteristics of first generation students.

The analysis based on the logistic regression model also provided relevant information about the influences of individual, family and institutional variables on

Latino/a students' Enrollment in Post-Secondary Institutions. In the next section, the research question and a comprehensive summary of the logistic regression analysis for Research Question #2 are presented and discussed.

**Research Question #2.** *To what extent do institutional support, family background, and students' educational aspirations predict Latino/a high school students' enrollment in college or post-secondary institutions?*

According to the findings of this study in relation to research question #2, individual, family and institutional variables showed statistical significance to predict Latino/a students' enrollment in Post-Secondary Institutions at different moments in time, although the influences of some factors may vary across generations of students.

**Gender.** Research on high school dropout has shown that female adolescents have a higher rate of drop out from high school, linking the problem with teen pregnancy or parenting, and to the students' socioeconomic status (Aviles, Guerrero & Howrath, 1999; Pirog & Magee, 1997). However, in terms of Latino/a students' enrollment in Post-Secondary Institutions, this study found that male students are the ones "vanishing" from the ranks of postsecondary education in the U.S. when compared with their female counterparts across generations (Saenz & Ponjuan, 2009). The findings of this study indicate that in fact female students' chances of enrollment in post-secondary institutions are considerably higher than those of male students across all generations of Latino/a students in high school. This gender difference among Latino/a students' enrollment in post-secondary institutions may be due to individual and family factors influencing the students' decision to pursue their education beyond high school. For instance, the expectations for Latino males to work in order to contribute to the family's well-being are

still a current norm for many in this minority group (Suarez-Orozco & Suarez-Orozco, 1995). This finding also challenges previous research suggesting that females were seen as the designated stay-at-home caregiver among the Latino population (Suarez-Orozco & Suarez-Orozco, 1995).

*Socioeconomic status.* The impact of socioeconomic status and economic factors on students' academic achievement and enrollment in high school and higher education has been widely found as influential across diverse factors, and also mediating between student characteristics such as race and gender (Wahl & Blackhurst, 2000). The analysis of Latino/a students' enrollment in post-secondary institutions provides an interesting finding, showing that high Socioeconomic Status positively influences enrollment for most generations of Latino/a students. However, the year enrollment is expected plays a role in this analysis. Even when second generation Latino/a students might have a higher Socioeconomic Status at a given point, their chances of enrollment in higher education decrease if enrollment is expected during the first year of completing high school.

*School poverty concentration.* School poverty concentration, as well as other socioeconomic factors, have been reported in the literature as influential on students' academic success (Wahl & Blackhurst, 2000). The findings of this study support the results of Wahl and Blackhurst. Findings in this study indicate that only first generation students would have a positive influence from attending a high school with a high percentage of students receiving free-reduced lunch. The results of the analysis show that this generation of students has approximate 9% more chances of enrollment in post-secondary institutions when attending schools with higher percentages of students in free-reduced lunch, while other generations would be negatively impacted by the same

situation. Again, there is a contrasting influence of school poverty concentration on students' enrollment in post-secondary education within Latino/a students.

*Students' aspirations.* The findings for students' enrollment in post-secondary institutions, based on the influence of their academic aspirations, are similar to those on their completion of high school. According to this study, students' aspirations about their enrollment in higher education were statistically significant and positive, acting as predictors that increase students' probabilities of enrollment across first, second, and third generation of Latino/a youth. While other variables have mixed influences on students' enrollment in post-secondary institutions, students' aspirations about their academic attainment is consistent on the extent and its positive and strong predictive influence on students' chances of enrollment. The finding confirms research indicating that students' college aspirations are a strong predictor of academic achievement among Latino/a high school students (Buriel & Cardoza, 1988).

*Parents' aspirations.* Family relationships are markedly important for Latino/ youth in general and have a strong influence on their academic success. For instance, Crosnoe, Mistry, and Elder (2002) found that attitudes of disadvantaged parents, especially mothers, had a great influence in determining the school success of their children. Moreover, parents who believed in their own power to make a difference in their children's future, even when they were facing severe economic hardship, were more likely to support and guide them toward positive educational and social opportunities (Crosnoe, Mistry & Elder, 2002). The findings of this study suggest that parents' aspirations about their children's academic achievement were found to play a significant role on improving the students' probabilities of enrollment in post-secondary institutions

across all generations of Latino/a students. Parental expectations and support influence the aspirations of Latino/a students towards higher education (Wahl & Blackhurst, 2000). However, this study found that the Parents' aspirations influence students' completion of high school and enrollment in post-secondary institutions in a different way for each generation.

