English Language Learners' Educational Attainment in High School: An Examination of Educational Expectation, Academic Self-Efficacy, Parental Expectation and Parental Involvement Using Path Analysis and Structural Equation Modeling

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Dedication

This dissertation is dedicated to my mother, Quiqin Shi and my husband, Jose F. Muñoz for their constant support, love and encouragement throughout my academic journey.

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Abstract of Dissertation

English Language Learners' Educational Attainment in High School: An Examination of Educational Expectation, Academic Self-Efficacy, Parental Expectation and Parental Involvement Using Path Analysis and Structural Equation Modeling

The goal of this study was to examine how educational expectation, academic self-efficacy of Math and English, parental expectation, and parental involvement affect ELL students' educational attainment. Given the large and growing percentage of the ELL population in U.S. schools, the status of ELL students' educational attainment is cause for concern. Research on educational attainment for this specific population is scarce; let alone the investigation of predictors of ELL students' educational attainment.

This study used a nationally representative sample from Educational Longitudinal Study: 2002/2006. Path analysis and structural equation modeling were used to test four models depicting the relation between educational expectation, academic self-efficacy of Math and English, parental expectation, parental involvement and ELL students' high school completion and postsecondary institution enrollment. The results showed that all four models fit the data very well. Statistically significant direct effects were found from students' educational expectation at time 2 to high school graduation and also postsecondary institution enrollment. Statistically significant indirect effects were found from students' educational expectation at time 1 to high school graduation and also postsecondary institution enrollment. Both the measurement and structural models of Model 3 and Model 4 fit the data well. Statistically significant direct effects were found from parental expectation and parental involvement at time 1 to high school graduation and postsecondary institution enrollment. Comparison analysis was conducted between Asian-language speakers and Spanish speakers. Model 1& 2 fit Asian-language speakers

well but not for Spanish speakers. Model 3 and 4 fit both Spanish speakers and Asian-language speakers, but the models explained more variances in the outcome variables for Spanish speakers. The findings of this study had implications for educational policies targeting ELL students. Limitations and future research recommendations were discussed.

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Chapter 1: Introduction

Overview

This study explored English Language Learners' (ELL) educational attainment and factors that could possibly predict their educational attainment. The purpose of this work is to provide insights into the effect of non-academic factors on ELL students' academic development to advance theory, practice, and policy. More studies in the field of ELL students' academic development focused on examining the association between academic factors (e.g., placement test scores, English language proficiency, lexical access and language program participation) and academic achievement (Chang, 2012; Christopher, 1993; Fakeye & Ogunsiji, 2009; Lindholm-Leary, & Hernandez, 2011; Jongejan, Verhoeven, & Siegel, 2007). However, very few studies could be located that explored the effect of non-academic factors on ELL students' educational attainment. This study provided valuable empirical evidence of the effects of students' non-academic factors (such as educational expectation, academic self-efficacy on math and English, parental expectation and parental involvement) on ELL students' educational attainment in high school using a nationally representative sample from the Educational Longitudinal Study of 2002/2006 (ELS: 2002/2006).

Statement of the Problem

English Language Learners have become one of the fastest growing student populations in U.S. schools. The number of children ages 5 to 17 who speak a non-English language at home has risen from 4.7 to 11.2 million between 1980 and 2009, equal to an increase from 10 to 21 percent of the population in this age range (National Center for Education Statistics [NCES], 2011). By 2025, approximately one out of every

four students in U.S. public schools will be an English Language Learner (The National Clearninghouse for English Language Acquisition and Language Instruction Educational Program [NCELA], 2007). Given the burgeoning population of ELL students, it is critical for educators and policy makers to be more informed about the academic development of this student population.

A Special Topic Report prepared by Development Associates, Inc. for the U.S. Department of Education pointed out that one of the most valid and consensually accepted outcome measures in the case of services for ELL students is "graduation from high school with a regular or advanced diploma" (Hopstock, 2003, p2). Besides high school graduation, postsecondary institution enrollment is also an important outcome measure for ELL students under the call from the Obama Administration for every American to commit to at least one year of higher education or postsecondary training (The White House, 2013). Coincidentally, high school completion and postsecondary institution enrollment were also used by the National Center for Educational Statistics as education outcome indicators in a report on language minorities' educational and occupational trends (Klein, Bugarin, Beltranena, & McArthur, 2004). To measure these educational outcomes, longitudinal data are desirable. However, very few major studies have been conducted to investigate these educational outcomes using longitudinal data (Hopstock, 2003). This study addressed this research gap by providing empirical-based results using the ELS: 2002/2006 data.

Based on the limited literature available on ELL students (Kanno & Cromley, 2010), it is known that these students are still among those furthest behind when comparing academic outcomes to non-ELL peers (Fry, 2007; National Education

Association, 2008). According to the results from an analysis of national standardized testing results conducted by the Pew Hispanic Center, 35 percent of the observed 4th grade ELL students were behind their non-ELL counterparts in math and 47 percent were behind in reading (Fry, 2007). By the 8th grade, approximately 51 percent of the ELL students had lower reading and math scores than non-ELL students. According to the statistics from the National High School Center (2009), 36.5 percent of Hispanic foreign-born 16- to 24-year-olds dropped out of high school in 2005. English Language Learners had a 30 to 40 percent lower passing rate in high school math exit exams than those of mainstream students (Xiong & Zhou, 2006). ELL students face both structural and instructional barriers to developing academic literacy (Walqui, 2000). A report based on a nationally representative sample of foreign-born teens from the 2000 U.S. Census found that nearly 25 percent of high school dropouts were born outside the United States (Fry, 2003). In 2007, the nationwide dropout rate for foreign-born students was 21 percent, compared to 8 percent of the native-born students (American Youth Policy Forum, 2009).

Besides the lower high school graduation rates, ELL students also lag behind the mainstream students in postsecondary institution enrollment (Klein et al., 2004). A report from the National Center for Educational Statistics showed that students who spoke English very well were more likely than those who spoke English with difficulty to be enrolled in postsecondary education (Klein et al., 2004). The barriers that ELL students face included the institutional labeling in deficit terms (Kanno & Cromeley, 2010), lower expectations from teachers (Ruiz-de-Velasco & Fix, 2001), tracking and placement of ELL students into remedial literacy and math courses and lower-level core academic courses (Koelsch, 2011). The academic challenges that ELL students experience have put

them in a disadvantaged position to complete high school and pursue postsecondary educational options. Using the Current Population Survey, Klein et al.'s study (2004) showed that only 13.5 percent of the 18- to 24-year-old adults with limited English proficiency were enrolled in postsecondary institution compared to 37.2 percent of those who spoke only English at home. A policy brief published by the National Education Association (2008) pointed out the urgent needs to close the achievement gap for ELLs due to an excessively high dropout rate and low academic performance demonstrated by ELL students. It is critical for U.S. schools to make concerted efforts to close these gaps (Kanno & Cromley, 2010), as educational attainment of students is associated with their future career development, earning power, physical, social/emotional well-being, and living conditions (Carnevale, Rose, & Cheah, 2011). For example, according to a report released from the Center on Education and Workforce at Georgetown University, in 1999 the average lifetime earnings of Bachelor's degree holders have grown to 84 percent more than high school graduates (Carnevale et al., 2011). Moreover, adults with lower education levels are more likely to be associated with health-related risk factors, i.e., higher smoking rates or higher obesity rates (Baum, Ma, & Payea, 2010). Also, children of parents with higher levels of educational attainment are better prepared for school and while in school, are more likely than other children to engage in educational activities with their parents (Baum et al., 2010). Therefore, educational attainment is a noteworthy topic in educational and psychological research for ELL students.

A growing body of literature on educational attainment of the general student population supports that factors like gender, race/ethnicity, family SES, school characteristics, course taking patterns, and students' school experience could impact a

student's educational attainment (Adelman & National Institute on Postsecondary Education, 1999; Adelman & Department of Education, 2004); Alexander, Entwisle, & Olson, 2007; Contreras, 2005). However, very few studies could be found that examined the predictors of educational attainment among ELL students. The available studies in the literature focused more on the predictive power of academic factors (such as placement test scores, programs in which students choose to participate, English proficiency, etc.) and demographic factors (such as socioeconomic status, ethnicity, gender, length of residence in the U.S., and first language spoken). Furthermore, this highlights a lack of research that investigates the effect of non-academic factors (educational expectation, academic self-efficacy on math and English, parental expectation and parental involvement) on ELL students' educational attainment. The current study aimed to fill this research gap by providing empirical evidence and insights into this critical issue of ELL educational attainment in high school and the factors associated with this important line of inquiry.

Summary of Literature Review

There are very few studies in the literature that have focused on ELL students' educational attainment in relation to students' psychological and parental characteristics. However, an extensive literature review has been conducted among studies using the general student population and immigrant students as the targeted sample. For instance, educational expectation is a psychological factor that has been consistently studied in relation to the general students' educational attainment and the literature supports that educational expectation significantly predicts academic outcomes (Carpenter, 2008; Casanova, Garcia-Linares, del la Torre, & Carpio, 2005; Davis-Kean, 2005; Hao &

Bonstead-Bruns, 1998; Marshall & Brown, 2004; Mistry, White, Benner, & Huynh, 2009; Phillipson & Phillipson, 2007; Rutchick, Smyth, Lopoo, & Dusek, 2009; Sanders, Field & Diego, 2001; Seyfried & Chung, 2002; Tavani & Losh, 2003; Trusty, 2000). Educational expectation has also been found to be a significant predictor of students' education status two years after high school graduation (Sciarra & Ambrosino, 2011).

Despite the significant findings on the importance of students' educational expectations, ELL students were found to hold lower educational expectations than other student populations (Behnke, Piercy, & Diversi, 2004; McWhirter, Hackett, & Bandalos, 1998). Educational expectations have become less predictive but still remain as strong predictors of attainment above and beyond other factors for general student population (Jacob & Wilder, 2010). However, very few studies have been conducted to examine the impact from ELL students' educational expectations to their educational attainment. This study aimed to test the link between educational expectations and educational attainment among ELL population, which could contribute to the knowledge base of educators and policy makers to further develop the existing education system for ELL students.

Another strong predictor of students' academic outcome is academic self-efficacy. A large body of research has been examined and found that higher academic self-efficacy leads to students' being able to take more challenging tasks, work harder and persistently, and better handle adversities (Zimmerman, 2000). Research also shows that students' academic self-efficacy is highly correlated with their major choices in college, academic performance in college and perseverance level (Zimmerman, 2000). However, there are also some studies that found insignificant result in terms of the predictive power of self-efficacy to academic outcomes. A major reason for this inconsistency could be related to

the measurement issue of academic self-efficacy such as the specificity of using too-global items in the measurement and/or correspondence problems like whether the dependent variable matches with what is measured in the self-efficacy scale. Although inconsistent results regarding the relation between academic self-efficacy and academic outcomes exist, the link between these two constructs still remains unclear for the ELL population due to a lack of empirical research that has investigated this link with the current population being explored. Thus, it is important for this study to include academic self-efficacy in the testing model and to examine the predictive power of self-efficacy for ESL students.

Parental expectation is the next construct this study investigated in relation to ELL students' educational attainment. The construct of parental expectation has been widely studied in research on students' academic achievement and attainment. In general, parental expectations have been found to have certain influence on students' academic outcomes. However, it is necessary to look at the results from previous studies based on different student populations that researchers have targeted. According to the literature, parental expectations vary among different racial/ethnic groups and some specific student populations, i.e., students from low-income families (Yamamoto & Holloway, 2010). For different populations, the association between parental expectations and students' educational attainment can be very different (Davis-Kean, 2005; Neuenschwander, Vida, Garrett, & Eccles, 2007; Sy & Schulenberg, 2005; Vartanian, Karen, Buck, & Cadge, 2007). Thus, it is important to examine the association between these two constructs based on the specific populations that are studied. English Language Learners are among the student populations that have not been commonly studied in regard to their parental

expectations' relation with students' educational attainment. This study addressed this research gap by including parental expectations in the analysis.

The last construct this study analyzed is parental involvement. In the literature, parental involvement has been consistently found to have a positive effect on students' educational attainment and academic performance (Berthelsen & Walker, 2008; Fan, 2001; Hong & Ho, 2005; Keith et al., 1998; Kim, 2002). Previous research has focused on examining the effect of parental involvement among both the general student population and ethnic minority groups. However, no empirical study on this topic has been located that targeted ELL students. Considering the consistent support from the literature in regard to the positive influence of parental involvement on educational attainment, this study investigated parental involvement in relation to ELL students' educational attainment.

This study also investigated whether the association between the set of predictors and educational attainment differ between ELL students who speak Spanish and those who speak Asian languages. Previous studies found native language proficiency was a significant predictor of high school achievement and post-high school educational and occupational attainment for the full sample of ELL students and the Hispanic subsample (Guglielmi, 2008). But the model did not fit for the Asian-language speaker subsample. Spanish speakers account for 90 percent of the Hispanic ELL subsample in Guglielmi's (2008) study. Thus, it is logical to look at model fit differences for different language speakers in this study. To my knowledge, there is no study in the literature that has examined predictors of educational attainment using multi-group analysis based on native

language spoken by ELL students. Therefore, this study could contribute to the literature by addressing this research gap.

Purpose and Research Questions

Given the increasing ELL population in U.S. schools and the achievement gaps between ELL and non-ELL students, it is vitally important to study the factors that could help explain ELL students' educational attainment. The purpose of this study was to examine the predictive power of students' educational expectation, academic self-efficacy on math and English, parental expectation and parental involvement in relation with educational attainment. These four factors were derived from previous studies and were among the ones that are most commonly associated with educational attainment for the general student population. The literature on general student population was used in this study to offer a context and research implications due to the limited research available for ELL population. Two outcome indicators were used in the present study: high school graduation status and postsecondary institution enrollment status. These two educational outcome measures were the ones that are most commonly used in previous literatures on educational attainment (Barnard, 2004; Boardman, Alexander, Miech, MacMillan & Shanahan, 2012; Mcleod & Kaiser, 2004; Monserud & Elder, 2011; Needham, 2008; Portes & Hao, 2004; Reynolds, Temple & Ou, 2009).

This study aims to answer the following research questions:

1. How do educational expectation at time 1, educational expectation at time 2, math self-efficacy at time 1, math self-efficacy at time 2, and English self-efficacy at time 1 influence the high school graduation status of ELL students? (Model 1)

2. How do educational expectation at time 1, educational expectation at time 2, math self-efficacy at time 1, math self-efficacy at time 2, and English self-efficacy at time 1 influence the postsecondary institution enrollment status of ELL students? (Model 2)
3. How do parental expectation at time 1, parental expectation at time 2, and parental involvement at time 1 influence the high school graduation status of ELL students? (Model 3)
4. How do parental expectation at time 1, parental expectation at time 2, and parental involvement at time 1 influence the postsecondary institution enrollment status of ELL students? (Model 4)
5. How do the model fit, factor loadings and path coefficients in the four models differ between native Spanish speakers and Asian-language speakers?

Summary of Methodology

This study used data from the Educational Longitudinal Study 2002/2006 (ELS 2002/2006). The ELS dataset includes a nationally representative sample of over 15,000 students. The sample was followed from 2002 when they were in 10th grade (time 1), to 2004 when they were seniors (time 2), and in 2006 when they were in postsecondary education and employment. The data collection of the third follow-up of ELS is underway and will provide further information on postsecondary persistence, attainment, and eventually entry into the labor market. The ELS data gathers diverse information from multiple sources and gives researchers a comprehensive view of students' home, school, and environment. This study focused on the factors that could possibly explain

ELL students' attainment in high school and thus only used the student-level data from the ELS dataset.

Path analysis (PA) and structural equation modeling (SEM) were used in this study to test models that incorporate a set of factors in relation to the educational attainment of ELL students in high school. Four models were tested in this study. Model 1 and 2 were tested using Path Analysis and Model 3 and 4 were tested using SEM. Structural equation modeling was adopted to test Model 3 and 4 because there was a measurement model included. As shown in Figure 1 and 2, exogenous variables in Model 1 and 2 included educational expectation at time 1, educational expectation at time 2, math self-efficacy at time 1, math self-efficacy at time 2, and English self-efficacy at time 1. In Model 3 and 4, the exogenous variables were three latent variables: (1) parental expectation at time 1, measured with two items ("how far in school mother wants the respondent to go" and "how far in school father wants the respondent to go"), (2) parental expectation at time 2, measured with the same items as parental expectation at time 1, and (2) parental involvement, measured with four items ("how often attended school activities", "how often worked on homework /school projects together", "how often attended movies/plays/concerts", "how often attended sports events outside of school"). The endogenous variable in Model 1 and 3 was the same: ELL students' high school completion status, which was measured with a categorical variable that grouped the students into seven groups. In the present study, the ELL student sample was regrouped into two categories based on their high school completion status: (1) students who graduated from high school with a diploma; and (2) students who received no credential from high school. This study did not combine GED recipients or Certificate recipients

with high school graduates because of the increasing concern about the differences among high school credentials in both federal statistics and academic community (Crissey & Bauman, 2012; Oseguera, 2012). In this study, GED and Certificate recipients were not included in the analysis due to the small sample size in those two categories. This practice of excluding GED and other equivalency credential in this study was consistent with previous literature on educational attainment (Monserud & Elder, 2011). The endogenous variable in Model 2 and 4 was the same: ELL students' postsecondary institution enrollment status, which was measured with a dichotomous variable grouping students into two groups based on whether or not they have ever attended a postsecondary institution.

This study filled the gap in the literature by incorporating the psychological factors and parental factors into the testing models of educational attainment with a nationally representative sample of ELL students from a longitudinal dataset. This study also adopted a more sophisticated statistical analysis method in order to answer the research questions and this could be a valuable contribution to the literature about ELL students' educational attainment. To date, there is no study in the literature that have used national longitudinal data to examine educational attainment issue among ELL students.

Limitations

A major limitation of this study was in regards to measurement issue. The constructs that were tested in this study have been analyzed in previous studies with different populations of students. However, there exists a variety of ways to measure these constructs. For example, educational attainment could be measured by asking the highest education level the individual thinks he or she could reach, whether or not the

individual graduated from college or what is the highest degree that the individual has obtained. Different measurements might lead to results variations.

Another limitation was related to the fact that this study used an existing dataset, which allows for sophisticated methodology. However, a secondary dataset also presented limitations in the research design. Using an existing dataset limited the researchers' control over the measurements to be selected for inclusion in the study. Furthermore, researchers were restricted by survey design of the original researchers of the secondary data.

Finally, using an existing dataset generated an issue related with the generalization of the results. In the process of data collection in ELS study, individual ELL students might be declared ineligible to participate if, in the opinion of their school staff, their English literacy was not developed enough to enable them to understand the data collection instruments. Therefore, the results of this study are only generalizable to ELL students who have a similar English proficiency level as those participating in the ELS study.

Scope and Delimitations

This study focused on the association between psychological factors, parental factors, and ELL students' high school completion. The sample of this study was comprised of ELL sophomores who participated in the Educational Longitudinal Study: 2002/2006. The ELL students from the ELS: 2002/2006 are those students who received academic instruction primarily in English for at least three years or, if less than three years, the school staff judged and determined their capability to participate (NCES, 2004). The inclusion criteria of ELL students in the ELS survey were consistent with

other longitudinal studies conducted by NCES (i.e., National Education Longitudinal Study of 1988, High School and Beyond). Consistent with the definition of ELL in the literature (Bardack, 2010; National Council of Teachers of English, 2008), the criteria used to identify ELL students to be included in this study are: (1) English is not students' native language; and (2) students have been in an English-as-Second-Language program. More detailed information on the definition of ELL population is provided in Chapter 2.

This study did not investigate academic-related factors that could be also associated with ELL students' educational attainment, such as course-taking patterns, previous academic performance, English language proficiency level, etc. It is also beyond the scope of this study to examine the role that cultural aspects play in the association between the predictive factors and ELL students' educational attainment.

Since the participants of this study were a subset of a national representative sample in the ELS dataset, the results of this study could be generalizable to ELL students who (a) are 10^{th} graders enrolled in regular public schools (including State Education Agency schools and charter schools), private schools and Catholic schools that contain 10^{th} graders and are in the U.S.; (b) have received academic instruction primarily in English for a minimum of three years or have equivalent English proficiency level determined by their school staff.

Due to the limited amount of literature available on ELL students' educational attainment, this study served as a preliminary research trying to explore the factors that could explain ELL students' educational attainment in high school. The factors that this study focused on only include students' psychological factors (i.e., educational expectation and academic self-efficacy) and parental factors (i.e., parental expectation

and parental involvement). Future research is granted to explore other factors that could help explain ELL attainment in high school education.

Definition of Key Terms

English Language Learners (ELL). "ELL" was used in this study to refer to students whose primary language is one other than English and who have been in an English language learning program (Bardack, 2010; National Center for Educational Statistics, 2013; National Council of Teachers of English, 2008). This term is mainly used in K-12 schools in the U.S.

Educational attainment. In this study, educational attainment refers to high school completion status and postsecondary institution enrollment status. This definition is consistent with how educational attainment is commonly measured in previous literature (e.g., Boardman, Alexander, Miech, MacMillan & Shanahan, 2012; McLeod & Kaiser, 2004; Monserud & Elder, 2011; Portes & Hao, 2004; Reynolds, Temple & Ou, 2010).

Educational expectations. Although in the literature educational expectations have been used interchangeably with educational aspirations, this study used educational expectation to refer to the amount of schooling students think they will obtain (i.e., the highest grade level or degree students could get to). This definition was consistent with how educational expectation was commonly measured in previous research (Beal & Crockett, 2010; Cheng & Starks, 2002; Feliciano, 2006)

Academic self-efficacy on math and English. With a wide range of methods to measure academic self-efficacy, this study defined academic self-efficacy as students' self-perceptions of their abilities to learn Math and English. This definition is consistent

with the way it was measured in previous literature (Fan & Williams, 2010; Liu & Koirala, 2009).

Parental expectations. Similar to students' educational expectations, parental expectations in this study referred to the amount of schooling parents think their children could obtain (i.e., the highest grade level or degree students could get to). This definition was consistent with the way it was measured in previous research (e.g., Gill & Reynoids, 1996; Sciarra & Ambrosino, 2011; Wu & Qi, 2006; Zhang, Haddad, Torres, & Chen, 2010).

Parental involvement. In this research, parental involvement was defined as parents' participation in home-based intellectual activities, communications with the students about school-related topics and participation in school-based events. These aspects are similar to how this construct was measured in other studies (Altschul, 2011;Gonzalez-DeHass, Willems, & Doan Holbein, 2005).

Chapter 2: A Review of the Literature

This chapter begins with an introduction of the ELL student population in U.S. schools. Following the introduction, the many definitions for ELL students and different terms of describing this population will be reviewed. Next, the chapter will focus on reviewing previous literature on ELL students' educational attainment and examining different predictors of educational attainment. Further, literature on the relation between different predictors and educational attainment will be explored.

Introduction

There is a growing body of research that suggests students' educational aspiration and self-efficacy have cumulative effects on students' educational attainment (Flouri, 2006; Wigfield & Eccles, 2000; Zimmerman, Bandura, & Martinez-Pons, 1992). A variety of theoretical models have been developed and gained prominence in the field of research on educational attainment and the gap existing among different ethnicities, e.g., social and cultural reproduction theory (Bourdieu, 1974), the Wisconsin Model (Sewell, Haller, & Portes, 1969), Oppositional Culture (Ogbu, 2008), stratification theory (Kao & Thompson, 2003), and integrated theory of attainment (Pharris-Ciurej, 2011). These models tried to explain educational attainment and achievement and attainment gaps among different ethnicities from different perspectives. These theoretical models of educational attainment included some core themes of investigation such as: family context, social/cultural background, cognitive learning and aspiration (Ogbu, 2008; Sewell et al., 1969). For example, Sewell et al.'s (1969) Wisconsin Model emphasized social psychological components in the path model by investigating factors like parental stratification position, individual's mental ability, influence from significant others, and

educational and occupational aspiration. Ogbu's (2008) contribution to the development of the educational attainment model was his effort to explain the racial disparities of educational attainment in a broader social and historical context. Kao and Thompson (2003) reviewed theories that aimed to explain the racial and ethnic stratification in educational attainment. Two major categories of theories were reviewed by Kao and Thompson: one focusing on cultural orientation's influence on academic outcomes and the other one about how the structural position of ethnic groups impacts children's environment. Despite the prominence gained by the theories mentioned above, Pharris-Ciurej (2011) argued that integrated theory of attainment could better explain the attainment gap among racial and ethnic groups after including some key explanatory mechanisms from some leading theories such as family context and encouragement from significant others.

In general, there is a lack of empirically-based, theory-driven research regarding English Language Learners at the national level (Kanno & Cromley, 2010), which has become one of the major obstacles for educators to better address the needs of this student population (Paredes, 2010). The factors to be included in the models of this study were previously studied for general student population (Pintrich & Garcia, 1991; Zimmerman, 2000), but not much was known about whether these factors could predict high school educational attainment for ELL students. This study made a contribution to the existing literature by providing empirically based results about the association among the variables of interest for ELL population. Previous research on ELL students' academic achievement and educational attainment focused more on academic-related/content-focused factors in explaining the educational attainment differences such

as language proficiency (Fakeye & Ogunsiji, 2009; Lindholm-Leary & Hernandez, 2011), lexical access (Jongejan, Werhoeven, & Siegel, 2007), placement test scores (Christopher, 1993), and types of language-acquisition programs students participated (Lindholm-Leary & Hernandez, 2011). However, there has been a lack of research that investigates non-academic factors (i.e., personal attributes) that might have impacted students' educational attainment (Christopher, 1993). The inclusion of students' educational expectation and academic self-efficacy on math and English in this study is consistent with the Wisconsin Model of Sewell et al. (1969).

Besides, parental expectations and parental involvement will also be included into the model analysis of this study. The inclusion of parental factors is consistent with both Bourdieu's (1974) Social Capital Theory, which explains educational attainment from a perspective that focuses on parents' socioeconomic status and families' social status, as well as the Wisconsin Model of Sewell et al (1969), which emphasize the impact of parents and significant others. This study aims to address the research gap by including students' expectation, self-efficacy, parental expectation and parental involvement into separate models to predict educational attainment of ELL students in high school.

Definition of ELL

Although the population of ELL students grew at such a rapid speed, there is no universal definition in the literature for this student population (Abedi, 2001; Hopstock, 2003; Shi & Steen, 2012). A variety of terms have been used in previous studies to describe students who speak English as a second language: English Language Learners (ELL) (National Center for Educational Statistics, 2013; National Educational Association, 2008; Rance-Roney, 2009; Shi & Steen, 2010; 2012), Language Minority

(LM) (Kieffer, 2008), Limited English Proficient (LEP) (Hopstock, 2003; Jacobs et al., 2001), English as a Second Language (Moussu, 2012; Shi & Steen, 2010; 2012), ESOL (English for Speakers of Other Languages) (Liu, 2005), and ELD (English Language Development) (Winegar, 2012). Although these terms have been used in the literature interchangeably, the meanings of these terms can be slightly different. For example, as pointed out by Kierffer (2008), Language Minority (LM) learners refer to students who are exposed to a language other than English at home, despite the level of their English proficiency. Therefore, LM students includes both competent bilingual students who are proficient in English and limited English proficient (LEP) students, often referred to as ELL or ESL students who need to learn English as a second language (Callahan, Wilkinson, & Muller, 2010). ESL has been increasingly used to refer to the program of instruction designed to support the ELL students and is often used to refer to multilingual students in higher education, while ELL is mainly used in K-12 schools to describe active language learners who may benefit from language support programs (National Center for Educational Statistics, 2013; National Council of Teachers of English, 2008). Also, ELL has been more commonly used to refer to this population because it highlights learning, rather than suggesting non-native-English-speaking students are deficient (National Council of Teachers of English, 2008). Therefore, ELL will be used to name the target population in this study and the ELL students in the current study refer to those students whose native language is not English and have been in an English-as-Second-Language program.

