

# **Latino Students' Expectations of School Success: Do School Supports Matter?**

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## **Dedication**

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## Abstract

### *Latino Students' Expectations of School Success: Do School Supports Matter?*

Poor educational outcomes for Latino youth at a 43% graduation rate (NCES, 2007) in the U.S. constitute a serious social problem that concerns this growing population and affects the future well being of the nation. Educational disparities ranked second only to immigration as the major concern of Latinos in a recent nationwide survey (NCLR, 2007). Prevailing research on educational outcomes for Latino adolescents contains individually focused deficit themes. Specifically, most education research on Latino youth is centered on the classroom where teacher student interaction takes place and on Latino families in a way that highlights student levels of risk rather than cultural strengths (Rodriguez & Morrobel, 2004). The bulk of research is culturally inappropriate in comparing white student populations with students of color, thereby assuming the white standard as normative (Quintana et. al, 2006). Little is known about how the school environment outside the classroom supports positive educational outcomes or about the students' own expectations of school success. Moreover, a salient feature of available research is its geography, which is mainly located in Southern and Atlantic states. The educational experiences of Latino students in states such as Minnesota that have experienced increasingly large Latino population growth, is largely unexplored.

This study examined the relationship between school supports and Latino students' expectation of school success (ESS). Responses to the 2004 Minnesota School Survey of 5,318 Latino students in grades 6, 9, and 12 was used to conduct secondary data analysis using a within group comparison method. A three-part conceptual framework was developed to guide and select variables. The model linked a *strengths perspective* from social work with *resilience* theory tied to school supports and with *Latino youth identity* as the construct connecting the student's own expectations of school success. It was hypothesized that higher levels of school support would be associated with higher levels of ESS. A path model guided the statistical analysis, which supported the hypothesis. *Feeling safe* and *feeling cared for* at school showed the greatest associations to ESS. Multivariate analysis including ANCOVA and logistic regression taking *family closeness* into account revealed that school safety and feeling cared for in the school environment are important to Latino students' ESS irrespective of family relationship.

The study contributes to the knowledge on Latino adolescent educational outcomes by giving voice to Latino youths' concerns, by highlighting the role of school supports as a source for fostering their academic competence, by challenging prevailing comparative research that historically norms whites through the use of a strengths based framework, and by providing a geographic exemplar for further study of national and state level data. Use of the Strengths approach strengthens social work theory. Future research includes increasing understanding safety and care for Latino students, exploring social work's role in bridging youth and families with learning communities, strengthening educational institutions through assessment of implicit and systemic curricula that act to subtract cultural assets, and developing evidence based interventions to reduce Latino educational disparities.

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## Definition of Terms and Abbreviation

**Latino** The term *Latino* is used interchangeably in this study to refer to males and females of Latin American birth or descent living in the United States or to people of Latin American heritage in general, such as *the Latino community*. The term *Hispanic* is used primarily when citing sources that employ this term of reference to the same ethnic population.

**Chicano/Mexicano** The term *Chicano/Mexicano* specifies persons who self identify as being of Mexican heritage or the Borderlands. The term *Puerto Rican* specifies persons of Puerto Rican heritage. In this study the term *other Latino* is non inclusive of Chicano/Mexicano and Puerto Rican.

**Immigrant** The term *immigrant* refers to a person born in another country, while the term **migrant** when used in reference to Latinos, means workers who move seasonally from state to state for agriculturally related activities, the majority of whom are U.S.-born.

### Abbreviations

**ESS** Expectations of School Success

**MSS** Minnesota Student Survey

# Chapter 1

## Introduction

According to the US census (2003), Latinos are the fastest growing US group among people of color. Latinos currently comprise 12.6% of the population and it is expected that their size will continue to grow. Although immigration is a contributing factor to this growth, birth rate contributes more, making Latinos an especially young population involving ramifications of their educational outcomes. School enrollment of Latino youngsters has increased rapidly in recent years, having nearly doubled from 1990 to 2006 and accounts for 60% of the total growth in public school enrollments over that period (Fry & Gonzales, 2008). The rapid increase has dramatic implications for research on educational issues and policies pertaining to Latino youth to the extent that they become equipped with the necessary skills to insure our future collective growth. Research on this population is therefore increasingly important.

### **1.1 Low levels of Latino high school graduation: a national problem**

Latino children's first mass institutional encounters with human services are the school systems of our nation. Young Latinos have the lowest graduation rates of people of color. During the period between 1972 and 2004, the total US population dropout rate fell from 15 to about 10 percent; for African Americans it fell from 22 to 11%. Unfortunately, while the dropout rate improved for Latinos by falling from 34% to 24%, during the same time period, Latinos remain in the highest dropout

group. Moreover, the situation is far worse for Latino children who are immigrants as nationally their high-school dropout rate is 43 percent (US Department of Education, National Center for Educational Statistics (NCES), 2006). As a consequence, the low levels of educational attainment place Latino youth at higher risk for poverty, poor health, poor housing, crime and other negative social conditions. Low graduation rates among Latinos is also felt in the society at large by showing up as social costs in labor markets, higher utilization of health care, neighborhood crime and safety and ever increasing prison populations (Chapa & De La Rosa, 2004). The Harvard Civil Rights Project (2004) report terms the educational disparities among Hispanics and blacks as an invisible crisis fraught with discrimination and the League of United Latin American Citizens (LULAC), the nation's oldest Latino civil rights organization, lists education as the number one challenge facing the population (2004).

## **1.2 Latino educational disparities in Minnesota**

The problem of low graduation rates at the national level bodes ill for Latinos but the situation is far worse in Minnesota, a state that prides itself as having among the highest graduation rates in the nation. For example, in 2001 the Minnesota graduation rate of white students was 82.5% while the graduation rates of Hispanics in the state was 46.7%, or nearly half the rate (CFL, 2001). This poses a significant social problem for all Minnesotans because the pace of Latino population growth rate for the state has increased at a rapid rate in recent years, especially among the young. Demographic data reported in 2001 show that between 1990 and 2000 the number of Minnesotans who self-identified as Latinos nearly doubled from 54, 000 to 143,000. By 2005 it was estimated the figure grew to 193,200 or more than 3.6% of all Minnesotans. A 2006 study by the Center for Rural Policy and Development, reports educational enrollment of Latino students since 2001 grew by 38%. In 2001 Latino student enrollment constituted 3.7% of Minnesota public schools. They now constitute 5.3% of students and the achievement gap is 50% or more (CFL, 2004).

### 1.3 National and state level knowledge

Over the past decade, a marked increase in research on graduation rates for Latino youth can be seen based on national or multi state data (Bohón, Johnson, and Gorman 2006; Brewster and Bowen, 2004; Feliciano, 2001; Kao, and Tienda, 1998; Lockwood & Secada, 1999; Lutz, 2007). The largest number of studies emanate from the southern and southwestern states of California (Alva & de Los Reyes, 1999; Gonzalez & Padilla, 1997; Rumberger & Larson, 1998; Supple, Ghazarian, Frabutt, Plunkett & Sands, 2006), Texas (Valencia, 2000; Valencia & Black, 2002; Valenzuela, 1999), and Colorado (Wayman, 2002). Some California studies distinguish among rural and migrant populations (Gándara, Gutiérrez, & O'Hara, 2001; Gibson and Bejénez, 2002; Morrison, et al, 1997). The Children of Immigrants Longitudinal Study (CILS 1991–2006) is a rich bi-coastal dataset that draws from samples in San Diego and Miami (Portes & Rumbaut, 2001) and is the basis of several studies (Lopez, & Stanton-Salazar 2001; Rumbaut, 1994; St-Hilaire, 2002; Stone & Han, 2005). Midwestern Latino students are represented in urban (Alfaro, Umaña-Taylor & Bámaca, 2006; Altschul, Oyserman, & Bybee, 2006; Sánchez, Colón & Esparza, 2005) and rural settings (Behnke, Piercy & Diversi, 2004; Lagerwey, Phillips & Fuller, 2003). States receiving new young Latino populations due to in-migration (Suro & Singer, 2002) have added to the growing knowledge. These include Georgia (Bohón, MacPherson & Atilas, 2005; Ibañez, Kuperminc & Perilla 2004), North Carolina (Valencia & Johnson, 2006), Oregon (DeGarmo & Martinez, 2006; Martinez, DeGarmo, & Eddy, 2004) and, Washington (Hassinger & Plourde, 2005). Beyond these national level data sets, researchers have geographically and historically concentrated their endeavors in locations where large Latino student populations are well established. If we were to map the research in the United States, a large swath could be drawn across the southern states, then the swath would narrow into a thinning band as it traveled up both coasts and contain a few sprinkles in the midsection. For Minnesota, only one peer-reviewed study was found on Latino adolescent schooling (Díaz 2005).

## 1.4 The Minnesota experience

While the Minnesota Latino population growth since 1990 is characterized as a ‘newly receiving’ state by the Pew Hispanic Center (Suro & Singer, 2002), that label only tells half the story. Historically, labor supplied by migrant farm workers has been the source of state’s wealth for over a hundred years but the conditions of social and economic inequality encountered by migrant families including poor sanitation, health and low wages that imposed the need for child labor in the fields in order to survive, compelled migrant workers to leave for more hospitable locales at harvest’s end, taking their children with them who would have otherwise benefitted from being enrolled in Minnesota schools (AFOP, 2004; Thomas, 1996; Tucker, 2000; Valdés, 1991).

Discrimination against Latino migrant families in Minnesota due to income and labor disparities is well documented (Menanteau-Horta, 2000; 2005) but perhaps the most notable social disparity is made evident in education. Whereas throughout the 20<sup>th</sup> century Minnesotans could reliably depend on the non-enrollment of children in their schools, as the harvest was over and their parents returned primarily to Texas (Cuellar, 2002), during the farm crisis of the 1980’s migrant families began to ‘settle out’ in small and medium towns throughout Minnesota to work in farm related occupations such as poultry plants and other food processing work. This meant that many communities were faced for the first time with the need to educate Latino children. It is estimated that half of the population growth Minnesota, considered as a ‘new’ Latino destination is due to the settling out by migrant workers (Fennelly & Leitner, 2002; Geller & Werner, 2006; Green, 1994). Despite the robust Latino demographic growth in Minnesota, results of a 2001 focus group study of the vitality of seven rural communities notes that the consistently high number of high school dropouts is the number one problem cited by participants as cause for alarm (Bushway, 2001). Information on Latino high school graduation rates for the urban areas of the state is unavailable, save for the above cited 47% overall state graduation rate (CFL, 2001). The current trend of poor educational outcomes for Minnesota’s Latino youth constitutes a social justice issue that begs amelioration (EPAS, 2004)

## 1.5 Research Question

Given the gap of research knowledge on educational outcomes of Latino students in Minnesota, it is imperative to understand and explore ways to increase their high school graduation rates in order to reduce the current educational disparities. Prevailing literature on this population however, contains individually focused deficit themes. Specifically, most education research on Latino youth is centered on the classroom where teacher student interaction takes place and on Latino families in a way that highlights student levels of risk rather than their cultural strengths (Rodriguez & Morrobel, 2004). In addition, little is known regarding how the school environment outside the classroom supports positive educational outcomes or about the students' own expectations of school success. It is therefore critical to engage in research that is culturally appropriate and strengths based. The present study draws from the 2004 Minnesota School Survey (MSS hereafter) and examines the relationship of school supports to the students' own expectations of school success to ask:

*Do high levels of school support predict Latino students' high expectations of school success?*

## 1.6 Outline of Chapters

Having initially discussed the problem and introduced the question for study in this first Chapter, Chapters *two* and *three* discuss the literature and the conceptual framework that guides the study. The Chapter is divided in two sections. Chapter *two* surveys the literature on Latino cultural contexts, research considerations, and cultural themes that Latino adolescents may bring to their educational encounters. Theoretical streams in research that inform educational outcomes and include acculturation, assimilation, and ecological perspectives as they relate to educational outcomes are addressed in depth consistent with the cultural themes. Chapter *three* provides the conceptual framework that guides the study. The framework links the *strengths* approach from social work, with *resilience* theory from developmental psychology and the construct of Latino identity development drawn from multidisciplinary sources.

Chapter *four* describes the method of the study. It provides an in depth description of the survey instrument and context for the 2004 MSS dataset. The research question is addressed with a

brief summary of previous research as well as a summary of the conceptual framework guiding the study. The purpose, sample and design of the study are described next, followed by a description of the selected measures. The chapter concludes with a discussion of the strategy used for statistical analysis, a path model approach comprised of three levels: descriptive statistics; use of multivariate models, ANCOVA and regression; and a final step-wise model consisting of multiple logistic regressions.

Chapter *five* presents the results of the study. Expectations of school success (ESS) was the dichotomous variable whose outcome was associated in relation to receipt of school supports. The first frequencies revealed major differences in the sample size between the 6<sup>th</sup> and 12<sup>th</sup> grade populations (44% and 18% respectively). Demographic variability by gender, ethnicity and grade level emerged in their associations to students' ESS. The most notable school support characteristics were safety and school care. Statistical (ANCOVA) results on the family context variable showed that while family holds an important association to ESS, a sense of safety and feeling cared for at school is important to students' ESS irrespective of their family relationship. When all contextual factors were adjusted, results of logistic regressions were consistent with the initial findings, most notably associating the school environment with expectations of future school success. Results of the study also showed that students' ESS was mediated by their performance and whether they liked school.

Chapter *six*, the final chapter, provides an in depth discussion of the study's results and recommendations that flow from the study. Contributions and limitations of the present study are discussed next. The chapter concludes with a discussion on directions for future research.

## **Chapter 2**

# **Literature Review**

This chapter begins with a cultural overview that provides a context for discussing educational outcomes and ways that educational practice and biases affect Latino student academic achievement. The chapter surveys the literature on Latino cultural contexts, research considerations, and cultural themes that Latino adolescents may bring to their educational encounters. Theoretical streams in research that inform educational outcomes are introduced and discussed in depth in alignment with the cultural themes. Theories include acculturation, assimilation, and ecological perspectives as they relate to educational outcomes. The chapter concludes with a summary that highlights the ways the literature informs research considerations for the present study.