***English as a first language.*** The study found that having English as first language would significantly improve the chances of Enrollment in Post-Secondary Institutions for first and third generation of Latino/a students. This was not the case for second generation of students who reported that English was their first language, whose chances of enrollment decreased. A closer analysis might be needed to better understand this outcome as influential on second generation of Latino/a students' academic progress to post-secondary institutions.

***Institutional support variables. Dropout prevention programs.*** Surprisingly, the study found that having participated in Dropout Prevention Programs, although being statistically significant for most of the cases, had a negative influence on all generations of Latino/a students' enrollment in post-secondary institutions. This finding contrasts with the expected outcome suggested by the literature emphasizing that when students interact with resourceful institutional agents in support programs, it makes a significant difference for Latino/a students (Stanton-Salazar, 1995). Likewise, many preparatory programs have concentrated their services on students' aspirations because aspirations are considered as crucial for college enrollment (Wahl & Blackhurst, 2000). According to the findings of this study Dropout Prevention Programs do not contribute with Latino/a students' college enrollment, possibly focusing on remedial work instead of enhancing

students' aspirations about enrollment in college or post-secondary education. This finding brings more questions for discussion about other possible factors directly or indirectly linked to the effectiveness of Dropout Prevention Programs. Research addresses that Latino/a students need to have realistic information about post-secondary options and their own likelihood of success (Valadez, 1998). This makes the need for more guidance and institutional support that provides specific information conducive to post-secondary options noteworthy.

On the other hand, in exploring the influence that Dropout Prevention Programs have on enrollment, it might be that the poverty concentration influence is such that these programs are insufficient in and of themselves. This study found a weak, but positive correlation between participation in Dropout Prevention Programs and Poverty Concentration ( $r = .06$ ,  $p = 0.01$ ). Although this finding does not imply causation, it provides insight about the direction of the relationship between both variables indicating that high level of Poverty Concentration is associated with participation in Dropout Prevention Programs. It is important to mention that students that participate in Dropout Prevention Programs are usually considered "at risk" and have already a low performance history, making them more vulnerable and likely to have low academic aspirations.

***Mentoring.*** The literature indicates that the experiences of Latino/a youth showed significant positive outcomes for those who had had a mentor and that at-risk young people with mentors were more likely to aspire to attend and to enroll in college. Likewise, these youth were more likely to report participating in sports and other extracurricular activities where social and interpersonal interactions were essential. (Bruce & Bridgeland, 2014).



However, while research says that at-risk youth in general, who had a mentor are more likely to be enrolled in college than those who did not have a mentor (45 % vs. 29 %), the current study partially corroborates such findings. The results of this study indicate that having been offered Mentoring in high school had a positive contribution only for third generation students' enrollment, increasing their chances of enrollment in post-secondary institutions an average of 52% compared to those that were not offered mentoring. This finding sheds light on the influence of mentoring on this specific generation of Latino/a students in the U.S. and lead to reflection about the differences in terms of their interpersonal relationships in mentoring programs among third generation of students and mentors in the programs.

According to Piaget's theory, the formal operations' stage is when children are able to have advanced logical thinking and abstract thinking. They develop the ability to use propositional logic, inductive and deductive logic, and are also able to reflect on their own thinking processes (Chapman, 1988). These stages may work out differently for the Latino students keeping in mind the above mentioned factors. For some Latino/a adolescent students, propositional logic and deductive thinking might be influenced by their individual characteristics, the lack of resources they face in most cases, along with their experiences in school with those who play a role as partners in education. These factors can become barriers for Latino/a students in high school, especially if they don't speak each other's language (Ojeda & Flores, 2008). Understanding and researching these barriers could be of help to Mentoring and Dropout Prevention Programs. It seems that the institutional support programs provided to high school Latino/a students in the

U.S. is a reaction to alleviating a pre-existing educational weakness instead of help building stronger foundations for academic success.

### **Limitations**

1. The use of secondary data, as it is the case of large data sets, represents both an advantage and a limitation in itself. It is an advantage because it allows the researcher to make inferences for national representation. On the other hand, it represents a limitation because the researcher employs a particular frame to develop his or her research work based on the characteristics of pre-existing data, with limited flexibility for analysis. Likewise, while a quantitative approach of the study allows a study of the predictive power of particular variables, its use alone might limit the analysis of data coming directly from the participants, which could shed more light on the phenomenon of generational differences as individual factors that could propel Latino/a students' academic success.
2. These data include students' information collected during the period of 2002-2006, which might not completely reflect recent changes occurred in the context of Latino/a students that influence their academic performance.
3. The question asked to the students for collecting information about their first language ["Is English your native language (the first language you learned to speak when you were a child)?"] does not allow for inferences on whether the students' first language was also seen as the students' dominant language. In such case, it could have a different interpretation of the influence of language on Latino/a students' academic attainment.