Definition of Educational Attainment

In the literature, educational attainment has been used to describe the amount of schooling or level of education an individual attains (Boardman, Alexander, Miech, MacMillan & Shanahan, 2012; Lleras, 2008; Mcleod & Kaiser, 2004; Monserud & Elder, 2011; Mahatmya & Lohman, 2012). It is important to differentiate educational attainment with academic achievement. Both terms have been used quite commonly in the literature but very few authors have tried to formally define them. According to the Merriam-Webster dictionary (2013), attain is "to reach as an end; to come into possession of; to come to as an end of a possession or course of movement", while achieve is "to carry out successfully; to get as the result of exertion". Since there is a lack of formal definition of these two terms in the literature, it is important to review previous literature that used these two terms. Academic achievement is often linked with grades, scores, and test results at a specific grade level (Guglielmi, 2008; Tyson, 2011). Differently, attainment is often measured by the highest level of degree/occupation or whether or not an individual attains a certain level of schooling/employment status (Callender, 2008; Guglielmi, 2008; Tyson, 2011). In education research, attainment is commonly used in both terms: "educational attainment" or "occupational attainment" (Callender, 2008; Guglielmi, 2008).

In a review of racial and ethnic stratification in educational achievement and attainment, Kao and Thompson (2003) used the term "academic achievement" to describe students' performance in the realm of certain subjects. Studies about test scores and grades were reviewed under "academic achievement," whereas "educational attainment" was used to describe students' school progression and level of schooling students could

get to. Studies about high school completion, college transition, and college completion were reviewed under "educational attainment" (Kao & Thompson, 2003).

In the present study, educational attainment refers to high school completion status and postsecondary institution enrollment status of students, as it is commonly measured in previous literature (e.g., Barnard, 2003; Boardman, Alexander, Miech, MacMillan & Shanahan, 2012; Mcleod & Kaiser, 2004; Monserud & Elder, 2011; Needham, 2008; Portes & Hao, 2004; Reynolds, Temple & Ou, 2009).

Theoretical Framework

This study is grounded on Social Capital Theory of Educational Attainment (Bourdieu, 1974) and the Wisconsin Model of Status Attainment (Sewell et al., 1969). There are three basic propositions proposed by the Social Capital Theory (Bourdieu, 1974): (1) parental cultural capital is inherited by children; (2) children's cultural capital is converted into educational credentials; and (3) educational credentials are a major mechanism of social reproduction in advanced capitalist societies. This theory suggests that the distribution of cultural capital is the primary means in which education determines an individual's social status, class, values, and hierarchy. For Bourdieu (1977), "this (cultural capital) consists mainly of linguistic and cultural competence and that relationship of familiarity with culture which only be produced by family upbringing when it transmits the dominant culture" (p. 494). Social and cultural capital is emphasized in this theory as a mechanism that influences an individual's educational status, which then reproduces the cultural and social norms in the society. Based on this theory, ELL students who need support with language learning are at a disadvantageous status in the dominant society and also in academic learning and attainment status. This

theory provides a foundation and context for this study to investigate predictors of educational attainment among ELL population.

The Wisconsin Model of Status Attainment (Sewell et al., 1969) provides the theoretical framework for this study to include educational expectation, parental expectation and parental involvement into the models for analysis. The Wisconsin Model emphasizes social psychological mechanisms, which function as mediators between one's socioeconomic status and ability to attain certain status. According to this theory, the expectations of the significant others and one's own self-reflections help form one's aspirations, which in turn influence attainment as long as circumstances permit. This theory's emphasis on the role of one's aspirations provides the framework for this study to look at both students' expectations and parental expectations, and how these expectations make an impact on students' educational attainment.

ELL Population in U.S. Schools

The demographics in U.S. schools have experienced dramatic changes since the 1990s because of the influx of immigrants. Most of the immigrants arrive from different countries where English is not an official language. In the 2003-2004 school year, approximately 4 million U.S. public school students received English Language Learners (ELL) services, accounting for 8 percent of all public school enrollments during that school year (NCES, 2006). English Language Learners represent the fastest growing school-age population in U.S. schools (National Clearinghouse for English Language Acquisition, 2002). The U.S. Census Bureau estimates that the total number of foreign-born Americans will grow to 53.8 million by 2050 (Schmid, 2001). From 1991-1992 and 2001-2002, the number of ESL students in public schools grew 95 percent while the total

enrollment only increased by 12 percent (Sekar, 2009). The NCELA (2007) projected that by 2030 English Language Learners will account for 25 percent of public school student enrollment. The distribution of the ESL student population was not quite uniform across the country. For example, some states like California, New York, Arizona, Florida and Texas enrolled almost 70 percent of all the ELL population in the U.S. (Fry, 2008). However, recently many ELL students and their families have begun to settle in regions of the country that have not traditionally received immigrant populations (Flynn & Hill, 2005). In a ten-year period (1995-2005), other states that used to be less populated with English language learners have experienced a 300 percent or higher growth. In terms of the native language spoken among ELL students, more than one hundred and fifty different languages are spoken with Spanish being the most widely spoken language, followed by Asian, Southeast Asian, and European languages (Capps et al., 2005). To the contrary of common assumptions, native-born U.S. citizens dominate the ELL population: 76 percent of elementary school ELL students and 56 percent of secondary school ELL students were born in the U.S. and more than half of the ELL population in public secondary schools are second-or third-generation U.S. citizens (National Education Association [NEA], 2008).

In 2009, the percentage of school-age children who spoke a language other than English at home and spoke English with difficulty varied by demographic characteristics, including race/ethnicity, citizenship status, poverty status, and age (NCES, 2012). According to the statistics provided by NCES (2012), 16 percent of both Hispanics and Asians who spoke a non-English language at home spoke English with difficulty compared to 6 percent of Pacific Islanders, 3 percent of American Indians, and 1 percent

each of Whites, Blacks, and children of two or more races. In regard to differences by age, the percentages of 5- to 9-year-olds (7 percent) who spoke a non-English language at home and spoke English with difficulty was greater than 10- to 13-year-olds and 14-to 17-year-olds (4 percent each).

Educational Attainment of ELL Students

A Blueprint for Reform, published by the Department of Education (2010), specifies some priorities in educational reform. One priority includes "equity and opportunity for all students" (p. 5) and English Language Learners are listed as one of the target student populations. U.S. schools are called to provide appropriate services that support students' educational success and prepare them to be "college and career ready" (p. 3). However, a huge achievement gap between ELL students and their non-ELL counterparts continues to exist (Hakuta, Bialystok, & Wiley, 2003; National Education Association [NEA], 2008). An NEA policy brief stated, "ELLs' academic performance levels are significantly below those of their peers in nearly every measure of achievement" (NEA, 2008). To illustrate, the NCES (2011) reported and compared the average reading scale scores of 4th and 8th graders who are ELL and Non-ELL students. Results showed that only 29 percent of ELL 8th graders scored at or above basic, compared to 77 percent Non-ELL 8th graders. ELL students' pass rates of high school math exit exams are 30-40 percent lower than mainstream students (Xiong & Zhou, 2006). In 2005, 36.5 percent of Hispanic foreign-born 16- to 24-year-olds dropped out of high school (National High School Center, 2009). In the state of Arizona, ELL graduation rates in high school dropped from 44 percent in the academic year of 2005 to 25 percent in the academic year of 2010, leaving Arizona the bottom one among all fifty states in the

U.S. (Jimenez-Castellanos, Combs, Martinez, & Gomez, 2013). The challenges in academic learning for ELL students come from both English language acquisition and keeping pace with their native-speaker peers in mastering the core content standards (Sekar, 2009). Therefore, it is important for U.S. schools to make concerted efforts to close achievement gaps for ELL students in order to promote their academic achievement (Jimenez-Castellanos et al., 2013; Linquanti & Hakuta, 2012; Perez & Holmes, 2010).

Federal law (i.e., Equal Education Opportunities Act, 1974; No Child Left Behind Act, 2001) requires that schools provide additional services to address the needs of students who speak English as a second language. A variety of services and instructional strategies are available in U.S. schools in order to help ELL students meet the needs of English proficiency in order to perform well in regular classrooms (Sekar, 2009). However, there exist variances between different states in regarding to policies, educational models, monetary resources, teachers' qualification, services provided to ELL population (Jimenez-Castellanos et al., 2013). Currently, debate is going on about the education models that will help to close the achievement gap between ELL and Non-ELL students (Maxwell, 2013). For example, the Structured English Immersion (SEI) model, which is mandated by law in the states of Arizona, California and Massachusetts, has aroused fierce debate among scholars and politicians. Recent research showed that the SEI model actually limited students' access to the core academic content instructions and decreased the high school graduation rates among ELL students (Rios-Aguilar, Gonzalez Canche, & Moll, 2012). Despite the debate about which model actually works for ELL students, a common ground could be reached: it is urgent to answer the question

of how to support the academic success of ELL students in K-12 schools (Linquanti & Hakuta, 2012).

Predictors of educational attainment in the literature. A large body of research has been devoted to investigate the educational attainment and its predictors. For the general student population in the U.S., educational attainment seems to vary according to a variety of factors such as gender, race/ethnicity, family SES, school characteristics, and students' school experience (Adelman, 1999; 2004; 2006). According to Adelman (1999; 2004; 2006), the strongest predictor of educational attainment is the intensity of curriculum in high school, followed by class rank, GPA, test scores, and socioeconomic status. To illustrate, high school students who take advanced math courses (e.g., trigonometry and pre-calculus) are twice as likely to obtain a college degree (Adelman, 1999) than those students who do not. The intensity of the curriculum in high school has an even greater impact on low-SES students (Adelman, 1999; Contreras, 2005). Further, students who enroll in college preparation courses prior to attending college are more likely to attend and complete college, regardless of their aptitude and performance (Alexander, Entwisle, & Olson, 2007).

Compared with the literature available for the general population's educational attainment, only a few studies could be retrieved that focused solely on investigating ELL students' educational attainment. From the limited literature, several factors were identified that might influence the academic development of ELL students, e.g., English language program placement and course taking patterns (Callahan et al., 2010), native language proficiency (Guglielmi, 2008), initial English proficiency (Kieffer, 2008), the role of school environment (Fry, 2008) and students' demographic characteristics

including socioeconomic status, ethnicity, gender, length of residence in the U.S., and first language spoken (Sekar, 2009).

To illustrate, Fakeye and Ogunsiji (2009) found that English language proficiency had a significant positive relationship with ELL students' academic achievement, which was consistent with more recent study findings by Lindholm-Leary and Hernandez (2011). Additionally, lexical access was found to be a predictor of ESL students' reading and spelling ability (Jongejan et al., 2007).

There are a number of studies that have explored strategies for improving ELL students' education attainment. In a qualitative study, Kanno and Varghese (2010) summarized the challenges and barriers ELL students experience in accessing a four-year college: linguistic disadvantage, structural constraint, course requirement, extra tuition, stigma, financial struggles, and socialization limitations. Another study found that English-as-Second-Language (ESL) program placement in various grade levels for their courses was a significant predictor of ELL students' academic success (Callahan, Wilkinson, Muller, & Frisco, 2009). In other words, students who are more accurately assessed and placed in a class that is comparable to their levels are more likely to be academically successful. However, the predictive relation between ESL program placement and academic performance could be either positive or negative depending on the school demographic composition. In schools with more immigrants who need language education, ESL program placement resulted in higher academic performance. But ESL program placement did not lead to better performance in schools with only a small number of ELL students. Derderian-Aghajanian and Wang (2012) explored how culture affects academic outcomes among Chinese and Middle Eastern ELL students.

Some common challenges faced by both groups of ELL students included linguistic, cultural, and academic barriers. Middle Eastern students had an additional challenge, which related to their race and religion negative stereotypes.

Very few studies focused on reporting the characteristics of schools or education programs with successful reputations for ELL students. Nonetheless, Kouritzin (2004) provided a thorough summarization of the effective practices that some successful schools implemented with their ELL students. Although this study was conducted in Canada, the results could shed some light on ELL students' education in U.S. schools. According to the findings in Kouritzin's (2004) study, successful schools with ELL education shared the following characteristics: a) administrative support with resources and funding, b) community support (i.e., meeting students' needs outside school), c) parental involvement, d) and school support (i.e., respectful inclusion and peer tutoring programs).

Another factor that has been studied with relation to ELL students' educational attainment is related with students' native language proficiency level. Using a latent growth model, Guglielmi (2008) found that ELL students' native language proficiency level predicted their English reading ability, which in turn predicted high school academic achievement and education/occupational attainment.

Besides their native language proficiency, ELL students' initial English proficiency level is another factor difficult to ignore when exploring ELL students' attainment in academics. Kieffer (2009) conducted a longitudinal analysis to examine the role of initial English language proficiency in later growth in English reading. The results showed that those students entering kindergarten proficient in English had similar

trajectories to those of native speakers; students with limited English, however, yielded a large achievement gap from native-speaker students by the 5th grade.

In addition to the above-mentioned factors, the ESL course track and the length of the English language program participation have drawn attention among researchers; but it was difficult to draw a conclusion based on what is available in the literature. The American Institute for Research (AIR) and WestEd (2009) completed a five-year evaluation of the educational environment of ELL students in the state of California using a mixed method approach. The ESL course track was a major issue that emerged in this study regarding the education of ELL students. It was found that the ESL course track hinders access to grade-level instruction in the core curriculum and may hamper the attainment of language proficiency as well as grade-level standards. Some parents and ELL students have expressed their concern in this study about the possibility of being stuck in the ELL track, which does not help prepare the students for college. However, Callahan et al. (2009) did find that students who participated in the ESL programs achieved higher level in academics in schools with more immigrant students.

How long a student should stay in ESL program and how much time per day a student should spend to receive language instruction has caused furious debates among politicians and scholars in education field (Maxwell, 2013). For example, Arizona's most recent legislation that required all ELL students be educated through a specific Structured English Immersion (SEI) model: the four-hour English language development block (Jimenez-Castellanos et al., 2013). However, research found that Arizona has made little to no progress in closing the achievement gap between ELL and Non-ELL students during 2005-2009 (Garcia, Lawton, & Diniz De Figueiredo, 2012) because the SEI model

has limited students' access to core areas of academic content and decreased the high school graduation rates among ELLs (Rios-Aguilar et al., 2012).

Measures of Educational Attainment in the Literature. Previous researchers adopted a variety of ways to measure educational attainment. High school completion was one of the most common measures for educational attainment in the literature (e.g., Barnard, 2004; Boardman, Alexander, Miech, MacMillan & Shanahan, 2012; Mcleod & Kaiser, 2004; Monserud & Elder, 2011; Needham, 2008; Portes & Hao, 2004; Reynolds, Temple & Ou, 2009). Other researchers also measured educational attainment using variables like postsecondary institution enrollment (Needham, 2008; Mcleod & Kaiser, 2004; Monserud & Elder, 2011), college completion (Boardman et al., 2012; Monserud & Elder, 2011) and highest degree earned (Lleras, 2008; Mahatmya & Lohman, 2012). In this study, the researcher chose to use "high school completion" and "postsecondary institution enrollment," some of the common measurements in the literature to measure educational attainment.

Educational attainment gap between ELL students and non-ELL students. According to the statistics provided by NCES (2004), ELL students not only have lower scores in standardized testing in English and mathematics, but also have lower aspirations for continuing their education after high school. The ELS: 2002 data suggested that students perceived educational structure to be open; however, an analysis conducted by Lowman and Elliott (2010) showed students' expectations were not dependent on their social background or their own merits. To be specific, students who do not perceive the need to succeed as a key for the fulfillment of their postsecondary expectations will fail to make their expectations come true (Lowman & Elliott, 2010). Previous research found

educational expectations varied among ethnic groups using the data from the National Educational Longitudinal Study of 1988 (NELS: 88); these variations were found to be independent of achievement, sex, or parental socioeconomic status (Trusty, 2000).

The differences among ethnicities existed in the level of education students expected to attain as well as how stable their expectations could be. Some studies (Behnke, Piercy, & Diversi, 2004; McWhirter, Hackett, & Bandalos, 1998) found that ELL students and their parents tend to hold lower expectations for educational attainment. However, ELL students' educational expectations could be moderated by the level of acculturation into the main society (McWhirter et al., 1998; Ramos & Sanchez, 1995).

Among ELL students, intergroup differences were found in educational expectations. For example, students from Asian cultures tend to have higher family educational expectations that enhance their achievement and expectations (Hao & Bonstead-Bruns, 1998; Kao & Tienda, 1998). With lower educational expectations, ELL students were less likely than mainstream students to achieve the same level in academics since educational expectations were consistently found to be positively correlated with academic achievement (Brookover, Erickson, & Joiner, 1967; Carpenter & Fleishmann, 1987; Hossler & Stage, 1992; Trusty, 2000). Currently, there exists a gap in educational attainment among different ethnicities. For example, 50 percent of 25-years-and-older Asian Americans have at least a bachelor's degree compared to 30 percent of Non-Hispanic Whites, 17 percent of Blacks, and 11 percent of Hispanics (US Census Bureau , 2004). With regard to the ELL population, they have lower high school graduation rates and higher dropout rates (American Youth Policy Forum, 2009) than other groups. In

2007, the nationwide high school dropout rate for foreign-born students was 21 percent, compared to 8 percent native-born students (American Youth Policy Forum, 2009).

The issue of serving the ELL population in U.S. public schools has drawn more and more attention from educators, researchers, and policy makers. Considering the rapid growth of ELL population and the diversity of characteristics and needs among this population, it is critical that more empirical research be conducted in order for stakeholders and educators to be more knowledgeable and well informed of this invisible minority student population who are currently underserved in our schools. Although there is a growing body of research on pedagogical strategies with ELL students, less attention has been paid on the association between psychological factors and parental factors with ELL students' educational attainment.

Educational Expectations

Educational expectation is a psychological factor that has been widely studied in relation to educational attainment. In counseling and psychology literature, expectancy is considered as a key construct in relation to academic achievement and educational attainment (Marshall & Brown, 2004; Olson, Roese, & Zanna, 1996). The two terms "educational aspiration" and "educational expectation" have been interchanged in the literature when exploring educational attainment issue. However, according to Bohon, Johnson, and Gorman (2006), there are some important differences between these two terms. "Educational aspiration" focuses more on students' hopes and dreams, while "educational expectation" emphasizes what students realistically think they will achieve. In this literature review, studies that used either term with relation to attainment will be reviewed in order to gain a more comprehensive picture of how students' hopes, wishes

or realistic expectations could impact their education attainment. In this study, the term "educational expectations" will be used in order to be consistent with previous literature.

Although educational expectation has been widely studied in the field of educational research, very few studies have been conducted that focus on ELL students' educational expectation and attainment. Over the past two decades, there has been an increase in the percentage of students who expect to attain at least a bachelor's degree. In the 1980s, 41 percent of secondary school students planned to complete a college education, compared to 60 percent in the 1990s (Cahalan, Ingels, Burns, Planty, & Owings, 2006). According to the ELS:2002, 90 percent of 10^{th} graders in 2002 expected to attend college and roughly 79 percent planned to attain at least a baccalaureate degree. Differences were found among ethnic/racial groups in terms of how high they set their education goals and how stable these expectations could be over time (Lowman & Elliot, 2010). For example, Black and Hispanic males hold higher expectations than White but they are less likely to maintain them. Although the number of students with higher expectations is growing, there exists a gap between how far they hope to achieve academically and what they could actually achieve (Lowman & Elliot, 2010). More disadvantaged ethnic minority members seem to fall into the group who fail to translate their ambitions into reality (Lowman & Elliot, 2010) and ELL students is one subgroup within this disadvantaged group. ELL students were found to have lower educational expectations than other student populations, but their acculturation level could moderate the impact language barrier has on education expectations (Behnke, Piercy, & Diversi, 2004; McWhirter, Hackett, & Bandalos, 1998). Therefore, it is critical to examine the

relation between ELL students' expectations and attainment, as well as other factors that might have impacted this relationship.

Previous findings on factors in relation to educational expectations. A variety of factors have been investigated in previous studies to find out their relations to students' educational aspirations or expectations. First, integration into school environment (e.g., more personal interaction with people who support education pursuits, participation of extracurricular activities and achievement-oriented clubs, etc.) has been found to have positive effect on students' educational expectations (Lipscomb, 2007; Marsh, 1992). Second, parental socioeconomic status, primarily through parents' educational background, has also been found to have a positive association with students' educational expectations (Hanson, 1994; Hossler, Schmit, & Vesper, 1999; Trusty, 2000), as well as the stability of those expectations (Garge, Kaupii, Lewko, & Urajnik, 2002; Hossler et al., 1999; Trusty, 1998; 2000). In fact, low socioeconomic status is the strongest predictor of low educational expectations and expectations that have not been achieved (Hanson, 1994), while high SES impacts educational expectations indirectly (e.g., through private school tuition or college savings) (Hossler & Vesper, 1993). Considering the fact that disadvantaged ethnic/racial groups very often fall into lower SES, family SES may partially explain ethnic/racial differences in educational expectations. Even so, it has been recently found that parents from all different levels of SES and racial/ethnic groups have been more likely to encourage their children to enroll in college regardless of the students' previous academic records in school (Cahalan et al., 2006).

Although there are few studies that examine school or community characteristics in relation to students' educational expectations, the ones that are available in the

literature did find both school average SES (Bryk & Raudenbush, 1986; Marsh, 1991) and neighborhood SES (Ainsworth, 2002) positively related with students' educational expectations. To be specific, school type is one of the best-known school-level indicators of students' educational expectations. Students from private schools (i.e., Catholic and religious schools) tend to hope to achieve higher education levels than students from public schools (Coleman & Hoffer, 1987; Corton & Dronkers, 2006).

School location was also found to be another factor that is related to educational expectation. For example, students from rural schools tend to have lower expectations than suburban and urban school students (Herzog & Pittman, 1995). Students from suburban schools have the highest expectations and academic outcomes. These findings could probably be explained by the composition of student population in different locations (Lee & Smith, 1997). To summarize, the literature on educational expectations disclosed that students' expectations vary depending on race/ethnicity, gender, parental SES and expectations, school type and location, as well as school experience.

In a more recent study, Lowman and Elliot (2010) investigated educational expectations of secondary school students in the U.S. using separate multilevel models that incorporated both student-level and school-level factors. They also developed a comparison model to examine the differences among racial/ethnic groups. The results showed that student-level factors and school-level factors had different impacts on different ethnic groups. For example, academic and school characteristics significantly predicted White students' expectations, while school factors were least predictive of Black students' expectations. For Hispanic students, both school size and amount of neighborhood crime were related with higher educational expectations, which could

probably be explained by their desire to escape their dangerous neighborhood (Lowman & Elliot, 2010).

Previous findings on the relation between educational expectations and educational attainment. In regard to the relation between educational expectations and attainment, a large body of studies has consistently found educational expectations significantly predict achievement (e.g., Carpenter, 2008; Casanova, Garcia-Linares, del la Torre, & de la Villa Carpio, 2005; Davis-Kean, 2005; Hao & Bonstead-Bruns, 1998; Marshall & Brown, 2004; Mistry et al, 2009; Phillipson & Phillipson, 2007; Rutchick, Smyth, Lopoo, & Dusek, 2009; Sanders, Field & Diego, 2001; Seyfried & Chung, 2002; Tavani & Losh, 2003; Trusty, 2000). In a recent study conducted by Sciarra and Ambrosino (2011), students' expectations were found to be a significant predictor of students' education status two years after scheduled high-school graduation.

Interestingly, a reciprocal relation between educational expectations and attainment was found in a study conducted by Gil-Flores, Padilla-Camona, and Suarez-Ortega (2011) in Spain. This study found that adolescents' attainment level significantly predicted secondary school students' educational aspirations. However, no similar findings were found in any studies conducted in the U.S.

The relation between educational expectations and educational attainment could be moderated by students' cognitive abilities, as shown in a study that investigated interaction effects of different predictors of educational attainment (Ganzach, 2000). For students who had higher cognitive abilities, their educational expectations served as a stronger predictor of educational attainment. This finding was consistent with the view that academic attainment is a function of both ability and motivation (Ganzach, 2000).

After a comprehensive review of previous research on educational expectation/aspiration, it seems that educational expectation is a commonly studied factor associated with educational attainment. In this study, the term "educational expectation" will be used, consistent with previous literature that used the ELS data to investigate the same construct (Lowman & Elliot, 2010; Sciarra & Ambrosino, 2011).

Math & English Self-Efficacy

In the past three decades, self-efficacy has emerged as a strong predictor of students' academic development and motivation to learn. It is common in educational research that students' beliefs about their academic capabilities play a key role in their motivation to learn and achieve (Zimmerman, 2000). Bandura (1977; 1997) gave a formal definition of perceived self-efficacy as personal judgments of how capable one is to organize and execute courses of action in order to achieve designated goals. According to Bandura (1977; 1997), self-efficacy is a multidimensional construct, which includes the level of self-efficacy (i.e., the difficulty of a particular task), the generality of self-efficacy (i.e., transferability of self-efficacy beliefs across tasks), and the strength of self-efficacy (i.e., the amount of one's certainty about performing a given task).

Zimmerman (1995; 2000) has further carried out the work of Bandura by defining self-efficacy and distinguishing it from related conceptions in the literature, introducing its role in academic motivation and learning (with emphasis on self-regulating behaviors) and discussing its susceptibility to instruction and other social-cultural influences. This literature review will include only the key studies on self-efficacy. For a more comprehensive review, readers are recommended to refer to Bandura (1997), Pajares (1996; 1997), Schunk (1989), and Zimmerman (1995; 2000).

To better understand math and English self-efficacy, it is important to differentiate it from other closely related conceptions, such as, self-concept, outcome expectations, and perceived control (Pajares, 1996; Zimmerman, 2000). First, self-concept is a global self-descriptive construct that incorporates different forms of knowledge and evaluation of self (Marsh & Shavelson, 1985). However, self-concept has not been found to be consistently related to students' academic performance (Hattie, 1992). Different from self-concept, self-efficacy measures task-specific performance expectations and has discriminant validity through its ability to independently predict future academic achievement (Pajares & Miller, 1994). Therefore, when measuring self-efficacy, the items in the questionnaire are supposed to be more task-specific but could also be adapted to measure different scopes (i.e., proficiency in an academic domain or proficiency in a subskill) based on the researchers' purposes. Second, self-efficacy is different from outcome expectations, with the latter referring to the value of various activities in attaining various outcomes in different domains of people's lives (Shell, Murphy, & Bruning, 1989). Third, self-efficacy needs to be differentiated from perceived control, which emerged from the research of locus of control and refers to general expectancies about whether outcomes are controlled by one's behavior or by some external forces (Zimmerman, 2000). Locus-of-control scales are not domain-or task-specific but rather emphasize one's beliefs about internal and/or external causality. To better distinguish self-efficacy from perceived control, it is important to be aware that self-efficacy could predict changes in academic performances while locus-of-control measures could not. To summarize, self-efficacy measures not only differ conceptually

from other closely related concepts, but also hold discriminant validity in predicting academic outcomes.

Previous findings on factors in relation to academic self-efficacy. Zimmerman (2000) did a comprehensive review of previous studies that focused on the role of self-efficacy in academic motivation and self-regulation of learning, which were all related to students' academic performance and achievement. There is a series of evidence that shows students who have higher self-efficacy are more likely to undertake challenging tasks more readily, work harder and more persistently, and could better handle emotional reactions to adversities. Students' self-efficacy level is also highly correlated with their major choices in college, academic performance in college, and perseverance (Zimmerman, 2000).

The relation between self-efficacy and academic performance is one of the areas that self-efficacy research has primarily focused on (Pajares, 1996). Research has supported Bandura's (1986) argument that self-efficacy functions as a mediator between students' skills or other self-beliefs and their performance level through influencing effort, persistence, and perseverance (Bandura & Schunk, 1981; Bouffard- Bouchard, 1990; Lent, Brown, & Larkin, 1984; Schunk & Hanson, 1985). Besides, previous studies also found that students with higher level of self-efficacy use more cognitive strategies and can be more persistent than less self-efficacious students (Pintrich & Garcia, 1991). It is well supported in the literature that efficacy beliefs facilitate the effect of cognitive engagement on academic performance. According to Pintrich and Garcia (1991), academic self-efficacy is correlated with a variety of academic performance measures such as in-class tasks, quizzes and exams, essays and reports, homework, and semester

and final grades. Also, compared with students' previous attainment, self-efficacy serves as a better predictor in predicting academic performance.