### **2.1 The salience of culture in this study**

Increasingly, researchers have called for the need to study culture by examining intra group variability, and engaging in within group comparisons. This is a departure from a research tradition that compares people of color with whites and rests on the assumption of white middle class culture as normative with a consequential tendency to associate minority children with deviance and pathology. In contrast, Canino & Guarnaccia (1997) observe that: “Culture serves as the web that structures human thought, emotion, and interaction p. 124.” By conceptually placing culture at the center, stratification processes such as racism and discrimination become critical factors that medi-

ate the development and identity of youth which can be either promoting or inhibiting for positive adaptation. In reference to Hispanics, it is suggested that these traditional methods of inquiry have historically marginalized cultural attributes and strengths, failed to attend to the great variation that exists among Latino populations with regards to their history of conquest, to the effects of acculturative stress, and colonization, political and economic immigration and reception by the host country (Arrington & Wilson 2000; Cauce, Coronado, & Watson, 1998; Garcia-Coll, Akerman & Cicchetti, 2000; Quintana et al. 2006; Raffaelli, Carlo, Carranza, & Gonzalez-Kruger 2005; Umaña-Taylor, Diversi, & Fine 2002). In sum, the context of Latino educational outcomes in the United States is shaped by three broad sociohistorical processes and experiences: large-scale immigration, U.S.-Latin American relations, and racialization (Contreras, 2004). The present study, which examines the host environment where educational outcomes take place can shed light on the ways that educational systems may bridge with the students' own cultural lens towards successful outcomes.

## **2.2 Latino socialization patterns and views on education**

For traditional white middle class parents in the U.S., the goal of socialization patterns for their children is to promote autonomous individuals who will succeed because they will “stand out” from the crowd. As such, children tend to be socialized to be active, verbal, creative, and self-confident and their parents are careful to observe privacy norms and regard feedback on their child rearing practices as intrusive (Chao, 1995; Emerson, 1841; Grouling, 2010; Hassrick & Schneider, 2009; Lareau, 2002; Stewart & Bennett, 1991; Weininger & Lareau, 2009).

In contrast—although great variability abounds—there are culturally identifying features that frequently differentiate Latinos from non-Latinos. One feature is the tendency of Latinos to be *allocentric* or *collectivist* that is, to define their identity in relation to others rather than to self. Family or *familism* is paramount to Latinos in child rearing practices with the goal of good parenting being the development of a sense of social connection and interdependence among people, particularly family members. During adolescence, gendered role differences tend to be more pronounced among Latinos. Desirable child and adolescent outcomes include being tranquil (*tranquilo*)

or even-tempered, being respectful (*respetuoso*) and being well mannered and caring (*bien educado*) (Canino & Guarnaccia 1997; Castex, 1994; Delgado & Stefancic, 1998; Ginorio & Huston, 2001; Gutierrez, Yeakley, & Ortega, 2000; Longres, 1995; Malgady & Zayas, 2001; Pedraza, 2000).

While cultural themes of placing emphasis on family, on collectivism and interdependence, on respectfulness, and on proper manners are common features of Latino life, it does not follow—as prevailing public discourse suggests—that Latinos, particularly Mexican Americans, do not value education. To subscribe to the belief that Latino parents do not value education as an explanatory factor for their children’s low high school graduation rates, only serves to stereotype Latino youth (García & Guerra, 2004; Valencia & Black, 2002; Villenas & Deyhle, 1999) and counters the realities Latino survey data (NCLR, 2006; Pew Research, 2009). This study adds to the knowledge by countering this form of deficit thinking.

### **2.3 Theoretical contributions on Latino youth education outcomes**

The bulk of research on Latino youth graduation outcomes flows from different yet frequently overlapping theoretical perspectives that provide a context for understanding Latino student adaptation and educational achievement. The literature surveyed covers the concepts of acculturation and assimilation, and ecological theories of culture (oppositional identity) and systems (person in environment). Research conducted on the educational outcomes from the standpoint of the different perspectives is addressed.

### **2.4 Acculturation**

Acculturation is broadly understood as the changes that cultural groups undergo when they come into contact with one another, while retaining some cultural traits. In the acculturation continuum, the process often entails conflicts such that the minority’s culture is displaced by the dominant group’s culture on the journey to assimilation (Kottak, 2007). The acculturation of Latino youth requires the psychological resilience to resist damaging depictions of their ethnic group and group pressures to remain loyal to one culture to the exclusion of the other. Such pressures may stem from

culturally based conflicts in the family Christiansen (1997) and elsewhere that may overwhelm the coping resources available to the adolescent (Hovey & King, 1996; Ontai-Grzebik & Raffaelli, 2004; Vega, Zimmerman, Warheit, & Gil, 1998). For some youth disrupted family structures due to the migration process may be significant (Guarnaccia, 2005). For others, language brokering (Buriel, Perez, Dement, Chavez, & Moran, 1998; Martinez, 2006) may be problematic, though less so for females (Weisskirch, 2005). These acculturation pressures often result in acculturative stress that is frequently part of Latino adolescent socialization and development. Among the outcomes of acculturative stress, researchers have found several problem behaviors for youth, especially for males (Coatsworth, Szapocznik, Kurtines & Santisteban, 1997), higher levels of substance use (Gil, Vega, & Dimas, 1994), and increased risks for experiencing critical levels of depression, suicidal ideation and violence (Holleran, & Jung, 2005). As Quinones-Mayo & Dempsey (2005) put it, Latino adolescents bridge four worlds: childhood, adulthood, the world of their origin, and that of the host society.

### **Acculturation effects on educational outcomes**

Several California studies show the effects of acculturation pressures on academic outcomes throughout adolescence. Hawley, Chavez, & St. Romain (2007) compared the responses of white and Latino school children aged 8–11 east of Los Angeles, Ca. on acculturative stress, coping, self perception and academic achievement. These children showed higher acculturative stress, used higher levels of social support, showed lower levels of global self worth based on their physical appearance and, were perceived by their teachers as having lower levels of academic achievement. In their study of 177 ninth graders in a public Los Angeles high school, Alva & de Los Reyes (1999) show a strong link between psychosocial stress and an increase in internal symptomatology coupled by a decrease in academic achievement even after controlling for demographic variables and multiple levels of *acculturative stress*. For older adolescents, Zárate, Bhimji, & Reese (2005) reported on interviews with about 80 students in grades 11 and 12 who attended Los Angeles area school districts. These students were part of a longitudinal study that tracked them from the time they were kindergartners. Using school performance data and interview responses, Zárate and col-

leagues examined the adolescents' identities, self-labeling and academic achievement. A cultural dimension to ethnic identity and a bicultural identity emerged as significant predictors of academic performance although no single ethnic label showed definitive relationship with academic performance. Across adolescent development, acculturation levels were found to be significant in a study of high school students in grades nine to twelve by Martinez, DeGarmo, & Eddy (2004) in Oregon where Latino students with lower levels of acculturation or parental and institutional support tended to have less academic success than more acculturated or socially supported Latino students. The interplay between Latino student's cultural characteristics and the acculturative pressures they face, adds a level of stress that can affect their academic performance and underscores the study's culturally appropriate design.

## **2.5 Assimilation**

While acculturation phenomena help to clarify first generation pressured encounters, sociologists have referred to the process of assimilation to explain the absorption of individuals from different ethnic backgrounds into U.S. society that in subsequent generations culminate in a single American identity. Historically, it was understood that the assimilation process occurred in a straight-line with the most frequently used metaphor for the closing of social distance between immigrants and the dominant society being the melting pot (Gordon, 1961). Straight-line assimilation notions were assumed to occur in the time span of about two generations for European immigrants who arrived at the dawn of the 20<sup>th</sup> century, but the experience of many persons of color and Latinos does not match those assumptions.

### **Segmented Assimilation**

An alternative explanation to straight-line assimilation presented by Portes & Zhou (1993), suggests that rather than moving in a single trajectory, the process of assimilation consists of multiple paths, or segments. This theoretical perspective, that is traceable in the second and third immigrant generation, is known as segmented assimilation wherein depending on circumstance, immigrants are

channeled into different segments of American society. The three major segments are: The classically understood path of acculturation to the middle class. The second pattern may lead immigrants directly to downward assimilation to a life of permanent poverty termed by Portes and Zhou as the underclass. The third pattern associates rapid economic advancement with deliberate preservation of the immigrant community's values in tight solidarity. Three distinct features make key contributions to these patterns of segmentation: the first is skin color, subjecting individuals to a process of racialization that may be previously unknown; the second is location in or away from inner-cities; and the third is the presence or absence of mobility ladders from co-ethnic communities.

### **Segmented assimilation effects on educational outcomes**

The theory of segmented assimilation was tested in the Children of Immigrants Longitudinal Study (CILS 1991–2006). According to principal investigators Portes and Rumbaut (2001), the purpose of the study was to examine the trajectory of second-generation youth from 8<sup>th</sup> grade up to adults to age 24 and as such is uniquely suited for the exploration of educational outcomes. Participants were recruited in public and private schools in the metropolitan areas of Miami/Ft. Lauderdale in Florida and San Diego, California. Using data from the first wave, Rumbaut (1994) compared the psychosocial adaptation of the children of Asian, Latin American and Caribbean immigrants. Regression analysis, support the segmented assimilation perspective with Rumbaut noting that children who attend inner city public schools in poor neighborhoods are less likely to succeed in school than adolescents attending upper-middle-class private schools. Studies of subsequent waves of CILS data specifically that focused on Mexican American youth highlight their disproportionate poverty and the pervasiveness of racist stereotypes that prohibit upward mobility and educational achievement, including perceptions of school climates being strongly and consistently related to perceptions of discrimination and school performance (Lopez & Stanton-Salazar, 2001; St-Hilaire, 2002; Stone & Han, 2005).

Segmented assimilation effects on school outcomes appear to also apply at the national level. Landale, Oropesa, & Llanes (1998) compared census data of Mexican origin youth with non-Hispanic whites with respect to generational status and found that third generation Mexicans were

more likely to drop out of school than second generation Mexicans and non-Latino whites. Residential location also makes a difference such that youth residing in the central city or areas with unfavorable economic characteristics are more likely to drop out of school than others. Similarly, analysis by Kao & Tienda (1995) of national data highlights socio economic factors (SES) to explain differences in grades and test scores between Latino immigrant and native students.

Outside the scope covered by CILS, San Diego high school students' social network relationships were studied by Stanton Salazar and Spina (2003) who point out that the absence of structural relationships within the school environment that could advance the social status of students by means of *social capital* (Portes, 1998) has harmful consequences for poor urban Latino students. The authors posit that the lack of social capital in school adds an additional barrier to achievement in institutions that have a history of stereotyping and debasing the cultural, linguistic, and phenotypic features as well as blaming their families for a variety of societal ills.

Segmented assimilation features appear to apply to new Latino destinations in the Southeast as well (Bohón, Macpherson, and Atilés 2005). However, when Hispanic students are supported through special programming and feel included, they develop a positive academic identity and become successful (Jodry, Robles-Piña, and Nichter, 2004; Mehan, Hubbard, & Villanueva, 1994) regardless of generational status (Ibañez, Kuperminc, Jurkovic, & Perilla, 2004). As Zhou (1997) succinctly summarized, growing up American can be a matter of smooth acceptance or traumatic confrontation as the host society offers uneven possibilities to different immigrant groups.

## 2.6 Ecological Views

### Cultural ecology

In 1981, educational anthropologist John Ogbu proposed a cultural ecological perspective to the study of minority student achievement away from middle class contextual norms. Ogbu argued that assumptions of school success fostered for minority parents failed to take structural barriers into account and were therefore wrong. Ogbu explained variability in educational achievement among minorities by developing a typology of minority populations that includes: *Autonomous minorities*,

those who are defined numerically only, such as Mormons; *Immigrant minorities*, populations who arrived more or less voluntarily for greater well being and economic opportunity such as European immigrants; and, *Caste-like or involuntary minorities*, whose arrival to the US was the result of involuntary servitude, conquest, or colonization. Ogbu placed impoverished Mexicans and urban ghetto Blacks in the third category, positing that involuntary minorities appear to develop a social identity in opposition to the dominant group following their subordination. Because such perceptions are collective and enduring and are characterized by conflict and mistrust, they negatively affect social adjustment and academic performance. As a result, some youth may take on an oppositional identity when they perceive that their efforts in school are unlikely to pay off within a racist society (1987, 1991).

### **Cultural ecology effects on educational outcomes**

Several scholars support Ogbu's *oppositional identity* theory as an explanatory factor for low academic achievement among Mexican descent youth. Matute-Bianchi (1991), demarcated the ethnic identities and achievement orientation in Southern California by differentiating among them with respect to their minority status, process of incorporation into the United States, and perceptions of and responses to the experiences of discrimination, limited opportunities and subordination. In her cross-generational anthropological study of Mexican high school students in central California, Gibson (1998) found teachers' negative attitudes towards their students and parents' use of Spanish influenced the way that students felt about themselves and their identity. Students who expressed in their interviews the greatest unease about having their identity devalued were those who were placed in remedial classrooms with low teacher expectations in 9<sup>th</sup> grade because they spoke Spanish as their primary language, the language of their parents. Witnessing the devaluing processes of placement in classrooms where expectations were low and teachers made no efforts to reach out to parents, second generation students were less willing to accommodate themselves to prejudice and discrimination than their first generation peers. Third generation students were children who lived in poverty, saw few opportunities in education and were most likely to drop out. Teaching and school climates play a key role in perception of discrimination and performance. Valenzuela (1999)

conducted a landmark study of a Houston, Texas high school over a three-year period using ethnographic interviews and school records detailing a process she calls *subtractive schooling*. Valenzuela frames students' oppositional stance as having originated and been promoted by the schools themselves through institutional procedures such as not crediting language and culture, disenrollment for absences (purging students from school records), and high stakes testing that systematically seek to erase students' Mexican cultural identity, making them vulnerable to poor performance and lowered academic expectations. For example, students' cultural understanding of *educación* (*education*) includes feeling cared for so they were opposed to being schooled by a system that acted to erase this understanding. At Sequín High (a pseudonym), teachers expected students to care about school while students expected teachers to care about *them*. Feeling cared for and respected is an important dimension of school support that informs the present study.