4. It is possible that a study of this kind, looking at national characteristics, might not distinguish between local differences that could be found between different regions of the country that have diverse concentrations of Latino/a population.

### **Recommendations**

1. The findings of this study suggest the need for customized educational programs. The students' characteristics and their particular needs should be a priority in order for institutional support programs to achieve higher levels of effectiveness for all students. Latino/a students face a complex socio-cultural-educational context and the findings suggest that those complexities may permeate within the group and present themselves with different ranges of difficulty for every generation of students. For example, third generation female students were the only ones found to have fewer chances than males of completing high school, increasing the likelihood that this group is represented among those with high rates of dropout from high school. It is likely that cultural differences might have an implication on this matter.
2. The identification of factors related to cultural characteristics and effectiveness of intervention programs could yield to the customization of existing educational programs for Latino/a students in the U.S. Therefore, it is recommended that Dropout Prevention Programs should include a mentorship component of relationships where adults, as institutional agents of empowerment (Stanton-Salazar, 2011), provide not only

resources for remedial academic work but also help building social capital and raising Latino/a students' educational aspirations that lead to higher academic success for all generations of Latino/a students.

3. The literature and the findings of this study support that the academic experiences of this group are greatly influenced by perceived barriers and other socio-cultural aspects present in the multiple layers surrounding Latino/a students in general, and different generations of Latino/a students in particularly different ways. Considering the previous statement and the high percentage of non-English speakers in the Latino/a student community, Mentoring and Dropout Prevention Programs or schools providing such programs for Latino/a students should consider the inclusion of bilingual Latino/a mentors. The inclusion of mentors that represent a role model and speak the same language might have an effect that influences the performance and academic attainment of all generations of Latino/a. In this way, mentors could serve as bridges to successfully provide the needed resources to the students, while at the same time serving as effective More Knowledgeable Others that can propel and motivate Latino/a students to accomplish their academic goals.
4. Policy makers on the basis of this study should evaluate current Dropout Prevention Programs and offer strategies for improvement of these programs. It is recommended that schools provide professional development to teachers in schools with high concentration of Latino/a

students in order to enhance cultural differences awareness and promote Latino/a students' success beyond high school.

5. Educational Institutions should also design targeted support programs in order to enhance all generations of Latino/a students' academic success. For instance, support programs need to pursue strategies for addressing racial, economic, and linguistic isolation in schools. According to the findings, it seems that Dropout Prevention Programs might not be sufficiently effective in this sense.

### **Recommendations for Future Research**

1. The study recommends further research to examine the phenomenon of Latino/a students Completion of High School and later Enrollment in Post-Secondary Institutions in areas with high concentration of Latino/as in the U.S. It is important to consider the impact that the Latino population has in the American society, and will continue to have in the near future representing a relevant percentage of the workforce of the country. Therefore, quality, research based institutional support programs need to be implemented.
2. It is also recommended to examine the influence that institutional support variables have on these students' academic success in and beyond high school, based on their generational status.
3. Likewise, a more targeted set of programs that address the issue of Latino students' isolation in high poverty schools could be put in place.

4. Lastly, the study recommends the use of more recent data to address Latino/a students' educational attainment changes in current contexts, for all generations of Latino/a students.

## REFERENCES

- Arbona, C., & Nora, A. (2007). The influence of academic and environmental factors on Hispanic college degree attainment. *The Review of Higher Education, 30*(3), 247-269.
- Arbona, C., & Novy, D. M. (1991). Career aspirations and expectations of black, Mexican American, and white students. *The Career Development Quarterly, 39*(3), 231-239.
- Aviles, R. M. D., Guerrero, M. P., Howarth, H. B., & Thomas, G. (1999). Perceptions of Chicano/Latino students who have dropped out of school. *Journal of Counseling & Development, 77*(4), 465-473.
- Behnke, A. O., Gonzalez, L. M., & Cox, R. B. (2010). Latino Students in New Arrival States: Factors and Services to Prevent Youth from Dropping Out. *Hispanic Journal of Behavioral Sciences, 32*(3), 385-409. doi:10.1177/0739986310374025.
- Blackhurst, A. E., & Auger, R. W. (2008). Precursors to the gender gap in college enrollment: Children's aspirations and expectations for their futures. *Professional School Counseling, 11*(3), 149-158.
- Bronfenbrenner, U. (1997). Ecological models of human development. *Readings on the development of children, 1993*, 37-43.
- Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist, 34*(10), 844.
- Bruce, M., & Bridgeland, J. (2014). The mentoring effect: Young people's perspectives on the outcomes and availability of mentoring (Press release January 13).