The correlation between self-efficacy and performance is not always reported as significant. The studies that found insignificant results often are subject to either specificity or correspondence problems. Specificity problems are related to using too-global items in the measurement tools to assess efficacy in specific tasks or domains. For example, in a study that found math self-efficacy could not significantly predict math performance, self-efficacy was assessed using global items like "No matter how hard I study, I will not do well in this class" (Benson, 1989). Another problem related with those studies that found insignificant correlation between self-efficacy and performance is regarding the correspondence issue. Correspondence problems refer to the degree of matching between the dependent variable (in this case, academic performance in certain domain) and the way self-efficacy is measured. For example, in a study that concluded self-efficacy had weak predictive power of academic performance of undergraduate students, self-efficacy was assessed as perceived study skills or test-taking skills and measured with items such as "Rate how certain you are that you can study at a time and place where you won't get distracted" (Smith, Arnkoff, & Wright, 1990).

In studies that avoided specificity and correspondence problems, more positive results were found in regard to the predictive power of self-efficacy of academic performance (i.e., Pajares & Johnson, 1996; Pajares & Miller, 1994). To summarize, when self-efficacy is measured with items that are specific enough and closely correspond to the tasks being tested in the criterion variable, the predictive power of self-efficacy is enhanced (Pajares, 1996).

Previous findings on the relation between academic self-efficacy and educational attainment. Previous literature has well supported that students' academic self-efficacy exert notable influence on students' course selection (Britner & Pajares, 2006), academic achievement (Britner & Pajares, 2006; Klassen, 2004), GPA (Robbins et al., 2004), college performance and persistence (Gore, 2006; Robbins et al., 2004), academic aspirations (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001), occupational self-efficacy, and career trajectories across domains and age levels (Bandura et al., 2001; Britner & Pajares, 2006; Gore, 2006), above and beyond those traditional predictors (i.e., standardized achievement, cognitive ability, etc.) Further, Caprara et al. (2008) found high levels of academic self-efficacy measured at the age of twelve significantly associated with higher graders and higher probability to graduate from high school. Despite the massive research done in educational research about academic self-efficacy, it is quite difficult to find peer-reviewed articles that focused on ELL students' self-efficacy and academic performance or educational attainment. The only studies that have been retrieved are dissertation studies. Among these dissertations, a few have investigated ELL students' self-efficacy and related concepts such as language proficiency (Templin, 2011), students' participation in oral activities (Lopez-Roman, 2006), willingness to communicate (Yough, 2011), and some contextual factors that might contribute to ELL students' self-efficacy (Yough, 2011). However, there is no study that has focused on the relation between self-efficacy and ELL students' educational attainment. This study aims to fill this research gap by looking at the predictive effect of self-efficacy on ELL students' educational attainment.

Parental Expectations

The term "parental expectations" has been defined in a variety of ways in previous literature. Most commonly, one links "parental expectations" with more realistic beliefs or judgments parents have about their children's educational achievement or attainment as characterized by academic scores, standardized testing results, highest level of education attained or college enrollment (e.g., Alexander, Entwisle, & Bedinger, 1994; Glick & White 2004; Goldenberg, Gallimore, Reese, & Garnie, 2001; Yamamoto & Holloway, 2010). Similar to the differences between the two terms "educational expectations" and "educational aspirations," the term "parental expectations" need to be differentiated from "parental aspirations" as well, although the two terms have been used interchangeably and the line between them has been blurry in the literature (Fan & Chen 2001; Juang & Silbereisen 2002; Mau, 1995). Parental aspirations typically refer to desires and wishes of parents in regard to how far in education their children will attain instead of realistic thoughts based on factual consideration (Glick & White, 2004).

In terms of the operationalization of parental expectations in previous studies, there exist two ways; the more common way to measure parental expectation is by asking parents how far they think their children will go in school, the highest degree their children will get or the highest grades their children will receive that year. Another way to measure parental expectation is to ask students about their perceptions of parental expectations, which is considered as a proxy of parental expectations.

Most of the literature on parental expectations used a secondary dataset, which includes all racial/ethnic groups of students. There are a few studies that focused on comparing the differences between minority groups (e.g., Davis-Kean, 2005; Davis-Kean & Sexton, 2009; Naumann, Guillaume & Funder, 2012; Spera & Wentzel, 2008) or

specifically focused on one category of the student population such as immigrant families (Glick & White, 2004; Li, 2003) or low-income families (Benner & Mistry, 2007; Englund, Luckner, Whaley, & Egeland, 2004). To be specific, Asian American parents were found to hold higher expectations than parents from other ethnic minority groups (Glick & White, 2004; Suizzo & Stapleton, 2007; Vartanian et al., 2007). However, the findings regarding Latino, African American and European American parents seemed to be inconsistent. In a recent literature review on parental expectations, Yamamoto and Holloway (2010) argued these inconsistent findings might be due to some methodological flaws such as the way parental expectations were measured, the age of the children when parental expectations were assessed, variability in family SES and inclusion of large and heterogeneous groups (i.e., Hispanics).

Previous findings on factors in relation to parental expectations. Previous studies have examined the predictive power of a variety of factors and their correlation with parental expectations, which helped to explain the variability among different racial groups regarding to parental expectations. Research on parental expectations conducted by sociologists typically replied on early theoretical frameworks, suggesting that social class membership determines parental expectation levels which in turn influences students' educational attainment (Sewell, Haller, & Portes, 1969). Quite different from sociologists, the studies conducted by psychologists often tested a more comprehensive model that includes factors from the individual level and school level. However, there have been some doubts about the relation between students' previous academic performance and parental expectations, which seemed to vary across ethnic groups in the U.S. (Yamamoto & Holloway, 2010). Yamamoto and Holloway (2010) proposed three

moderating factors that could possibly explain the inconsistencies of the predictive power of past academic performance: parents' belief in effort as a primary determinant of school performance, parents' lack of understanding or mistrust of school feedback on their children's performance, and parents' low self-efficacy in involvement in their children's school work.

Previous findings on the relation between parental expectations and educational attainment. A large body of research has been conducted to investigate the association between parental expectations and educational attainment. Since there are different findings among ethnic minority groups, it is important to review the literature on the association between parental expectations and educational attainment within each minority group. For European American families, studies consistently found significant positive correlations or pathways between parental expectations and students' academic outcomes (Davis-Kean, 2005; Entwisle & Alexander, 1990; Neuenschwander, Vida, Garrett, & Eccles, 2007; Pearce, 2006; Phillipson & Phillipson, 2007; Sy & Schulenberg, 2005). However, the research findings for Asian Americans and African Americans are not as consistent. For example, some studies (i.e., Okagaki & Frensch, 1998; Sy & Schulenberg, 2005) supported the predictive power of parental expectations among Asian American families. While some recent research (i.e., Vartanian, Karen, Buck, & Cadge, 2007) found parental expectations served as a predictor of college completion for non-Asians but not for Asian Americans after controlling for 8th grade GPA and standardized test scores. As for African American students, Davis-Kean (2005) used the structural equation modeling technique and found parental expectations mediated the relation between parental educational attainment and students' academic achievement, which was

different from the European American sample. In Davis-Kean's (2005) study, parental educational attainment was found to have both a direct and indirect relation with students' achievement among European American families. For Hispanic families, parental expectations were not found to be predictive of students' academic achievement or attainment in previous studies. In the literature review conducted by Yamamoto and Holloway (2010), the authors suggested that the inconsistent findings regarding the association between parental expectations and students' academic outcomes might be due to different mechanisms through which parental expectation exert influence on performance in academics. The mechanisms might function differently and thus lead to different results among different racial/ethnic groups. Yamamoto and Holloway (2010) identified four such mechanisms: (1) child's internalizing high parental expectations as parents' value of education; (2) parents' high expectations boosting child's academic self-efficacy; (3) high parental expectations foster parental involvement in education; and (4) high parental expectation and involvement increase teachers' expectations.

The relation between parental expectations and educational outcomes is complicated in that many other factors from the individual, family, and school levels can interfere in the relation. The most widely supported proposition is the mediating effect of parental expectations between different factors and students' achievement. For example, parental expectation was found to be an important pathway between parental educational attainment and students' attainment (Davis-Kean & Sexton, 2009). Neuenschwander et al. (2007) found parental expectations also mediated the association between family income level and achievement, which was consistent with previous research findings in

regard to the mediator role of parental expectations between social capital effects on students' academic outcomes.

Englund et al. (2004) found a bidirectional relation between parental expectations and students' achievement in a sample of low-income children. The results of this study showed that with 3rd graders, more parental expectations predicted higher achievement after controlling for prior achievement, while with 1st graders, higher achievement predicted higher parental expectations as well as parental involvement.

A couple of researchers investigated the effect of the congruency between parental expectations and students' or teachers' expectations on students' achievement. Benner and Mistry (2007) found the congruency between mothers' expectations and teachers' expectations predicted better academic outcomes among low-income urban youth. Another study by Neuenschwander et al. (2007) found agreement between parents and children on educational expectations could facilitate achievement of both immigrant and native students.

Sometimes, unrealistic parental expectations could exert excessive pressure on students and have the potential to damage students' self-esteem and confidence. Therefore, parental expectations can be counterproductive to achievement, which was found among Asian American families (Naumann, Guillaume, & Funder, 2012) and Chinese immigrant families (Li, 2003). However, after a thorough literature search, there is no study specifically focusing on examining the relation between parental expectations and educational attainment among ELL students. Although some studies used immigrant students as the sample, the results cannot be generalized to the ELL population.

Parental Involvement

Parental involvement has become a key focus in both educational and psychological research around the world and it has drawn attention from education policy makers and programs that aimed to improve academic outcomes of youth. There are several researchers who tried to define the term "parental involvement" in their studies. Trusty (1998) defined parental involvement as parents' participation in their children's extracurricular activities and parents' support for children's educational development. Another way to define "parental involvement" was to emphasize parental encouragement and parents' attitudes towards education (Hossler et al., 1999).

When exploring the parental involvement issue, it is important to be aware of the barriers that some parents face, especially immigrant families and families who are culturally different from the dominant culture in the U.S. Some of the obstacles of parental involvement include: (1) a language barrier that prevents parents from communicating with school personnel or makes the interaction more challenging when translation service is not available (e.g., Altschul, 2011; Gonzalez, 2005); (2) financial constraints, which have been frequently cited in the literature on Latino families (e.g., Lopez, 2001; Stanton-Salazar, 2001; Tapia, 2000); (3) cultural differences, such as an immigrant parent assuming teachers have the responsibility of ensuring their children's education, while parents are to make sure their children attend schools (Gonzalez, 2005); (4) an unwelcoming atmosphere in schools and parents' negative experience with school, e.g., racism and/or defensiveness and hostility from the schools or teachers (Secord, 2009).

In considering these possible barriers that some parents may have, it is noteworthy to pay attention to the specific population that researchers have targeted in

their studies. Lopez (2001) argued that recent Mexican immigrant parents may not involve themselves as much as other parents in their children's school-based activities; however, they are deeply invested in their children's education through encouraging children to succeed and engaging their children to in life lessons.

Previous findings on factors in relation to parental involvement. Previous studies have investigated the factors that could influence the amount of parental involvement in their children's schooling since schools and educators could utilize this information to increase parental involvement. A variety of predictors of parental involvement were identified in the literature. For example, parental expectations (Overstreet, Devine, Bevans, & Efreom, 2005) and the amount of time parents spend helping with homework (Smith, 2008) were found to be positively correlated with parental involvement in general. Parents perceived invitations for help from students predicted home-based involvement and parents perceived invitations for help from teachers was a predictor for school-based involvement. Georgiou and Tourva (2007) reviewed the predictors of parental involvement and summarized into two categories: (1) demographic factors such as parental education level and gender of parents (parents who are more educated and mothers are more likely to get involved in their children's schooling); (2) attitudinal variables such as parents' beliefs about themselves as parents and their role in their children's learning process. Parents who believe themselves to be capable of helping are more likely to participate in activities or events with their children.

Previous findings on the relation between parental involvement and educational attainment. A noteworthy topic regarding parental involvement in the literature is the investigation of the association between parental involvement and

student's academic outcomes measured by either educational attainment or academic achievement. A substantial body of literature has documented the positive relation between parental involvement and students' academic achievement (Berthlsen & Walker, 2008; Fan, 2001; Hong & Ho, 2005; Keith et al., 1998; Kim, 2002). Berthelsen and Walker (2008) found parental involvement had a positive effect on students' learning outcomes after controlling for family and child characteristics. In both Fan (2001) and Hong and Ho (2005), two specific factors in parental involvement—communication and parental aspiration—were found to have consistent positive effect on students' academic growth. Since there are different ways to define and operationalize the construct of parental involvement, it is important to identify the parameters of parental involvement in terms of their predictive power on academic outcomes, which will be helpful in designing and implementing some intervention programs aiming to improve academic learning.

Altschul (2011) examined six forms of parental involvement and found involvement at home and financial investment exert a higher impact on students' achievement than involvement in school and time investment among Mexican American parents. With a sample from seven South Eastern European countries, Ivan and Cristei (2011) found only one dimension of parental involvement (i.e., commitment to children's development through parental expectations) was positively related to children's achievement. Parents' supervision at home was found to be the weakest predictor of students' achievement, which needs to be taken with caution because students who do not do well in school may need more supervision at home in the first place (Fan & Chen, 2001).

In addition to a direct positive relation between parental involvement and academic achievement, Mo and Singh (2008) found parental involvement positively impacted school performance by enhancing students' engagement. This data is consistent with previous findings from a study by Pomerantz, Moorman and Litwack (2007). Although previous research found a positive relation between parental involvement and students' achievement, the results of the studies need to be taken with caution due to the differences existing in the ways to define and operationalize parental involvement as well as academic achievement.

As for the association between parental involvement and educational attainment, inconsistent results exist in the literature. For example, Sciarra and Whitson (2007) found parental support as measured by parents' involvement in activities at home and participation in school related events had a predictive power to educational attainment among Latinos. Similarly, Glick and White (2004) also found parental involvement significantly predicted educational attainment for immigrant students. Interestingly, Glick and White (2004) claimed that the types of action parents took made a difference in the direction of the effect parental involvement had on educational attainment. To be specific, those students whose parents contacted the school because of behavioral issues are less likely to enroll in college, while other parents' interventions all had positive relation with students' college enrollment.

Inconsistent findings were found by Gonzalez (2005) in terms of the predictive power of parental involvement on educational attainment of immigrant students. Parental involvement did not function as a large factor in determining educational attainment of immigrant students in Gonzalez's (2005) study. Parental involvement also failed to

explain the differences in attainment among ethnic groups. Again, the inconsistent findings related with the association between parental involvement and educational attainment could be due to the differences of how the constructs were measured in those studies as well as the specific population each study targeted. No empirical study has been found that investigated the relation between parental involvement and educational attainment of ELL students. This study aimed to fill this research gap by including parental involvement in the model to be tested.

Native Languages Spoken by ELLs

ELL population in the U.S. is a highly heterogeneous and complex group of students in terms of native languages spoken (National Council of Teachers of English, 2008). More than one hundred and fifty different languages are spoken by ELL students, among which Spanish is the most widely spoken (Capps et al., 2005). Approximately 73 percent of ELL students around the nation are native Spanish speakers, followed by Chinese speakers (3.8 percent), Vietnamese speakers (2.7 percent), French/Haitian Creole (2.1 percent), Hmong and Arabic (each 1 percent) (Migration Policy Institute, 2010). To sum up, Spanish and Chinese are the top two languages spoken among ELL population in the U.S.

The native language of ELLs is an important factor studied in the literature as to how it is associated with other academic outcomes. For example, Guglielmi (2008) found that ELL students' native language proficiency significantly predicted their English reading proficiency, high school achievement and post-high school educational and occupational attainment using a nationally representative ELL sample. Interestingly, the model in Guglielmi's (2008) study fit for the full ELL sample and the Hispanic

subsample but not for the Asian subsample. One possible explanation provided by Guglielmi (2008) for this inconsistent finding was the well-documented difficulty of transferring language skills from a nonalphabetic to an alphabetic language.

Despite the importance of the native language spoken by ELL students in the investigation of academic development, there is no previous research that has compared different language groups among ELLs in terms of how parental and psychological factors influence their educational attainment in high school. Therefore, this study will address this research gap by comparing language groups among ELL students.

Inferences for Forthcoming Study

Educational attainment is a construct that draws tremendous attention in both education and psychology research. However, there is a lack of empirical studies that investigated educational attainment among ELL students. This study aims to address this research gap by exploring the predictors of ELL students' educational attainment.

A growing body of research has consistently focused on investigating the effects of both students' psychological factors and parental factors on students' educational attainment. However, there has been no consistency among the studies in terms of which factor to include in the model to be tested. The theoretical models of educational attainment normally focused on several themes such as family context, social/cultural context, and psychological characteristics. One prominent theory related to educational attainment is Bourdieu's (1974) social and cultural reproduction theory, which tends to focus more on parents' socioeconomic status and parental impacts on children's academic development. This study will be built mainly upon the social and cultural reproduction theory (Bourdieu, 1974) and the Wisconsin Model of educational attainment

(Sewell, Haller, & Portes, 1969), which leads to the decision to include both parental factors and individual psychological factors in this study.

Among the individual psychological factors that have been explored in previous studies, students' educational expectations and academic self-efficacy seem to be two common factors consistently included in testing. As for the parental factors, parental expectations and parental involvement are the ones that have been quite commonly examined in the literature in relation to educational attainment. The studies that have been reviewed in this dissertation rarely used ELL students as their target population. Therefore, due to the limited number of studies in the literature that explored ELL students' educational attainment, this study will include the factors that have been tested among other student populations.

This study first examined the fitness of two models that included psychological factors (educational expectation and academic self-efficacy) and parental factors (parental expectation and parental involvement) using the ELL student sample from the ELS dataset. It is predicted that all the four models fit the data well and each factor included in the models significantly predicts ELL students' educational attainment. Since the ELL student population is a very diverse population, demonstrated by the native languages they speak, it is important to also look at intergroup differences among ELL students. A significant difference is predicted between native Spanish speakers and Asian language speakers in terms of the model fit and each factor's predictive power.

Chapter 3: Methods

In the following chapter, an overview was provided that included details about the dataset, participants of the present study, statistical analysis procedures, variables to be employed in the analysis and data preparation for analysis. The data used in this study is from the Educational Longitudinal Study: 2002/2006.

Overview of Methodology

This research used data from the ELS: 2002/2006, which includes a nationally representative sample of over 15,000 students nested in 752 high schools. The purpose of this study was to determine the relation between individual psychological factors (i.e., educational expectation and academic self-efficacy), parental factors (i.e., parental expectation and parental involvement), and ELL students' educational attainment in high school.

Research Questions

This study aimed to answer the following research questions:

1. How do educational expectation at time 1, educational expectation at time 2, math self-efficacy at time 1, math self-efficacy at time 2, and English self-efficacy at time 1 influence the high school graduation status of ELL students? (Model 1)
2. How do educational expectation at time 1, educational expectation at time 2, math self-efficacy at time 1, math self-efficacy at time 2, and English self-efficacy at time 1 influence the postsecondary institution enrollment status of ELL students? (Model 2)

3. How do parental expectation at time 1, parental expectation at time 2, and parental involvement at time 1 influence the high school graduation status of ELL students? (Model 3)
4. How do parental expectation at time 1, parental expectation at time 2, and parental involvement at time 1 influence the postsecondary institution enrollment status of ELL students? (Model 4)
5. How do the model fit, factor loadings and path coefficients in the four models differ between native Spanish speakers and Asian-language speakers?

Population

The target population for this study was English Language Learners (ELLs) in high school. ELL students were defined as students whose native language is not English and have ever enrolled in an English-as-Second-Language program.

Participants

The participants of this study included 547 ELL students selected from the Educational Longitudinal Study (ELS) dataset. Based on the definition of the ELL students used in this study, two criteria variables were adopted to select the sample from the ELS dataset: (1) BYS33G (ever been in an English as Second Language program); (2) BYSTLANG (whether English is student's native language). Among the ELL students included in this study, there were 272 male and 275 female students with an average age of sixteen. The age range of the ELL sample was 15 to 19. Approximately 61% of the ELL students were newly immigrated (i.e., students born in Puerto Rico or Non-U.S. country), 17% were first generation (i.e., students born in the U.S., but mothers born in Puerto Rico or Non-U.S. country), and 7% were second generation (i.e., both students

and mothers born in the U.S.). A majority of the ELL students spoke Spanish, with Asian languages the second largest language group, followed by "Other language" and "Other European Language." Table 1 included demographic information of the ELL students in the ELS dataset.

Chi-square tests of independence were conducted to determine if participants differed in the categories described above. Statistically significant results were found between race/ethnicity [X2 (6, N = 433) = 40.86, p <.001], native language spoken [X2 (5, N = 433) = 26.26, p <.001], and age [X2 (4, N = 430) = 23.20, p <.001] with postsecondary institution enrollment, as well as between generational status [X2 (24, N = 547) = 41.39, p <.05] and age [X2 (24, N = 543) = 85.57, p <.001] with high school graduation status. Then, inter-rater reliability tests were conducted to determine the consistency for all the variables measured at two time points. Statistically significant correlations were found between two time points in students' educational expectations [r(402) = .45, p < .001], math self-efficacy [r(153) = .38, p < .001], mothers' expectation [r(344) = .25, p < .001] and fathers' expectation [r(279) = .31, p < .001].

Data

This study used data from the ELS: 2002/2006, a longitudinal study following over 15,000 students from 10th grade through high school and on to postsecondary education and employment. The population for the ELS: 2002 consists of spring-term 10th graders in 2002 who were enrolled in regular public, Catholic, and private schools in the U.S. at the time when the data were collected. The average age of the participants in ELS: 2002/2006 was fifteen. This present study focused on student-level data and reports from students' parents.

The public-use data of ELS: 2002/2006 can be accessed online through The Education Data Analysis Tool (EDAT) on the website of the National Center for Education Statistics (NCES). The EDAT allows users to customarily download datasets with selected variables, surveys, and populations relevant to the user's specific study purposes. The data can be analyzed by several standard statistical packages. The dataset, codebook, and syntax files are all available on the NCES website. The dataset and all related files have been kept in a private computer with password protection.

Sampling

The ELS: 2002/2006 was designed to capture changes over time and to examine the multiple contexts in which students interact, using a two-stage stratified probability sample design (Bozick et al., 2006). In the first stage, schools were stratified based on the U.S. Census Division's geographic regions and location, which resulted in 1,221 eligible schools selected from a total of 27,000 schools across the nation. Non-public schools (Catholic and other private schools) were oversampled in order to ensure that the sample was large enough to make comparisons with public schools. There were 752 of 1221 schools that participated in the study, yielding a 68 percent participation rate in schools.

The second stage of the stratified probability sample design involved the selection of stratified sample of student participants. The participating schools provided enrollment lists of their 10^{th} graders, from which 26 students were randomly selected from each school. This stage ended up with 15,400 high school sophomores who completed the base-year questionnaire, yielding a student response rate of 87 percent. At this stage of sampling, Asian American students were sampled at a higher rate than

White, Black and Hispanic students in order to ensure the sample was large enough to compare with other ethnically diverse groups.

The sample in the first follow-up of ELS in 2004 included over 14,000 students, most of whom were high school seniors, with others either in other grades, dropped out from high school or graduated early from high school. The sampling frame for the second follow-up in 2006 included all the participants in the base year when they were sophomores and the sample of freshened students who were in the 12th grade in 2004. There were over 14,000 students who participated in the second follow-up. Information collected in this wave consisted of students' high school education, postsecondary education, employment, marriage/families, and community related activities.

Missing Data

Missing data is an issue commonly found in longitudinal studies. Schlomer, Bauman, and Card (2010) provided some guidelines in regard to missing data management for researchers in the field of counseling psychology. According to the recommendation provided by Schlomer et al. (2010) for the best practices to manage missing data in longitudinal studies, this study included the information about the amount and distribution pattern of missing data, the type of missing data, treatment method adopted and rationale for choosing that treatment method.

When examining missing data for each case, there were 78 cases with more than eight variables missing, which was more than 50% of all the variables included in this study. Filtering out the cases with more than 50% of missing data reduced the final effective sample size to 469. Among these 469 cases, there were 82.3% (n=386) that had at least one missing value. As shown in Table 3, the percentage of missing data in the

variables of this study ranged from 10.9% to 40.1%, with the three self-efficacy variables missing the most. Besides the self-efficacy variables, other variables had missing data ranging from 10.9% to 29.6%. In the literature, there was no cut off proportion of missing cases that would require the variable to be eliminated (Schwab, 2007). Although 40.1% seems to be quite a large amount, considering the importance of the self-efficacy variables to the research questions in this study, these variables were retained in the analysis.

Missing data distribution pattern and the frequency of the distribution pattern were examined. There was not a specific distribution of missing values that occurred frequently enough to cause concern in the analysis. The most frequent missing data distribution pattern occurred to 6.8% of all the cases, which was not frequent enough to cause any concern (Schwab, 2007).

In terms of the type of missing data, it is impossible to know the missing values of the cases that have missing data, the type of missing data can only be an assumption made by researchers (Newsom, 2012). The best way to think of missingness recommended by Graham (2009) was to conceptualize the missingness as a continuum between missing at random (MAR) and missing not at random (MNAR) since data can never be purely MAR. In this study, chi-square tests and t-tests were conducted to diagnose the randomness of missing data. Statistically significant relation was found between being missing or not with the outcome variables (high school graduation status and postsecondary institution enrollment status) in this study. Therefore, the type of missingness in this study could be MAR, instead of missing completely at random (MCAR). The difference between MAR and MCAR is whether or not other variables in

the dataset are associated with whether someone has missing data on a particular variable. Due to the longitudinal nature of the data in this study, it is important to also examine the relation between missing at two different time points. Chi-square test of independence found that missing at time1 was not statistically significantly related with missing at time2 (p=.12). T-tests were also conducted to see if missing groups differed with non-missing groups in other variables. No statistically significant results were found between missing and non-missing groups on other variables. To summarize, the missing data in this study could be conceptualized more as MAR than MNAR.

Given the amount of missing data involved in this study, no imputation techniques were adopted. The literature on methodological approach for dealing with missing data generated a conclusion: when there is a large amount of missing data and even when data are not at least missing at random (MAR), modern missing data approaches (e.g., Full Information Maximum Likelihood, Multiple Imputation) are preferable than traditional techniques (e.g., listwise deletion, mean substitution) (Enders & Bandalos, 2001; Newman, 2003; Newsom, 2012; Schafer & Graham, 2002). Mplus software adopts different missing data treatment methods along with different estimation procedures used. For example, maximum likelihood estimation uses full information maximum likelihood (FIML) and robust weighted least square estimation (WLS) uses pairwise present approach. Specifically, since this study contained categorical data, weighted least square mean- and variance-adjusted (WLSMV) estimation was used in the analysis. WLSMV uses a diagonal weight matrix with standard errors and mean- and variance-adjusted chi-square test statistic (Muthen & Muthen, 1998-2012). Asparouhov and Muthen (2010) did a simulation study that proved the consistency of WLSMV

estimates using pairwise present approach to produce unbiased estimates. Therefore, it is appropriate to use WLSMV with pairwise present approach in Mplus to treat missing data in this study.

Sample Size

The sample size in a path analysis or structural equation modeling study is hard to determine ahead of time due to the lack of necessary information about the strength of the relationships among the variables (Norman & Streiner, 2003). Although there is little consensus on the recommended sample size for SEM (Sivo et al., 2006), a common practice suggested in the literature for sample size in path analysis and SEM is 10 participants for every free parameter estimated (Norman & Streiner; 2003; Schreiber et al., 2006). As shown in Figure 1 to Figure 4, there were 25 free parameters in Model 1 & 2 and 31 free parameters in Model 3 & 4. Therefore, the ideal sample size for this study should be at least 310. So the sample size of the current study (n=469) after filtering out the cases with more than 50% missing data was appropriate to obtain meaningful results.

Weights

In order to compensate for unequal probabilities of selection of schools and students into the sample and to adjust for the fact that not all schools and students selected into the sample actually participated, weighting schemes were used in the ELS: 2002/2006 data. Weights allow researchers to make generalizations to national populations represented by the various samples (NCES, 2008). Three sets of weights are available in the ELS dataset: a school weight, a weight for student questionnaire completion, and a contextual data weight for the expanded sample of questionnaire-eligible and questionnaire-ineligible students. In the current analyses, a student

questionnaire weight (F2BYWT) was chosen to correct for the oversampling so that findings can be generalized to the national level. F2BYWT is a panel weight for data from base year and second follow-up student questionnaires. According to Ingels et al. (2007), it is appropriate to use F2BYWT when researchers are using variables from the base-year, first follow-up and second follow-up data. This decision was also confirmed through consultation provided by the National Center for Educational Statistics about the appropriateness of using F2BYWT as the weight variable.