### **Person-in-Environment: Contexts of families and schools**

#### **Ecodevelopmental theory**

In addition to the cultural view of ecology there is a systems perspective that essentially borrows from biology and is conceptualized as being ecodevelopmental. Ecodevelopmental theory is based on Bronfenbrenner's (1979,1986) ecological perspective, which proposes that individual development is influenced through the life course in interaction with four levels of the social environment. The model is a familiar theoretical base for social work and family social science practitioners. Each level in the eco system fits within the next, such that the model can be represented as a set of nested Russian dolls, beginning with the macrosystem, exosystem, mesosystem, and finally centering on the microsystem. Ecodevelopmental theory emphasizes the importance of understanding individual developmental outcomes as a product of the person's interaction with his/her environment and typically highlights the systemic nature of family-neighborhood-community-school connections as intervention domains (Pantín, Schwartz, Sullivan, Coatsworth & Szapocznik, 2003).

**The role of Latino families** Because ecodevelopmental theory highlights the influence of family on the individual's development, it fits like hand in glove with the Latino cultural characteris-

tic of familism (Cauce & Domenech-Rodriguez, 2002; Koss-Chionino & Vargas, 1999; Rumbaut, 2004; Updegraff, Killoren, & Thayer, 2007). For example, Umaña-Taylor (2004), found significant relationships that emerged between ethnic identity and self-esteem among Latino adolescents through familial ethnic socialization processes regardless of their numerical representation in multiple school settings. And when adolescents of European and Latino descent were compared, familial socialization was found to be nuanced by gender with sons of Latina mothers showing the highest levels of ethnic socialization (González, Umaña-Taylor & Bámaca, 2006).

**Ecodevelopmental family research on educational outcomes** The theme of family involvement as a key contributor to academic success, figures prominently in educational literature and in public discourse. However, only a handful of studies have examined the connection between positive academic outcomes and Latino parents' role in fostering them. Supple, Ghazarian, Frabutt, Plunkett & Sands (2006) found that familial ethnic socialization was significant for positive academic outcomes, positive identity exploration, and a protective factor for southern California adolescents of Mexican and Central American heritage. Ibañez, Kuperminc, Jurkovic, & Perilla (2004), surveyed 129 Atlanta Latino adolescents and found that a sense of school belonging and parental involvement was positively related to achievement motivation, especially for more highly acculturated students. For Ibañez and colleagues, the findings highlight the value that Latino cultures attach to collectivist and affiliative socialization goals that influence achievement.

### **Ecology of school environments and their effects on performance**

Researchers agree that the school is the most important institutional environment involving all levels of the eco system in the socialization and adaptation of Latino immigrant children. School systems—at the micro, exo and meso levels—can influence the development and maintenance of antisocial or pro-social behavior (Chapman & Perreira, 2005; Reinke & Herman, 2002), and can be a powerful source of social support and bonding as well as influence Latino youth's investment in academics (Demaray & Malecki, 2002; Garcia-Reid, Reid, & Peterson, 2005; Marsiglia, Miles, Dustman, & Sills 2002), especially for Latinos who attend better quality schools where there is less

poverty, exhibit lower levels of anti-social behaviors (Eamon & Mulder, 2005).

Yet schools are often the site where Latino students first encounter prejudice and negative stereotypes about their academic abilities (García & Guerra, 2004; Gibson, 1998; Quiroz, 1997; Valverde, 2004). Multiple observers have made a connection between ethnic bias and school performance (García Coll et al, 1996; Phinney, Madden, & Santos, 1998; Stone & Han, 2005) and on the structural barriers and institutional practices (DeGarmo & Martinez 2006). Urban Latinos attend some of our country's most segregated and poorly funded schools which frequently cannot address Latino students' special language and other cultural needs (Chapa & Valencia, 1993). While perceptions of discrimination within the school environment can be a powerful force influencing academic performance, it is an irony that the literature on perceived discrimination does not overlap with education literature that seeks to explain persistent achievement gaps among Latino groups (Fisher, Wallace & Fenton, 2000).

### **Teacher student relationships:**

Teacher student relationships figure prominently in the ecology of student performance. The strong relational orientation among Latinos extending from family to school suggests that teacher relational support is more psychologically important for Latino students who may view the teacher role as an extension of the parental role (Alfaro, Umaña-Taylor & Bámaca 2006). The classroom setting can be a source of support that promotes academic achievement among high risk (Brewster & Bowen, 2004; Prelow & Loukas, 2003) or new immigrant students (Valencia, & Johnson, 2006). School programs that take into consideration students' lives outside of school and their impact on both teaching and learning in a context that is caring, account for successful academic engagement and retention (Gibson & Bejinez, 2002; Reinke & Herman, 2002; Stanton-Salazar & Dornbusch, 1995). Unfortunately, a lack of culturally appropriate connection between teachers and students that blames minority students for their academic failures appears to be the norm (Villenas & Deyhle 1999) and can produce psychosocial stress by negatively impacting student academic outcomes (Alva & de Los Reyes, 1999). When the teacher-student disconnect is repeated in multiple classrooms within a given school, then the consequence may be that the school becomes the source of risk for Latino

students (Padrón, Waxman, & Rivera 2002).

The role of teacher valuations of students exerts a great influence on outcomes. In a study of an urban Southeastern school district that examined cross-cultural differences in European-American teachers' explanations for the causes of school problems among African-American, European-American, and Hispanic-American 5–11 year-olds showed differential attributions. For European-American children, teachers tended to use situational explanation of problems such as 'child has problems at home' while for African-American and Hispanic-American students, teachers tended to use personal explanations of youth problems such as 'child has become disrespectful, hostile and aggressive and is not taking responsibility.' Thus, these attributional differences pointed out hidden assumptions that produce and reproduce social inequalities (Jackson, 2002).

#### **School-student relationships:**

Although school climates are considered important, knowledge on Latino student interaction in the school environment outside the classroom is virtually non-existent, unless it touches literature on school dropout. Available knowledge on some school variables such as peer relationships, safety, and organizational policies can confound school climate issues depending on the measures used. But some school characteristics do influence positive academic outcomes. For example, Finn & Voekel (1993) suggest that clear and reasonable rules that are fairly and consistently enforced can affect student performance and promote feelings of pride and responsibility in the school community. Drawing on school dropout and school effectiveness research, Rumberger & Thomas (2000) used longitudinal data from the National Center for Education Statistics (NCES) to examine student demographics and school level variables such as teacher-principal relations, school organization, and attendance policies that may reflect poorly on schools. Rumberger and Thomas found that although much of the variation in drop out rates could be attributed to background characteristics of the students, school processes and resources measured by fair policies, school safety, stable staffing and academic climate, influenced dropout and especially turnover rates to a greater degree. In their words: "*Students drop out of school, schools discharge students.*" (p. 45).

## 2.7 Summary

Shared features of Latino culture such as relational orientation, familism, and education as manners, should be the basis for the study of Latino student educational outcomes. For newly arrived immigrant and migrant students, understanding acculturative pressures and their effect on performance is important. So too is the recognition of uneven possibilities for educational success through segmented assimilation processes for second and third generation students, some of whom may develop an oppositional identity in response to perceived oppression in the school environment. Ecological frameworks within schools, especially teacher student interaction aid in the knowledge on structural and relational barriers that hinder performance. However, what is known about cultural attributes has not been incorporated into education research on Latino youth.

### **Patterns in the literature that appear to be problematic**

A majority of research on Latino youth educational achievement is based on analysis of national data that uses a single pan-ethnic Hispanic label without regard to differences in spoken Spanish, reasons for migration, or historical variations in reception by the host country. As such, an inaccurate or rather incomplete portrayal is presented. By using a within group comparison method, the present study attends to the reality of Latino variability.

Research conducted at the local level has produced knowledge where Latinos are numerically well represented and established for two generations or more. This geographical constraint represents a gap in the literature representing youth in states that have experienced high Latino growth. This study offers an opportunity to better understand variances on educational expectations in Minnesota, provides a comparison to national level studies, and can also inform on educational experience of Latino youth in new growth states.

The bulk of existing research contains individually focused deficit themes that seldom consider the cultural gifts and contributions made by Latinos. For example, whereas family life is central to Latino life, the literature suggests that Latino families are the source of problems for academic success unless they've been acculturated or assimilated to the US way of life, thus suggesting that it

is families who must adapt rather than a mutual adaptation occurring on the part of the educational system. By using a strengths rather than a deficit perspective, this study shifts the balance in viewing Latino families as a source of strength and provides the possibility of strengthening educational system adaptations towards successful outcomes of the growing Latino student population.

Finally, available education literature focuses on teacher student interaction within the classroom and on perceptions of discrimination in the school environment. However there is a dearth of the literature on specific elements of the school environment that may be associated with Latino educational outcomes. Moreover, the literature on perceived discrimination does not overlap with education literature that attempts to explain persistent achievement gaps. By attending to characteristics in the school environment beside teacher student interaction, the present study seeks to fill the knowledge gap and present a fuller picture of the school environment.

## Chapter 3

# Conceptual Framework

This chapter provides the conceptual framework that guides the study. It combines a Strengths approach from social work, Resilience theory from developmental psychology and the construct of Latino identity development drawn from multidisciplinary sources. While some overlap can be found with the literature review of Chapter 2, much of the literature was not previously covered.

Following the presentation of the conceptual framework, a section that flows from the Latino identity development construct is added. It provides identifying cultural elements that may exert influence on Latino youth and inform their expectation of school success. That section concludes with a discussion of the available literature on expectations of school success. The chapter concludes with a summary of the conceptual framework.

When conducting a secondary data analysis as is the case in the current study, it is important to provide a conceptual framework that connects the question to the data, guards against data mining, and uses a multidisciplinary approach (Hofferth, 2005; O'Brien, 2005). This chapter introduces a conceptual framework that guides the study to answer the question: *Do high levels of school support predict Latino students' high expectations of school success?*

The framework of the present study consists of a three-part model that uses a Strengths perspective in social work as an overarching research lens linking resilience theory with the construct of Latino youth identity development, as illustrated in Figure 3.1(p.47). School support is conceptualized as nested in resilience and students' expectations of school success are conceptualized as

emanating from Latino youth identity.

The model begins with an overview of the Strengths perspective in social work and discusses available social work literature concerning Latino students. Cross-disciplinary research that uses a Strengths approach is also reviewed. The Strengths Perspective as the research lens guiding the study is addressed. The second part of the conceptual framework introduces resilience theory. The historical development of resilience theory in psychology is traced from the discovery of individual attributes to its shift to domain specific attributes leading to the current understanding of resilience as successful adaptation to adversity through relationship. Protective and risk factors found in individuals, families and the environment and hallmarks of resilience research are highlighted. Resilience literature in the educational domain is covered in depth. Sociological and cross-disciplinary contributions on Latino educational resilience round out the discussion and illustrate ways that supports found in the school environment may be related to academic outcomes. The third part of the conceptual framework considers Latino identity formation in adolescence and the means by which this identity informs the student's own expectations of school success. Overarching psychological aspects of identity development, followed by attention to ethnic identity development, succeeded by a focus on the cultural context of Latino identity development is discussed. In addition to the psychological literature, knowledge drawn from multiple theoretical perspectives that include acculturation, assimilation and ecological contexts on Latino adolescence is incorporated. The role of school domains and their influence on culturally permeated Latino identity development and academic performance is highlighted next.

Moving from the circumstances under which Latino identity may develop, a portrayal of Latino youth characteristics is presented. The discussion on identity development concludes with coverage of what is known about the academic expectations and aspirations of Latino adolescents. The chapter concludes with a summary of the conceptual framework.

### 3.1 Strengths Perspective

Social work is a problem solving profession centered on ecological, eco-systemic, person in environment theories that assume peoples' growth occurs through interactions with their environment. The interaction is understood to be bi-directional. That is, human behavior and the social environment continually interact and influence each other (Germain & Gitterman, 1996; Reynolds, 1951; Towle, 1945). But, because attention on problem solving is most frequently focused on individuals rather than on their environment, social work—as well as other helping professions—is vulnerable to obscuring environmental conditions and placing undue burden of problem solving on individuals for solutions that are out of their control. Frequently, this contributes to a view that attributes individual failings as the cause of their own problems, which results in negative labeling, pathologizing, and stereotyping of individuals (Karger & Stoesz, 2002; Weick, Rapp, Sullivan, & Kisthardt, 1989).

In response, the Strengths Perspective (SP hereafter) represents an approach that, while nested within social work's ecological framework of person-in-environment, explicitly opposes pathological understandings, in particular those most closely associated with the medical model. In the SP clients are seen in light of their capacities, talents, and competencies rather than their deficits. These capacities are viewed as untapped and unappreciated strengths through which people are more apt to grow in a positive direction when practitioners build upon and foster their strengths. The social context figures prominently in the approach as the SP posits that all environments have resources and possibilities and thus places emphasis on resilience. Six essential principles are identified in the SP: 1. Individuals, groups and communities all have strengths and potential for transformation; 2. Adversity can be a source of opportunity as well as challenge; 3. Suspension of disbelief: the capacity to grow and change should not be underestimated; 4. Collaboration and partnership is deployed in every context for devising solutions; 5. Every environment is full of resources and opportunities for contributions that should be maximized; and 6. Caring, caretaking and context: assistance that produces hope (Saleebey, 1997). The application of SP principles to research on Latino students is examined next.