Washington, DC. Retrieved from:

[http://www.mentoring.org/mentoringeffect/the\\_mentoring\\_effect\\_full\\_report/](http://www.mentoring.org/mentoringeffect/the_mentoring_effect_full_report/)

Buriel, R., & Cardoza, D. (1988). Sociocultural correlates of achievement among three generations of Mexican American high school seniors. *American Educational Research Journal*, 25(2), 177-192.

Calderón, M. (1999). Teachers learning communities for cooperation in diverse settings. *Theory into Practice*, 38(2), 94-99.

Carpenter, D. M., & Ramirez, A. (2007). More than one gap: Dropout rate gaps between and among Black, Hispanic, and White students. *Journal of Advanced Academics*, 19(1), 32-64.

Case, R. (1992). Neo-Piagetian theories of child development. *Intellectual development*, 161-196.

Ceja, M. (2004). Chicana college aspirations and the role of parents: Developing educational resiliency. *Journal of Hispanic Higher Education*, 3(4), 338-362.

Chapman, M. (1988). *Constructive evolution: Origins and development of Piaget's thought*. Cambridge University Press.

Clark, M. A., Ponjuan, L., Orrock, J., Wilson, T., & Flores, G. (2013). Support and barriers for Latino male students' educational pursuits: Perceptions of counselors and administrators. *Journal of Counseling & Development*, 91(4), 458-466. doi: 10.1002/j.1556-6676.2013.00118.x.

Collins, P. H. (1998). *Fighting words: Black women and the search for justice* (Vol. 7). Minneapolis: University of Minnesota Press.



- Colón, Y., & Esparza, P. (2005). The role of sense of school belonging and gender in the academic adjustment of Latino adolescents. *Journal of Youth and Adolescence*, 34(6), 619-628.
- Constantine, M. G., Erickson, C. D., Banks, R. W., & Timberlake, T. L. (1998). Challenges to the career development of urban racial and ethnic minority youth: Implications for vocational intervention. *Journal of Multicultural Counseling and Development*, 26, 83-95.
- Crosnoe, R., Mistry, R., & Elder, G. (2002). Economic disadvantage, family dynamics, and adolescent enrollment in higher education. *Journal of Marriage and Family*, 64, 690–702.
- Erikson, E. H. (1968). *Identity: Youth and crisis* (No. 7). WW Norton & Company.
- Feldman, D. (2004). Piaget's stages: the unfinished symphony of cognitive development. *New Ideas in Psychology*, 22(3), 175-231.  
doi:10.1016/j.newideapsych.2004.11.005
- Flores, L. Y., & O'Brien, K. M. (2002). The career development of Mexican American adolescent women: A test of social cognitive career theory. *Journal of Counseling Psychology*, 49(1), 14.
- Flores, L. Y., Navarro, R. L., & DeWitz, S. J. (2008). Mexican American high school students' postsecondary educational goals applying social cognitive career theory. *Journal of Career Assessment*, 16(4), 489-501.
- Freire, P. (2000). *Pedagogy of the oppressed*. New York: Continuum International Publishing Group.

- Friedenberg, J. E. (1999). Predicting Dropout Among Hispanic Youth and Children. *Journal of Industrial Teacher Education*, 36(3), 70-85.
- Fry, R. (2007). Are Immigrant Youth Faring Better in U.S. Schools? *International Migration Review*, 41(3), 579-601. doi:10.1111/j.1747-7379.2007.00086.x.
- Gandara, P. (2002). A study of high school puente: What we have learned about preparing latino youth for postsecondary education. *Educational Policy*, 16(4), 474-495.
- Glassman, M. (2001). Dewey and Vygotsky: Society, experience, and inquiry in educational practice. *Educational Researcher*, 30(4), 3-14.
- Gloria, A. M., Castellanos, J., & Orozco, V. (2005). Perceived educational barriers, cultural fit, coping responses, and psychological well-being of Latina undergraduates. *Hispanic Journal of Behavioral Sciences*, 27, 161-183.
- Hair, J. F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1996). *Multivariate data analysis* (5<sup>th</sup> ed.). New Jersey: Prentice Hall.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate analysis*. Englewood: Prentice Hall International.
- Hall, G. S. (1904). *Adolescence, its psychology and its relation to physiology, anthropology, sociology, sex, crime, religion, and education*. New York: Appleton.
- Harris-McKoy, D., & Cui, M. (2013). Parental control, adolescent delinquency, and young adult criminal behavior. *Journal of child and family studies*, 22(6), 836-843.