However, the weight variables provided in the ELS data are raw weights, which made any estimation sensitive to sample size significant because estimates will be based on population size instead of sample size (Hahs-Vaughn, 2005). Two other forms of weights could address this issue: normalized weight and design effect adjusted weight. Normalized weights sum to the actual sample size and address sample size sensitivity issues while still incorporating sample weights (Kaplan & Ferguson, 1999). However, normalized weights only ensure correct estimates under a simple random sample assumption. Therefore, it is not appropriate to use normalized weights in the present study due to the multistage stratified sample design used in the ELS data. In order to compensate for the complex sample design in this study, design effect adjusted weights were calculated using the formula provided by Hahs-Vaughn (2005): normalized weights (raw weight divided by the mean weight) divided by average design effect. The average design effect was 1.9 in the ELS data, which was obtained from the Users' Manual of ELS Data (NCES, 2008).

Measures

The measured variables in this study included educational expectation at time 1 & 2, English self-efficacy at time 1, math self-efficacy at time 1 & 2, high school completion status and postsecondary institution enrollment status. The latent variables in the models of this study included parental expectation at time 1, parental expectation at time 2, and parental involvement at time 1. These variables were considered to be latent factors in this study because they were not measured directly in the ELS data. The native language variable from the ELS dataset was also used in this study to divide ELL students into different language groups in order to compare the differences between groups.

Educational expectation at time 1. Educational expectation was measured first in the base-year survey with the variable "BYSTEXP" (As things stand now, how far in school do you think you will get?) Responses were measured on a 7-point ordinal scale with 1=less than high school graduation, 2=high school graduation or GED only, 3=attend or complete 2-year college/school, 4=attend college or 4-year college incomplete, 5=graduate from college, 6=obtain master's degree or equivalent, 7=obtain Ph.D., M.D., or other advanced degree. As a composite variable, BYSTEXP was taken directly from the ELS data to be used in this study.

Educational expectation has been measured using very similar questions with only some wording differences in previous research, which supported the validity of this measure. Most research that used secondary longitudinal dataset measured educational expectations through a question asking the participants to choose the highest education degree they think they will get (Beal & Crockett, 2010; Cheng & Starks, 2002; Feliciano,

2006; McCarron & Inkelas, 2006; Zhou, 2004), which was identical to how educational expectation was measured in this study.

Educational expectation at time 2. Educational expectation was measured again in the first follow-up of ELS in 2004 with the variable "F1STEXP" (As things stand now, how far in school do you think you will get?) Responses were measured on an eight-point ordinal scale with 1=less than high school graduation, 2=GED or other equivalent only, 3=high school graduation only, 4=attend or complete 2-year college/school, 5=attend college, 4-year degree incomplete, 6=graduate from college, 7=obtain master's degree or equivalent, 8=obtain Ph.D., M.D., or other advanced degree. As a composite variable, F1STEXP was taken directly from the ELS dataset to be used in this study.

Math self-efficacy at time 1. A math self-efficacy scale, math_se1, was created to assess math self-efficacy in the base year using design weights. Based on the guidelines provided by DiStefano, Zhu and Mindrila (2009), a weighted sum score was computed, which was the sum of the products between factor loading of each item and the item score. Using weighted sum score, the effects of the factor loadings of each item were taken into consideration in the scale building process. All the items used to create the scale were included in Appendix. Responses to the items were measured on a four-point Likert-type scale ranging from 1 (almost never) to 4 (almost always). Higher values represented greater self-efficacy in math at time 1. Only those respondents who provided a full set of responses were assigned a scale value. Cronbach's coefficient alpha of this scale in the present study was 0.896, indicating a high level of internal consistency. Previous researchers have used these items to measure math self-efficacy, which supported the validity of this measure (Fan & Williams, 2010; Liu & Koirala, 2009).

Math self-efficacy at time 2. Another math self-efficacy scale, math_se2, was created to assess math self-efficacy in the first follow-up ELS data using design weights. A weighted sum score was obtained when creating this scale in order to take into consideration the effects of each factor loading. Detailed information about the items used to create this scale was included in Appendix. Responses to these items were measured on a four-point Likert-type scale ranging from 1 (almost never) to 4 (almost always). Higher values represented greater self-efficacy in math at time 2. Only those respondents who provided a full set of responses were assigned a scale value. Cronbach's coefficient alpha of this scale was 0.864, indicating a high level of internal consistency.

English self-efficacy at time 1. An English self-efficacy scale, eng_se1, was created using a list of five items to assess English self-efficacy in base year. A weighted sum score was computed through this scale so that the factor loadings could be taken into consideration. The information about the items used to create this scale was included in Appendix. Responses to the items were measured on a four-point Likert-type scale ranging from 1 (almost never) to 4 (almost always). Higher values represented greater self-efficacy in English at time 1. Only the respondents who provided a full set of responses were assigned a scale value. Cronbach's coefficient alpha of this scale was .883, indicating a high level of internal consistency.

In the literature, there were fewer studies of English self-efficacy as compared to other domain areas such as math and science. Previous studies also measured English self-efficacy using task-oriented items that focused on the perceptions of students on specific performance of certain tasks in English subject learning (Dullas, 2010; Phan, 2012), which supported the validity of this measure in the present study.

High school completion status. F2F1HSST in the ELS dataset measures students' high school completion status as of summer 2004. F2F1HSST is a categorical variable and divides the participants into seven groups in terms of their high school education completion status as of summer 2004. The Appendix included more detailed information about this variable. In this study, F2F1HSST was recoded into a different variable "graduate", which included two regrouped categories: High school graduates and students with no high school credentials. Students who received a GED or Certificate of Attendance were not included in this study due to the small number of students in these two categories (less than two percent) in the dataset. The last category "unknown status" was not included in the analysis because there was no way to clarify the exact status of that student.

Previous studies often used high school completion status as a way to describe educational attainment (Barnard, 2004; Boardman, Alexander, Miech, MacMillan & Shanahan, 2012; Mcleod & Kaiser, 2004; Monserud & Elder, 2011; Needham, 2008; Portes & Hao, 2004; Reynolds, Temple & Ou, 2009). A common practice in the literature was to group the participants into two categories: those who graduated and those who did not obtain high school credential.

Postsecondary institution enrollment status. F2EVRATT is a variable in the ELS dataset and it indicates whether the respondent has attended a postsecondary institution ever since high school completion. F2EVRATT is a categorical variable and dichotomizes the sample into two groups based on whether or not they have ever attended a postsecondary institution: Students who have ever enrolled and students who never enrolled. In order to make the variable easier to follow in results presentation and

diagrams, F2EVRATT was renamed to "postsec". More detailed information about this variable was included in Appendix. In previous literature, postsecondary institution enrollment has often been used as an alternative way other than high school graduation status to describe educational attainment (Needham, 2008; Mcleod & Kaiser, 2004; Monserud & Elder, 2011).

Parental expectation at time 1. Parental expectation at time 1, labeled as "Exp1" in Figure 3 & 4, was a latent variable in model 3 & 4 of this study. Two measured variables (BYS65A and BYS65B) from the ELS dataset were used in the models to measure parental expectation at time 1. Responses on these two observed variables were measured on a seven-point ordinal scale. Detailed information on these variables was included in Appendix. Cronbach's coefficient alpha of this scale was .839, indicating a high level of internal consistency.

In general, previous studies measured parents' expectations through questions that centered on their hopes for the highest education level their children could earn (e.g., Gill & Reynoids, 1996; Sciarra & Ambrosino, 2011; Wu & Qi, 2010; Zhang, Haddad, Torres, & Chen, 2010). For those studies that used ELS dataset to investigate parental expectation, the same variables were selected to measure parental expectation as the present study (Sciarra & Ambrosino, 2011), which supported the validity of this measure.

Parental expectation at time 2. Parental expectation at time 2, namely "Exp2", was a latent variable in model 3 & 4 of this study. Two measured variables (F1S43A and F1S43B) from the ELS dataset were used to measure parental expectation at time 2. Responses on these two observed variables were measured on an eight-point ordinally measured scale. Detailed information on these variables was included in Appendix.

Cronbach's coefficient alpha of this scale was .876, indicating a high level of internal consistency.

Parental involvement at time 1. Parental involvement at time 1, namely "Inv1", was a latent variable in model 3 & 4 of this study. Four measured variables (BYP57A, BYP57B, BYP57C, and BYP57D) in the ELS dataset were used to measure the level of parents' engagement in their children's school and home activities. The parents were asked to indicate how often they had done those activities (see Appendix) with their children in the first semester of that school year when the study was conducted. All the items were measured on a four-point scale with 1= "Never," 2= "Rarely," 3= "Sometimes," and 4= "Frequently." Lower scores on this measure represented lower amount of parental involvement in students' academic endeavor. Cronbach's coefficient alpha of this scale was .975, indicating a high level of internal consistency.

In previous literature, researchers commonly considered the construct of "parental involvement" as multidimensional with multiple domains (e.g., Altschul, 2011; Georgiou & Tourva, 2007; Mo & Singh, 2008). Parental involvement has been commonly measured through two dimensions: home-based involvement (e.g., assisting with homework, discussing school-related matters with children and engaging with children in intellectual activities) and school-based involvement (e.g., attendance at school meetings or events, involvement in school organizations, and communication with school personnel). Altschul (2011) emphasized the importance for researchers to differentiate between home-based and school-based involvement and also between parental investment of time and money in their children's education.

A more specific way to measure parental involvement was to look at the construct through different types of activities parents get involved in students' schooling. For example, Altschul (2011) examined six forms of parental involvement in a study aimed at distinguishing which form has the strongest relation with students' academic outcomes. The six forms of parental involvement in Altschul's (2011) study included parental involvement in school organization, discussion of school-related issues between parents and children, parental help with homework, parent and child involvement in enriching activities, educational resources in the home, and allocation of resources to extracurricular instruction. In Mo and Singh's (2008) study, parental involvement has three dimensions: the parent-child relationship, parental involvement in school, and parental aspiration for the child's education. In Gonzalez's (2005) study, parental involvement was measured with three indicators: communication between parents and children, parents' supervision of behavior at home and parents' interaction with school personnel and involvement in school activities. The multidimensional feature and different definitions of parental involvement has led to inconsistencies of research findings in this area (Altschul, 2011). In this study, parental involvement was measured in a way that incorporated school-based and non school-based activities.

Native language. The native language variable (BYHOMLNG) is a categorical variable that gives information on what native language the participants speak. As shown in Table 1, five native languages are spoken by the participants of this study: Spanish, other European language, West/South Asian language, Pacific Asian/Southeast Asian language and other languages.

The last research question in this study focused on comparing two language groups: Spanish speakers and Asian-language speakers. West/South Asian languages and Pacific Asian/Southeast Asian language groups were combined into one Asian language group. Previous literature has supported this practice because Spanish and Asian languages are the two most widely spoken languages among ELL students in the United States (Migration Policy Institute, 2010). Other language groups were not included due to the small sample size available in ELS dataset.

A language identification variable was created to differentiate whether the ELL student was a native Spanish speaker or a native Asian language speaker. The native language variable "BYHOMLNG" was recoded into a language identification variable, with "1" representing ELL students who speak Spanish as native language and "2" representing those who are native Asian language speakers.

Data Analysis

Due to the large number of variables and the large sample included in the ELS dataset, the first step to make the data manageable was to create a usable Statistical Package for the Social Sciences (SPSS) file containing the demographic information, weight variables, and all the measured variables and items that were used to measure the latent factors in this study. SPSS Version 21 was used for data screening, descriptive analysis and creating a clean dataset for later use. Mplus 7.11 was used for path analysis and structural equation modeling (SEM) in this study.

Rationale for using Mplus. A variety of software programs are currently available to conduct SEM: LISREL, EQS, AMOS, R, SAS, Stata and Mplus. Compare with other softwares, Mplus is superior because of its advanced features including getting

direct and indirect effects, doing multilevel and multigroup analysis, handling categorical indicators, doing Bayesian analysis and latent class analysis (Muthen & Muthen, 1998-2012). Considering Mplus' ability to handle missing data and categorical variables at the same time and also use weights in the analysis (Muthen & Muthen, 1998-2012), it is appropriate to use Mplus to analyze the data for the present study. Plus, Mplus has an easy-to-use interface and graphical displays of data and analysis results (Muthen & Muthen, 1998-2012). This study used Mplus 7.11, which was the most updated version of Mplus.

Estimation procedures. As discussed above in missing data section, the estimation procedure used in this study was WLSMV, which adopted a diagonal weight matrix with standard errors and mean- and variance- adjusted chi-square test statistic that used a full weight matrix. The rationale for choosing WLSMV as the estimator was that the dependent variables in this study were binary categorical variables. Muthen and Muthen (1998-2012) suggested using WLSMV as the estimator when there is at least one binary or ordered categorical dependent variable. Besides, WLSMV estimation treated missing data using pairwise present approach, which was proved by simulation studies to produce consistent unbiased estimates (Asparouhov & Muthen, 2010). Therefore, in this study WLSMV was adopted in the analysis to deal with the categorical nature of dependent variables.

Mode fit indices and criteria. Assessing model fit requires the examination of several fit indices in conjunction. There are three types of fit indices that should be examined: absolute, parsimonious and incremental (Hu & Bentler, 1998; 1999). Absolute fit indices indicate how well the model-implied covariances match the observed

covariances. Parsimonious fit indices are similar in nature to absolute fit indices, but they take model complexity into account. Incremental fit indices compare the fit of the specified model to a baseline model. Based on the recommendations from Hu and Bentler (1998; 1999), the Standardized Root Mean Square (SRMR), the Root Mean Square Error of Approximation (RMSEA) and the Comparative Fit Index (CFI) were used to assess absolute, parsimonious and incremental model fit, respectively. Traditionally the chi-square significance test has been a favorable absolute fit index because it allows for significance testing. For this reason it was also used to evaluate model fit in the current study. Besides, Mplus7.11 provides weighted root mean square residual (WRMR), which is suitable with non-normal data. With categorical outcomes, WRMR is available using diagonally weighted least squares estimator, such as WSLMV and WSLM (Muthen, 1998-2004). Therefore, WRMR was also reported in this study. For models with categorical outcomes, SRMR was not provided in Mplus (Muthen, 2002).

To examine model fit, generally researchers need to look at a series of model fit indices to determine if the model fits the data well. The chi-square value is the traditional measure for overall model fit and a good fit would provide an insignificant result at 0.05 threshold (Hooper, Coughlan, & Mullen, 2008). The combination threshold for concluding a relatively good fit between the hypothesized model and the observed data was based on the following indicators: CFI greater than or equal to .95, SRMR less than .08, and RMSEA less or equal to .06 (Hu & Bentler, 1999). Muthen (1998-2004) suggested the cutoff value for WRMR be less than .90. Detailed information about the cutoff values for model fit indices was included in Table 3.

Data Analysis Procedure

Data analytic procedures were described below for each research question:

1. How do Educational Expectation at Time 1, Educational Expectation at Time 2, Math Self-Efficacy at Time 1, Math Self-Efficacy at Time 2, and English Self-Efficacy at Time 1 Influence the High School Graduation of ELL Students? (Model 1)

Model 1(see Figure1) was tested to answer this research question. The endogenous variable in this model was "graduate", a categorical variable that grouped students based on the status of their high school completion (graduates vs. no credential). The exogenous variables in Model 1 included how_far1, math_se1, and eng_se1, which were all continuously measured. The endogenous variables in Model 1 included how_far2, math_se2 and graduate.

Path analysis was conducted using Mplus 7.11 (Muthén & Muthén, 2012). Alpha level was set to be .05 in path analysis. The following model fit indices were used to evaluate the model fit: chi-square statistics, RMSEA, RMSEA 90% Confidence Intervals (CI), CFI and WRMR.

2. How do Educational Expectation at Time 1, Educational Expectation at Time 2, Math Self-Efficacy at Time 1, Math Self-Efficacy at Time 2, and English Self-Efficacy at Time 1 Influence Postsecondary Institution Enrollment of ELL Students? (Model 2)

Model 2 (see Figure2), was tested to answer this research question. The endogenous variable "postsec" is a binary variable that measures students' postsecondary institution enrollment status (enrolled vs. never enrolled). The exogenous variables in

Model 1 included how_far1, math_se1, and eng_se1, which were all continuously measured. The endogenous variables in Model 1 included how_far2, math_se2 and postsec.

Path analysis was conducted using Mplus 7.11 (Muthén & Muthén, 2012). Alpha level .05 was used in path analysis. The following model fit indices were used to evaluate the model fit: chi-square statistics, RMSEA, RMSEA 90% CI, CFI and WRMR.

3. How do Parental Expectation at Time 1, Parental Expectation at Time 2, and Parental Involvement at Time 1 Influence the High School Graduation of ELL students? (Model 3)

Model 3 was tested to answer this research question. As shown in Figure 3, Model 3 depicted the association between parental factors including parental expectation at time 1 (Exp1), parental expectation at time 2 (Exp2), parental involvement at time 1 (Inv1) and ELL students' high school completion status: "graduate". A two-step procedure was followed to answer this research question: In step1, confirmatory factor analysis (CFA) was conducted and in step2 structural equation modeling (SEM) was conducted. Parental expectation was measured with two items: (1) mother's expectation and (2) father's expectation in both the base year and the first follow-up data collection. Parental involvement was measured with four items that asked parents how often they get involved in different activities with their children. The Appendix listed the detailed information about all the items used to measure different latent factors. Parental involvement items were only available in the base-year data.

Alpha level .05 was used in both the CFA and SEM analysis. The following model fit indices were used to evaluate the model fit for the measurement model in

Step1: chi-square statistics, RMSEA, RMSEA 90% CI, SRMR, and CFI. For the SEM model in step 2, chi-square statistics, RMSEA, RMSEA 90% CI, WRMR and CFI were provided.

4. How do Parental Expectation at Time 1, Parental Expectation at Time 2, and Parental Involvement at Time 1 Influence Postsecondary Institution Enrollment of ELL Students? (Model 4)

Model 4 was tested to answer this research question. As shown in Figure 4, Model 4 depicted the association between parental factors and ELL students' postsecondary institution enrollment status: "postsec". Model 4 contained the same variables as Model 3 except for the criterion variable in Model4: "postsec". The analysis followed the same procedures as described in Research Question 3.

5. How do the Model Fit, Factor Loadings and Path Coefficients in the Four Models Differ Between Native Spanish Speakers and Asian Language Speakers?

A descriptive analysis was conducted to detect the sample size of each language group of ELL students. Detailed information could be located in Table 1. Previous literature indicated that Spanish and Asian languages were the two most widely spoken languages among ELL students in the U.S. (Migration Policy Institute, 2010). Therefore, only two language groups (Spanish-speaking and Asian-language-speaking ELL students) were included in the analysis. Other categories in the language variable ("other European language" and "other languages") were not included because there was no specific information regarding to which languages were included in those categories. A language identification variable was created before running the comparison analysis to answer this research question. The four models were tested in Mplus 7.11 using two

subsamples drawn from the dataset (Spanish speaker sample and Asian-language speaker sample) to examine the differences between the two language groups in terms of model fit, factor loadings and path coefficients.

Procedures

In the base-year data collection, the following instruments were administered: cognitive tests on Math and English, parent survey, teacher survey, administer survey, librarian/media center survey, and facilities list. The instruments that were administered in the first follow-up of the ELS included cognitive test of students on math, student questionnaire, questionnaire for new students, transferred students, homeschooled students, dropouts and early graduates, and questionnaire for school administrators. The second follow-up data collection occurred two years after scheduled high school graduation. The data collection in the second follow-up was accomplished through computer-assisted telephone interview (CATI) (NCES, 2004)

The base-year data was collected in 2002 when the sample members were in 10^{th} grade. The first follow-up survey was conducted in 2004 when most of the sample members were in their senior year, with the rest of the sample in other grade levels, dropped out or completed high school early (NCES, 2004).

The second follow-up of ELS occurred in 2006, when the majority of the sample enrolled in college, while others were employed. Some of the students who dropped out of high school had earned a General Education Development (GED) or were working on a GED (NCES, 2004).

Summary

In this chapter, a detailed description of the dataset used, participants in the present study, measures, data analysis plan and procedure were provided. The dataset used in this study was a secondary data, which allowed researchers to obtain generalizable results using a nationally representative sample. However, using secondary data also posed limitations to this study, which were further discussed in Chapter 5.

Chapter 4: Results

Introduction

This study was designed to examine whether there is a relationship between individual psychological factors and parental factors and educational attainment. Subjects were selected from the Educational Longitudinal Study (ELS), a nationally representative sample collected in 2002 and 2006. The outcomes of interest were whether students graduated from high school and whether they attended a postsecondary institution. The psychological factors being tested in the present study included English and math self-efficacy (i.e., the student's perceived ability to learn English and Math) and educational expectation (i.e., how far the student thinks s/he will get in school). Parental factors being tested were parental expectation (i.e., how far the parent wants their child to go in school) and parental involvement in their child's education. Mplus7.11 was used to analyze the data in this study.

Preliminary Analysis

SPSS V21 (IBM Corp, 2012) was used for data screening, creating the group identification variable and language variable, as well as descriptive statistic analysis. The following paragraphs included the detailed information on those topics.

Data screening. Before any analysis was conducted, data was screened for linearity, outliers, normality, homoscedasticity, and multicollinearity. First, since the dependent variables in this study were all categorical, the relationship between independent variables and dependent variables could not be linear. Second, univariate outliers were checked by examining z scores of all the independent variables. The absolute values of z scores were all less than three, which indicated that there were no

univariate outliers. Third, mahalanobis distance and the probabilities associated with it were computed in order to detect multivariate outliers. No cases were found to be multivariate outliers since all the probabilities associated were bigger than .001 (Schwab, 2013). Fourth, due to the categorical nature of dependent variables, data in this study was not normally distributed. Fifth, homoscedasticity was examined through scatterplot of residuals and the predicted values. Data in this study was found to be homoscedastic since the variance of the residuals were pretty similar across levels of the predicted values in the scatterplots. Sixth, multicollinearity was assessed through Variance Inflation Factor (VIF) and Tolerance statistics. As shown in Table 2, all Tolerance and VIF statistics were within acceptable range as indicated by Kline (2011) standards (Tolerance >.10, VIF< 10), indicating that multicollinearity was not problematic for this study.

Descriptive statistics. The sample size, mean, standard deviation, VIF, Tolerance, skewness, kurtosis, and missing data amount for exogenous variables and frequency, percentage and missing data amount for endogenous variables were reported in Table 3. Detailed information on the items that were used to measure operational variables was listed in Appendix.

Model Analysis Results

Model 1. As shown in Table 3, fit indices of Model 1 suggested that the model fit the data very well, χ^2 (1) = 1.08, p=0.299, RMSEA=0.013 (95% CI [0.000, 0.124]), CFI=0.990 and WRMR=0.161. Figure 1 contained the standardized and unstandardized path coefficients of the model.

As Figure1 showed, how far the student thought they would get in school at time 1 (how_far1) had a statistically significant coefficient to how far the student thought they

would get at time 2 (how_far2). The path from how_far2 to whether the student graduated with a high school degree (graduate) was statistically significant. As shown in Table 9, there was a statistically significant indirect effect from how_far1 to graduate through how_far2. Math-self efficacy at time 1 (math_se1) showed a significant path to math self-efficacy at time 2 (math_se2). However, no statistically significant path was found from how_far1, eng_se1, math_se1 or math_se2 to graduate. As shown in Table 4, statistically significant covariances were found between how_far1 and math_se1, how_far1 and eng_se1, how_far1 and math_se2, math_se1 and how_far2, eng_se1 and math_se2.

Model 2. As shown in Table 3, fit indices of Model 2 suggested that the model fit the data very well, χ^2 (1) = 1.08, p=0.299, RMSEA=0.013 (95% CI [0.000, 0.124]), CFI=0.990 and WRMR=0.161. Figure 2 contained the standardized and unstandardized path coefficients of the model. As shown in Figure 2, the only statistically significant paths were detected from how_far1 to how_far2, from math_se1 to math_se2, and from how_far2 to whether students ever attended postsecondary institutions (postsec). As can be seen in Table 9, there was a statistically significant indirect effect from how_far1 to postsec through how_far2. As shown in Table5, all the covariance was statistically significant except for the ones between math_se1 and eng_se 1, as well as between eng_se1 and how_far2.

Model 3. Parental factors included both parental involvement and parental expectations. Parental involvement was measured by four items: how often parents attended school activities, worked on homework or school projects, attended concerts/movies/plays, and attended sports events with the students. Parental expectation

was measured by two variables: how far mother and father wanted their child to go in school. Parental expectation was measured at two time points. The outcome of interest was a variable that measured whether the student graduated from high school or got high school credential.

Two-step approach was adopted in the analysis for Model 3. As shown in Table 3, the measurement model in Model 3 fits the data very well, χ^2 (25) = 27.885, p=0.313, RMSEA=0.016 (95% CI [0.000, 0.041]), CFI=0.995 and SRMR=0.037. The structural model also fits the data very well, χ^2 (22) = 26.743, p=0.221, RMSEA=0.021 (95% CI [0.000, 0.046]), CFI=0.961 and WRMR=0.537. Figure 3 depicted the structural model and contained the standardized and unstandardized structural coefficients of the model. Statistically significant structural paths were found from parental expectation at time 1 (Exp1) to parental expectation at time 2 (Exp2), from Exp1 to graduate and from parental involvement (Inv1) to graduate. Table 6 presented the standardized and unstandardized estimates of measurement parameters in Model 3. All the items were statistically significantly loaded on the factors they were supposed to measure. The covariance between Exp1 and Inv1 or between Exp2 and Inv1 was not statistically significant. There was no statistically significant indirect effect found from Exp1 to graduate through Exp2.

Model 4. Two steps were also used in the analysis for Model4. Model 4 shared the same measurement model as Model3; therefore, the model fit statistics for measurement model in Model4 were the same as Model3. Figure4 illustrated the structural model and contained the standardized and unstandardized structural coefficients of the model. As shown in Figure4, statistically significant structural paths were found from parental expectation at time 1(Exp1) to parental expectation at time2

(Exp2), from Exp1 to postsecondary enrollment (postsec), and from parental involvement (Inv1) to postsec. Table7 included the standardized and unstandardized estimates of measurement parameters in Model 4. All the items were statistically significantly loaded on the factor they were supposed to measure. The covariance among the latent factors in this model (Exp1 with Inv1, Exp2 with Inv1) was not statistically significant. There was no statistically significant indirect effect found from Exp1 to graduate through Exp2.

Language Group Comparison

The four models examining the relation between individual psychological factors, parental factors, and ELL students' high school graduation and postsecondary institution enrollment (illustrated in Figures 1-4) were analyzed comparing native Spanish speakers with native Asian-language speakers. Language group identification variable was created using the native language variable BYHOMLNG form the ELS dataset. Model fit statistics (see Table8) were obtained for both Spanish and Asian language group using each language group as the subsample when conducting SEM analysis. Table 10 included the parameter estimates in all four models for both language groups.

Model 1 & 2. Model 1 and 2 depicted the relation between the individual psychological factors and educational attainment. As Table 8 showed, Model 1 and 2 fit the data well for Asian language group but not for Spanish group. Therefore, only the parameter estimates for Asian language group were presented in this study. As shown in Table 10, two statistically significant paths were detected in Model 1 & 2 for Asian language speakers: how_far1 to how_far2 and math_se1 to math_se2. Statistically significant covariance was found in both models for Asian language speakers between

how_far1 and math_se1, as well as between eng_se1 and math_se1. The r^2 for Asian language speakers was 0.196 in Model1 and 0.369 in Model2.