### **Strengths Perspectives research on Latino youth**

Social work literature focusing on Latino youth is sparse (Gutierrez, Yeakley, & Ortega, 2000). Nevertheless, some researchers have begun to address this population. Chapman & Pereira (2005) outlined an ecological model of Latino youth in schools that called for a contextual understanding of new immigrants who come from racially homogenous countries and who may be unprepared to cope with an externally imposed identity as an ethnic minority. Familiarity with Latino cultural attributes of *respeto* (respect), familism and biculturalism were highlighted in Chapman & Pereira's model as cultural strengths that could be tapped. The authors suggested that a sense of school safety, teacher support and satisfactory experience were important factors for successful outcomes. Previously, Aguilar (1996) found that the use of cultural strengths and a reduction of cultural barriers made a difference in school retention for college bound Mexican American women who were the first in their families to attend college. Richman, Rosenfeld & Bowen (1998) found that perceived social supports are significant factors in educational persistence among youth at risk, including Latinos. When Brewster & Bowen (2004) compared school engagement, parental support and teacher support in the reduction of risk for school failure in a national sample of Latino middle high school youth, they found that teacher support is important for school engagement beyond the support provided by their parents. That is, tapping into teachers' relational regard for their students can be a powerful source for engagement that aids in successful academic outcomes of early adolescent Latinos.

Social work research that explicitly uses SP to study Latino youth is sparse as only three articles were found in the past fourteen years, only one of which specified the school environment. Garcia-Reid, Reid, & Peterson (2005) were guided by a strengths based approach when they tested a path model predicting school engagement, which included neighborhood, school environment variables, and social support variables in northern New Jersey middle schools. They found supports were important in buffering the negative effects of exposure neighborhood and school violence as well as in promoting school engagement promoting positive academic outcomes.

At the community level, two strengths based studies on Latino youth were found: Delgado (1996) investigated Latino natural support systems in Holyoke, MA, through use of a community

assets assessment, as an alternative to a needs assessment. A later study also by Delgado (1997), used cultural pride and self-esteem towards prevention of substance abuse. In both cases, the expectation of participation by the youth themselves provided a sense of positive agency and potential for leadership development.

### **Education literature that infers a Strengths Perspective**

Available literature on Latino youths' educational outcomes tends not to use social work's strengths language but common themes can be identified across research domains that echo the SP. For example, Koss-Chionino & Vargas (1999) use Brofenbrenner's (1986) model to promote the centrality of culture as a source of strength for working with Latino youth. Use of specific strengths principles identified by Saleeby (1997) can be seen in the work of several researchers. Stanton Salazar & Dornbush (1995) studied the responses of Mexican origin students from six high schools in the San Francisco-San Jose California area using a social capital model and found that institutional connections such as teacher-student and counselor-student connections represent a necessary condition for students' school engagement and advancement of their educational achievement. Catterall (1998) investigated the success of minority middle school students who turned their grades around in a positive direction and cautioned against deficit views of "risk by association" in education research that are akin to sociological characterizations of notions of "culture of poverty." Rumberger and colleagues (1998, 2000) researched differences in educational achievement among Mexican American students who were the numerical majority in a Los Angeles school and found that organizational structures such as teacher support for promoting biculturalism as an addition to bilingualism, act as a deterrent against school dropout regardless of SES. Similarly, Waxman & Padrón (2004) suggest that the school environment is an important element of teacher student relationships and Osterman (2000) reviewed education literature that identifies student belonging to school communities as a counterforce to marginalization for positive educational outcomes. Garcia & Guerra (2004) introduced a conceptual framework for deconstructing deficit thinking through staff development with emphasis on creating equitable learning environments to counter the impulse to "fix" Latino students and their families. Finally, Rodriguez & Morrobel (2004) reviewed over 1000 youth de-

velopment empirical articles and found a lack of inclusion of Latino youth. Noting that when this population was included, the articles were on the whole deficit oriented, the authors advocate an asset rather than deficit orientation towards the study of Latino youth development. It is suggested that the relationship between these authors' "asset" orientation and the SP is compatible with its principles.

### **The Strengths Perspective as a Research Lens**

According to Saleebey (1997), culture and ethnicity are important sources of strengths and assets in the SP. Yet frequently persons who are viewed as being culturally different are not viewed by others in a positive light and are often marginalized. Indeed, Ann Weick suggests that the essence of being marginalized is to be seen as being different (2000). Although Latino adolescents arrive at school settings with multiple cultural strengths, the educational disparities that marginalize Latino youth keep them from achieving parity with their peers. This is an essential concern for social work that strengthens the understanding social problems facing oppressed populations (EPAS, 2008) for strengths research that highlights the cultural resources of Latino youth remains hidden in the literature. The SP offers a theoretical link between the culturally unique strengths of Latino students and the construct of resilience. In so doing, the SP provides a potentially powerful lens that enhances our understanding of Latino student's educational plight in two ways: First, the process of analyzing their responses to school supports in relation to their expectation of school success gives voice to and knowledge of their condition. Second, the results of the study provide information to educational administrators that can be utilized to strengthen educational systems' capacities to enhance the delivery of their services to Latino youth.

## **3.2 Resilience**

The concept of resilience is addressed from psychological and from sociological perspectives. In developmental psychology, resilience is a theory that seeks to explain successful adaptation in adversity—wherein the environment figures prominently. While developmental researchers also

ness resilience in Bronfenbrenner's eco-developmental model, the psychological dimensions of how individuals receive the environment in terms of protection and risk is investigated with greater emphasis in research across different domains, notably in school settings. In sociology, the understanding of resilience comes from the concept of social capital (Bourdieu, 1985; Coleman, 1988; Portes, 1998) and includes the constructs of *belonging*, *attachment*, and *engagement*. The convergence of both resilience perspectives is relied upon in this study as an anchor that ties school support to focus on Latino student educational outcomes.

### **Resilience in Development: Historical Overview**

Thinking about resilience was generated in the field of developmental psychopathology in the 1960's and 1970's when it was noted that some children were well adjusted despite growing up under adverse circumstances such as parental schizophrenia. Rather than considering the children who did well as atypical, various researchers proposed that exploring the circumstances of children successfully growing up in adverse circumstances could yield important clues about positive adaptation and about development in general (Anthony, 1974; Garmezy, 1974; Rutter, 1979). Methods for the new line of inquiry emphasized prospective rather than retrospective research. Examples include the longitudinal study of children at risk in Kauai, Hawaii that began in 1954 (Werner & Smith, 1992), the work of Michael Rutter in the Isle of Wight and inner city London (1979), and Project Competence at the University of Minnesota (Garmezy, Masten, & Tellegen, 1984). The new approach marked a departure from the symptom based medical view of pathology and emphasized focus on positive outcomes and the factors that promote them (Luthar, 2006).

Having initially identified some children as "invulnerable" or "hardy," the naming was revised after variations of invulnerability were observed to take place over time and according to circumstance. Thus, the phenomenon was renamed "resilience" and it came to be understood as a dynamic process subject to change coupled with the ability to spring back from adversity rather than the previously conceived static invulnerability (Garmezy, Masten, & Tellegen 1984, Rutter, 1987). Two dimensions now define and are subsumed by resiliency: significant adversity (risk) and positive adaptation (protection). That is, successful adaptation *requires* exposure risk in order to be termed

resilience (Masten, Hubbard, Gest, Tellegen, Garmezy, & Ramirez, 1999).

### **Child, family, and environment resilience**

The most widely understood framework for studying resilience summarized below is comprised of sets of person-focused factors that can be visualized by the ecology of three concentric circles. The first circle deals with characteristics found in individuals; the second proximal area of concern and surrounding the first, deals with family characteristics and the third, outer circle is concerned with the greater environment (Masten & Garmezy, 1985; Werner & Smith, 1992).

*Child* characteristics considered to be protective include high intellectual functioning, self efficacy, ability to self regulate emotions, active problem solving about life, positive attachment to caring adults, compliance with pro-social behaviors, social competence with peers, and academic achievement (Masten & Coatsworth 1998; Rutter, 1985). Child risk factors that pose a threat to positive adaptation for individuals include low birth weight, sensory deprivation, lack of self-esteem, child maltreatment and, low academic achievement (Cicchetti & Cohen 1995; Rutter, 1979). Protective *Family* characteristics, include positive attachments or involvement by at least one parental adult including extended kin who provides positive and supportive parenting (Werner & Smith, 1992), limit setting and monitoring, residential stability, and family routines (Garmezy 1993, Rutter 1987). Authoritative parenting in which structure and warmth are combined, appears to confer high levels of protection (Luthar, 2006; Masten et al., 1999; Werner & Smith, 1992). Familial risks include domestic violence, divorce, parental mental illness, low social status, household overcrowding, low parental education, lack of access to health care, chronic illness and catastrophic life events (Rutter, 1979; Masten & Coatsworth, 1998). *Environmental* characteristics regarded as protective for positive adaptation of children and youth include extended social networks, positive peer relations, safe neighborhoods, parental school involvement, and attendance at schools that promote high academic achievement and foster a sense of belonging (Gonzalez, Cauce, Friedman, & Mason, 1996, Guttman, Sameroff, & Eccles, 2002). Environmental risks include lack of access to quality education and employment, poverty, racism, discrimination, inadequate social supports, neighborhood violence, crime, and the prevalence of substance abuse (Cauce, Felner, & Primavera, 1982;

Smokowski, Mann, Reynolds, & Fraser, 2004).

### **Markers of resilience theory**

Cumulative knowledge in the study of resilience has resulted in several shifts in understanding of the phenomenon and can be summarized as follows: *Risk factors are additive*: Early studies focused on single risk factors but the data showed that risk factors co-occur with other risk factors and these increase vulnerability. For example, the effects of poverty and low educational attainment posed challenges that guided researchers to study the risks in clusters instead of singly (Bogenschneider, 1996; Jessor, 1993; Masten & Coatsworth, 1998; Masten & Powel, 2003). On the other hand, conferring multiple protections to young populations in a universal manner rather than to individuals appear to have long lasting effects (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999). *Resilience is malleable*: Studies of Romanian orphans who were adopted by families in the United Kingdom during the 1990's provide compelling documentation of youngsters' ability to catch up in their physical and cognitive development when reared under normative, protective conditions (Ames, 1997; Rutter & ERA Study Team, 1998). *Resilience is not constant and varies according to circumstance*: at times some youth may appear resilient but their trajectory may be derailed by anxiety and distress (Luthar, 2003). *Resilience is domain specific*: Positive adaptation in the neighborhood environment does not necessarily confer competence in the school sphere (Fergus & Zimmerman, 2005; Gonzales, Cauce, Friedman & Mason, 1996; Smokowski, 1998). *Resilience is relational*: A positive relationship with at least one caring adult has shown to be an enduring marker of successful adaptation despite adversity well into adulthood (Masten, 2001; Werner & Smith 1992). *Resilience is not a personal attribute*: Though research on resilience is often focused on individuals (Carbonell, Reinherz, & Giaconia, 1998; Condly, 2006; Waller, 2001), assigning individuals the resilient label is a misnomer. According to Masten and Powell (2003):

“To call a person resilient would be improper in diagnostic terminology because resilience is a description of a general pattern, whereas diagnosis occurs when the individual is matched to the pattern” (p. 4).

*Resilience occurs irrespective of class and race and culture, though not of gender:* Variations of positive adaptation take place across cultures but what is considered resilient in one community may not be so in other communities. For example, individual autonomy may be a marker of positive adaptation in white, middle class communities that foster independence but this may not be the case in communities where familial interdependence is the norm (Hawkins, et al., 1999; Luthar 2006; Werner and Smith, 1992). On the other hand, differential responses with regard to gender are to be expected because gender socialization is a gendered activity that is thought to be universal (Oyserman, Bybee, & Terry, 2003). However, issues in resilience research regarding culture seem to parallel concerns expressed in other fields of inquiry. According to (McAdoo, 1992) the explicit consideration of culture in developmental research and the role it plays in risk and protection has not been widely explored nor specified. This gap is noteworthy because the emphasis of resilience research is as an interactive, relational process in which culture is implicated and, because the available research may place an undue expectation on individuals being responsible for their own resilient outcomes (Arrington & Wilson, 2000; Jessor, 1993). Instead, García Coll and colleagues (1996) proposed an integrative conceptual model that emphasizes the influence of race, ethnicity, culture and social class and ways in which these issues inform the understanding of development and growth of minority children and their families on their own terms, beyond traditional between group comparisons that favor white normative standards (García Coll, Akerman, & Cicchetti, 2000).

In sum, the literature across several decades of research reveals that resilience resides in the interaction between an individual's attributes and the extent of supports received from the environment with explicit attention to the role of culture in conferring risk and protection. When Latino youth enter the school environment, the bridges they cross await conditions of risk and protection that may either promote or interfere with their educational development towards successful adaptation and graduation into adulthood. In nesting resilience in the environment, the current study strengthens the linkage between receipts of school supports to individual expectations of academic success.

**Resilience research in education**

Educational resilience (sometimes called academic resilience) is defined as “the heightened likelihood of success in school and other life accomplishments despite environmental adversities brought about by early traits, conditions, and experiences” (Wang, Haertel, and Walberg, 1994, p.46). The bulk of research on educational resilience is focused on the personal attributes of minority students at risk (Brewster & Bowen, 2004; Condly, 2006; Finn & Rock, 1997; O’Connor, 1997), by comparing resilient and non-resilient students on important family and individual background characteristics (Gonzalez & Padilla 1997; Waxman, Gray, & Padrón, 2004), and on individual focused classroom processes of teacher-student relationships that foster support (Bernard, 1997; Dubois, Felner, Mearns, & Krier, 1994; Gutman, Sameroff, & Eccles, 2002; Rosenfeld, Richman, & Bowen, 2000).