- Hayes, E. F. (2005). Approaches to mentoring: how to mentor and be mentored. *Journal of the American Academy of Nurse Practitioners*, 17(11), 442-445.
- Heilig, J. V., & Holme, J. J. (2013). Nearly 50 Years Post-Jim Crow Persisting and Expansive School Segregation for African American, Latina/o, and ELL Students in Texas. *Education and Urban Society*, 45(5), 609-632.
- Henry, C. S., Plunkett, S. W., & Sands, T. (2011). Family structure, parental involvement, and academic motivation in Latino adolescents. *Journal of Divorce & Remarriage*, 52(6), 370-390. doi: 10.1080/10502556.2011.592414.
- Hill, N. E., Castellino, D. R., Lansford, J. E., Nowlin, P., Dodge, K.A., Bates, John E., & Pettit, G. S. (2004). Parent academic involvement as related to school behavior, achievement, and aspirations: Demographic variations across adolescence. *Child Development*, 75(5), 1491-1509. doi: 10.1111/j.1467-8624.2004.00753.x
- Hill, N. E, Ramirez, C., & Dumka, L. E. (2003). Early adolescents' career aspirations: A qualitative study of perceived barriers and family support among low-income, ethnically diverse adolescents. *Journal of Family Issues*, 24(7), 934-959.
- Hill, N. E., & Torres, K. (2010). Negotiating the American dream: The paradox of aspirations and achievement among Latino students and engagement between their families and schools. *Journal of Social Issues*, 66(1), 95-112. doi: 10.1111/j.1540-4560.2009.01635.x
- Hu, S., & Ma, Y. (2010). Mentoring and student persistence in college: A study of the Washington State Achievers Program. *Innovative Higher Education*, 35(5), 329-341.

- John-Steiner, V., & Mahn, H. (1996). Sociocultural approaches to learning and development: A Vygotskian framework. *Educational psychologist, 31*(3-4), 191-206.
- John, E. P. S. (1991). What really influences minority attendance? Sequential analyses of the high school and beyond sophomore cohort. *Research in Higher Education, 32*(2), 141-158.
- Kaplan, C., Turner, S., & Badger, L. (2007). Hispanic adolescent girls' attitudes toward school. *Child & Adolescent Social Work Journal, 24* (2), 173-193.  
doi:10.1007/s10560-007-0080-2.
- Karcher, M. J, Kuperminc, G. P., Portwood, S. G., Sipe, C. L, & Taylor, A. S. (2006). Mentoring programs: A framework to inform program development, research, and evaluation. *Journal of Community Psychology, 34*(6), 709-725.
- Kenny, M., E, Blustein, D. L, Chaves, A., Grossman, J. M, & Gallagher, L. A. (2003). The role of perceived barriers and relational support in the educational and vocational lives of urban high school students. *Journal of Counseling Psychology, 50*(2), 142.
- Kristinsdóttir, S. B. (2000). Technology in Education. Media, Social Factors and the Future of Learning. The University of Hull. Master in Arts Dissertation.
- Laird, J., Lew, S., DeBell, M., & Chapman, C. (2006). Dropout Rates in the United States: 2002 and 2003. ED TAB. NCES 2006-062. National Center for Education Statistics.
- Larson, K. (2007). Changing hearts and minds: Dropout prevention. *Leadership-Burlingame, 37*(2), 18.

- Leonard, J. (2011). Using Bronfenbrenner's ecological theory to understand community partnerships: A historical case study of one urban high school. *Urban Education*, 46(5), 987-1010. doi:10.1177/0042085911400337.
- Liu, L. (2009). *From educational aspirations to college enrollment: A road with many paths*. Ann Arbor, MI: ProQuest LLC.
- Llagas, C., & Snyder, T. D. (2003). *Status and trends in the education of Hispanics*. National Center for Education Statistics, US Department of Education, Institute of Education Sciences.
- Lozano, A., Watt, K., M., & Huerta, J. (2009). A Comparison Study of 12th Grade Hispanic Students' College Anticipations, Aspirations, and College Preparatory Measures. *American Secondary Education*, 38(1), 92-110.
- Lys, D. B. (2009). Supporting High School Graduation Aspirations among Latino Middle School Students. *Research in Middle Level Education Online*, 33(3), 1-12.
- Menard, S. (2002). *Applied logistic regression analysis*. Thousand Oaks, California. Sage publications, Inc.
- Merriam-Webster Inc. (2004). Merriam-Webster's collegiate dictionary. Merriam-Webster.
- Moje, E. B., & Martinez, M. (2007). The role of peers, families, and ethnic-identity enactments in educational persistence and achievement of Latino and Latina youths. In Fuligni, A. J. (Ed.). *Contesting stereotypes and creating identities: Social categories, social identities, and educational participation* (pp. 209-238). New York, NY: Russell Sage Foundation Press.