Model 3 & 4. Model 3 and 4 examined the relation between parental involvement and parental expectations on educational attainment. Both models were analyzed comparing native Spanish speakers to native Asian language speakers. As shown in Table 8, the model fit statistics indicated that both models fit the data well for Spanish speakers and Asian-language speakers. As of note, the CFI in Model4 was slightly lower than the desired cut-off value of .95 proposed by Hu and Bentler (1998, 1999) for only the Spanish group. Because fit indices all measure different types of comparisons, it is important to consider them in conjunction. Thus the acceptable fit of the RMSEA, chi-square statistics, and WRMR of Model 4 for Spanish group indicated that the model reproduced the covariance between the observed variables well, while the slightly lower than desired CFI value indicated that the model was not substantially better than a null model. The r^2 for Spanish group is 0.446 in Model 3 and 0.327 in Model 4. The r^2 for Asian group is 0.103 in Model 3 and 0.104 in Model 4.

In Model 3, statistically significantly structural paths were found from Exp1 to graduate and from Inv1 to graduate for Spanish speakers, while for Asian language speakers, only one statistically significant structural path was detected: Exp1 to Exp2. As for the measurement loadings in Model 3, Spanish group had all the items statistically significantly loaded on the latent factors except for the loading of father's expectation at time 2 (Fath2) on parental expectation at time 2 (Exp2). For Asian language speakers, all the items loaded statistically significantly on the latent factors they were supposed to measure except for two items measuring parental involvement at time 1 (Inv1): InvB

(worked on homework/school projects together) and InvC (attended concernts/plays/movies together). None of the covariance in Model 3 was statistically significant for neither language groups.

In Model 4, statistically significant structural paths were found from Inv1 to postsec for Spanish group and from Exp1 to Exp2 for Asian group. The measurement loadings in Model 4 shared the same findings as Model 3 for both groups since the measurement model was identical in both models. Interestingly, in Model 4 Asian group had a statistically significant covariance found between Exp1 and Inv1.

Validity and Reliability of Latent Factors

The quality of the latent factors was assessed via two types of measures for validity and one type of measure for reliability. Table 6 and 7 contained the standardized and unstandardized loadings for the measurement portion of the models. All measured variables were statistically significantly loaded on the latent factors they were supposed to measure. There were no statistically significant cross-loadings for measured variables, indicating that the measured variables were reflective of only the factors they were intended to measure. Validity was examined further by calculating the percent of variance extracted (the average squared standardized loading for a factor's indicators) for each latent variables in the model (Hancock & Mueller, 2010). For Model 3, the percent of variance extracted for each latent factor was 0.775, 1.213, and 0.937 for Exp1, Exp2, and Inv1, respectively. In Model 4, the percent of variance extracted for each latent factor was 0.766, 0.593 and 0.957, for Exp1, Exp2 and Inv1, respectively. These were all considered to be acceptable values (target values should be around .50 and above) indicating adequate validity for the factors (Hancock & Mueller, 2010).

Reliability was examined by calculating Coefficient H (Hancock & Mueller, 2010) for all the latent variables. Coefficient H is an estimate of how the factor is expected to correlate with itself overtime (Mueller & Hancock, 2010). Values above .70 are desirable in order to establish the stability of each latent factor (Hancock & Mueller, 2010). In Model 3, Coefficient H values for Exp1, Exp2 and Inv1 were 0.876, 0.789, and 0.760, respectively. In Model 4, Coefficient H values for Exp1, Exp2 and Inv1 were 0.867, 0.745, and 0.743, respectively. These Coefficient H values for both Model 3 and 4 indicated that the factors for the current study were expected to be stable.

Chapter 5: Discussion

Introduction

The goal of this research was to examine the impact of students' educational expectation, academic self-efficacy on math and English, parental expectation and parental involvement on English Language Learners' educational attainment in high school. This chapter elaborates on the results presented in the previous chapter by first discussing the findings in relation to each research question. These findings are explained in relation to the theoretical framework and previous literature as well as how this research contributed to the current literature. Next, limitations of this research and suggestions for future research are provided. Finally, implications of the research findings in relation to educational policy for the ELL population are provided.

Given the large and growing percentage of the ELL population in U.S. schools, the status of ELL students' high school completion and postsecondary institution enrollment is cause for concern. (American Youth Policy Forum, 2009; NEA, 2008). ELL students are more likely to achieve at a lower level in core subjects compared with native English speakers (Abedi, 2002; Garcia et al., 2012; NEA, 2008) and therefore they experience more difficulties to pass required exams to graduate from high school (Flores, Batalova, & Fix, 2012; Xiong & Zhou, 2006). Research on educational attainment for this population is imperative in order to better understand how educators can serve these students and promote positive educational outcomes and attainment levels for ELL students (Kanno & Cromley, 2010). However, very few studies have been devoted specifically to ELL students' attainment and its association with psychological and parental factors. This study focused specifically on the impact of students' expectation,

academic self-efficacy, parental expectation and parental involvement on educational attainment of ELL students at the high school level, which added to the existing literature on the achievement and attainment gaps experienced by the ELL population. An embedded purpose of this study is to respond to the appeal expressed by scholars in the field to redirect studies of high school dropouts toward studying protective factors in the form of school completion and enrollment in postsecondary institutions, with a specific target of ELL population. Another contribution of this study is that it used nationally representative longitudinal data so that results can be used to inform educators working with ELL students across the United States.

Results from Model 1 and Model 2

In contrast with the vast bulk of literature on educational attainment among general student populations, very few studies could be retrieved that specifically focused on ELL students. Previous literature on ELL students' educational attainment focused primarily on examining the influence of demographic factors (e.g., socioeconomic status, ethnicity, gender, length of residence in the U.S., and first language spoken) (Sekar, 2009) and academic factors (past academic performance, language proficiency level, length of ESL program enrollment) (American Institute for Research & WestEd, 2009; Callahan et al., 2009; Guglielmi 2008; Kieffer, 2009). The models in this study were developed based on the Wisconsin Model of Status Attainment (Sewell et al., 1969), which incorporated social psychological variables into the process of status attainment and emphasized students' aspirations and the influence from the significant others (such as parents and teachers). The analysis of Model 1 and 2 in the present study filled the research gap by investigating the influence of educational expectation and academic self-

efficacy of math and English on high school completion and postsecondary institution enrollment status.

Educational expectation. The results from Model1 and 2 showed that students' educational expectation at time 2 statistically significantly predicted ELL students' high school graduation status and postsecondary institution enrollment, indicating that students with a higher expectation at time 2 might also have a higher possibility to graduate from high school and enroll in postsecondary institution. Students' educational expectation at time 1 had a statistically significant indirect effect on both high school graduation and postsecondary enrollment status, indicating higher expectation at time 1 indirectly associated with higher chance to graduate from high school and enroll in postsecondary institution. The literature consistently supported that educational expectation is an important predictor of educational attainment for general student population (Cabrera & LaNasa, 2001; Jessor, Turbin, & Costa, 1998; Mello, Anton-Stang, Monaghan, Roberts, & Worrell, 2012; Museus, Harper, & Nichols, 2010; Sirin & Rogers-Sirin, 2005; Sciarra & Ambrosino, 2011; Worrell & Hale, 2001). The findings about the first two models in this study about educational expectation and attainment for ELL students were consistent with prior research using general student population as their samples.

The reason behind the insignificant finding regarding the direct effect of expectation on high school graduation or postsecondary enrollment might be related with other factors that could possibly interfere with the association in between the two time points (10^{th} grade and after high school graduation), for example, cognitive abilities (Ganzach, 2000), participation in extracurricular activities (Beal & Crockett, 2010),

teachers' expectations and qualifications, school and neighborhood contexts, peer influence. Unfortunately it is beyond this study's scope to investigate these factors.

Academic self-efficacy on math and English. Results from this study found a statistically significant negative association between math self-efficacy at time 1 and time 2, indicating that students who had a higher self-efficacy in math at 10th grade were likely to have a lower self-efficacy in math when they get to their senior year in high school. This finding was not surprising since previous literature found that academic self-efficacy could change over time as students gain more experience in their learning process (Schunk & Pajares, 2001). It could be the variety of learning experience students had in between the two time points that helped to shape students' self perception on their math ability. This finding is important because it confirmed the previous literature regarding the instability of math self-efficacy.

Academic self-efficacy is a factor that has been commonly examined in relation with academic performance and achievement (Hsieh, Sullivan, & Guerra, 2007; Suphi & Yaratan, 2012; Zimmerman, Bandura, & Martinez-Pons, 1992). However, no previous study has focused specifically on examining the predictive power of ELL students' math and English self-efficacy on educational attainment. Although no statistically significant findings were found regarding math and English self-efficacy in relation with students' educational attainment, this study did contribute to the literature by providing some preliminary results on this issue. The insignificant finding could be due to the fact that the models examined in this study did not capture other factors that might have significant impacts on college enrollment regardless of ELL status, including participation in

college-ready courses (e.g., IB, AP, trigonometry) and participation in dual-credit programs with local postsecondary institutions (Flores et al., 2012).

Results from Model 3 and Model 4

Parental expectation and parental involvement are among the most commonly studied constructs in relation to students' academic performance and attainment (Englund et al., 2004; Froiland, Peterson, & Davison, 2013). This study incorporated parental factors based on the Wisconsin Model of Status Attainment (Sewell et al., 1969) and Social Capital Theory of Educational Attainment (Bourdieu, 1974). Both these theories laid the basic foundations for studying educational attainment and emphasized the role of significant others (i.e., parents and teachers) in the attainment pathway. The literature supported that parental expectation positively correlated with students' academic outcomes. For example, Glick and White (2004) found students whose parents held high expectations for them were more likely to graduate high school and continue to enroll in college.

The measurement model. As for the measurement results of Model 3 and Model 4, all the items were found to be statistically significantly loaded on the latent factors they were supposed to measure. This finding was supported by previous studies because parental expectation and parental involvement have been commonly measured in similar ways in the literature (Altschul, 2011; Sciarra & Amrosino, 2011; Zhang et al., 2010).

The structural model. Results from structural equation modeling showed that parental expectation at time 1 statistically significantly predicted parental expectation at time 2, as well as ELL students' high school completion status and postsecondary institution enrollment status. This result indicated that students with a higher parental

expectation at time 1 were likely to hold a higher parental expectation at time 2, more likely to graduate from high school and enroll in postsecondary institutions. Parental expectation made an impact on students' education attainment through multiple pathways (Child Trends, 2012): parent-child relationship (Moore, Whitney, & Kinukawa, 2009), parent-child communication (Singh et al., 1995), child attitudes towards school (Astone & McLanahan, 1991), child's own aspiration and expectation (Child Trends, 2012). Therefore, it could be expected that parents who hold a higher expectation of their children's attainment are more likely to provide support needed by the students to excel in school, which will foster the academic learning and subsequent attainment levels. This finding is important because no study has been conducted to test the relation between parental expectation and attainment for ELL population. This study filled the research gap by providing preliminary results that confirmed the association between parental expectation and attainment for ELL population.

Parental expectation at time 2 was not statistically significantly predictive of neither students' high school graduation nor postsecondary enrollment. This finding could be explained by the possibility that parents who hold a higher expectation may not have enough time to make any significant enough impact on their children's education because parental expectation at time 2 was measured when most of the participants were already in their senior year in high school. Therefore, parents might not have the chance to exert much positive influence on their children's academic outcomes despite their high expectations.

Another parental factor examined in this study was parental involvement at time 1, which was found to be statistically significantly predictive of both high school

graduation and postsecondary enrollment of ELL students. Previous literature consistently found parental participation served a critical role in students' educational attainment and academic success (Anguiano, 2004; Chavkin & Williams, 1993; Delgado-Gaitan, 1992; Epstein, 1995), no matter whether parental involvement is enacted for proactive or reactive reasons. This study confirmed the findings from previous literature and also made a contribution by providing preliminary results with ELL population.

Language Group Comparison Results

ELL population is a diverse and heterogeneous group in terms of native languages spoken (National Council of Teachers of English, 2008). Among the 150 languages spoken by ELL students in the United States, Spanish and Asian languages are the most widely spoken ones (Migration Policy Institute, 2010). The Social Capital Theory of Educational Attainment (Bourdieu, 1974) provided a theoretical foundation for this study to examine the differences among language groups because Bourdieu emphasized linguistic competence and its link to attaining social status. Previous literature supported the important role that native language plays in the academic development of ELL students (Guglielmi, 2008). However, there is not much literature that could be retrieved focusing on comparing language groups among ELL students in terms of their educational attainment and associated factors.

The last research question in this study addressed this research gap by asking, "How do the model fit, factor loadings and path coefficients in the four models differ between native Spanish speakers and Asian-language speakers?" Before discussing the findings from this research question, it is important to point out that the sample size in each language group is quite small, which might have caused biases in the group

comparison analysis. Therefore, readers need to use caution when interpreting these findings.

The results of group comparison analysis indicated three most salient findings in relation to the differences between the two main language groups: (1) Model 1 and 2 fit Asian-language speakers well but not for Spanish speakers. (2) Although Model 3 and 4 fit both Spanish and Asian-language speakers, the models explained much more variances in the outcome variables for Spanish speakers (r^2 =0.446 and 0.327 in Model 3 and 4, respectively) than Asian-language speakers (r^2 =0.103 and 0.104 in Model 3 and 4, respectively). (3) For Spanish speakers, parental expectation at time 1 predicted high school graduation status and parental involvement at time 1 predicted both high school graduation and postsecondary enrollment. For Asian-language speakers, parental expectation at two time points were statistically significantly associated with each other, while no other statistically significant path was found.

The findings regarding to the differences between Spanish and Asian-language speakers in this study were consistent with the Social Capital Theory of Educational Attainment (Bourdieu, 1974). The differences found in this study regarding the model fit and path coefficients could be related with several major characteristics about these two ethnic groups. First, Asian-language and Spanish speakers shared different trends in high school graduation and postsecondary enrollment. In a report published by the U.S. Department of Education about first and second-generation immigrant students, first-generation Hispanic immigrants graduated from high school with a higher GED rate than Asians; while second-generation Hispanic students had a lower rate in obtaining a high school diploma than Asians (Staklls & Horn, 2012). Hispanic and Asian American

students shared very similar percentages among the first-generation who enrolled in postsecondary institutions, while Asian Americans had a much higher rate than Hispanics among second-generation to enroll in postsecondary institutions (Staklls & Horn, 2012). Among all minority groups, foreign-born Hispanics had the lowest high school graduation rates (48%) (Ryan & Siebens, 2012).

As for the finding about the first two models only fitting for Asian-language speakers but not Spanish speakers, one way to interpret it was to consider that Asian-language speakers might contribute their academic success more to their individual psychological factors rather than external factors, such as parents, teachers, and peers (Tang, 2004). Therefore the first two models in this study containing different factors associated with students themselves might do a better job explaining the variances in educational attainment of Asian-language speakers than Spanish speakers.

In regard to the findings about the relation between parental factors and attainment among Spanish speakers, it is important to take into consideration Hispanic parents' perceptions of parental influence on academic success. Hispanic parents believed that participation in their children's education equated involvement in their lives and the more parents got involved in their children's lives the greater academic learning opportunities their children might get (Zarate, 2007). This perception might help differentiate Hispanic parents from Asian parents in terms of the way they get involved in children's education and the impact parents have on educational attainment. Besides, this study found statistically significant structural paths between parental involvement and attainment only among Spanish speakers but not Asian-language speakers. One explanation regarding this finding could be that since most Asian American students had

higher academic achievement, higher educational attainment and better college plans, parental involvement might become less important (Tang, 2004). It is beyond this study's scope to examine the mechanisms associated with the cultural influence of parental factors on students' educational attainment.

Lastly, only Asian-language speakers' parental expectation at two time points were found to be statistically significantly associated with each other, indicating that Asian-language speakers' parents seemed to hold more stable expectations than those of Spanish speakers. Previous literature has identified that differences do exist among ethnic groups in terms of parental expectation. However, it is not clear regarding parental expectation's change over time and the differences between Asian and Hispanic parents' changes in their expectation for children's education. What we do know from the literature about parental expectation among ethnic groups is that Asian parents hold higher expectations for their children's educational attainment compared with other ethnic groups (Spera, Wentzel, & Matto, 2009).

The insignificant prediction from Hispanic parents' expectation at time 1 to time 2 may be related with specific cultural differences between Hispanic parents and Asian parents (Cakiroglu, 2004), e.g., values in education, family obligations, or other external influence, etc. To be specific, Asian and Hispanic families often immigrate to the U.S. with the goal of providing their children with better opportunities such as higher education. Students from these immigrant families tend to place more value on the importance of education and going to college than their equally achieving peers from non-immigrant families (Fuligni, 2011). The sample of this study was a combination of new immigrants and first-and second-generation immigrants. There might exist a variety

of factors that correlate with parental expectation and changes over time. There is still a need for research to specifically examine the development of parental expectation and the predictors of changes in parental expectation. Unfortunately, it is beyond the scope of this study to address this research need and to find out the causes behind the differences between Hispanic and Asian parents in terms of their expectations for their children's education.

Limitations

The primary limitation to this study was related to how to describe educational attainment of English Language Learners in high schools. This study used high school completion and postsecondary institution enrollment status as indicators for educational attainment, which were the only available indicators included in the ELS: 2002/2006 dataset. There exist other possible ways to describe educational attainment, such as postsecondary institution completion and highest degree earned. Using secondary dataset limits the researchers' freedom of choosing the desirable way to measure the constructs in their studies. Also, among the different levels of high school completion status, the present study only included students who graduated with diploma and those who got no credentials due to the small cell size in other categories, i.e., GED and Certificate of Attendance. Historically, GED credential was treated as a high school degree in many public surveys published by the U.S. Census Bureau (i.e., the Current Population Survey, the American Community Survey, and the Survey of Income and Program Participation) (Crissey & Bauman, 2012). However, there has been increasing debate going on about the inclusion of alternative credentials in the calculation of high school graduation within both academic and federal statistical communities (Crissey & Bauman, 2012) because the

equivalency degrees are not truly equivalent in terms of its value for labor market and future educational attainment (Clark & Jaeger, 2006; Heckman & LaFontaine, 2010). Therefore, this study did not combine equivalency credential recipients together with diploma recipients. Researchers who are particularly interested in ELL students with alternative high school credentials may want to collect their own data for their specific purposes.

The next limitation is in regard to the representativeness of the sample in this study. Although many researchers tried to define ELL in the literature, there is still a lack of consensus on ELL definition (Hopstock, 2008). This study defined ELL students as those who have ever been in an English learning program and whose native language is not English. There exist other alternative ways to define ELL population, which might yield different sample size of the study and different results as well. Besides, this study used "ever-ELL status" as a measure to select the ELL sample. However, how long the students stayed in the ESL program was found to hinder access to core curriculum learning and impede the attainment of language proficiency (AIR & WestEd, 2009). Therefore, the fact that this study did not take into consideration the length of ELL program enrollment might cause some bias in the results.

Besides the length of stay in the language program, another factor that might have biased the results of this study is the sampling process of ELL students. The sample in this study is limited to only the ELL students whose English proficiency level was considered eligible by the school staff to participate. Also, the sample in the ELS: 2002/2006 data does not include the students who dropped out of high school before 10th grade. So all these issues might limit the representativeness of the sample in this study.

Additionally, this study treated Asian language speakers as one group when compared to Spanish speakers. However, Asian language speakers are such a diverse group in terms of language, academic performance, and cultural background. This study did not capture the within-group differences among Asian language subgroups. Future research could carry this research one step further by dividing Asian-language speakers into more specific language groups such as Chinese speakers, Korean speakers and Vietnamese speakers, etc. Also, the sample size of each language group included in this study was quite small. Readers should use caution when interpreting the group comparison results. Larger sample size is necessary in future studies aiming to compare the models tested in this study among language groups.

Besides, social economic status (SES) was not included in the models of the present study. Future studies might want to incorporate SES into the models and examine the role of SES in the relation between the predictors and educational attainment.

Finally, this study primarily examined only four factors (i.e., educational expectation, academic self-efficacy, parental expectation and parental involvement) in relation to ELL students' educational attainment in two separate models. However, there might exist other factors that could possible explain ELL students' educational attainment, for example, cultural factors (i.e., immigration status, adjustment level, family value influence), school factors (i.e., school learning environment, expectations, resources) and neighborhood factors (i.e., poverty, drug use, crime rate).

Educational Policy Implications

Considering the fast growing ELL population in the United States and the importance of serving this population, more empirical research at the national level is

needed (Kanno & Cromley, 2010; Shi & Steen, 2010; Shi & Steen, 2012). This study contributes to the literature of English Language Learners by filling the research gap on ELL students' educational attainment and its predictors using longitudinal data (Hopstock, 2003). The findings from this research have implications for educational policies on serving ELL students in the following ways.

First, this study showed significant impact from ELL students' expectation on their high school graduation status as well as postsecondary institution enrollment. This result provided implications to educational policy in regard to the importance of fostering student's expectations of academic attainment. Previous literature has identified the pathways through which educational expectations could be impacted. For example, Jacob and Wilder (2010) presented a very comprehensive framework of the factors that were found to be associated with educational expectation: individual (ability, achievement, attention, behavior, motivation), family (SES, parental education, marital status, household composition), neighborhood (role models, peers), school (quality program, peers, teachers) and costs (college tuition, returns to college degree). Thus, educational policies could try to address these factors that might potentially influence students' expectation. Some of the factors mentioned above are relatively difficult to manipulate, such as family factors, costs, individual ability. However, policy makers and educational professionals could direct their effort to those factors that can be manipulated. To illustrate, since students' achievement and expectation impacted each other reciprocally (Jacob & Wilder, 2010), in order to boost ELL students' expectation, it is important that the assessment methods designed for ELL population are appropriate in terms of

language difficulties and accommodations provided by schools so that the test scores can truly present their progress (Abedi & Dietel, 2004; NEA, 2008).

Second, educational policies, no matter in federal, state or district level, could directly influence the services that ELL students receive in their individual schools. For example, research about Arizona, California and Massachusetts's English-only legislation and restrictive language instructional policies showed that the highly restrictive language instructional policy did not help to close achievement gaps for ELLs (Garcia, Lawton, Diniz De Figueiredo, 2012; Wentworth, Pellegrin, Thompson & Hakuta, 2010; Uriarte, Tung, Lavan & Diez, 2010). It is urgent to revise those policies that do not work in order to meet the needs and facilitate academic progress of this student population. NCLB is one of the most important federal policies that have direct influence on ELL students' education. This implication is consistent with the changes recommended by NEA (2008) to No Child Left Behind (NCLB) of 2001.

Besides test modification and accommodations, there are other fundamental changes that should be made to NCLB before its reauthorization so that the law could really help all children achieve their academic potential. For example, some alternative measurement methods other than only standardized tests could be adopted to measure ELL students' learning and performance (NEA, 2013). Additionally, ELL students should be measured not only in content subject areas but also in their English proficiency in order to ensure all progress and efforts made by ELL students in their learning process can be captured (NEA, 2008), which in turn may help boost their expectation in academic learning. To illustrate, Linquanti and Hakuta (2012) offered concrete recommendations in a Policy Brief for the state of California to implement the Common Core State Standards

(CCSS) and revise the State English Language Development Standards to fairly and accurately assess the academic performance of ELL students.

Other alterations to NCLB recommended by NEA (2008) included improving teachers' training and preparation to serve this student population. Currently, teachers of ELLs lack the appropriate training to meet the needs and facilitate the growth of ELL students (Gándara, Maxwell-Jolly, & Driscoll, 2005). Despite the research that indicated promising teaching methods for working with ELLs, teachers do not always demonstrate those methods in their classrooms. Special needs of ELL students should be addressed at multiple stages of teacher preparation, certification and evaluation process, which in turn may lead to higher quality teaching and better outcomes of ELL students (Samson & Collins, 2012).

Third, the present study found that psychological factors (i.e., educational expectation) and parental factors (i.e., parental expectation and parental involvement) had statistically significant impact on ELL students' educational attainment. Thus, policymakers may want to put more emphasis on incorporating both psychological factors and parental factors into the process of formulating or modifying educational policies targeting ELL students. For example, school districts are required by law to have policies (referred to as a Lau Plan or an Equal Access Plan) in place to ensure equal access of students for whom English is a second or new language (The Educational Alliance, 2006). As an essential component of a Lau Plan, parental involvement has been widely emphasized by school districts across the country (The Educational Alliance, 2008). However, school districts may also want to invest in enhancing ELL students'

educational expectation and encouraging parental expectation for ELL students (Hopstock, 2003).

Lastly, an important finding from this study regarding the differences between language subgroups further confirmed that ELLs are a diverse student body and cultural-linguistic and ethnicity factor plays an important role in understanding the attainment gap between ELL subgroups (Abedi & Dietel, 2004). Similar to the performance difference in general student population, ELL students from Asian background (e.g., Chinese) demonstrated a higher achievement level than students from a Spanish-speaking background (Abedi & Dietel, 2004). Thus, it could be an important area for schools and educators to explore how to better serve ELL subgroups by adopting different methods appropriate for different cultures and ethnic backgrounds.

Practitioner Implications

This study provided implications for practitioners in educational field including teachers, school counselors, and administrators. First, teachers have daily contact with ELL students in classrooms; therefore teachers could make important impact on ELL students' educational attainment through a variety of pathways. For example, teachers may want to use more appropriate and comprehensive assessment methods to evaluate ELL students' academic progress, which could provide students and their parents a more accurate picture of how much progress the students are making in academic learning. Teachers could also try to involve parents in ELL students' school life as much as possible and educate parents about the importance of their expectations in their children's educational attainment.

Second, school counselors serve a vital role in maximizing student success (Lapan, Gysbers, & Kayson, 2007; Stone & Dahir, 2006) through leadership, advocacy and collaboration. American School Counseling Association (2009) regulated that the role of school counselors is to promote equity and access to rigorous educational experience for all students and address the needs of all students through culturally relevant prevention and intervention programs. To be specific, when working towards the goal to increase ELL students' attainment levels, instead of using "interventions", maybe it is a better idea to adopt a "preventative" model. Prevention may serve the purpose better because educational attainment issue is quite sensitive to timing. It is more efficient to start preparing students for high school graduation plans and future education or career plans earlier in high school.

Third, school administrators are in an important position to provide support to teachers and counselors with the resources they need to serve ELL population. Teamwork is key in making sure that all stakeholders are making effort towards a common goal, which is to promote all students' success by ensuring educational equity in K-12 schools.

Future Research

The present study leaves multiple venues for future research to improve the research design through modifying the models and addressing the limitations of this study. First, future studies might consider adding some mediators in between English or math self-efficacy and attainment, such as college preparation course enrollment. Also, the models in this study could be tested with Non-ELL students and a comparison could be made between ELL and Non-ELL students to detect any differences in terms of model fit.

Second, several limitations in the present study could be addressed by using self-collected data or other secondary datasets. To illustrate, with self-collected data or other secondary dataset, educational attainment could be measured in alternative ways such as college completion and highest degree obtained. Longitudinal data is still desirable in this case. The present study did not include ELL students who got GED or other equivalency credentials in high school. Researchers who have an interest in investigating ELL students with equivalency credentials may want to collect their own data in order to capture this information.

Third, this study did not take into consideration the length of students' enrollment in the English-as-Second-Language (ESL) program. Future research may want to differentiate between "quick exiters" from "long-term ELL students" (Flores et al., 2012, p16) because the length of ESL program enrollment sometimes might hinder academic progress (AIR & WestEd, 2009).

Additionally, future studies could be conducted to investigate the roles that different cultural factors (i.e., social economical status, immigration status, adjustment level) play in the relation between ELL students' psychological and parental factors and their educational attainment. Besides, multilevel contextual factors could be examined using Hierarchical Linear Modeling (HLM). For example, school factors (i.e., schools' resources and services provided, teachers' impact, learning environment, perceived safety in schools) and neighborhood factors (i.e., poverty, drug use and crime rates in the neighborhood) could be included in hierarchical models.

Lastly, future researchers are suggested to use translators or interpreters in data collection process with ELL students if it is possible financially. Using translation service

could potentially increase the participation rate among ELL students with lower English language proficiency levels and may also improve the quality of the data.