While knowledge regarding individual characteristics make an important contribution to educational resilience research, the frequent association of individuals as members of ‘at risk’ groups may expose the research to criticism of bias and negative stereotyping based on the assumption that membership in a given minority group may result in the individual being labeled at risk. Caterall (1998) has named this assumption “risk by association.” Focus on individuals also implies that they bear the primary responsibility for their school failure (Rumberger & Larson, 1998). Instead, Waxman, Gray & Padrón (2003) suggest that student failure attributed to individuals may be associated with school environments where students cannot choose which schools or classes they attend. In the same vein, Masten (1994) noted that limited resources in the school environment may prevent students from achieving resilient educational outcomes, and even when families may confer strong protections, these may not be sufficient to overcome risks found in underfunded schools. Yet research on the school environment beyond the teacher student relation is minimal (Borman & Rachuba, 2001; Waxman et al., 2003). By focusing on the relation between school supports to educational success, the study endeavors to contribute knowledge about the school environment beyond the classroom.

### 3.3 Further Perspectives on Resilience in Education

Sociologists have made significant contributions to the understanding of resilience in education settings based on the concept of social capital (Bourdieu, 1985; Coleman, 1988; Portes, 1998) through which the school environment is analyzed on variables of *belonging*, *attachment*, and *engagement*. Using the national AddHealth data set, Johnson, Crosnoe, & Elder (2001) examined attachment (affective) and engagement (behavioral) variables to compare minority student responses with respect to race and ethnicity. They found that Hispanic students are more attached than white students in middle school than African American students who were as equally attached as whites but African American students were more engaged than any other race or ethnic group. The authors also found that students are more attached to school when they attend schools with proportionately more students of their own group. *Belonging* is a significant and overlapping theme with attachment and engagement. Referencing the ideas of educator philosopher John Dewey on the necessity for building school communities in combination with Vygotsky's theories of proximal social development, Osterman (2000) framed belonging as a need for acceptance in the school community that facilitates learning and enables student efficacy. According to Reinke & Herman (2002), promoting a sense of belonging is a key element in the study of school climate strategies for deterring antisocial behaviors and, Finn & Voelkl (1993) found that school engagement is an important structural component of educational resilience, suggesting that students' identification with the school they attend and their extent of feelings of belonging are related to academic achievement.

Just as conferring multiple protections can have long lasting effects on behaviors, this is also the case for educational resilience. Yet the multiplier effects of risks in one domain may be so overwhelming as to impede transfer to the educational domain (Cauce et al., 2003). But studies by Gutman & Midgley (2000) and Gutman, Sameroff, & Eccles (2002) show the importance of school supports—defined as teacher support and belonging—in combination with parental support as maximizing protection for those African American students who are most vulnerable to academic failure. Institutionally, Borman & Rachuba (2001) compared four different elementary school models and found that a supportive school community model which includes as a safe and orderly school envi-

ronment that actively shields students from adversity represents the most powerful characteristic for promoting academic resiliency. According to Rosenfeld, Richman, & Bowen (2000) the centrality of perceived teacher support is effective for educational success but teacher support alone is not as effective as when students feel that teachers are part of a support network of parents and friends. This is also true on a longitudinal basis. A study by Smokowski, Mann, Reynolds, & Fraser (2004) suggests that protective factors such as early intervention and school supports availed through social capital have a stronger influence on long term academic achievement than risk factors.

### **Interdisciplinary perspectives on Latino Educational Resilience**

Specific research focused on the academic resilience of Latino students, highlights cultural elements by explicitly specifying the protective component of family relations for school success. (Alfaro, Umaña-Taylor, & Bámaca, 2006; Crean, 2004; Gibson & Bejénez, 2002; P. R Portes, 1999). For example, Garcia-Reid, Reid & Peterson, 2005 investigated Latino middle school students in New Jersey using Bowen & Richman's School Success Profile Scale (2001) to determine school engagement, school safety, social support, and teacher support. They found that teacher support and school safety are positively related to school engagement and positive academic outcomes when combined with parental support. Teacher support was found to be more significant than parental support on academic outcomes of middle and high school students at risk for school failure (Brewster & Bowen, 2004), and school belonging was shown to have a positive relationship on school achievement for Puerto Rican and Mexican descent adolescent students irrespective of gender (Sánchez, Colón, & Esparza, 2005).

Studies of Latino students in relation to academic resilience shed light on the risks incurred resulting from discriminatory experiences and acculturative stress in schools (Alatorre & de Los Reyes, 1999; DeGarmo & Martínez, 2006, Padrón, Waxman, & Rivera, 2002; Stone & Han, 2005). At the same time, protections may be derived from student's adherence to traditional norms such as familism and language retention (Feliciano, 2001; Gonzales & Padilla, 1997), particularly when these elements are supported by school-based relationships (Jodry, Robles-Piña, & Nichter 2004). An interesting cultural difference was found in a study by Prelow & Loukas (2003) who found

that neither parental involvement with schools nor student engagement in extra-curricular activities, strategies frequently advocated as normative for whites, were shown to be significant for Latinos. Prelow and Loukas' research also underscores the need to examine within group differences that are advocated by researchers of Latinos youth (Alatorre & de Los Reyes, 1999; Bohón, Johnson, & Gorman, 2006; Feliciano, 2001, Umaña-Taylor & Fine, 2001). For example, Latino migrant students' status distinguishes them from their Latino non-migrant peers in that they actively seek out teachers for support—beyond academics—for concerns in their daily lives (Morrison, Laughlin, San Miguel, Smith, & Widaman, 1997).

Resilience research from psychological and sociological perspectives posit that the extent to which schools are hospitable environments where growth is either hindered or promoted is related to academic outcomes. The next section addresses Latino youth identity to better understand what this student population brings to the educational environment they encounter.

### **3.4 Latino youth Identity development**

The third part of the conceptual framework considers Latino identity formation in adolescence and the means by which this identity informs the student's own expectations of school success. It begins with a discussion of overarching psychological aspects of identity development followed by attention to ethnic identity development, and goes on to focus on the cultural context of Latino identity development. Knowledge drawn from multiple theoretical perspectives including acculturation, assimilation and ecological contexts informing Latino adolescence is summarized. The role of school domains and their influence on culturally permeated Latino identity development and academic performance is highlighted next. Moving from the circumstances under which Latino identity may develop, a portrayal of Latino youth characteristics is presented that then moves onto what is known about the academic expectations and aspirations of Latino adolescents. The section concludes with a summary statement on the salience of Latino youth identity development for the conceptual framework for the study.

### **Theoretical perspectives on Adolescent Identity Development**

The development of identity is commonly understood in psychology as a critical factor for adolescents as it shapes the course of their future life. Early theorizing on identity formation began with the writings of William James (1890) and is now understood to be a multidimensional and multifaceted process that is sensitive to social forces. Two major perspectives inform adolescent identity development: *ego identity* and *social identity*. In the ego identity perspective (Erikson, 1968) individuals focus on the self as they construct and reconstruct their identity by exploring values, goals and beliefs, by making commitments in domains of future occupations, interpersonal relationships, and ideologies. In Erickson's view, adolescence is a time of crisis during which existential answers are sought for questions such as *who am I?* and *where do I belong?* that determines the future self.

In contrast to Erikson's personal self, social psychologists Tajfel & Turner (1986) propose that individuals derive a social *identity* that is rooted in the sense of belonging to a given social group and self image is determined by the ramifications that flow from the "social categories to which the individual perceives himself (*sic*) as belonging" (p. 16). From a social identity theory perspective, positive in-group identity produces feelings of self-worth and motivation to enact group identity but can also lead in the opposite direction by internalizing negative valuations about one's group.

### **Ethnic Identity Development**

A number of researchers have advanced both ego and social identity theories to suggest that the process of identity development can be more significant for members of ethnic minority groups because in addition to facing the common challenges of identity development, minority youths must make sense of what their ethnic identity means to them. Thus, a key issue in the developmental course rests on the feelings of belonging to a group and the identity derived from that group. When an individual is a member of a group that is highly valued, social identity needs no modification but if that individual is in a context where the group is less valued, then the person may have to engage in further self-evaluation to negotiate their identity (Altschul, Oyserman & Bybee, 2006; Chapman & Ferreira, 2005; French et al., 2006; Martinez, 2006; Ontai-Grzebik & Raffaelli, 2004; Padilla, 2006; Quinones-Mayo & Dempsey, 2005; Quintana et al., 2006; Rodriguez & Morrobel,

2004; Supple et al., 2006, Valencia & Johnson, 2006).

The connection between ethnic identity and self-esteem appears to be closely linked. In 1989, Phinney proposed a staged model of ethnic identity exploration with respect to self-esteem and psychological adjustment that differentiates early, mid and late adolescence (*unexamined, explored, affirmed*) and subsequently developed a measure—the Multigroup Ethnic Identity Measure (MEIM, 1992)—which became the basis for several studies. In 1997 Phinney and colleagues examined ethnic and American identity as predictors of self-esteem among Los Angeles, CA African American, Latino, and White adolescents. The cross-sectional study sought to examine different predictors of self-esteem within each group. The authors found that for White adolescents, group membership in American identity made no difference on their self-esteem but for Black and Latino youth, ethnic identity is an important contributor to a sense of self and positive worth (Phinney, Cantu, & Kurtz, 1997). Building on the Phinney’s staged model, French, Seidman, Allen, & Aber (2006) used the MEIM scale in a longitudinal study in the Northeastern U.S. to compare group esteem among African American, Latinos, and European American adolescents. They found that African American and Latinos scored lower on group esteem and experienced higher levels of exploration as they transitioned to senior high school than their European American peers. Another longitudinal study of urban Black and Latino adolescents Pahl & Way (2006), found that racial and ethnic identity exploration is mediated by the experience of discrimination among low-income high school students. But the study also found that Black and Latino students displayed equally high levels of affirmation over time. Thus, the developmental trajectory of minority youth from unexamined to exploration and onto affirmation suggests that there is a relationship between self-esteem and identity development.

### **Latino youth identity development**

Because culture is so thoroughly embedded with identity, it permeates all aspects of lived experience in shaping developmental processes and outcomes (Canino & Guarnaccia, 1997). Garcia-Coll and colleagues (2000) suggest cultural issues are uniquely salient to minority populations that account for their variance in the developmental process with certain *non-shared experiences* defining

identity and developmental pathways. These include the effects of social positioning, racism and segregation.

For Latino adolescents, the context of their identity development comprises a heritage of multiple influences including history, conquest, time of immigration, generational status, social class, political status, and colonization. The complexity of these factors is often difficult to translate into quantitative research. According to García Coll (2005), the role of the cultural context is crucial to the identification of new modes of inquiry in the social sciences that must be conceptualized beyond a backdrop against which identity unfolds. For example Contreras (2004) among others, points out that the pan-ethnic term Latino is itself inadequate as some Latinos are among the oldest Americans, having made their home in the Southwest well before there was a United States while some Latinos are among the newest Americans. Furthermore, in a highly racialized society, ethnic identity and bicultural orientation may be imposed on Latinos depending on their phenotype, thereby placing additional burdens on adaptation and identity development (García Coll et al., 1996; Oyserman, Brickman, Bybee, & Celious, 2006; Padilla, 2006; Suárez-Orozco & Suárez-Orozco, 1995).

Source knowledge on Latino youth identity development that informs the current study comes from multiple perspectives that include acculturation, assimilation, and ecological theories detailed in the first section of this chapter and are summarized here. *Acculturation* pressures help us understand the developmental challenges faced by Latino youth as they attempt forge their identity by negotiating the worlds of childhood, adulthood, ethnic origin at home, and the host society (Quinones Mayo & Dempsey, 2005). In turn, these pressures add psychosocial stresses that can affect academic performance and expectations (Alva & de Los Reyes, 1999; Hawley, Chavez, & St. Romain, 2007; Ibañez, Kuperminc, & Perilla, 2004; Martinez, DeGarmo, & Eddy, 2004; Zárata, Bhimji, & Reese, 2005). *Segmented Assimilation* shows that generational differences manifested in identity formation and adaptation are dependent on the host society's acceptance or rejection of immigrant groups (Zhou, 1997). Location appears to shape paths to identity formation that Rumbaut (1994) calls the "*crucible within*" such that minority youth attending inner city urban schools with few resources are more likely to define themselves in terms of group identities particularly Black and Chicano, are less likely to identify ancestrally by national origin and, are least likely to

identify as American. The consequences of labeling are important to Latino identity because by the time they reach the second generation, these youth face negative conditions that include limited social resources and negative ascriptions of their potential (Gibson & Bejinez, 2002; Lopez & Stanton-Salazar, 2001; St-Hilaire, 2002; Suárez-Orozco, 1987). The *ecological cultural* perspective formulated by Ogbu (1981) describes ways that negative ascriptions of Latino youth can lead to the development of oppositional identities in reaction to perceived oppression (Gibson, 1998; Matute-Bianchi, 1991; Valenzuela, 1999). In the mean time, scholars focusing on *person in environment ecological perspectives* have highlighted the centrality of the family in Latino culture in shaping Latino identity formation in adolescence (Koss-Chionino & Vargas, 1999; Updegraff, Killoren & Thayer, 2007), the significance of familial ethnic socialization on identity exploration and affirmation that is mediated by gender (Umaña-Taylor & Fine 2004), and the role of the family as a positive influence on identity achievement (Ibañez et. al, 2004).

### **Connections to School Performance**

School environments are important institutions in shaping identity formation of Latino youth. As discussed above, schools can influence the development and maintenance of antisocial or pro-social behavior and can be a powerful source of social support and bonding as well as influence Latino youth's investment in academics (Demaray & Malecki. 2002; Marsiglia, Miles, Dustman, & Sills, 2002). At the same time, they can be the source of ethnic bias that may attenuate positive adaptation and identity formation (García Coll et al, 1996; Ogbu, 1981; Stone & Han, 2005) and may contribute to increased achievement gaps in education, especially for Latino youth who live in urban settings (García & Guerra, 2004; Quiroz, 1997).