- Munsch, J., & Wampler, R. S. (1993). Ethnic differences in early adolescents 'coping with school stress. *American Journal of Orthopsychiatry*, 63(4), 633-646.
- Newcombe, N. S. (2011). What is Neoconstructivism? *Child Development Perspectives*, 5(3), 157-160. doi:10.1111/j.1750-8606.2011.00180.x
- Nora, A., & Crisp, G. (2009). Hispanics and higher education: An overview of research, theory, and practice. In Paulsen, M. B., & Smart, J. C. (Eds.) (2013). *Higher education: Handbook of Theory and Research*. (pp. 317-353). Springer Netherlands.
- Ogbu, J. U. (1993). Differences in cultural frame of reference. *International Journal of Behavioral Development*, 16(3), 483-506.
- Ogbu, J. U. (2003). *Black American students in an affluent suburb: A study of academic disengagement*. Mahway, NJ: Lawrence Erlbaum Associates, Publishers.
- Ogbu, J. U., & Simons, H. D. (1998). Voluntary and involuntary minorities: a cultural-ecological theory of school performance with some implications for education. *Anthropology & Education Quarterly*, 29(2), 155-188.
- Ojeda, L., & Flores, L. Y. (2008). The influence of gender, generation level, parents' education level, and perceived barriers on the educational aspirations of Mexican American high school students. *The Career Development Quarterly*, 57(1), 84-95.
- Orozco V., A., E. (2013). Migración y estrés aculturativo: una perspectiva teórica sobre aspectos psicológicos y sociales presentes en los migrantes latinos en Estados Unidos. (Spanish). *Norteamérica: Revista Académica del CISAN-UNAM*, 8(1), 7-44.

- Parke, R. D., & Buriel, R. (1998). Socialization in the family: Ethnic and ecological perspectives. *Handbook of child psychology*.
- Passel, J. S, Cohn, DVUS, Agarwal, S, Srivastava, A, Choudhary, B, Kaushik, S., Banoba, P. (2007). US population projections: 2005-2050. *Morbidity and Mortality Weekly Report, 56(48)*, 1257-1261.
- Perna, L. W, & Titus, M. A. (2005). The relationship between parental involvement as social capital and college enrollment: An examination of racial/ethnic group differences. *The journal of Higher Education, 76(5)*, 485-518.
- Pew Hispanic Center. (2005). *Hispanics: A people in motion*: Pew Hispanic Center.
- Piaget, J. (1985). *The equilibration of cognitive structures: The central problem of intellectual development* (Vol. 985). Chicago: University of Chicago Press.
- Pirog, M. A., & Magee, C. (1997). High school completion: The influence of schools, families, and adolescent parenting. *Social science quarterly, 78(3)*, 710-724.
- Prange, B. (2013). Empathic Empowerment: Supporting Latina/o First-Generation College-Bound Students (Doctoral dissertation, University of California, San Diego). Retrieved from: <https://csusm-dspace.calstate.edu/handle/10211.8/303>.
- Rice, F. P., & Dolgin, K. G. (2002). *The adolescent: Development, relationships, and culture*. Boston: Allyn & Bacon.
- Saenz, V. B, & Ponjuan, L. (2009). The vanishing Latino male in higher education. *Journal of Hispanic Higher Education, 8(1)*, 54-89.
- Sanchez, B., & Reyes, O. (1999). Descriptive profile of the mentorship relationships of Latino adolescents. *Journal of Community Psychology, 27(3)*, 299-302.

- Schneider, B., Martinez, S., & Owens, A. (2006). Barriers to educational opportunities for Hispanics in the United States. *Hispanics and the Future of America*, 179-227.
- Smith, W. A. (1976). The meaning of conscientizacao: *The goal of Paulo Freire's pedagogy*. Amherst: University of Massachusetts Center for International Education.
- Solberg, V. S., Howard, K. A., Blustein, D. L., & Close, W. (2002). Career development in the schools: Connecting school-to-work-to-life. *The Counseling Psychologist*, 30 (5), 705-725. doi:10.1177/0011000002305003.
- Stanton-Salazar, R. D. (2001). Manufacturing hope and despair: The school and kin support networks of US-Mexican youth. Teachers College Press.
- Stanton-Salazar, R. D. (2011). A social capital framework for the study of institutional agents and their role in the empowerment of low-status students and youth. *Youth & Society*, 43(3), 1066-1109.
- Stanton-Salazar, R. D., & Dornbusch, S. M. (1995). Social capital and the reproduction of inequality: Information networks among Mexican-origin high school students. *Sociology of Education*, 68(2), 116-135.
- Stanton-Salazar, R. D., & Spina, S. U. (2003). Informal mentors and role models in the lives of urban Mexican-origin adolescents. *Anthropology & Education Quarterly*, 34 (3), 231-254. doi: 10.1525/aeq.2003.34.3.231.
- Steinberg, L., & Silk, J. S. (2002). Parenting adolescents. In M.H. Bornstein (Ed.), *Handbook of parenting children and parenting* (pp. 103–133). Mahwah, NJ: Lawrence Erlbaum.