Summary and Conclusion

English Language Learners are among the fastest growing student populations in U.S. schools (NCES, 2006). Educational attainment of ELL students is a noteworthy topic considering the importance of educational attainment for later career development, economic gains, general health and social-emotional wellbeing (Child Trends, 2012). This study aimed to investigate some predictive factors in relation to ELL students' educational attainment using a national dataset and advanced statistical analysis. Results found that educational expectation had a statistically significant impact on high school graduation and enrollment in postsecondary institution. Parental expectation and parental involvement at 10th grade statistically significantly predicted both high school graduation and postsecondary institution enrollment. When comparing native Spanish speakers with Asian-language speakers, the first two models only fit for Asian-language speakers. The last two models (parental factors in relation to high school completion and postsecondary enrollment) in this study were considered a good fit for both language groups; however, only Spanish speakers had statistically significant structural paths from parental expectation at 10th grade to high school graduation and from parental involvement at 10th grade to both high school graduation and postsecondary enrollment. Although this study has the limitation of using secondary data, it contributes to the literature by providing preliminary results that could inform educators, stakeholders and policy-makers to better serve ELL students in U.S. schools.

References

Abedi, J. (2001). *Assessment and accommodations for English language learners: Issues and recommendations*. (CRESST Policy Brief 4). Los Angeles: University of California Los Angeles, National Center for Research on Evaluation, Standards, and Student Testing (CRESST).

Abedi, J. (2002). Standardized achievement tests and English language learners: Psychometrics issues. *Educational Assessment, 8(3),* 231–257.

Abedi, J., & Dietel, R. (2004). *Challenges in No Child Left Behind Act for English Language Learners*. (CRESST Policy Brief 7). Los Angeles: University of California Los Angeles, National Center for Research on Evaluation, Standards, and Student Testing (CRESST).

Achieve. 2013. In *Merriam-Webster.com*. Retrieved from http://www.merriam-webster.com/dictionary/achieve

Adelman, C., & Department of Education (2004). *Principal indicators of student academic histories in postsecondary education, 1972-2000*. Washington DC: US Department of Education.

Adelman, C., & National Inst. on Postsecondary Education (1999). *The new college course map and transcript files: Changes in course-taking and achievement, 1972-1993* (2nd ed.). Washington DC: NIPE.

Ainsworth, J. W. (2002). Why does it take a village? The mediation of neighborhood effects on educational achievement. *Social Forces, 81*(1), 117-152.

Alexander, K. L., Entwisle, D. R., & Bedinger, S. D. (1994). When expectations work: Race and socioeconomic differences in school performance. *Social Psychology Quarterly, 57,* 283–299.

Alexander, K. L., Entwisle, D. R., & Olson, L. (2007). Summer learning and its implications: Insights from the Beginning School Study. *New Directions for Youth Development, 114,* 11-32. doi:10.1002/yd.210

Altschul, I. (2011). Parental involvement and the academic achievement of Mexican American Youths: What kinds of involvement in youths' education matter most? *Social Work Research, 35*(3), 159-170.

American School Counselor Association. (2009). *The role of the Professional School Counselor*. Retrieved from: http://www.schoolcounselor.org/content.asp?contentid=240

AmericanYouth Policy Forum. (2009). *Moving English language learners to college-and career-readiness*. Retrieved from http://www.aypf.org/documents/ELLIssueBrief.pdf

Anguiano, R. P. V. (2004). Families and schools: The effect of parental involvement on high school completion. *Journal of Family Issues, 25*(1), 61-85.

Astone, N.M., & McLanahan, S.S. (1991). Family structure, parental practices and high school completion. *American Sociological Review, 56,* 309-320.

Asparouhov, T., & Muthen, B. (2010). Weighted least squares estimation with missing data. Retrieved from http://www.statmodel.com/down-load/GstrucMissingRevision.pdf

Attain. 2013. In *Merriam-Webster.com*. Retrieved from http://www.merriam-webster.

com/dictionary/attain

Author, F.I. (YEAR). Adolescents' educational and occupational expectations and corresponding attainment in adulthood. *Journal of Education For Students Placed At Risk, 17*(4), 266-285.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review, 84,* 191–215.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: Freeman.

Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psychology, 41,* 586-598.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development*, *72*, 187–206.

Bardack, S. (2010). *Common ELL terms and definitions*. Retrieved from: http://www.air.org/files/NEW_Common_ELL_TERMS_AND_DEFINITIONS_6_22_10.pdf

Barnard, W. (2004). Parent involvement in elementary school and educational attainment. Children & Youth Services Review, 26(1), 39. doi:10.1016/j.childyouth.2003.11.002

Baum, S., Ma, J., & Payea, K. (2010). *Education pays 2010: The benefits of higher education for individuals and society.* Retrieved from http://trends.collegeboard.org/sites/default/files/education-pays-2010-full-report.pdf

Beal, S. J., & Crockett, L. J. (2010). Adolescents' occupational and educational aspirations and expectations: Links to high school activities and adult educational attainment. *Developmental Psychology, 46*(1), 258-265.

Behnke, A. O., Piercy, K. W., & Diversi, M. (2004). Educational and occupational aspirations of Latino youth and their parents. *Hispanic Journal of Behavioral Sciences, 26*, 16–35.

Benner, A.D., & Mistry, R.S. (2007). Congruence of mother and teacher educational expectations and low-income youth's academic competence. *Journal of Educational Psychology, 99*(1), 140-153.

Benson, J. (1989). Structural components of statistical test anxiety in adults: An exploratory study. *Journal of Experimental Education, 57,* 247-261.

Berthelsen, D., & Walker, S. (2008). Parents' involvement in their children's education. *Family Matters, 79*, 34-41.

Boardman, J. D., Alexander, K. B., Miech, R. A., MacMillan, R., & Shanahan, M. J. (2012). The association between parent's health and the educational attainment of their children. *Social Science & Medicine, 75*(6), 932-939. doi:10.1016/j.socscimed.2012.04.028

Bohon, S. A., Johnson, M. K., & Gorman, B. (2006). College aspirations and expectations among Latino adolescents in the United States. *Social Problems, 53*(2), 207-225.

Bouffard-Bouchard,T. (1990). Influence of self-efficacy on performance in a cognitive task. *Journal of Social Psychology, 130,* 353-363.

Bourdieu, P. (1974). Cultural reproduction and social reproduction. In R. Brown (Ed.), *Knowledge, education and social change* (pp. 71-84). London: Taylor & Francis.

Britner, S. L., & Pajares, F. (2006). Sources of science self-efficacy beliefs of middle school students. *Journal of Research in Science Teaching*, *43*, 485–499.

Brookover, W. B., Erickson, E. L., & Joiner, L. M. (1967). Educational aspirations and educational plans in relation to academic achievement and socioeconomic status. *The School Review, 75*, 392–400.

Butler, A. L. (2011). *Secondary transition experiences: Analyzing perceptions, academic self-efficacy, academic adjustment and overall impact on college students with LD success in postsecondary education.* (Doctoral Dissertation). Name of University, City and State.

Cabrera, A. F. and LaNasa, S. M. (2001). On the path to college: Three critical tasks facing America's disadvantaged. *Research in Higher Education, 42(2),* 119-150.

Cahalan, M. W., Ingels, S. J., Burns, L. J., Planty, M., & Owings, J. A. (2006). *United States high school 10th graders: A twenty-two year comparison, 1980–2002*. Washington, DC: US Department of Education.

Cakiroglu, S. (2004). *Parental involvement and expectations: Comparison study between immigrant and American-born parents*. Retrieved from: http://www.utdallas.edu/scimathed/resources/SER/SCE5308_s04/PARENTAL_INVOLVEMENT_EXPECTATIONSC.pdf

Callahan, R., Wilkinson, L., & Muller, C. (2008). School context and the effect of ESL placement on Mexican-origin adolescents' achievement. *Social Science Quarterly, 89*(1), 177-198. doi:10.1111/j.1540-6237.2008.00527.x

Callahan, R.M., Wilkinson, L., Muller, C., & Frisco, M. (2009). ESL placement and schools: Effects on immigrant achievement. *Educational Policy, 23*(2), 355-384.

Callender, C. (2008). The impact of term-time employment on higher education students' academic attainment and achievement. *Journal of Education Policy, 23*(4), 359-377.

Capps, R., Fix, M., Murray, J., Ost, J., Passel, J. S., & Herwantoro, S. (2005). *The new democracy of America's schools. Immigration and the No Child Left Behind Act.* Washington, DC: Urban Institute.

Caprara, G. V., Fida, R., Vecchione, M., Del Bove, G., Vecchio, G. M., Barbaranelli, C. (2008). Longitudinal Analysis of the role of perceived self-efficacy for self-regulated learning in academic continuance and achievement. *Journal of Educational Psychology*, *100,* 525–534.

Carnevale, A. P., Rose, S. J., & Cheah, B. (2011). The college payoff: Education, occupations, and lifetime earnings. *Georgetown University Center on Education and the Workforce.* Retrieved from: http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/collegepayoff-complete.pdf

Carpenter II, D. M. (2008). Expectations, aspirations, and achievement among Latino students of immigrant families. *Marriage & Family Review, 43*(1/2), 164-185.

Carpenter, P. G., & Fleishmann, J. A. (1987). Linking intentions and behavior: Australian Students' college plans and college attendance. *American Educational Research Journal, 24*, 79–105.

Carter, R. L. (2006). Solutions for missing data in Structural Equation Modeling. *Research & Practice in Assessment, 1*(1), 1-6.

Casanova, P. F., Garcia-Linares, M., de la Torre, M. J., & Carpio, M. (2005). Influence of Family and Socio-Demographic Variables on Students with Low Academic Achievement. *Educational Psychology, 25*(4), 423-435.

Catsambis, S., and Garland, J.E. (1997). *Parental involvement in students' education during middle school and high school. Report #18*. Baltimore, MD: CRESPAR, Johns Hopkins University.

Chang, M. (2012). Academic performance of language-minority students and all-day kindergarten: A longitudinal study. *School Effectiveness and School Improvement, 23*(1), 21-48.

Chavkin, N. F., &Williams, D. L. (1993). Minority parents and the elementary school: Attitudes and practices. In N. F. Chavkin (Ed.), *Families and schools in pluralistic society* (pp. 73-83). Albany: State University of New York Press.

Cheng, S., & Starks, B. (2002). Racial differences in the effects of significant others on student's educational expectations. *Sociology of Education, 75*(4), 306-327.

Child Trends (2012). *Parental Expectations for Children's Academic Attainment*. Retrieved from: www.childtrendsdatabank.org/alphalist?q=node/366

Christopher, V. (1993). *Direct and indirect placement test scores as measures of language proficiency and predictors of academic success for ESL students*. Retrieved from http://www.eric.ed.gov.proxygw.wrlc.org/contentdelivery/servlet/ERICServlet?accno=ED445547

Clark, M. A., & Jaeger, D. A. (2002). *Natives, the Foreign-Born and High School Equivalents: New Evidence on the Returns to the GED.* Discussion Paper No. 477, Institute for the Study of Labor. Bonn, Germany.

Coleman, J. S., & Hoffer, T. (1987). *Public and private high schools: The impact of communities.* New York: Basic Books.

Contreras, F. E. (2005). Access, achievement, and social capital: Standardized exams and the Latino college-bound population. *Journal of Hispanic Higher Education, 4*(3), 197-214.

Corton, R., & Dronkers, J. (2006). School achievement of pupils from the low strata in public, private government-dependent and private government-independent schools: A cross-national test of Coleman-Hoffer thesis. *Education Research and Evaluation, 12*(2), 179-208.

Crissey, S. R., & Bauman, K. J. (2012). Measurement of high school equivalency credentials in Census Bureau surveys: SEHSD working paper number 2012-2013. Retrieved from http://www.census.gov/hhes/socdemo/education/data/cps/GED_wp2012-3.pdf

Davis-Kean, P. E. & Sexton, H. R. (2009). Race differences in parental influences on child achievement: Multiple pathways to success. *Merrill-Palmer Quarterl*y, *55*(3), 285-318.

Davis-Kean, P. E. (2005). The influence of parent education and family income on child achievement: The indirect role of parental expectations and the home environment. *Journal of Family Psychology, 19*(2), 294-304. doi:10.1037/0893-3200.19.2.294-304.

Delgado-Gaitan, C. (1992). School matters in the Mexican American home: Socializing children to education. *American Educational Research Journal, 29*, 495-513.

Derderian-Aghajanian, A., & Wang, C. C. (2012). How culture effects on English

Language Learners' (ELL's) outcomes, with Chinese and Middle Eastern immigrant students. *International Journal of Business and Social Science, 3*(5), 172-180.

Dullas, A. R. (2010). Academic performance and self-efficacy of Filipino science high school students on mathematics and English subjects. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2152791

Enders, C. K., & Bandalos, D. L. (2001). The relative performance of full information maximum likelihood estimation for missing data in structural equation models. *Structural Equation Modeling, 8,* 430–457.

Englund, M., Luckner, A., Whaley G., & Egeland, B. (2004). Children's achievement in early elementary school: Longitudinal effects of parental involvement, expectations, and quality of assistance. *Journal of Educational Psychology, 96,* p. ##.

Entwisle, D. R., & Alexander, K. L. (1990). Beginning school math competence: Minority and majority comparisons. *Child Development, 61,* 454–471.

Epstein, J. L. (1995). School/family/community partnerships: Caring for the children we share. *Phi Delta Kappan, 76,* 701-712.

Fakeye, D. O., & Ogunsiji, Y. (2009). English language proficiency as a predictor of academic achievement among EFL students in Nigeria. *European Journal of Scientific Research, 37*(3), 490-495.

Fan, W., & Williams, C. M. (2010). The effects of parental involvement on students' academic self-efficacy, engagement and intrinsic motivation. *Educational Psychology, 30*(1), 53-74.

Fan, X. (2001). Parental involvement and students' academic achievement: A growth

modeling analysis. *Journal of Experimental Education, 70*, 27–61.

Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review, 13*(1), 1–22.

Feliciano, C. (2006). Beyond the family: The influence of pre-migration group status on the educational expectations of immigrants' children. *Sociology of Education, 79*(4), 281

Flynn, K., & Hill, J. (2005). *English language learners: A growing population.* Retrieved from: http://www.mcrel.org/pdf/policybriefs/5052pi_pbenglishlanguagelearners.pdf

Flores, S. M., Batalova, J., & Fix, M. (2012). *The educational trajectories of English Language Learners in Texas.* Retrieved from http://www.migrationpolicy.org/ pubs/texasells.pdf

Flouri, E. (2006). Parental interest in children's education, children's self-esteem and locus of control, and later educational attainment: Twenty-six year follow-up of the 1970 British cohort. *British Journal of Educational Psychology, 76,* 41-55.

Fry, R. (2003). *Hispanic youth dropping out of U.S. schools: Measuring the challenge*. Retrieved from: http://pewhispanic.org/files/reports/19.pdf

Fry, R. (2007). *How far behind in math and reading are English Language Learners?* Retrieved from: http://www.pewhispanic.org/files/reports/76.pdf

Fuligni, A. J. (2011). Social identity, motivation, and wellbeing among adolescents from Asian and Latin American backgrounds. *Nebraska Symposium on Motivation, 57*(6), 97-120.

Gándara, P., Maxwell-Jolly, J., & Driscoll, A. (2005). Listening to teachers of English Learners. Center for the Future of teaching and Learning, Retrieved from

http://www.cftl.org/documents/2005/ listeningforweb.pdf

Ganzach, Y. (2000). The influence of parents' education and cognitive ability on educational expectations and educational attainment: Interactive effects. *British Journal of Educational Psychology*, *70*, 419-441.

Garcia, E. E., Lawton, K., & Diniz De Figueiredo, E. H. (2012). The education of English Language Learners in Arizona: A history of underachievement. *Teachers College Record, 114,* 1-18.

Garge, R., Kaupii, C., Lewko, J., & Urajnik, D. (2002). A structural model of educational aspirations. *Journal of Career Development, 29*, 87–108.

Garver, M. S. and Mentzer, J.T. (1999). Logistics research methods: Employing structural equation modeling to test for construct validity. *Journal of Business Logistics, 20*(1), 33-57

GED Testing Service. (2012). *About the GED Testing Service.* Retrieved from: http://www.gedtestingservice.com/educators/about-ged-testing-service-educator

Georgiou, S. N., & Tourva, A. (2007). Parental attributions and parental involvement. *Social Psychology of Education, 10*(4), 473-482. doi:10.1007/s11218-007-9029-8.

Gil-Flores, J., Padilla-Camona, M. T., & Suarez-Ortega, M. (2011). Influence of gender, educational attainment and family environment on the educational aspirations of secondary school students. *Educational review (Birmingham)*, *63*(3), p. 345-363.

Gill, S., & Reynolds, A. J. (1996). *Role of parent education in the school success of at-risk children.* Paper presented at the Biennial Meeting of the International Society for the Study of Behavioral Development (Quebec City, Quebec, Canada, August 12-16, 1996).

Glick, J. E., & White, M. J. (2004). Post-secondary school participation of immigrant and native youth: The role of familial resources and educational expectations. *Social Science Research, 33,* 272–299.

Goldenberg, C., Gallimore, R., Reese, L., & Garnier, H. (2001). Cause or effect? A longitudinal study of immigrant Latino parents' aspirations and expectations, and their children's school performance. *American Educational Research Journal, 38*(3), 547–582.

Gonzalez-DeHass, A. R., Willems, P. P., & Doan Holbein, M. F. (2005). Examining the Relationship between Parental Involvement and Student Motivation. *Educational Psychology Review, 17*(2), 99-123. doi:10.1007/s10648-005-3949-7

Gore, P. A. (2006). Academic self-efficacy as a predictor of college outcomes: Two incremental validity studies. *Journal of Career Assessment*, *14,* 92–115.

Grist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management Review, 17*(2), 183-211.

Guglielmi, R. (2008). Native language proficiency, English literacy, academic achievement, and occupational attainment in limited-English-proficient students: A latent growth modeling perspective. *Journal of Educational Psychology, 100*(2), 322-342. doi:10.1037/0022-0663.100.2.322.

Hahs-Vaughn, D. L. (2005). A primer for using and understanding weights with national dataset. *The Journal of Experimental Education, 73(3),* 221-248.

Hakuta, K., Bialystok, E., & Wiley, E. (2003). Critical evidence: A test of the critical period hypothesis for second language acquisition. *Psychological Science, 14*(1), 31-38.

Hanson, S. L. (1994). Lost talent: Unrealized educational aspirations and expectations among US youths. *Sociology of Education, 67*, 159–183.

Hao, L., & Bonstead-Bruns, M. (1998). Parent child differences in educational expectations and the academic achievement of immigrant and native students. *Sociology of Education, 71*, 175–198.

Hattie, J. (1992). *Self-concept*. Hillsdale, NJ: Erlbaum.

Heckman, J. J., & LaFontaine, P. A. (2010). The American high school graduation rate: Trends and levels. *Review of Economics and Statistics*, *92*, 244-262.

Herzog, M. J., & Pittman, R. B. (1995). Home, family, and community: Ingredients in the rural education equation. *Phi Delta Kappan, 77*(2), 113-118.

Hoelter, D. R. (1983). The analysis of covariance structures: Goodness-of-fit indices. *Sociological Methods and Research, 11,* 325–344

Hong, S., & Ho, H. Z. (2005). Direct and indirect longitudinal effects of parental involvement on student achievement: Second-order latent growth modeling across ethnic goups. *Journal of Educational Psychology, 97*(1), 32–42.

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modeling: Guidelines for determining model fit. *The Electronic Journal of Business Research Methods, 6(1),* 53-60.

Hopstock, P. J. (2003). Descriptive study of services to LEP students and LEP students with disabilities: Special topic report #3 (issues in studying learning outcomes for LEP students). Submitted to Office of English Language Acquisition (OELA), U.S. Department of Education (Contract No. ED-00-CO-0089).

Hossler, D., & Stage, F. K. (1992). Family and high school experience influences on the postsecondary educational plans of ninth-grade students. *American Educational Research Journal, 29*, 425–451.

Hossler, D., & Vesper, N. (1993). An exploratory study of the factors associated with parental savings for postsecondary education. *The Journal of Higher Education, 64*, 140–165.

Hossler, D., Schmit, J., & Vesper, N. (1999). *Going to college: How social, economic, and educational factors influence the decisions students make*. Baltimore: Johns Hopkins University Press.

Hsieh, P., Sullivan, J. R., & Guerra, N. S. (2007). A closer look at college students: self-efficacy and goal orientation. *Journal of Advanced Academics, 18*(3), 454-476.

Hu, L. & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, *3*, 424-453.

Hu, L., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6(1*), 1-55

IBM Corp. (2012). IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.

Ingels, S. J., Pratt, D. J., Wilson, D., Burns, L. J., Currivan, D., Rogers, J. E., & Hubbard-Bednasz, S. (2007). Education Longitudinal Study of 2002: Base-Year to Second Follow-up Data File Documentation (NCES2008-347). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Ivan, C., & Cristei, A. (2011). Parental involvement as a key-determinant for equal educational chances: Evidence from seven South Eastern European countries. *Revista de cercetare si intenventie sociala, 34,* 73-114.

Jacob, B. A., & Wilder, T. (2010). Educational expectations and attainment. (Working paper 15683). National Bureau of Economic Research. Retrieved from http://www.nber.org/papers/w15683.pdf?new_window=1

Jacobs, E. A., Lauderdale, D. S., Meltzer, D., Shorey, J. M., Levinson, W. & Thisted, R. (2001). Impact of interpreter services on delivery of health care to limited–English-proficient patients. *Journal of General Internal Medicine, 16,* 468–474. doi: 10.1046/j.1525-1497.2001.016007468.x

Jessor, R., Turbin, M. S., & Costa, F. M. (1998). Risk and protection in successful outcomes among disadvantaged adolescents. *Applied Developmental Science, 2,* 194–208. doi: 10.1207/s1532480xads0204_3

Jeynes, W. H. (2005). A meta-analysis of the relation of parental involvement to urban elementary school student academic achievement. *Urban Education, 40,* 237-269.

Jimenez-Castellanos, O., Combs, M. C., Martinez, D., & Gomez, L. (2013). English Language Learners: What's at Stake for Arizona? Retrieved from http://arizonaindicators.org/sites/default/files/content/publications/ELL_stake.pdf

Jongejan, W., Verhoeven, L., & Siegel, L. S. (2007). Predictors of reading and spelling abilities in first- and second-language learners. *Journal of Educational Psychology, 99*(4), 835-851. doi:10.1037/0022-0663.99.4.835.

Juang, L. & Silbereisen, R. K. (2002). The relationship between adolescent academic capability beliefs, parenting, and school grades. *Journal of Adolescence, 25*, 3-18.

Kanno, Y., & Cromley, J. G. (2010). English Language Learners' access to and attainment in postsecondary education. AIR Final Report. Retrieved from http://www3.airweb.org/images/grants2009/kanno_final.pdf

Kanno, Y., & Varghese, M. M. (2010). Immigrant and refugee ESL students' challenges to accessing four-year college education: From language policy to educational policy. *Journal of Language, Identity, and Education, 9*(5), 310-328.

Kao, G., & Thompson, J. (2003). Racial and ethnic stratification in educational achievement and attainment. *Annual Review of Sociology, 29,* 417-442.

Kao, G., & Tienda, M. (1998). Educational aspirations of minority youth. *American Journal of Education, 106*, 349–384.

Kaplan, D., & Ferguson, A. J. (1999). On the utilization of sample weights in latent variable models. *Structural Equation Modeling: A Multidisciplinary Journal, 6(4),* 305–321.

Keith, T., Keith, P. B., Quirk, K. J., Sperduto, J., Santillo, S., & Killings, S. (1998). Longitudinal effects of parent involvement on high school grades: Similarities and differences across gender and ethnic groups. *Journal of School Psychology, 35*, 335–363.

Kieffer, M. J. (2008). Catching up or Falling behind? Initial English proficiency, concentrated poverty, and the reading growth of language minority learners in the United States. *Journal of Educational Psychology, 100*(4), 851-868.

Kim, E. (2002). The relationship between parental involvement and children's educational achievement in the Korean Immigrant Family. *Journal of Comparative Family Studies, 33*(4), 529–543.

Klassen, R. M. (2004). Optimism and realism: A review of self-efficacy from a cross-cultural perspective. *International Journal of Psychology*, *39*, 205–230.

Klein, S., Bugarin, R., Beltranena, R., & McArthur, E. (2004). *Language minorities and their educational and labor market indicators—recent trends. NCES 2004–2009*. Retrieved from: http://nces.ed.gov/pubs2004/2004009.pdf

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd Ed). Guilford Press. New York.

Koelsch, N. (2011). Improving literacy outcomes for English Language Learners in high school: Considerations for states and districts in developing a coherent policy framework. National High School Center Research Brief. Retrieved from http://www.betterhighschools.org/docs/NHSC_Adolescents_110806.pdf

Kouritzin, S. G. (2004). Programs, plans, and practices in schools with reputations for ESL student success. *Canadian Modern Language Review, 60*(4), 481-499.

Lapan, R.T., Gysbers, N.C., & Kayson, M.A. (2007). *Missouri school counselors benefit all students.* Jefferson City, MO: Missouri Department of Elementary and Secondary Education.

Lee, V. E., & Smith, J. B. (1997). High school size: Which works best, and for whom? *Educational Evaluation and Policy Analysis, 19*(3), 205-227.

Lehr, C. A., Johnson, D. R., Bremer, C. D., Cosio, A., & Thompson, M. (2004). *Essential tools: Increasing rates of school completion: Moving from policy and research to practice.* Minneapolis, MN: University of Minnesota, Institute on Community Integration, National Center on Secondary Education and Transition.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1984). Relation of self-efficacy expectations to academic achievement and persistence. *Journal of Counseling Psychology, 31*, 356-362.

Lindholm-Leary, K., & Hernández, A. (2011). Achievement and language proficiency of Latino students in dual language programs: Native English speakers, fluent English/previous ELLs, and current ELLs. *Journal of Multilingual & Multicultural Development, 32*(6), 531-545. doi:10.1080/01434632.2011.611596.

Linquanti, R., & Hakuta, K. (2012). Policy brief: How next-generation standards and assessments can foster success for California's English Learners. Retrieved from http://www.wested.org/online_pubs/resource1264.pdf

Lipscomb, S. (2007). Secondary school extracurricular involvement and academic achievement: A fixed effects approach. *Economics of Education Review, 26*, 463–472.

Liu, D. (2005). Plagiarism in ESOL students: Is cultural conditioning truly the major culprit? *ELT Journal, 59*(3), 234-241. DOI: 10.1093/elt/cci043

Liu, X., & Koirala, H. (2009). *The effect of mathematics self-efficacy on mathematics achievement of high school students.* Northeastern Educational Research Association (NERA) Conference Proceedings. Retrieved from: http://digitalcommons.uconn.edu/nera_2009/30

Lleras, C. (2008). Do skills and behaviors in high school matter? The contribution of noncognitive factors in explaining differences in educational attainment and earnings. *Social Science Research, 37*(3), 888-902. doi:10.1016/j.ssresearch.2008.03.004

Lopez, G. R. (2001). The value of hard work: Lessons on parent involvement from an (im)migrant household. *Harvard Educational Review, 71,* 416-437.

Lowman, J., & Elliott, M. (2010). A multilevel model of the educational expectations of secondary school students in the United States. *Social Psychology of Education, 13*(1), 77-110.

Lucas, S. R. (2009). Stratification theory, socioeconomic background, and educational attainment. *Rationality and Society, 21*(4), 459-511.

Mahatmya, D., & Lohman, B. (2012). The influence of maternal life transitions and financial strain on adolescents' educational and occupational attainment. *Children & Youth Services Review, 34*(9), 1616-1623. doi:10.1016/j.childyouth.2012.04.016

Marsh, H. W. (1992). Extracurricular activities: Beneficial extension of traditional curriculum or subversion of academic goals? *Journal of Educational Psychology, 84*, 553–562.

Marsh, H. W., & Shavelson, R. (1985). Self-concept: Its multifaceted, hierarchical structure. *Educational Psychologist,* 20, 107–123.

Marshall, M. A., & Brown, J. D. (2004). Expectations and realizations: The role of expectancies in achievement settings. *Motivation and Emotion, 28,* 347-361.

Martin, A. J., Colmar, S. H., Davey, L. A., & Marsh, H. W. (2010). Longitudinal modeling of academic buoyancy and motivation: Do the 5 Cs hold up over time? *British Journal of Educational Psychology, 80*(3), 473-496. DOI: 10.1348/000709910X486376

Mau, W. C. (1995). Decision-making styles as a predictor of career decision status and treatment gains. *Journal of Career Assessment, 3*, 90–101.