Viewed from a cultural lens, Latino youth undergo multiple and complex challenges in their developmental journey that are unique to them as they navigate the cultural context of the school domain. For example, Latino adolescents may face a special challenge as they try to make sense of the concept of individualism and personal responsibility commonly promoted in schools in light of a home background that is likely to be influenced by interpersonal relationships and extended kin networks where interdependence is more valued than independence (Koss-Chionino, & Vargas,

1999). While Ontai-Grzebik & Raffaelli (2004) suggest families exert a greater influence on identity exploration than peers, the extent of available social connections within school settings that help bridge identity and culture can be a psychologically powerful force that aids the developmental journey. In comparison to other populations, teacher student relationships may play a more heightened role with respect to self-esteem and successful identity development for Latino youth than school peer relationships (Alfaro, Umaña-Taylor & Bámaca, 2006; Chapman & Perreira, 2005; Gibson & Bejinez, 2002; Stanton-Salazar & Dornbusch, 1995).

Although the connection between identity, self-esteem, and educational performance among Latino youth has not been clearly spelled out, promising research is beginning to emerge. Supple, et al. (2006) found a connection between positive ethnic identity affirmation and positive school performance in their study of Southern California Latino adolescents. Altschul, Oyserman, & Bybee (2006) used a model consisting of connectedness to one's group, awareness of racism, and embedded achievement (REI) to examine African American and Latino 8<sup>th</sup> graders in mid adolescence of who were randomly selected from 3 low income schools in Detroit during a two year time period. Their results show that youth with high connectedness and embedded achievement attained a better grade point average and youth high in connectedness and awareness of racism at the beginning of 8<sup>th</sup> grade attained better GPA through 9<sup>th</sup> grade. The present study adds to the emerging knowledge by giving voice to Latino youth responses on their expectations for school success.

### **3.5 Contours of Latino youth identity**

Providing an understanding of the circumstances surrounding Latino youth identity development in relation to school performance is necessary but not sufficient for the present research. It is also important to ask: Who are these Latino youth? Identifying specific demographic characteristics that differentiate and exert influence among Latino adolescents strengthens their portrayal and locates their place in the conceptual framework of the present study. The following list of Latino youth characteristics may inform their expectation for school success.

## **Gender**

Gender identity and school performance figures prominently in multiple studies of Latino adolescents. Some researchers argue that since sex differences and cognitive understandings of educational experiences coupled by structural barriers often produce differing outcomes for Latino students, they should be studied separately and in addition take into account gender differences in parenting practices as these may influence motivation on academic achievement (Alfaro et al., 2006; Kao & Tienda 1998; Umaña-Taylor, 2004).

Gender has been found to be a contested area for young Latinas who often must adhere to traditional roles and expectations that include higher levels of familial control (Canino & Guarnaccia, 1997; Rumbaut, 1994). According to Bohón, Macpherson & Atilas (2005), in many Mexican communities, the expectation is for females to marry at age 16, thereby influencing educational choices in favor of rearing their families. Ginorio & Huston (2001) report on national data from the CDC and from the Department of Education that Latinas are more likely to fear for their safety at school than any other minority group. Girls of Mexican descent experienced the highest rates of depression among other Latinas in the CILS study (P. R. Portes & Zady 2002). Gender differences were found in a North Carolina study (Valencia & Johnson 2006) where females scored lower on acculturation levels and perceived more barriers but reported higher academic aspirations as well as in a Chicago study of Mexican and Puerto Rican descent 12<sup>th</sup> graders who showed higher academic outcomes for female students than for males (Sánchez, Colón, & Esparza, 2005).

## **Bilingualism**

Bilingualism is fraught with controversy in the education literature as to whether it interferes or enhances successful educational outcomes. Teachers' perceptions matter as they may steer students into remedial classes that in turn may affect student self esteem (Gibson, 1998). Controlling for socioeconomic status, Lutz (2007) analyzed data from the National Education Longitudinal Survey (NELS: 88 & NCEES, 2003) and found that Spanish language maintenance is associated with a greater likelihood of high school to completion than for Non-Hispanic whites. Feliciano (2001) used national census data to compare deconstructed pan Asian labels and pan Latino labels to measure

dropout rates. Bilingual students are less likely to drop out than English-only speakers and students in bilingual households are less likely to drop out than those in English-dominant or English-limited households. Feliciano argues that being bicultural is a useful asset for educational success, suggesting that bicultural youth are best situated to enjoy educational success because they are able to draw resources from both the immigrant community and from mainstream society. A similar conclusion was reached by Stanton-Salazar & Dornbusch (1995) in an earlier study of San Diego high school students that found that highly bilingual students had higher grades than did English-dominant students partly because they could avail more social capital in their schools through larger information networks and ties to school personnel. Rumberger & Larson (1998) tracked students in grades 6 through 9 in a single school in Los Angeles and found that English proficient students who came from Spanish-language backgrounds, were generally the most successful in school. Another dimension of bilingualism involves language brokering activities that were studied by Buriel, Perez, Dement, Chavez, & Moran (1998) who found that language brokering was positively related to biculturalism and in turn, positively related to academic performance.

### **Time of arrival and generational status**

Initial encounters with school systems during adolescence vary with respect to country of origin and economic status characteristics (Bohón, Johnson, & Gorman, 2006). In many Central and South American countries schools are run more strictly and require greater levels of deference to authority. As a result, students may behave more passively while the more open structure of some U.S. classrooms may lead youth to act in ways that are atypical for them, thus affecting their school performance (Canino & Guarnaccia, 1997). In addition, educational levels differ in some sending countries where school resources are scarce. Many Mexican parents who arrive to the U.S. from poverty stricken rural areas may consider themselves well educated if they completed the 6<sup>th</sup> grade (Bollin, 2003).

Generational issues affect identity and performance as reflected in the earlier discussion on segmented assimilation. Multiple CILS studies reveal the relationship between reception by the host country and its time dependent nature that is linked to identity development and academic achieve-

ment (Portes & Rumbaut, 2001; Rumbaut, & Portes, 2001, Valenzuela, 1999). Carola & Marcelo Suárez-Orozco (1995) documented notable group differences between first and second generation Mexican-Americans. Whereas in the first generation expectations of academic achievement run high, by the time of the second generation a transformation has taken place such that expectations have taken a downward turn. But for third generation Latinos the outlook may be improved when a sense of school belonging is fostered (Gonzalez & Padilla, 1997).

### **Migrant and rural/urban status**

Yet another within group difference can be found among Latino adolescents whose parents differ with regards to their occupations. Gibson & Bejénez (2002) compared the school performance of Mexican-descent migrant students with their non-migrant peers and found that migrant students persist in high school in significantly higher numbers than non-migrant Mexican classmates. Gibson & Bejénez attribute support from the federally funded Migrant Education Program (MEP) for fostering a sense of belonging and community by facilitating student engagement, fostering caring teacher-student relationships, providing access to institutional support, and implementing activities that build from and serve to validate students' home cultures. Similarly, Gándara, Gutiérrez, & O'Hara (2001) compared differences among Latino and white Anglo students high school students in urban and rural settings and found major differences in the ways that youth viewed their educational futures. Of particular relevance to the present study, Díaz (2005) examined school attachment of Latino students in rural Minnesota. Besides finding a reduction of high-risk behavior with higher levels of attachment, Diaz found that Latino students in rural areas who were born outside of the United States were more attached to their school than Latino students born in the United States.

### **Peer influences**

Research attention on peer influences within the school domain reveals a complex picture. Padilla (2006) explains that whereas school institutions can be thought of as transmitters of Americanization processes through special programming and curricula, peers may assist in this process via English-language role modeling and American youth culture orientation. Students whose peers emphasize

the value of education are more likely to be academically successful than their counterparts (Fuligni, 1997; Gonzalez et al., 1996) and the provision of social support provided by peers appears to make a difference in positive educational outcomes (Alva & de Los Reyes, 1999; Driscoll, 1999; Gándara, Gutiérrez and O'Hara, 2001; Richman, Rosenfeld, & Bowen, 1998; Santon Salazar, 2001). Peer influences also appear to be neighborhood dependent such that students who attend schools located in neighborhoods with high concentrations of poverty may be academically at risk (Garcia-Reid, Reid, & Peterson, 2005; Masten et. al 1999; Waller, 2001) especially if they receive disapproving messages about those who excel at school. Thus, these students may downplay their academic abilities in an attempt to fit in, resulting in attenuated academic aspirations (Fordham & Ogbu, 1986, Matute-Bianchi, 1986).

### **3.6 Expectations of School Success**

The present study frames Latino students' expectations for school success as emanating from their culturally permeated identity. In collectivist cultures, the valuation of others can be a powerful influence on identity formation. As Latino youth undergo socialization processes in a cultural context that is marked by interdependence, their expectations to succeed academically may stem from a desire to achieve for others rather than for themselves. Nevertheless, adolescents who are encouraged by others to see themselves as bright and competent are more likely to take on an academic identity that incorporates high expectations for their future. Yet only a handful of studies focus on the academic aspirations and expectations of Latino youth irrespective of their individualist or collectivist orientations. Moreover explicit research on ways to tap cultural strengths of Latino students to help them fulfill their academic aspirations is virtually non-existent (Alfaro, Umaña-Taylor, & Bámaca, 2006; Gándara et al., 2001; Jodry et al., 2004; Lagerwey, Phillips, & Fuller, 2003; Rodriguez & Morrobel, 2004).

Sociologists generally agree that educational aspirations influence educational outcomes although variations of these aspirations is underrepresented for Latino students. In a frequently cited study, Kao & Tienda (1998) analyzed data from (NELS: 88) to determine differences in educa-

tional aspirations for a single cohort of white, black, Hispanic and Asian boys and girls. The study showed that while a significant share of minority youth have high educational aspirations at every grade level, they differ in the extent to which these aspirations are maintained over time such that black and Hispanic youth have less stable aspirations and parental SES was found to be a significant factor in the maintenance of high aspirations throughout the school years. To better understand their data, Kao and Tienda held focus-group discussions. The interviews revealed that black and Hispanic youth are relatively uninformed about college, dampening their odds of reaching their educational goals in comparison to whites and Asians. Investigations that explicitly focus on Latino adolescents appear to support Kao and Tienda's parental SES claims. A qualitative study by Behnke, Piercy, & Diversi (2004) of in-depth interviews with 10 rural Latino families yielded two major themes on educational aspirations and factors affecting those aspirations: 1) A lack of basic knowledge about the educational system and the opportunities it offers; 2) Economic barriers often exhaust parents' available time and energy such that only half of the parents were aware of their youth's aspirations.

While the lack of basic knowledge about educational opportunities may attenuate students' expectations due to parental SES, other factors such as *acculturation*, *segmented assimilation*, and *social capital* may be just as influential. In their North Carolina study of Latino middle and high school students Valencia & Johnson (2006) considered levels of acculturation in relation to academic aspirations. Students with low acculturation levels scored higher on their academic aspirations to achieve than their more highly acculturated counterparts, but the highly acculturated students were more specific on their goals for attending college, thus suggesting that the more highly acculturated students had a greater familiarity with what is necessary to obtain a career in the U.S. Considering segmented assimilation, St-Hilaire (2002), used data from the Children of Immigrants Project to analyze the responses of Mexican origin eighth and ninth grade students attending San Diego urban and suburban schools. Results indicated a nearly universal desire in favor of high levels of educational attainment. But, when asked what they realistically expected to achieve, students responded with lower expectations. In St-Hilaire's study the variation between desire and expectation was significantly associated with parental SES and length of U.S. residency, with the most recently arrived students expressing higher expectations. Social capital considerations highlight the importance of

parental access and guidance in fulfilling their children's educational aspirations. Gándara, Gutiérrez, & O'Hara, (2001) compared Latino and white students on the process of forming postsecondary aspirations in two central California high schools, one urban and one rural. The researchers found that in the urban school white and Latino students differed in the ways they viewed their prospects for post secondary education, as white students played down the extent of their privilege, but in the rural school they tended to be more alike. A common characteristic shared by all the students was their perception that school would go on forever. The authors emphasize that the effects of this perception may be manifested differently for white and Latino students. Parents with social and cultural capital may be better able to shepherd their children through deliberate guidance towards college bound educational opportunities.

The preceding discussion makes clear that although parental SES is an important factor, other forces are at play in influencing Latino youth's expectations for school success. Moreover, parental SES is insufficient in explaining variations in educational aspirations and expectations among different Latino groups. In the only study found that examines Latino within group differences on aspirations and expectations, Bohón, Johnson, & Gorman (2006), used data derived from the Add Health national study to examine college aspirations and expectations of Cuban, Mexican, Puerto Rican, and non-Latino white high school aged groups. The authors applied variables of immigrant status, language use, socioeconomic disadvantage, and other family demographic characteristics as well as student's academic skills and levels of engagement in school. Latino heterogeneity was evident in their findings as Bohón et al. found that parental education, family income, immigrant generation, and speaking English at home do not matter in the same way across Latino groups: Mexicans and Puerto Ricans had weaker aspirations and expectations than Cubans. Although for Mexicans and for Puerto Rican students poverty is significant, for Cuban students aspirations and expectations remain highest than any other group even when adjusting for these measures. Bohón, and colleagues suggest that their findings reflect the unique and privileged history of Cubans in the United States compared to the "caste-like" conditions of Mexicans and Puerto Ricans. Drawing on the segmented assimilation framework, the authors observe that Cubans may have a greater tendency to cluster in affluent communities where the external messages that underscore the expectation of

college attendance may be more salient regardless of parental education or SES

The bulk of knowledge on Latino students' expectations for school success suggest agreement that parental SES is an important factor but parental social status is only a part of a complex cultural context. Cultural issues salient to Latino adolescent identity such as gender, urbanicity, acculturation, segmented assimilation, country of origin, familial socialization and peers appear to be just as influential to student's expectations for school success.