- Steinberg, L. (2001). We Know Some Things: Parent—Adolescent Relationships in Retrospect and Prospect. *Journal Of Research On Adolescence* (Blackwell Publishing Limited), 11(1), 1.
- Stevenson, A. (Ed.). (2010). *Oxford dictionary of English*. Oxford University Press.
- Suarez-Orozco, C., & Suarez-Orozco, M. (1995). *Immigration, family life, and achievement motivation among Latino adolescents*. Stanford, CA: Stanford University Press.
- Schwartz, S. J., Mason, C. A., Pantin, H., Szapocznik, J., (2009). Longitudinal relationships between family functioning and identity development in Hispanic adolescents: Continuity and change. *The Journal of Early Adolescence*, 29 (2), 177-211. doi:10.1177/0272431608317605
- Tienda, M., & Mitchell. (2006). *Multiple origins, uncertain destinies: Hispanics and the American future*. Washington, DC: National Academies Press.
- Valadez, A. M., & Lund, C. A. (1992). Mentorship: Maslow and me. *Journal of continuing education in nursing*, 24(6), 259-263.
- Valadez, J. R. (1998). Applying to college: Race, class, and gender differences. *Professional School Counseling*, 1(5), 14-20.
- Valdeón, R. A. (2013). The use of Latin American, Hispanic and Latino in US academic articles, 2000-2010. *Terminology*, 19(1), 112-137. doi:10.1075/term.191.05val.
- Valenzuela, A. (1999). *Subtractive schooling: US-Mexican youth and the politics of caring*. Albany, NY: SUNY Press.
- Velez, W. (1989). High School Attrition Among Hispanic and Non-Hispanic White Youth. *Sociology of Education*, 62(2), 119-133.

- Verdugo, R. R. (2011). The heavens may fall: School dropouts, the achievement gap, and statistical bias. *Education and Urban Society*, 43(2), 184-204.
- Vondracek, F. W., Lerner, R. M., & Schulenberg, J. E. (1986). Career development: A life-span developmental approach. L. Erlbaum Associates.
- Wahl, K. H., & Blackhurst, A. (2000). Factors affecting the occupational and educational aspirations of children and adolescents. *Professional School Counseling*, 3(5), 367.
- Weiher, G. R., Hughes, C., Kaplan, N., & Howard, J. Y. (2006). Hispanic college attendance and the state of Texas GEAR UP Program. *Review of Policy Research*, 23 (5), 1035-1051.
- Zajko, S. (2007). Adolescent development and psychology. Home Stead. Retrieved from: [http://peoplelearn.homestead.com/Adolescent\\_Development\\_and\\_Psychology.pdf](http://peoplelearn.homestead.com/Adolescent_Development_and_Psychology.pdf)
- Zirkel, S. (2002). Is there a place for me? Role models and academic identity among white students and students of color. *The Teachers College Record*, 104(2), 357-376.

## **APPENDICES**

**APPENDIX A**  
**INSTITUTIONAL REVIEW BOARD APPROVAL**



## Memorandum

Institutional Review Board

**To:** Joshua Bagaka's  
Curriculum & Foundation

**From:** Bernie Strong ([b.r.strong@csuohio.edu](mailto:b.r.strong@csuohio.edu), X3624) *BRS*  
IRB Coordinator  
Sponsored Programs & Research Services

**Date:** April 23, 2014

**Re:** Results of IRB Review of your project number: #30066-BAG-HS  
Co-Investigators: Regina Giraldo-Garcia  
**Title: Individual, Family, and Institutional Support Factors that Propel Latino/a Students' Beyond High School**

The IRB has reviewed and approved your application for the above named project, under the category noted below. It has been determined that the research being performed under this protocol is Exempt. This determination does not expire and does not require an annual review.

However, by accepting this decision, you agree to notify the IRB of: (1) any additions to or changes in procedures for your study that modify the subjects' risk in any way; and (2) any events that affect that safety or well-being of subjects. Notify the IRB of any revisions to the protocol, including the addition of researchers, prior to implementation.

Thank you for your efforts to maintain compliance with the federal regulations for the protection of human subjects.