Maxwell, L. A. (2013). Arizona ELL battle carries on, despite ruling. *Education Week 32(31),* 17-18.

McDonnall, M., Cavenaugh, B. S., & Giesen, J. (2012). The relationship between parental involvement and mathematics achievement for students with visual impairments. *Journal of Special Education, 45*(4), *204*-215. doi:10.1177/0022466910365169

McLaughlin, K., Moutray, M., & Muldoon, O. T. (2008). The role of personality and self-efficacy in the selection and retention of successful nursing students: a longitudinal study. *Journal of Advanced Nursing, 61*(2), 211-221. DOI: 10.1111/j.1365-2648.2007.04492.x

McLeod, J. D., & Kaiser, K. (2004). Childhood emotional and behavioral problems and educational attainment. *American Sociological Review, 69*(5), 636-658. doi:10.1177/000312240406900502

McWhirter, E. H., Hackett, G., & Bandalos, D. L. (1998). A causal model of the educational plans and career expectations of Mexican American high school girls. *Journal of Counseling Psychology, 45*, 166–181.

Mello, Z. R., Anton-Stang, H. M., Monaghan, P. L., Roberts, K. J., & Worrell, F. C. (2010). *A longitudinal investigation of African American and Hispanic migration policy institute.* ELL Information Center Fact Sheet Series. Retrieved from: http://www.migrationinformation.org/ellinfo/FactSheet_ELL3.pdf

Miller, P. C., & Endo, H. (2004). Understanding and meeting the needs of ESL students. *Phi Delta Kappan, 85(10),* 786-791.

Mistry, R. S., White, E. S., Benner, A. D., & Huynh, V. W. (2009). A longitudinal study

of the simultaneous influence of mothers' and teachers' educational expectations on low-income youth's academic achievement. *Journal of Youth and Adolescence, 38*(6), 826-838.

Mo, Y., & Singh, K. (2008). Parents' relationships and involvement: Effects on students' school engagement and performance. *Research in Middle Level Education Online, 31,* 1-11

Molly, H. P. L., & Newfields, T. (2005). Some preliminary thoughts on statistics and background information on SPSS (Part3). *SHIKEN: JALT Testing & Evaluation SIG Newsletter. 9(2),* 2-7.

Monserud, M. A., & Elder, G. R. (2011). Household structure and children's educational attainment: A perspective on co-residence with grandparents. *Journal of Marriage and Family, 73*(5), 981-1000.

Moore, K. A., Whitney, C., and Kinukawa, A. (2009). Exploring the links between family strengths and adolescent outcomes. *Child Trends Research Brief*. Available at: www.childtrends.org/Files//Child_Trends-2009_04_16_RB_FamilyStrengths.pdf

Moussu, L. (2012). Influence of teacher-contact time and other variables on ESL students' attitudes towards native- and nonnative-English-speaking teachers. *TESOL Quarterly, 44*(4), 746-768. DOI: 10.5054/tq.2010.235997.

Museus, S. D., Harper, S. R., & Nichols, A. H. (2010). Racial differences in the formation of postsecondary educational expectations: A structural model. *Teachers College Record, 112 (3),* 811-842.

Muthén, B.O. (1998-2004). Mplus Technical Appendices. Los Angeles, CA: Muthén &

Muthén

Muthén , B.O, du Toit, S., & Spisic,, D. (1997). *Robust infoerince using weighted least squares and quadratic estimating equations in latent variable modeling with categorical and continuous outcomes.* Unpublished manuscript.

Muthén, L.K. and Muthén, B.O. (1998-2012). *Mplus User's Guide.* Seventh Edition. Los Angeles, CA: Muthén & Muthén

National Center for Education Statistics. (2004). *The condition of education 2004 in brief.* Retrieved from: http://nces.ed.gov/pubs2004/2004076.pdf

National Center for Education Statistics. (2011). *Achievement gaps: How Hispanic and White students in public schools perform in mathematics and reading on the National Assessment of Educational Progress.* Retrieved from: http://nces.ed.gov/nationsreportcard/pdf/studies/2011485.pdf

National Center for Education Statistics. (2012). *The condition of education 2011* (NCES 2011-045). Retrieved from: http://nces.ed.gov/fastfacts/display.asp?id=96

National Center for Educational Statistics (NCES). (2008). *Cross-cohort comparisons.* Retrieved from: http://nces.ed.gov/pubs2008/2008347_2.pdf

National Center for Educational Statistics (2008). *Educational longitudinal study of 2002 base-year to second follow-up data file documentation*. Retrieved from: http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2008347

National Clearinghouse for English Language Acquisition. (2002). *Frequently asked questions: Ask NCELA No. 1.* Retrieved from: http://www.ncela.gwu.edu/ expert/faq/14shortage.htm

National Clearinghouse for English Language Acquisition and Language Instruction Educational Programs (NCELA). (2007). Retrieved from http://www.ncela.gwu.edu/expert/fastfaq/4.html

National Council of Teachers of English. (2008). *English language learners: A policy brief.* Retrieved from: http://www.ncte.org/library/NCTEFiles/Resources/PolicyResearch/ELLRsearchBrief.pdf

National Education Association. (2008). *A NEA policy brief: English language learners face unique challenges*. Retrieved from: http://www.nea.org/assets/docs/HE/ELL_Policy_ Brief_Fall_08_(2).pdf

National Education Association. (2013). *No Child Left Behind/ESEA: Its' time for a change!* Retrieved from http://www.nea.org/home/18138.htm

National High School Center. (2009). Educating English language learners at the high school level: A coherent approach to district- and school-level support. Retrieved from: http:// www.betterhighschools.org/docs/EducatingELLsattheHSLevel_042209.pdf

Naumann, L.P., Guillaume, E.M., & Funder, D.C. (2012). The correlates of high parental academic expectations: An Asian-Latino comparison. *Journal of Cross Cultural Psychology, 43,* 515-520.

Needham, B. L. (2009). Adolescent depressive symptomatology and young adult educational attainment: An examination of gender differences. *Journal of Adolescent Health, 45*(2), 179-186. doi:10.1016/j.jadohealth.2008.12.015

Neuenschwander, M. P., Vida, M., Garrett, L., & Eccles, J. S. (2007). Parents' expectations and students' achievement in two western nations. *International Journal of Behavioral Development, 31*(6), 594–602.

Newman, D. A. (2003). Longitudinal modeling with randomly and systematically missing data: A simulation of ad hoc, maximum likelihood, and multiple imputation techniques. *Organizational Research Methods, 6,* 328–362.

Newsom, J. (2012). Missing data and missing data estimation. Retrieved from http://www.upa.pdx.edu/IOA/newsom/semclass/ho_missing.pdf

No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, § 115, aStat. 1425 (2002)

Norman, G. R., & Streiner, D. L. (2003). *PDQ statistics.* Hamilton, Ont: B.C. Decker.

Ogbu, J. U. (2008). *Minority status, oppositional culture, & schooling*. New York: Routledge.

Okagaki, L., & Frensch, P. A. (1998). Parenting and children's school achievement: A multi-ethnic perspective. *American Educational Research Journal, 35*(1), 123-144.

Olson, J. M., Roese, N. J., & Zanna, M. P. (1996). Expectancies. In E. T. Higgins & A.W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 221-238). New York-Guilford.

Osequera, L. (2012). *Postsecondary educational pathways of low- and middle/high-income youth: Using the Educational Longitudinal Study (ELS) to examine tenth graders' transition from high school*. Los Angeles, CA: UC/ACCORD.

Overstreet, S., Devine, J., Bevans, K., & Efreom, Y. (2005). Predicting parental involvement in children's schooling within an economically disadvantaged African

American sample. *Psychology in the schools, 42*(1), 101-111.

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research, 66*(4), 543-578.

Pajares, F., & Johnson, M. J. (1996). Self-efficacy beliefs in the writing of high school students: A path analysis. *Psychology in the Schools, 33,* 163-175.

Pajares, F., & Miller, M. D. (1994). Role of self-efficacy and self-concept beliefs in mathematical problem solving: A path analysis. *Journal of Educational Psychology, 86,* 193–203.

Paredes, M. (2010). *Addressing the professional development awareness needs of school counselors regarding English Language Learners (ELLs): Using the school cultural capital game to enhance level of self-efficacy with ELLs and attitudes toward immigrants*. (Doctoral Dissertation). Retrieved from ProQuest LLC.

Pearce, R. R. (2006). Effects of cultural and social structural factors on the achievement of White and Chinese American students at school transition points. *American Educational Research Journal, 43*(1), 75–101.

Perez, D., & Holmes, M. (2010). Ensuring academic literacy for ELL students. *American Secondary Education, 38*(2), 32-43.

Pharris-Ciurej, N. D. (2010). *Moving towards a more comprehensive theory of educational attainment: An empirical analysis of the determinants of racial and ethnic inequality in the college completion process.* (Doctoral Dissertation). Retrieved from ProQuest LLC.

Phillipson, S., & Phillipson, S. N. (2007). Academic expectations, belief of ability, and involvement by parents as predictors of child achievement: A cross-cultural

comparison. *Educational Psychology, 27*(3), 329–348.

Pintrich, P. R., & Garcia,T. (1991). Student goal orientation and self-regulation in the college classroom. In M. Maehr &P. R. Pintrich (Eds.), *Advances in motivation and achievement: Goals and self-regulatory processes* (pp.371-402). Greenwich, CT: JAI Press.

Pomerantz, E. M., Moorman, E. A., & Litwack, S. D. (2007). The how, whom, and why of parents' involvement in children's academic lives: More is not always better. *Review of Educational Research, 77*(3), 373-410.

Portes, A., & Hao, L. (2004). The schooling of children of immigrants: Contextual effects on the educational attainment of the second generation. *Proceedings of The National Academy of Sciences of the United States Of America, 101*(33), 11920-11927. doi:10.1073/pnas.0403418101

Ramos, L., & Sanchez, A. R. (1995). Mexican-American high school students: Educational aspirations. *Journal of Multicultural Counseling and Development 23*, 212–221.

Rance-Roney, J. (2009). Best practices for adolescent ELLs. *Educational Leadership, 66*, 32-37.

Raudenbush, S., & Bryk, A. S. (1986). A hierarchical model for studying school effects. *Sociology of Education, 59*(1), 1-17.

Redd, Z., Guzman, L., Lippman, L., Scott, L., & Matthews, G. (2004). Parental expectations for children's educational attainment: A review of the literature. Retrieved from http://www.childtrends.org/?indicators=parental-expectations-for-their-childrens-academic-attainment

Reynolds, A. J., Temple, J. A., & Ou, S. (2010). Preschool education, educational attainment, and crime prevention: Contributions of cognitive and non-cognitive skills. *Children & Youth Services Review, 32*(8), 1054-1063. doi:10.1016/j.childyouth.2009.10.019

Rios-Aguilar, C., Gonzalez Canche, M. S., & Moll, L. C. (2012). Implementing Structured English Immersion in Arizona: Benefits, Challenges, and Opportunities. *Teachers College Record, 114(9)*

Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, *130*, 261–288.

Rumberger, R. W. (2007). *The growth of linguistic minority population in the U.S. and California, 1980-2005.* Retrieved from: http://www.lmri.ucsb. edu/publications/

Rutchick, A.M., Smyth, J.M., Lopoo, L.M., & Dusek, J.B. (2009). Great expectations: The biasing effects of reported child behavior problems on educational expectancies and subsequent academic achievement. *Journal of Social & Clinical Psychology, 28*(3), 392-413.

Ryan, C. L., & Siebens, J. (2012). Educational attainment in the United States: 2009. Retrieved from ERIC (ED529755). http://files.eric.ed.gov/fulltext/ED529755.pdf

Saltiel, J. (1988). The Wisconsin model of status attainment and the occupational choice process: Applying a continuous-choice model to a discrete-choice model. *Work and Occupations, 15*(3), 334-355.

Samson, J. F., & Collins, B. A. (2012). Preparing all teachers to meet the needs of English Language Learners: Applying research to policy and practice for teacher

effectiveness. Retrieved from http://www.eric.ed.gov.proxygw.wrlc.org/PDFS/ED535608.pdf

Sanders, C. E., Field, T. M., & Diego, M. A. (2001). Adolescents' academic expectations and achievement. *Adolescence, 36*(144), 795

Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods, 7,* 147–177

Schmid, C. L. (2001). Educational achievement, language minority students, and the new second generation. *Sociology of Education*, Supplement: Currents of thought: Sociology of Education at the dawn of the 21st century, 71-87. Retrieved from ProQuest Database.

Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research, 99*(6), 323-337.

Schunk, D. H. (1989). Self-efficacy and achievement behaviors. *Educational Psychology Review, 1,* 173-208.

Schunk, D. H., & Hanson, A. R. (1985). Peer models: Influence on children's self-efficacy and achievement. *Journal of Educational Psychology, 77*, 313-322.

Schwab, A. J. (2007). Analyzing patterns of missing data. Retrieved from http://www.utexas.edu/courses/schwab/sw388r7/Tutorials/Analyzing_Patterns_of_Missing_Data_doc_html/_StartTopic_Analyzing_Patterns_of_Missing_Data.html

Sciarra, D. T., & Ambrosino, K. E. (2011). Post-secondary expectations and educational attainment. *Professional School Counseling, 14*(3), 231-241.

Sciarra, D.T. & Whitson, M.L. (2007). Predictive factors in post-secondary educational

attainment among Latinos. *Professional School Counseling, 10*(3), 307-316.

Secord, D. K. (2009). *Quantity of parental involvement: The influence of the level of educational attainment of elementary private school parents*. (Doctoral Dissertation). Retrieved from ProQuest LLC.

Sekar, S. (2009). *A study of the predictors of academic success of high school English language learners in one Tennessee urban school district*. (Doctoral Dissertation). Retrieved from ProQuest LLC.

Sewell, W., & Haller, A., & Portes, A. (1969). The educational and early occupational attainment process. *American sociological review, 1*(34), 82-92.

Seyfried, S. F. & Chung, I. J. (2002). Parent involvement as parental monitoring of student motivation and parent expectations predicting later achievement among African American and European American middle school age students. *Journal of Ethnic and Cultural Diversity in Social Work, 11*, 109-131.

Shell, D. F., Murphy, C. C, & Bruning, R. H. (1989). Self-efficacy and outcome expectancy mechanisms in reading and writing achievement. *Journal of Educational Psychology, 81,* 91-100.

Shi, Q., & Steen, S. (2010). Group work with English as second language (ESL) students: Integrating academic and behavior considerations. *Journal of School Counseling, 8*(41). Retrieved from http://www.jsc.montana.edu/articles/v8n41.pdf

Shi, Q., & Steen, S. (2012). Using the achieving success everyday (ASE) group model to promote self-esteem and academic achievement for English as a second language (ESL) students. *Professional School Counseling, 16*(1), 63-70.

Singh, K., Bickley, P.G., Keith, T.Z., Keith, P.B., Trivette, P., and Anderson, E. (1995). The effects of four components of parents' involvement on eighth-grade student achievement: Structural analysis of NELS:88 data. *School Psychology Review, 24*(2), p. ##.

Sirin, S. R., & Rogers-Sirin, L. (2005). Components of school engagement among African American adolescents. *Applied Developmental Science, 9*, 5–13. doi: 10.1207/s1532480xads0901_2

Sivo, S. A., Fan, X. T., Witta, E .L. and Willse, J. T. (2006). The search for 'optimal' cutoff properties: Fit index criteria in structural equation modeling, *The Journal of Experimental Education, 74*(3), 267-289.

Smith, R. J., Arkoff, D. B., & Wright, T. L. (1990). Test anxiety and academic competence: A comparison of alternative models. *Journal of Counseling Psychology, 37,* 313-321.

Smith, T. B. (2008). A comparison of parent and teacher perceptions of parental involvement in elementary schools. (Unpublished doctoral dissertation). Capella University.

Spera, C., & Wentzel, K. R. (2004). Congruence between students' and teachers' goals: Implications for social and academic motivation. *International Journal of Educational Research, 39*, 395-413.

Spera, C., Wentzel, K. R., & Matto, H. C. (2009). Parental aspirations for their children's educational attainment: Relations to ethnicity, parental education, children's academic performance, and parental perceptions of school climate. *Journal of Youth and Adolescence*, *38*(8), 1140-1152. doi:10.1007/s10964-008-9314-7

Spera, C., Wentzel, K. R., & Matto, H. C. (2009). Parental aspirations for their children's educational attainment: Relations to ethnicity, parental education, children's academic performance, and parental perceptions of school climate. *Journal of Youth and Adolescence*, *38*(8), 1140-1152.

Staklls, S., & Horn, L. (2012). New Americans in postsecondary education: A profile of immigrant and second-generation American undergradates (Stats In Brief). U.S. Department of Education. Retrieved from http://files.eric.ed.gov/fulltext/ED533605.pdf

Stanton-Salazar, R. D. (2001). *Manufacturing hope and despair: The school and kin support networks of U.S.-Mexican youth.* New York: Teachers College Press.

StataCorp. (2011). *Stata Statistical Software: Release 12*. College Station, TX: StataCorp LP.

Stone, C.B., & Dahir, C.A. (2006). *The transformed school counselor.* Boston, MA: Houghton Mifflin Co.

Suizzo, M.A., & Stapleton, L. (2007). Home-based parental involvement in young children's education: Examining the effects of maternal education across U.S. ethnic groups. *Educational Psychology*, *27*(4), 533-556.

Suphi, N., & Yaratan, H. (2012). Effects of learning approaches, locus of control, socio-economic status and self-efficacy on academic achievement: A Turkish perspective. *Educational Studies, 38*(4), 419-431.

Sy, S. R., & Schulenberg, J. E. (2005). Parent beliefs and children's achievement trajectories during the transition to school in Asian American and European American families. *International Journal of Behavioral Development, 29*(6), 505–

515.

Tabachnick, B. G., & Fidell, L. S. (2012). *Using Multivariate Statistics (6th Ed).* Pearson Publisher

Tang, W. (2004). Investigating the factors influencing educational attainment across ethnic and gender groups: Structural analysis of nels:88-2000 database (Dissertation). Retrieved from Dissertation Abstracts International Section A: Humanities and Social Sciences, 64(11-A), p. 3949.

Tapia,J. (2000). Schooling and learning in U.S.-Mexican families: A case study of households. *Urban Review, 32,* 25-44.

Tavani, C.M., & Losh, S.C. (2003). Motivation, self-confidence, and expectations as predictors of the academic performances among our high school students. *Child Study Journal*, *33*, 141-151.

The Education Alliance. (2006). Linking language policy to practice for English Language Learners. Retrieved from http://www.alliance.brown.edu/tdl/policy/

The White House. (2013). Education: Knowledge and skills for the jobs of the future. Retrieved from http://www.whitehouse.gov/issues/education/higher-education

Trusty, J. (1998). Family influences on educational expectations of late adolescents. *The Journal of Educational Research, 91*, 260–270.

Trusty, J. (2000). High educational expectations and low achievement: Stability of educational goals across adolescence. *The Journal of Educational Research, 93*, 356–365.

Tyson, W. (2011). Modeling engineering degree attainment using high school and college physics and calculus coursetaking and achievement. *Journal of Engineering Education, 100*(4), 760-777.

U.S. Census Bureau (2004). *Educational attainment in the United States: 2003*. Washington, DC: US Department of Commerce.

U.S. Department of Education. (2010). *A blueprint for reform: The reauthorization of the Elementary and Secondary Education Act*. Washington, D.C.: Author.

United States Census. (2010). *Educational attainment by race and Hispanic origin: 1970-2010*. Retrieved from http://www.census.gov/compendia/statab/2012/tables/12s0229.pdf

Vartanian, T. P., Karen, D., Buck, P., & Cadge, W. (2007). Early factors leading to college graduation for Asians and non-Asians in the United States. *Sociological Quarterly, 48*(2), 165-197. doi:10.1111/j.1533-8525.2007.00075.x

Walqui, A. (2000). Access and engagement: Program design and instructional approaches for immigrant students in secondary schools. McHenry, IL: Delta Systems for the Center of Applied Linguistics.

Walsemann, Katrina M., and Bell, B.A. (2010). Integrated schools, segregated curriculum: Effects of within-school segregation on adolescent health behaviors and educational aspirations. *American Journal of Public Health*, *100*(9): 1687-1695. DOI. 10.2105/AJPH.2009.179424

Wells, R. (2008, July). *Do all immigrant students have high educational expectations? Exploring generational status, race/ethnicity, and SES.* Paper presented at the American Sociological Association Annual Meeting, Boston, MA.

Wigfield, A., & Eccles, J. S. (2000). Expectancy□value theory of achievement motivation. Contemporary Educational Psychology, 25, 68□81

Winegar, L. (2012). *English language development (ELD) efficacy*. (Unpublished master's thesis). California State University Channel Islands, Camarillo, CA.

Worrell, F. C. (1997). Predicting successful or non-successful at risk status using demographic risk factors. *The High School Journal, 81*(1), 46–53.

Worrell, F. C., & Hale, R. L. (2001). The relationship of hope in the future and perceived school climate to school completion. *School Psychology Quarterly, 16,* 370–388. doi: 10.1521/scpq.16.4.370.19896

Wu, F., & Qi, S. (2006). Longitudinal effects of parenting on children `s academic achievement in African American families. *Journal of Negro Education, 75*(3), 415-429.

Xiong, Y. S., & Zhou, M. (2006). *Structuring inequality: How California selectively tests, classifies, and tracks language minority students*. California Policy Options (Paper 4). Los Angeles: University of California–Los Angeles, School of Public Affairs.

Yamamoto, Y., & Holloway, S. D. (2010). Parental expectations and children's academic performance in sociocultural context. *Educational Psychology Review, 22*(3), 189-214. doi:10.1007/s10648-010-9121-z

Zarate, M. E. (2007). Understanding Latino parental involvement in education: Perceptions, expectations and recommendations. Retrieved from http://files.eric.ed.gov/fulltext/ED502065.pdf

Zhang, Y., Haddad, E., Torres, B, & Chen, C. (2011). The reciprocal relationships among

parents' expectations, adolescents' expectations, and adolescents' achievement: A two-wave longitudinal analysis of the NELS data. *Journal of Youth Adolescence, 40,* 479-489. DOI 10.1007/s10964-010-9568-8

Zimmerman, B. J. (1995). Self-efficacy and educational development. In A. Bandura (Ed.), *Self-efficacy in changing societies* (pp. 202-231). New York: Cambridge University Press.

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology, 25,* 82-91.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal, 29*(3), 663-676. doi:10.2307/1163261

Table 1

Demographic of ELL Students in the ELS: 2002/2006 Data

	n	%
Sex		
Female	275	50.3
Male	272	49.7
Race/Ethnicity		
Asian, Hawaii/Pacific Islander, non-Hispanic	218	39.9
Hispanic	245	44.8
White, non-Hispanic	44	8.00
Black, African-American, non-Hispanic	28	5.10
More than one race, non-Hispanic	9	1.60
American Indian/Alaska Native, non-Hispanic	3	0.50
Native Language		
Spanish	217	39.7
Asian Language	197	36.0
Other language	76	13.9
Other European Language	21	3.80
Missing	36	6.60
Age		
15	16	2.93
16	247	45.2
17	191	34.9
18	66	12.1
19	23	4.20
Missing	4	0.70
Generational Status		
Student born in Puerto Rico or Non-US country	335	61.2
Student born in US; mother born in PR or Non-US	92	16.8
Student and mother born in US	40	7.3
Missing	80	14.6
Total	547	100

Table 2

Descriptive Statistics

Variable	M	SD	N (%)	Missing (%)	Tolerance	VIF	Skewness	Kurtosis
BYSTEXP	4.94	1.60	418(89.1)	51(10.9)	.73	1.37	-.71	-.12
F1STEXP	5.65	1.66	388(82.7)	81(17.3)	.72	1.39	-.48	-.48
MathSE1	2.15	0.64	282(60.1)	187(39.9)	.68	1.47	.14	-.54
MathSE2	2.10	0.55	281(59.9)	188(40.1)	.77	1.31	.00	-.27
EngSE1	2.06	0.62	290(61.8)	179(38.2)	.84	1.20	.23	-.40
BYS65A	4.96	1.85	366(78.0)	103(22.0)	1.00	1.00	-.81	-.33
BYS65B	5.09	1.87	330(70.4)	139(29.6)	.94	1.07	-.89	-.22
F1S43A	5.84	1.86	389(82.9)	80(17.1)	.94	1.07	-.88	-.01
F1S43B	5.96	1.84	358(76.3)	111(23.7)	.87	1.15	-.94	.28
BYP57A	3.03	1.02	379(80.8)	90(19.2)	1.00	1.00	-.66	-.78
BYP57B	3.52	0.82	378(80.6)	91(19.4)	1.00	1.00	-1.71	2.87
BYP57C	2.24	1.11	378(80.6)	91(19.4)	0.98	1.02	.14	-1.42
BYP57D	2.66	1.12	374(79.7)	95(20.3)	1.00	1.00	-.32	-1.25
	Yes N (%)	No N (%)	N (%)	Missing (%)				
GRADUATE	365(77)	72(15.2)	441(94.0)	28(6.0)				
POSTSEC	259(54.6)	142(30)	397(84.6)	72(15.4)				

Table 3

Model Fit Indices and Statistics

Model	χ^2	df	*p*	RMSEA	90% CI	CFI	WRMR	SRMR
Good Fit Criteria	Non-significant value		>.05	≤.06 (for non-normal data)		>.96	<.90	≤.08
1	1.08	1	0.299	0.013	[0.000, 0.124]	0.990	0.161	N/A
2	1.08	1	0.299	0.013	[0.000, 0.124]	0.990	0.161	N/A
3 (Step1)	27.885	25	0.313	0.016	[0.000, 0.041]	0.995	N/A	0.037
3 (Step2)	26.743	22	0.221	0.021	[0.000, 0.046]	0.961	0.537	N/A
4 (Step2)[a]	26.576	22	0.228	0.021	[0.000, 0.046]	0.965	0.528	N/A

Note. df=degree of freedom; RMSEA= Root Mean Square Error of Approximation; CI=confidence interval; CFI=Comparative Fit Index; WRMR= Weighted Root Mean Square Residual; SRMR= Standardized Root Mean Square.
[a]*Model* 4 has the same model fit statistics for step 1 measurement model fit results as in Model 3 because these two models share the same measurement model.

Table 4

Error Covariance in Model 1

	Unstandardized Estimates	Standardized Estimates
How_far1 & Eng_se1	0.27**	0.26**
How_far1 & Math_se1	0.09*	0.13*
How_far1 & Math_se2	0.24*	0.23**
Math_se1 & How_far2	0.12**	0.20***
Eng_se1 & Math_se2	0.21***	0.52***
Eng_se1 & Math_se1	0.02	0.09
Eng_se1 & How_far2	0.03	0.03

Note. How_far1=educational expectation at time 1; How_far2=educational expectation at time 2; Eng_se1=English self-efficacy at time 1; Math_se1=math self-efficacy at time 1; Math_se2=math self-efficacy at time 2.
*p <.05. ** p <.01. *** p <.001.

Table 5

Error Covariance in Model 2

	Unstandardized Estimates	Standardized Estimates
How_far1 & Eng_se1	0.27**	0.26**
How_far1 & Math_se1	0.09*	0.13*
How_far1 & Math_se2	0.24*	0.23**
Math_se1 & How_far2	0.12**	0.20***
Eng_se1 & Math_se2	0.21***	0.52***
Eng_se1 & Math_se1	0.02	0.09
Eng_se1 & How_far2	0.03	0.03

Note. *p <.05. ** p <.01. *** p <.001

Table 6

(Un)standardized Estimates of Measurement Parameters in Model 3

	Unstandardized Estimates	Standardized Estimates
Measurement Loadings		
Moth1	1.00	0.89***
Fath1	1.01***	0.87***
Moth2	1.00	0.86***
Fath2	0.79**	0.69***
InvA	1.00*	0.65***
InvB	0.61**	0.39***
InvC	1.19**	0.78***
InvD	0.98***	0.64***
Error Covariance		
Exp1 & Inv1	0.07	0.07
Exp2 & Inv1	0.04	0.04

Note. Exp1=parental expectation at time1; Exp2= parental expectation at time 2; Inv1= parental involvement at time 1; Moth1= How far in school mother wants the 10th grader to go; Fath1= How far in school father wants the 10th grader to go; Moth2= How far in school mother wants the respondent to go? (measured at time 2); Fath2= How far in school father wants the respondent to go? (measured at time 2); InvA=How often parents attended school activities with 10th grader; InvB= How often parents worked on homework/school projects with 10th grader; InvC= How often parents attended concerts/plays/movies with 10th grader; InvD=How often parents attended sports events outside school with 10th grader.