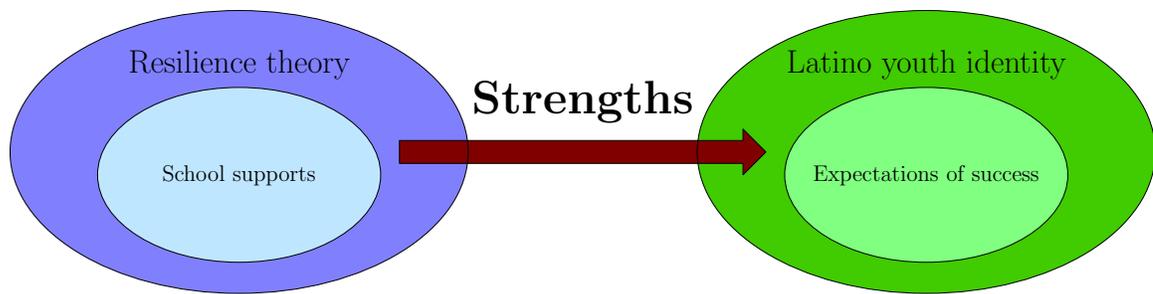
### 3.7 Conceptual Framework Summary

#### *The intersection of Strengths, Resilience and Latino adolescent identity*

The conceptual framework (see Figure 3.1 below) that is the basis for the current study links the strength perspective in social work with the constructs of resilience and Latino adolescent identity development to answer the question: *Do high levels of school support predict Latino students' high expectations of school success?*

The *strengths perspective* in this model provides a research lens that guides and links the understanding of resilience as nested in school supports. Resilience research conducted over a 50-year period suggests that thriving in adversity depends on the extent to which environments either hinder or promote growth. In the school domain, the extent of school supports available to Latino students may promote or attenuate their academic outcomes. By explicitly examining the school environment from a strengths perspective, the study uncovers hidden strengths in the school environment that can foster successful academic outcomes for Latino students.

At the same time, the strength perspective also guides and links the understanding of *Latino youth identity development* for informing their culturally permeated expectations of school success. A culturally grounded rationale viewed from a strengths perspective helps to uncover potentially hidden cultural assets that Latino students bring to the school encounter and aids in the understanding of their expectations for school success.



**Figure 3.1:** Linkage of Resilience Theory and Latino Youth Identity in Strengths perspective

# Chapter 4

## Methods

This chapter describes the method of the study, a secondary data analysis drawn from the Minnesota Student Survey for 2004. The purpose of this study was to examine the association between Latino student's expectations for school success and the school supports that they receive. The chapter discusses the methodology of the study. It begins with an in depth description of the survey instrument and provides a context for the dataset. The research question is introduced following a summary of previous research as well as a summary of the conceptual framework guiding the study. The purpose, sample and design of the study are described next, followed by a description of the selected measures. The chapter concludes with a discussion of the strategy used for statistical analysis.

### 4.1 Description of the Data set

The Minnesota Student Survey (MSS) is a survey of youth attending Minnesota's public and alternative school students in grades 6, 9, and 12. The MSS is jointly sponsored by five state agencies (Departments of Education, Health, Human Services, Corrections, and Public Safety) that use the responses for program planning and services geared towards youth. The MSS has been administered since 1989 and is based on the Minnesota Health Survey that was designed, piloted and validated at the University Minnesota's Adolescent Health Resource Center (Resnick, Blum, and Harris, 1989). Every three years, all public school districts in Minnesota are invited to participate and choose to do

so at a high rate (81%<sup>+</sup>). In addition to public schools, students who attend area learning centers, charter schools, tribal schools, and correctional and residential facilities are included in the survey. Participation varies somewhat. Most districts use a passive, opt-out consent process in which parents could decline to have their children participate but a few school districts choose an active consent form in which parents give signed permission for their children to participate. School staffs are provided with training in advance to insure that the survey is uniformly administered throughout the state. Responses are anonymous and confidential and precautions are used such that no individual case can be identified.

The MSS is a comprehensive paper and pencil questionnaire that covers most aspects of student's lives. It asks 122 separate questions, some of which contain multiple parts. In all 177 separate items are surveyed (See Appendix A). The survey questions are presented in a manner that produces increasing levels of personal disclosure. The MSS begins with demographic questions and moves on to in depth questions regarding education, health, mental health, and behaviors. When respondents complete the section on education which includes sports and community participation, they go on to answer questions regarding their health status, physical well-being, exercise, diet, and then move onto questions on psychosocial functioning including self-confidence, depression, anxiety, and suicidal ideation. There is a great deal of overlap among the areas of interest of the sponsoring agencies. For example public health and human services share a concern on tobacco use. The drug behavior section contains questions on alcohol and various types of drug use such glue sniffing, use of hallucinogens, cocaine, amphetamines, and ecstasy, which inform the need for provision of human services, corrections, and public safety. Similarly, the section that contains multiple questions regarding sexual frequency, pregnancy and sexual abuse that lead on to responses on violence and gun use are a concern for public health, safety and corrections.

Results from the MSS are used primarily for two purposes: the participating agencies use the data as a statewide assessment of youth needs to plan and evaluate programs and services as well as issue reports for informing policy planning. Data are also used to compare Minnesota with the rest of the nation. The second purpose of the MSS is to provide school district level data to allow educational entities to disseminate the data to the public as well as local program planning and

activities. Several school districts hold community forums based on the data to inform the citizenry on youth's education, behavior, and other activities. In addition, the MSS is a rich data source for scholarly research publications. Recent publications found using the key words "Minnesota student survey articles" include topics on knowledge among adolescent sexual risk Behavior (Rock, Ireland & Resnick, 2003); the prevalence of sexual abuse among adolescents in school (Saewyc, Pettingell, & Magee, 2003); the vulnerability and risk-taking among adolescent chat room users (Beebe et al., 2004); suicide and emotional distress among Latino students (Garcia et al., 2008); Adolescent violence perpetration (Duke et. al., 2010); and developmental trajectories of sexually exploited young runaway girls (Saewyc & Edinburg, 2010). Significantly, the MSS constitutes the only available source of quantitative data for research on Latino youth in Minnesota.

## **4.2 Research question and Conceptual Framework**

Given the gap in educational outcomes among Minnesota's Latino youth (Cuellar, 2002; McMurry, 2006) data from the MSS becomes an important source of knowledge for examining the relationship of school supports to the student's own expectations for school success. Previous literature attests that while social factors such as income, race, birth origin, and neighborhood affect educational outcomes (Contreras, 2004, Eamon & Mulder, 2005; Garcia-Reid, Reid, & Peterson, 2005; Valencia and Black, 2002), pressures on Latino students due to lack of consideration of their culture (García Coll et al, 1996), acculturative stress (Guarnaccia, Martinez & Acosta, 2005; Hawley, Chavez, & St. Romain, 2007; Quinones-Mayo and Dempsey, 2005), and segmented assimilation (Portes and Rumbaut, 2001; Stone and Han, 2005), can attenuate educational achievement. Moreover, multiple studies suggest that schools are often the first institutions where Latino students initially encounter prejudice and negative stereotypes about their academic abilities at an individual level (García & Guerra, 2004; Gibson, 1998; Quiroz, 1997; Stanton-Salazar & Dornbusch, 1995; Valverde, 2004) and through structural barriers and practices (DeGarmo & Martinez 2006; Umaña-Taylor, 2004) that affect their performance (Ogbu, 1987, Phinney, Madden, & Santos, 1998; Valenzuela, 1999) and places them at risk for academic failure (Padrón, Waxman, & Rivera 2002).

Yet researchers have also found school based clues that can aid Latino student's to become academically successful. Current knowledge on resilience highlights its relational and contextual nature such that positive relationships with caring adults coupled by high expectations can foster positive educational outcomes despite adverse conditions (Masten, 2001; Werner and Smith 1992). Positive student-teacher relationships are key (Alfaro, Umaña-Taylor & Bámaca 2006; Brewster & Bowen, 2004; Prelow & Loukas, 2003). Some studies suggest that when Latino students are supported through special programming that promotes institutional relationships (Stanton Salazar and Spina, 2003), attends to their family socialization (Supple et al., 2006) and helps them feel included and belonged, they develop a positive academic identity and become successful (Gibson & Bejinez, 2002; Jodry, Robles-Piña & Nichter, 2004; Mehan, Hubbard, & Villanueva, 1994; Reinke & Herman, 2002). However, little is known about varying levels of school support beyond teacher student relationship and how school supports are associated to expectations for school success. In addition, while the literature contains extensive research on identity development little known about Latino youth identity development, especially in connection to educational achievement (French, Seidman, Allen, & Aber, 2006; García Coll, 2005).

### **Conceptual Framework**

The framework of the present study consists of a three-part model that uses a *strengths* perspective in social work as an overarching lens linking *resilience* theory with the construct of *Latino youth identity development*. Use of the strength perspective as an explicit research lens relies on resilience theory, which suggests that thriving in adversity depends on the extent to which environments either hinder or promote growth. The strengths perspective also guides and links the understanding of a culturally grounded rationale on Latino youth identity development for informing their expectations of school success. Viewed through the lens of a strengths perspective, the Latino youth identity construct helps to uncover potentially hidden cultural assets that Latino students bring to the school encounter thereby aiding the understanding of their expectations for school success. In this strengths based framework, available school supports are conceptualized as nested in resilience, while students' expectations of school success are conceptualized as emanating from Latino youth

identity. As such, it is hypothesized that higher levels of school support will predict higher levels of expectations for school success.

### 4.3 Purpose, Sample, and Design

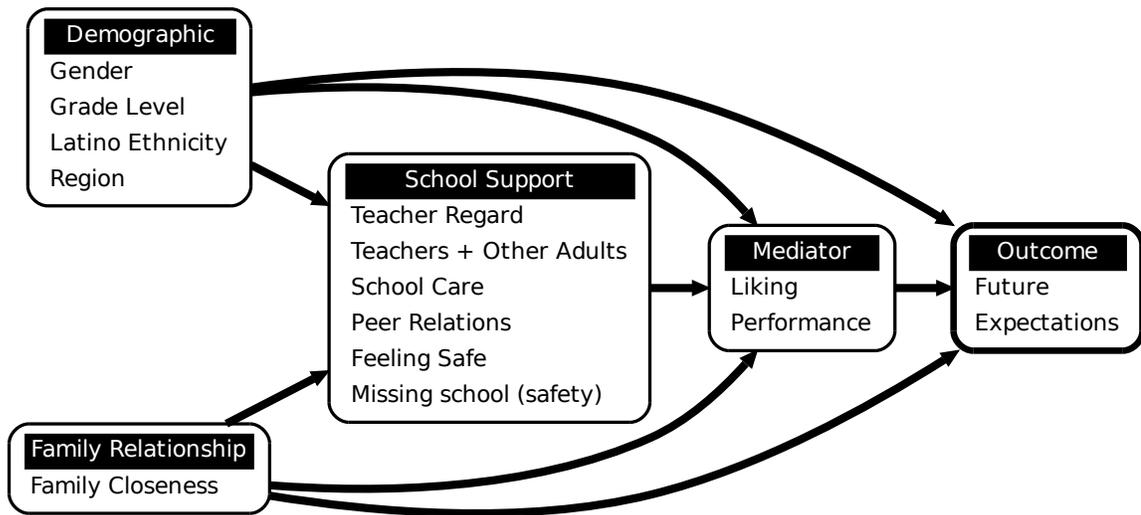
This study analyzed data from the 2004 MSS when 301 of 342 (over 85%) school districts participated. That year, the responses of 48,131 6<sup>th</sup> graders, 49,210 9<sup>th</sup> graders and 34,521 12<sup>th</sup> graders totaled 131,862 responses. The purpose of this investigation was to conduct a secondary, cross sectional analysis of Latino student responses to the 2004 MSS. The study statistically analyzes the full sample of 5,648 cases of Latino students who responded to the MSS in 2004 and represents about 4.3% of the total responses that roughly corresponds with Minnesota Hispanic student enrollment (McMurry, 2006). Two Latino groups were represented in the sample: two thirds of respondents were Chicano Mexicano or Mexican American and about a third of the responses were Puerto Rican/Other Latino students. A within group comparison method was chosen as the most culturally appropriate method for analysis (Cauce & Domenech-Rodriguez, 2002; Canino & Guarnaccia, 1997; Garcia-Coll Akerman & Cicchetti, D. 2000; Quintana et al., 2006). IRB permission from the University of Minnesota Human Subjects Committee was obtained prior to the analysis (0911E74435) on 11/18/09.

### 4.4 Measures

In the present analysis, each question in the MSS was reviewed and selected that could best answer the research question: *Do high levels of school support predict Latino students' high expectations of school success?*

In all, thirty-one variables were selected from the MSS questionnaire (please refer to Appendix A for analysis in the present study). The variables are divided into contextual measures that measure student characteristics, exposure variables that measure school support, mediator variables that could help explain a causal path between school support, and the outcome variable, which measures the expectation of school success. The types of selected measures and their direction are illustrated

in Figure 4.1 below.



**Figure 4.1:** Variable types and their relationship to future ESS

### Contextual and demographic variables

Characteristics of the sample population such as region, gender, of attendance, grade level, and Latino ethnicity were selected because these represent potential confounders that may bias the association between school support and future expectations of success. The contextual measures are summarized in Table 4.1(p.56).

**Region** Gándara, Gutiérrez, and O’Hara (2001), found differences in Latino student’s post secondary plans depending on whether they attended urban or rural areas and in the ways they perceived their identity. In the present analysis *region* is defined by distinguishing the seven county metro area and greater Minnesota in accordance with data privacy requirements of the data set. *Region* was computed as a dichotomous variable.

**Gender** Gender identity and school performance figures prominently in multiple studies of Latino adolescents that examine the intersection of achievement and Latino youth identity development (Alfaro et. al, 2006; Ginorio & Huston, 2001; Johnson, Crosnoe & Elder 2001; Martinez & Dukes, 1997; Plunkett & Bámaca-Gomez 2003; Sanchez, Colón & Esparza 2005; Umaña-Taylor, 2004; Valencia & Johnson, 2006). Gender was computed from Question 1 in the MSS as a dichoto-

mous variable.