---

**Approval Category:** **Approval Date:** **April 21, 2014**

**X** **Exempt (b4)**

cc: Project file

**APPENDIX B**  
**VARIABLES CODE SHEET**

Table XVI

*Description of Dependent (Outcome) Variables for High School Completion and Enrollment in Post-secondary Institutions of Latino/a students.*

<u>Variable Name</u>	<u>Variable Description</u>	<u>Measurement</u>
High School Completion 1 (HScomp1)	Timely Completion of high school during the year of the expected date. Completion status as of summer 2004.	1 = completion 0 = non-completion
High school completion 2 (HScomp2)	Completion of high school within 2 years of the expected date. Completion status as of 2006, including those students expected to graduate during the first year.	1 = completion 0 = non-completion
Post-secondary enrollment 1 (PostSecE1)	Enrollment in post-secondary institution within 1 year of HS completion. Status as of Jan, 2005.	1 = enrollment 0 = non-enrollment
Post-secondary enrollment 2 (PostSecE2)	Enrollment in post-secondary institution within 2 years of HS completion. Enrollment status as of Jan, 2006, including those students expected to enroll in post-secondary during the first year.	1 = enrollment 0 = non-enrollment

Table XVII

*Description of Independent (predictor) Variables for High School Completion and Enrollment in Post-secondary Education of Latino/a students: Educational Aspirations, Language, Mentoring.*

<u>Variable Name</u>	<u>Variable Description</u>	<u>Measurement</u>
Educational Aspirations 1 (StudAsp)	Students' aspirations of their academic attainment.	1= Less than high school graduation; 2= High school graduation or GED only; 3= Attend or complete 2-year college/school; 4= Attend college, 4-year degree incomplete; 5= Graduate from college; 6= Obtain Master's degree or equivalent; 7= Obtain PhD, MD, or other advanced degree
Educational Aspirations 2 (ParAsp)	Parents' aspirations about their children' academic attainment.	1= Less than high school graduation; 2= High school graduation or GED only; 3= Attend or complete 2-year college/school; 4= Attend college, 4-year degree incomplete; 5= Graduate from college; 6= Obtain Master's degree or equivalent; 7= Obtain PhD, MD, or other advanced degree
First Language (English1)	The variable explains whether English is the first language of the student.	1 = Yes 0 = No
Mentoring (Mentoring)	"Mentoring offered to 10th graders" is a school level variable that comes from the school administrator questionnaire and was considered as a school-arranged match with an adult for advice and support. It is replicated on the student file for all base year eligible students. Questionnaire item: "For each work-based learning experience program or service, indicate whether or not it is offered to 10th graders at your school".	1= Yes 0 = No



Table XVII (Cont'd)

*Description of Independent (predictor) Variables for High School Completion and Enrollment in Post-secondary Education of Latino/a students: Dropout prevention, Gender, SES, Generational Status.*

<u>Variable Name</u>	<u>Variable Description</u>	<u>Measurement</u>
Dropout Prevention Programs (DropoutP)	This variable corresponds to the base year questionnaire item "Have you ever been in any of the following kinds of courses or programs in high school? ... Ever in dropout prevention program or stay-in-school program?"	1 = Yes 0 = No
Gender (Gender)	Student Questionnaire, 2002.	1 = Female 0 = Male
Socioeconomic Status (SES)	This composite variable 1 constructed from parents' questionnaire data when available and student substitutions when not. SES is based on five equally weighted, standardized components: father's/guardian's education, mother's/guardian's education, family income, father's/guardian's occupation, and mother's/guardian's occupation. The 1961 Duncan index was used by NCES for determining the occupation prestige values for the SES variable. Parent education was based on parent report, or student report if parent data missing, imputed otherwise. Income was based on parent questionnaire information, imputed otherwise.	Continuous variable
Generational Status (GenSt)	First generation: the student was born in Puerto Rico or non-US country. Second generation: the student was born in the U.S.; mother born in PR/non-U.S. Third generation: both student and mother were born in U.S.	1= First Generation 2 = Second Generation 3 = Third Generation
School Poverty Concentration (PovertyC)	This variable is based on the percent of 10th graders receiving free or reduced price lunch. Data comes from the school file and replicated across each student belonging to that school that is considered as an eligible sample member.	1 = 0-5% receive free, reduced-price lunch 2 = 6-10% receive free, reduced-price lunch 3 = 11-20% receive free, reduced-price lunch 4 = 21-30% receive free, reduced-price lunch 5 = 31-50% receive free, reduced-price lunch 6 = 51-75% receive free, reduced-price lunch 7 = 76-100% receive free, reduced-price lunch