*p <.05. ** p <.01. *** p <.001

Table 7

(Un)standardized Estimates of Measurement Parameters in Model4

	Unstandardized Estimates	Standardized Estimates
Measurement Loadings		
Moth1	1.00	0.88***
Fath1	1.03***	0.87***
Moth2	1.00	0.78***
Fath2	0.96**	0.76***
InvA	1.00*	0.64***
InvB	0.65**	0.42***
InvC	1.16**	0.74***
InvD	1.03***	0.66***
Error Covariance		
Exp1 & Inv1	0.07	0.07
Exp2 & Inv1	0.05	0.05

Note. Exp1=parental expectation at time1; Exp2= parental expectation at time 2; Inv1= parental involvement at time 1; Moth1= How far in school mother wants the 10th grader to go; Fath1= How far in school father wants the 10th grader to go; Moth2= How far in school mother wants the respondent to go? (measured at time 2); Fath2= How far in school father wants the respondent to go? (measured at time 2); InvA=How often parents attended school activities with 10th grader; InvB= How often parents worked on homework/school projects with 10th grader; InvC= How often parents attended concerts/plays/movies with 10th grader; InvD=How often parents attended sports events outside school with 10th grader.

*p <.05. ** p <.01. *** p <.001

Table 8

Group Comparison of Model Fit Indices and Statistics

Model	Group	χ^2	df	*p*	RMSEA	90% CI	CFI	WRMR
Good fit criteria		Non significant		>.05	≤.06 (for non-normal data)		>.96	<.90
1	Spanish	6.782	1	0.009	0.169	0.067, 0.299	0.858	0.454
	Asian	1.732	1	0.188	0.067	0.000, 0.233	0.981	0.889
2	Spanish	6.784	1	0.009	0.169	0.000, 0.299	0.875	0.454
	Asian	1.732	1	0.188	0.067	0.000, 0.233	0.984	0.089
3	Spanish	24.474	22	0.323	0.024	0.000, 0.065	0.960	0.519
	Asian	20.695	22	0.540	0.000	0.000, 0.061	1.000	0.424
4	Spanish	25.505	22	0.274	0.028	0.000, 0.068	0.941	0.528
	Asian	18.053	22	0.703	0.000	0.000, 0.051	1.000	0.378

Note. df=degree of freedom; RMSEA= Root Mean Square Error of Approximation; CI=confidence interval; CFI=Comparative Fit Index; WRMR= Weighted Root Mean Square Residual; SRMR= Standardized Root Mean Square.

Table 9

(Un)standardized Indirect Effects

Model	Indirect Path	Unstandardized	Standardized
1	How_far1→ How_far2→Graduate	0.107**	0.178**
	Math_se1→ Math_se2→Graduate	-0.107	-0.044
2	How_far1→ How_far2→Postsec	0.107**	0.178**
	Math_se1→ Math_se2→Postsec	-0.107	-0.044
3	Exp1→Exp2→Graduate	0.015	0.024
4	Exp1→Exp2→Postsec	0.019	0.030

Note. How_far1=educational expectation at time 1; How_far2=educational expectation at time2; Math_se1=math self-efficacy at time 1; Math_se2=math self-efficacy at time 2; Graduate=high school graduation status; Postsec=postsecondary institution enrollment status; Exp1=parental expectation at time 1; Exp2= parental expectation at time 2.
*p <.05. ** p <.01. *** p <.001

Table 10

(Un)standardized Parameter Estimates Comparing Two Language Groups

Model	Language Group	Parameter	Unstandardized	Standardized
Model 1	Asian	Path Coefficient		
		How_far1→How_far2	0.636***	0.714***
		Math_se1→Math_se2	0.407***	0.507***
		How_far1→Graduate	-0.013	-0.021
		How_far2→Graduate	0.144	0.210
		Math_se1→Graduate	0.515	0.348
		Math_se2→Graduate	-0.085	-0.046
		Eng_se1→Graduate	0.145	0.079
		Error Covariance		
		How_far1 & Eng_se1	0.186	0.210
		How_far1 & Math_se1	0.375*	0.341**
		How_far1 & Math_se2	0.097	0.127
		Math_se1 & How_far2	0.013	0.019
		Eng_se1 & Math_se2	-0.001	-0.005
		Eng_se1 & Math_se1	0.086*	0.234**
		How_far2 & Eng_se1	0.001	0.001_
Model 2	Asian	Path Coefficient		
		How_far1→How_far2	0.635***	0.714***
		Math_se1→Math_se2	0.407***	0.507***
		How_far1→Postsec	0.198	0.324
		How_far2→Postsec	0.002	0.002
		Math_se1→Postsec	0.373	0.252
		Math_se2→Postsec	-0.016	-0.009
		Eng_se1→Postsec	0.512	0.279
		Error Covariance		
		How_far1 & Eng_se1	0.186	0.210
		How_far1 & Math_se1	0.375*	0.341**
		How_far1 & Math_se2	0.097	0.127
		Math_se1 & How_far2	0.013	0.019
		Eng_se1 & Math_se2	-0.001	-0.005
		Eng_se1 & Math_se1	0.086*	0.234**
		How_far2 & Eng_se1	0.001	0.001_
Model 3	Spanish	Path Coefficient		
		Exp1→Exp2	0.247	0.225
		Exp1→Graduate	0.210*	0.365**
		Exp2→Graduate	0.070	0.133
		Inv1 →Graduate	0.791**	0.478***
		Measurement loadings		
		Moth1	1	0.897***

		Fath1	0.962*	0.827***
		Moth2	1	0.862**
		Fath2	0.695	0.591**
		InvA	1	0.528***
		InvB	0.747*	0.411**
		InvC	1.354*	0.709***
		InvD	0.907*	0.504***
		Error Covariance		
		Exp1 & Inv1	0.118	0.112
		Exp2 & Inv1	0.022	0.020
	Asian	Path Coefficient		
		Exp1→Exp2	0.297*	0.255**
		Exp1→Graduate	0.018	0.023
		Exp2→Graduate	-0.022	-0.032
		Inv1 →Graduate	-0.247	-0.112
		Measurement loadings		
		Moth1	1	0.891***
		Fath1	0.857***	0.832***
		Moth2	1	0.867***
		Fath2	0.993***	0.923***
		InvA	1	0.441**
		InvB	0.788	0.318*
		InvC	1.393	0.641***
		InvD	2.067*	0.916***
		Error Covariance		
		Exp1 & Inv1	0.220	0.380**
		Exp2 & Inv1	0.026	0.040
Model 4	Spanish	Path Coefficient		
		Exp1→Exp2	0.141	0.192
		Exp1→Postsec	0.154	0.264*
		Exp2→Postsec	0.123	0.155
		Inv1 →Postsec	0.688*	0.427***
		Measurement loadings		
		Moth1	1	0.886***
		Fath1	0.987*	0.837***
		Moth2	1	0.569**
		Fath2	1.593	0.893**
		InvA	1	0.543***
		InvB	0.797**	0.451***
		InvC	1.172*	0.632***
		InvD	0.940*	0.537***
		Error Covariance		
		Exp1 & Inv1	0.106	0.100
		Exp2 & Inv1	0.060	0.079
	Asian	Path Coefficient		
		Exp1→Exp2	0.308**	0.256**

Exp1→Postsec	-0.014	-0.018
Exp2→Postsec	0.098	0.150
Inv1 →Postsec	0.577	0.275
Measurement loadings		
Moth1	1	0.887***
Fath1	0.865**	0.836***
Moth2	1	0.892***
Fath2	0.938***	0.897***
InvA	1	0.464**
InvB	0.705	0.300*
InvC	1.264	0.612***
InvD	2.032**	0.949***
Error Covariance		
Exp1 & Inv1	0.227*	0.375**
Exp2 & Inv1	0.027	0.038

Note. Graduate=high school graduation status; Postsec=postsecondary institution enrollment status; Exp1=parental expectation at time1; Exp2= parental expectation at time 2; Inv1= parental involvement at time 1; Moth1= How far in school mother wants the 10th grader to go; Fath1= How far in school father wants the 10th grader to go; Moth2= How far in school mother wants the respondent to go? (measured at time 2); Fath2= How far in school father wants the respondent to go? (measured at time 2); InvA=How often parents attended school activities with 10^{th} grader; InvB= How often parents worked on homework/school projects with 10^{th} grader; InvC= How often parents attended concerts/plays/movies with 10^{th} grader; InvD=How often parents attended sports events outside school with 10^{th} grader.

*p <.05. ** p <.01. *** p <.001.

Figure 1. Model 1 Path Diagram

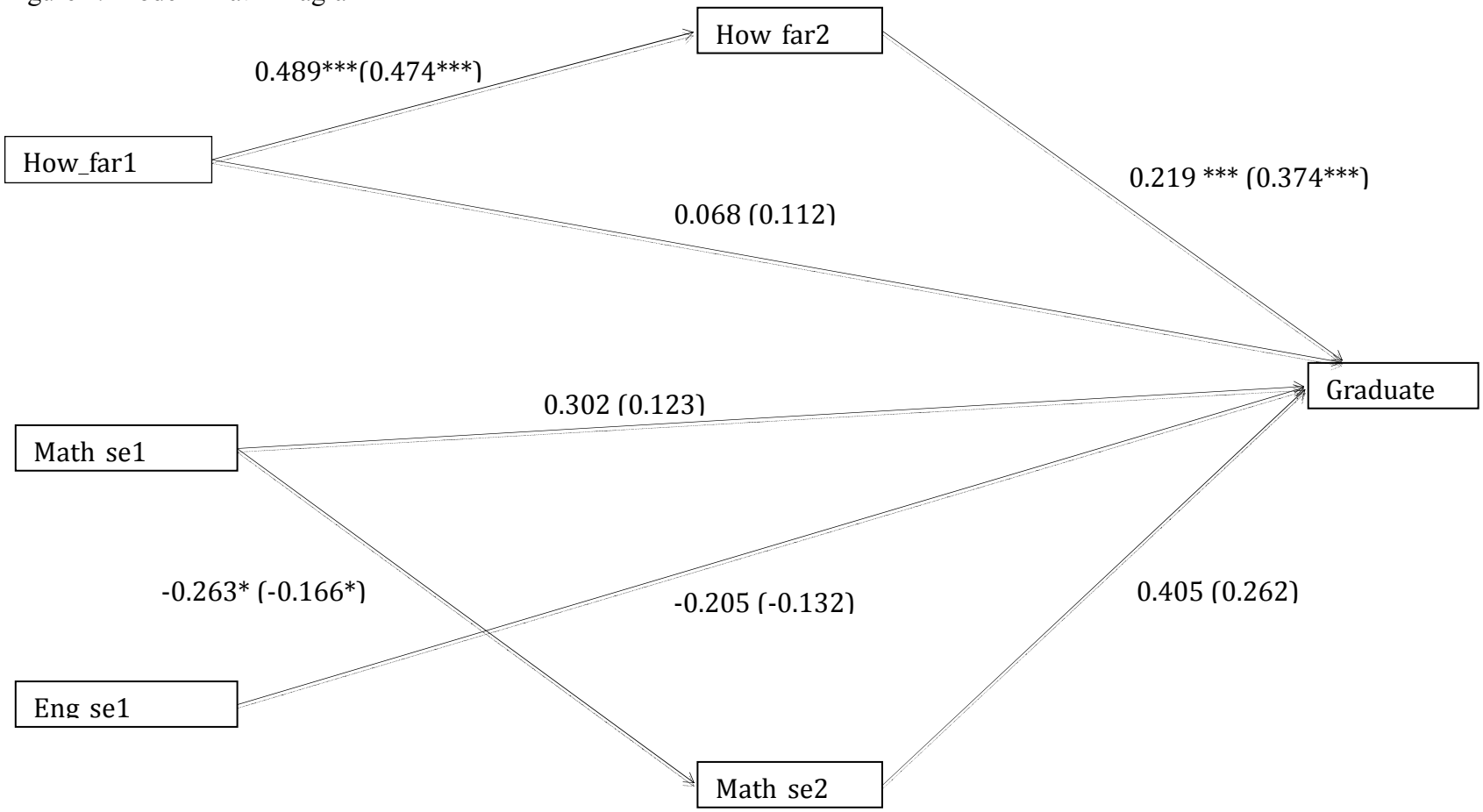

Figure 1. Model 1 path diagram depicting the relation between educational expectation at time 1 & 2, math self-efficacy at time 1 & 2, English self-efficacy at time 1, and high school completion. How_far1= educational expectation at time 1; how_far2=educational expectation at time 2; math_se1=math self-efficacy at time 1; math_se2=math self-efficacy at time 2; eng_se1=English self-efficacy at time 1; Graduate=high school completion.
*p <.05. ** p <.01. *** p <.001.

Figure 2. Model 2 Path Diagram

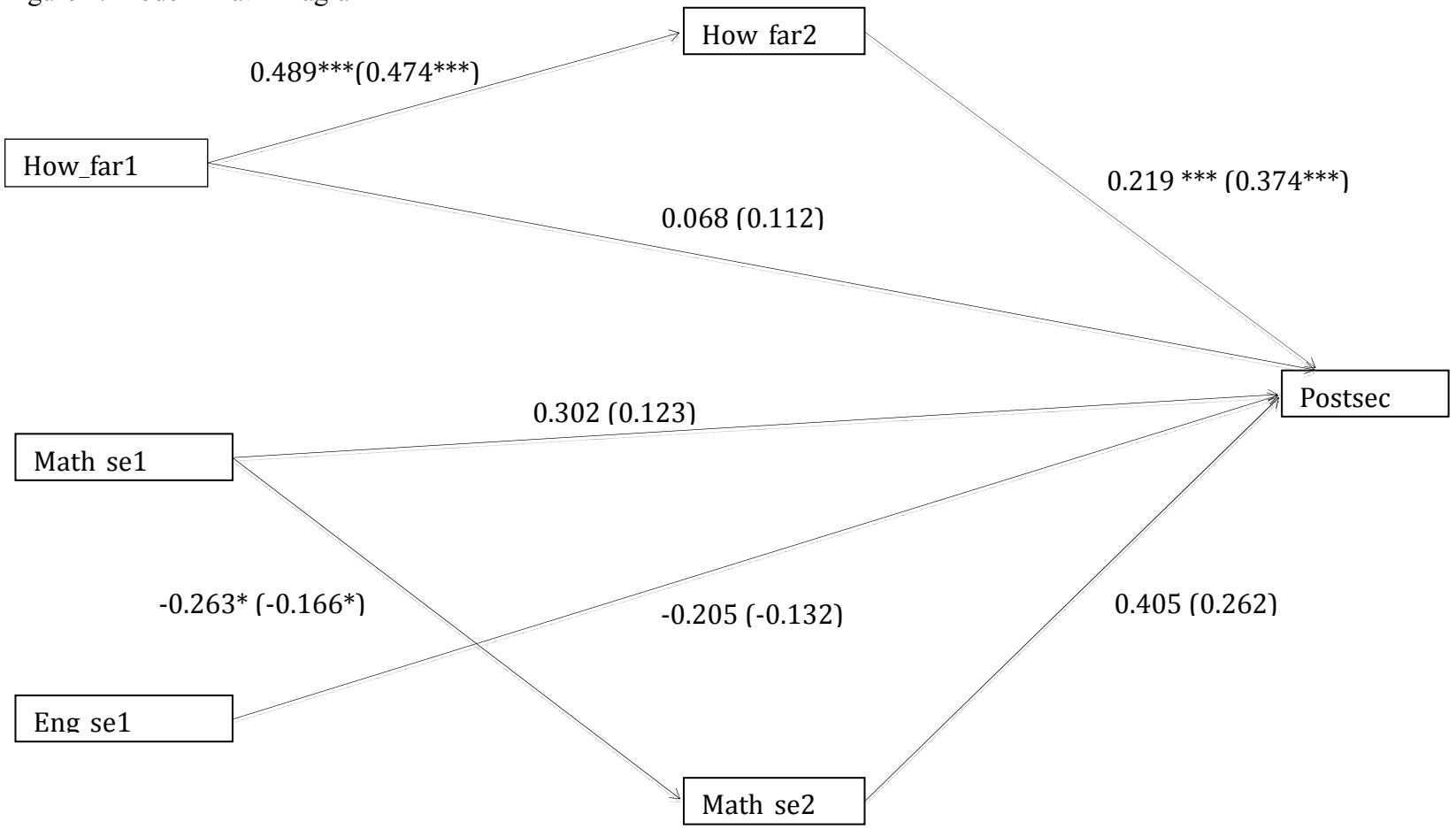

Figure 2. Model 2 path diagram depicting the relation between educational expectation at time 1 & 2, math self-efficacy at time 1 & 2, English self-efficacy at time 1, and postsecondary institution enrollment. How_far1= educational expectation at time 1; how_far2=educational expectation at time 2; math_se1=math self-efficacy at time 1; math_se2=math self-efficacy at time 2; eng_se1=English self-efficacy at time 1; Postsec=high school completion.
*p <.05. ** p <.01. *** p <.001.

Figure 3. Model 3 Path Diagram

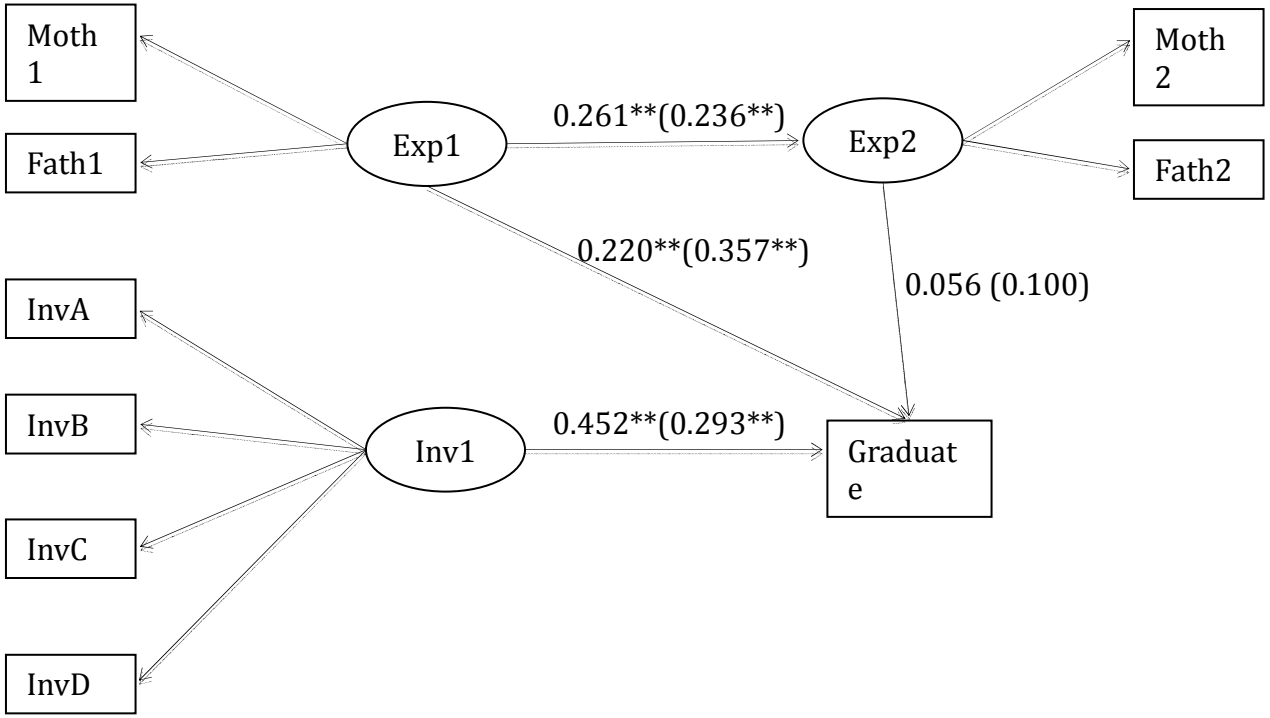

Figure 3. Model 3 path diagram depicting the relation between parental expectation at time 1 & 2, parental involvement at time 1 and high school completion. Exp1=parental expectation at time1; Exp2= parental expectation at time 2; Inv1= parental involvement at time 1; Moth1= How far in school mother wants the 10th grader to go; Fath1= How far in school father wants the 10th grader to go; Moth2= How far in school mother wants the respondent to go? (measured at time 2); Fath2= How far in school father wants the respondent to go? (measured at time 2); InvA=How often parents attended school activities with 10th grader; InvB= How often parents worked on homework/school projects with 10th grader; InvC= How often parents attended concerts/plays/movies with 10th grader; InvD=How often parents attended sports events outside school with 10th grader; Graduate= high school completion.
*p <.05. ** p <.01. *** p <.001.

Figure 4. Model 4 Path Diagram

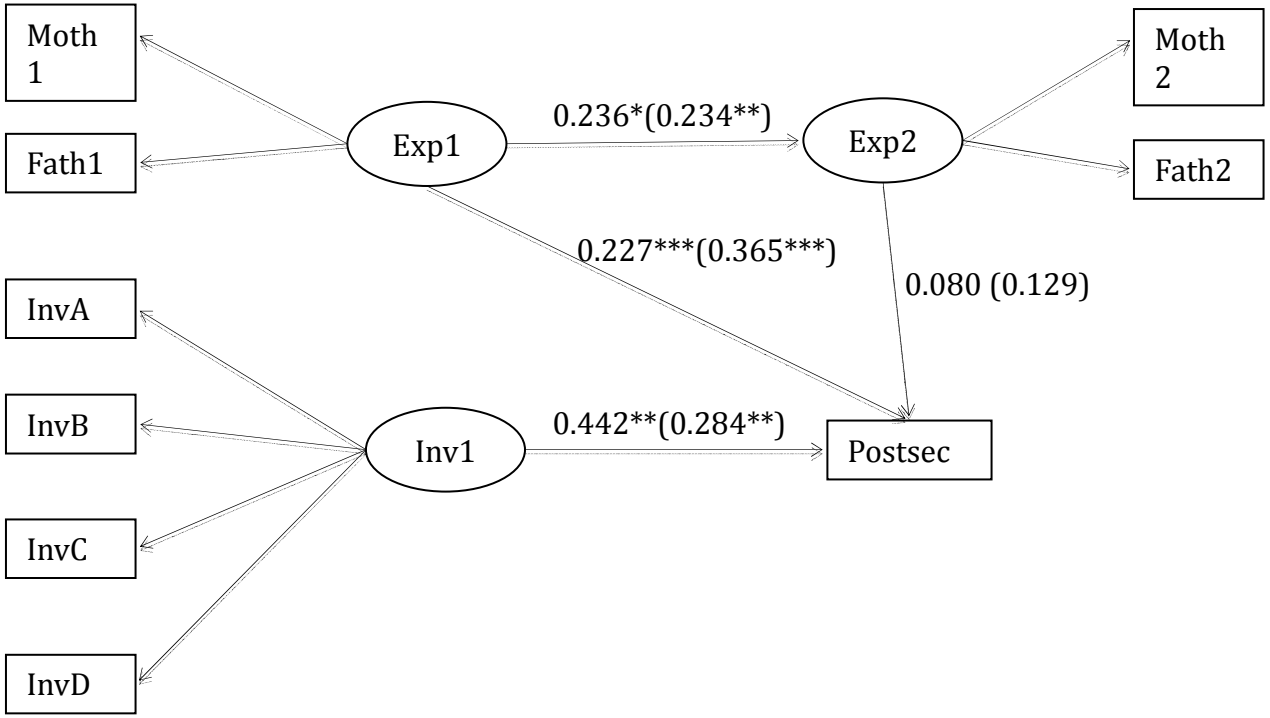

Figure 4. Model 4 path diagram depicting the relation between parental expectation at time 1 & 2, parental involvement at time 1 and postsecondary institution enrollment. Exp1=parental expectation at time1; Exp2= parental expectation at time 2; Inv1= parental involvement at time 1; Moth1= How far in school mother wants the 10th grader to go; Fath1= How far in school father wants the 10th grader to go; Moth2= How far in school mother wants the respondent to go? (measured at time 2); Fath2= How far in school father wants the respondent to go? (measured at time 2); InvA=How often parents attended school activities with 10th grader; InvB= How often parents worked on homework/school projects with 10th grader; InvC= How often parents attended concerts/plays/movies with 10th grader; InvD=How often parents attended sports events outside school with 10th grader; Postsec= postsecondary institution enrollment.

*p <.05. ** p <.01. *** p <.001.

Appendix

Table 1

Operational Variables, Items used, Labels and Values

Operational Variable	Items	Label	Values
BYSTEXP	N/A	As things stand now, how far in school do you think you will get?	1. Less than high school graduation 2. High school graduation or GED 3. Attend or complete 2-year college or 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
F1STEXP	N/A	As things stand now, how far in school do you think you will get?	1. Less than high school graduation 2. GED or other equivalency only 3. High school graduation only 4. Attend or complete 2-year college or school 5. Attend college, 4-year degree incomplete 6. Graduate from college 7. Obtain Master's degree or equivalent 8. Obtain PhD, MD, or other advanced degree
MathSE1	BYS89A	Can do excellent job on math tests	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	BYS89B	Can understand difficult math texts	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always

	BYS89L	Can understand difficult math class	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	BYS89R	Can do excellent job on math assignments	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	BYS89U	Can master math class skills	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
EngSE1	BYS89C	Can understand difficult English texts	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	BYS89F	Can understand difficult English class	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	BYS89I	Can do excellent job on English assignments	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	BYS89K	Can do excellent job on English tests	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	BYS89M	Can master skills in English class	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
MathSE2	F1S18A	Can do excellent job on math tests	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	F1S18B	Can understand difficult math texts	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	F1S18C	Can understand difficult math class	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	F1S18D	Can do excellent job on math assignments	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
	F1S18E	Can master math class skills	1. Almost never; 2. Sometimes; 3. Often; 4. Almost always
Parental Expectation (×1)	BYS65A	How far in school mother wants the 10th grader to go?	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 college incomplete 5=graduate from college 6=obtain master's degree or equivalent 7=obtain PhD, MD, or other advanced degree
	BYS65B	How far in school father wants the 10th grader to go?	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 college incomplete 5=graduate from college 6=obtain master's degree or equivalent 7=obtain PhD, MD, or other advanced degree
Parental Expectation (×2)	F1S43A	How far in school mother wants the respondent to go?	1=less than high school graduation 2=GED or other equivalency only 3=high school graduation only 4=attend or complete 2-year college/school 5=attend college, 4-year college incomplete 6=graduate from college 7=obtain master's degree or equivalent 8=obtain Ph.D., M.D., or other advanced degree
	F1S43B	How far in school father wants the respondent to go?	1=less than high school graduation 2=GED or other equivalency only 3=high school

			graduation only 4=attend or complete 2-year college/school 5=attend college, 4-year college incomplete 6=graduate from college 7=obtain master's degree or equivalent 8=obtain Ph.D., M.D., or other advanced degree
Parental Involvement (×1)	BYP57A	Attended school activities with 10th grader	1=Never 2=Rarely 3=Sometimes 4=Frequently
	BYP57B	Worked on homework/school projects with 10th grader	1=Never 2=Rarely 3=Sometimes 4=Frequently
	BYP57C	Attended concerts/plays/movies with 10th grader	1=Never 2=Rarely 3=Sometimes 4=Frequently
	BYP57D	Attended sports events outside school with 10th grader	1=Never 2=Rarely 3=Sometimes 4=Frequently
F2F1HSST	N/A	High school completion status as of summer 2004	1= Fall 2003-Summer 2004 graduate 2= Pre-fall 2003 graduate 3= Received Certificate of Attendance 4= Received GED 5= No high school credential as of summer 2004 6= Graduated, unknown if by August 2004 7= August 2004 status cannot be determined
GRADUATE (Recoded	N/A	High school completion status as of summer 2004	1=High school graduate

F2F1HSST)			2=Students with no high school credentials
POSTSEC	F2EVRATT	Whether [the respondent] has attended a postsecondary institution	1=Yes 2=No