**Grade** Consistent with development and identity literature, the grade level exploration provides responses as youth transition to adulthood (French, Seidman, Allen & Aber, 2006; Ontai-Grzebik & Raffaelli, 2004; Phal & Way, 2006; Phinney, Cantu, & Kurtz, 1997). Students responding to the MSS were asked in Question 2 to select whether they were in grades 6, 9, or 12. The question was computed into a new categorical variable called *Grade*.

**Latino ethnicity** Attention to within group variability among Latinos is an important consideration of culturally competent research that seeks to deconstruct the pan-ethnic Latino label (Bohón, Johnson, and Gorman, 2006; Contreras, 2004; Cauce, Coronado, and Watson, 1998; García Coll, 2005; Portes & Rumbaut, 2001; Umaña Taylor & Fine 2001; Valverde, 2004). Question 4 in the MSS asked students to self identify on their Latino origin by distinguishing between *Chicano/Mexicano* and *Puerto Rican/other Latino* and asked them to mark *all that apply*. When frequencies were run, it was learned that 6% ( $N = 330$ ) indicated they were both *Mexican American or Chicano/a* and *Puerto Rican or Other Latin American*. Since this study explicitly examines within group differences, the intersecting cases from the data set were removed in order to maintain separate groupings, resulting in a reduction of the sample to a new total of 5,318 cases. Demographic frequencies were run comparing before and after the changes were made. The reduced sample maintains a sufficiently large number of cases for analysis while maintaining distributions levels that are essentially the same in the new *Latino ethnicity* dichotomous variable.

**Family Closeness** Measuring the extent of family closeness provides a comparative context for a domain outside school that is frequently cited in the literature as being pertinent to academic achievement (Bámaca, Umaña-Taylor, Shin & Alfaro, 2005; Bowen et al. 2006; DeGarmo & Martinez, 2006; Fuligni, 1997; Ibañez, Kuperminc, Jurkovic & Perilla, 2004; Wang, 1997). *Question 39*, items *f*, *g*, *h*, and *i* in the MSS asked how much students felt cared about by parents, adult relatives, having their feelings cared about and being understood by one's family. The continuous variable *Family Close* was created on a 5-point scale from 1 (*not at all*) to 5 (*very much*), indicating the extent of feeling cared by family.

### Mediator variables

Two mediator variables were selected that could potentially explain the relationship between school supports and student's expectations of success: Liking School and Performance.

**Liking school** Feelings of positive attachment, belonging, and positive affect towards school appear to be related to motivation and future expectations of academic performance (Conchas, 2001; Diaz, 2005; Finn & Rock, 1997; Marsiglia, Miles, Dustman & Sills, 2002; Osterman, 2000; Reinke, & Herman, 2002; Sánchez, Colón, & Esparza, 2005). Question No. 8 asks students to choose how they feel about school, from *I like school very much* to *I hate school*. If the student responded that they would like to go to college, then it is expected that they would also report liking school. Therefore question 8, was selected as a mediator variable. When frequencies were run, negative responses were 21% or less, that allowed for the generation of the dichotomous variable called *Liking*. In recoding *liking* as a dichotomous variable, *Hate or not like school much* was coded 1 and *Like school a little, quite a bit, very much* was coded 2.

**Performance** Recent literature suggests that the school performance of Latino students is informed by their cultural identity as a context of their expectations for future academic attainment (Altschul, Oyserman, & Bybee, 2006; Fuligni, Witkow, & Garcia, 2005; Hawley, Chavez, & St. Romain, 2007). While students whose parents speak English and are bicultural have higher academic aspirations and motivation (Ibañez, Kuperminc, Jurkovic, & Perilla, 2004; Sánchez, Colón, & Esparza, 2005; Valencia & Black, 2002), no single ethnic label has a definitive relationship to academic performance (Zarate, Bhimji & Reese, 2005). *Question 11*, which was selected as a mediator variable, asked students to indicate the two grades they get most often (*A, B, C, D, F, Incomplete, or, I don't get letter grades*). That is, if the student responded that they had good marks, then it is expected that they would also report would like to go to college. The phrasing of Question 11 however, added complexity that required additional transformation, recoding and computation, resulting in the creation of a subscale whose variables were named *MarkHi*, *MarkLo*, and *MarkAv*. The new scale was then tested to compared with the original question and yielded an acceptable alpha of 0.981. *Performance* is the continuous variable that measures academic performance.

**Table 4.1:** Contextual and Mediator Characteristics from 2004 Minnesota Student Survey

<i>Variable</i>	<i>Description</i>	<i>Type</i>	<i>Measures</i>	<i>MSS Q.</i>
<i>Region</i>	7-County–Greater MN	Dichotomous	Regional Differences	A
<i>Gender</i>	Male–Female	Dichotomous	Gender Differences	1
<i>Grade</i>	6, 9, 12 <sup>th</sup> grade level	Categorical	Differences by grade level	2
<i>Latino Ethnicity</i>	Chicano/Mexicano – PR/other Latino	Dichotomous	Inter-group differences	4
<i>Family Closeness</i>	Feeling cared for by parents and other adult relatives	Continuous	Comparison with school support variables	39fghi
<i>Like</i>	Like–Dislike School	Dichotomous	Mediator to Future	8
<i>Performance</i>	Grades A, B, etc.	Continuous	Mediator to Future	11

### Defining School Support

In this study support refers to those characteristics of support within the school environment that may influence Latino students' expectations towards successful graduation. Resilience theory is the basis for defining school support as the contextual domain within which successful adaptation and relationships takes place, thereby influencing one's expectation of success (García Coll, Akerman & Cicchetti, 2000, Rutter, 1979). School support includes teacher student relationships within and outside the classroom as well as support available from other sources such as peers or other school personnel within the school environment (Hawkins, et al., 2003, Prelow & Loukas, 2003) and feeling safe (Borman & Rachuba, 2001; Chapman & Pereira, 2005; Garcia-Reid, Reid & Peterson, 2005; Ginorio & Huston, 2001; Sánchez, Colón, and Esparza, 2005). A summary of school support variables can be seen in Table 4.2(p.59).

**Teacher Regard** Teacher student relationships in relation to expectations of academic success have been well studied (Brewster & Bowen, 2004; Gibson & Bejinez, 2002; Jackson, 2002; Rosenfeld, Richman & Bowen, 2000; Waxman, Gray & Padrón, 2003; Wayman, 2002). Question 14 in the MSS is a two-part question that asks: “How many of your teachers... Are interested in

*you as a person? Show respect for the students?”* Students choose on a 5-point scale; *All, most, some, a few or none.*” The continuous variable allows for the examination of students’ perceptions of relationships between their teachers and themselves as well as teacher respect for their peers.

**School Care** Resilience literature suggests that the presence of caring adults can be promotive or protective for academic resilience (Gibson & Bejinez, 2002; Hawley, Chavez & St. Romain, 2007; Luthar, 2006; Stanton-Salazar and Spina, 2003). Question 39b asks to rank from *Not at all* to *Very much* whether “*teachers or other adults care about you*”. Item *b* is the only item in the MSS that identified other adults and is therefore important for inclusion. The *School Care* consists of a three-point categorical scale for *School Care* consisting of *Not at all*, *Little/some*, and *A lot*.

**Peer Relations** Peers can assist in English language role modeling and American cultural orientation (Padilla, 2006) and peers who emphasize the value of education are more likely to be academically successful than their counterparts (Fuligni, 1997; Gonzalez et al., 1996) especially through provision of social support (Driscoll, 2000; Gándara, Gutiérrez & O’Hara, 2001; Ibañez, Kuperminc, Jurkovic & Perilla, 2004; Osterman, 2000; Richman, Rosenfeld, & Bowen, 1998; Santon-Salazar, 2001). But peers can also be a source of academic risk, in particular when students attend schools in neighborhoods where concentration of poverty is high and receive disapproving messages about those who excel at school (Fordham & Ogbu, 1986; Garcia-Reid, Reid, & Peterson, 2005; Matute-Bianchi, 1986; Masten et. al 1999; Waller, 2001) Question No. 13 is a three-part question that asks on a five-point scale from *all* to *none*: “*How many students in your school . . . Are friendly? Behave well in the hallways and lunchroom? Have made fun or threatened students of different races or backgrounds?*” Inclusion of the continuous Peer Relations variable allows for understanding of the role of either protection or risk exerted by peers outside the classroom

**Safety** Resilience and social work literature suggests that risks can be cumulative and compromise student ability to perform academically (Bowen, et al., 2006; Chapman & Pereira, 2005; Corcoran, & Nichols-Casebolt, 2004; Eamon and Mulder; 2005; Ginorio & Huston, 2001). In Question 15 of the MSS three items ask students to respond about safety. Students are asked to agree or disagree on: a. *I feel safe going to and from school*; b. *I feel safe at school*; and c. *Bathrooms in this school are a safe place to be*, The continuous variable created from Question 15 offers the

opportunity to examine protective factors that may promote school success depending on high levels of safety.

***Illegal Substances*** Adverse behaviors at school by peers have been implicated as a source of potential compromise to academic expectations (Cauce, Stewart, Rodriguez, Cochran & Ginzler, 2003; Reinke & Herman, 2002). The two additional response items contained in question 15 addressed the extent of agreement on. *Illegal gang activity is a problem at this school* and *Student use of alcohol or drugs is a problem at this school*. The continuous variable named *IlegalSub* allows for analysis of exposure to negative behaviors at school.

***Missing School*** Attendance is broadly understood to be a significant factor in the education literature as an indicator of educational success in the context of the school environment (Alva & de Los Reyes, 1999; Bowen et al., 2006; García-Reid, Reid & Peterson, 2005; Masten et al., 1999). Question No. 19 asks students how many days (from 0 to 6 or more) they missed because they did not feel safe at school or on the way to and from school. Missing school also provides an internal consistency measure for the Safety variable. It was hypothesized that missing one day due to safety concerns at school was significant. Frequencies were run that confirmed the hypothesis resulting in the creation of a dichotomous variable called *No days missed*. When correlations were run filtered for 0 days missed, the coefficient were less (Chronbach's alpha of 0.179) but the difference was slight. When the entire frequencies were run, the result was an alpha of 0.182.

### **Outcome Variable: Expectations of School Success**

The present study frames Latino students' expectations for school success as emanating from their culturally permeated identity. Recent research indicates a link between Latino youths' identity development and their expectations of school success (Bohón et al., 2006; Gándara, Gutiérrez & O'Hara, 2001; Hassinger & Plourde, 2005; Jodry, Robles-Piña, & Nichter, 2004; St-Hilaire, 2002). Question 9 in the MSS, shown on Table 4.3(p.59) was identified as being most closely associated with student's expectations regarding their future academic expectations and was selected as the dependent variable that operationalizes the definition of student's self expectation of school success.

**Table 4.2:** School Support Variables Chosen from the 2004 Minnesota Student Survey

<i>Variable</i>	<i>Description</i>	<i>Type</i>	<i>Measures</i>	<i>MSS Q.</i>
<i>Teacher Regard</i>	Teacher interest and respect for students	Continuous	Support from teachers	14
<i>School Care</i>	Teachers/other adults care	Categorical	Support from other adults and teachers	39b
<i>Peer Relations</i>	Student friendly, well behaved, make fun or threatening	Continuous	Support from peers	13
<i>Hi Safety</i>	School is safe, as are bathrooms; Going to/from school is safe	Continuous	Perceptions of safety at school <i>protective</i>	15abc
<i>Illegal Sub.</i>	Illegal gang; use of alcohol or drugs	Continuous	Perceptions of safety at school <i>risk</i>	15de
<i>No Days Missed</i>	Missing school due to safety concerns	Dichotomous	Consistency/Val. to Hi Safety	19

Question No. 9 asked students to respond from low to high which best describes their school plans (*I would like to quit school ... to ... I'd like to go to college and after that to graduate school*). When frequencies were run, results showed that negative responses were less than 20% so question 9 was recoded into a dichotomous variable called *Future* such that expectations of quitting school or not attending college were coded 0 while attending trade or vocational school, college, or graduate school were coded 1. Question 9 also served as the reference variable for determining directional response such that when non-categorical variables were examined, their direction changed from low to high to conform to the direction of the dependent variable.

**Table 4.3:** Expectation of School Success in the 2004 Minnesota Student Survey

<i>Variable</i>	<i>Description</i>	<i>Type</i>	<i>Measures</i>	<i>MSS Q.</i>
Future	Future school plans	Dichotomous	Expectations of School Success	9

## 4.5 Statistical Analysis

In the present study, SPSS version 13 was used setting a significant association with a *p-value* < 0.01, given the sample size. Coding of measures and syntax can be found in appendix B. The strategy for analysis of the data set was as follows:

Descriptive statistics were applied to present a portrait of the sample population. Means and standard deviation for continuous variables, and frequency distribution for categorical variables were used.

To examine the theoretical model underlying the study question, a path model approach was used where each set of variables was disaggregated according to their role in the model. Path analysis is suitable for estimating the hypothesized causal connections between sets of variables. While it focuses on interpretation, path analysis is not a method for discovering causality (Duncan, 1966). Rather it is a way to evaluate a path in the model and can be explained in a path diagram as illustrated in Figure 3.1(p.47).

Levels of school support were compared for their association with contextual and mediating variables, including gender, Latino ethnicity, region, grade level, family closeness, liking, and school performance. Data were computed as means for continuous variables, cross-tabulation for categorical variable, and associations of continuous variables were assessed using ANOVA, and chi-square tests.

The association of contextual, mediating variables, and school support variables in relation to expectation of school success was analyzed with bi-variate analysis. The expectation of school success rate was computed for the independent categorical variables and the association was measured using a chi-square test. For independent continuous variables, means between those with high expectation and low expectation were compared using a *t*-test.

A set of multivariable models was used to examine the association of elements of interest. First, contextual factors, socio-demographic and family closeness with school support, were analyzed in multivariable regressions (ANCOVA) with peer support, teacher regard and high school safety as the outcome variables. ANCOVA models produce beta coefficients that give a measure of the con-

tribution of each variable to the model. A large value indicates that a unit change in the independent variable has a large effect on the outcome variable (Field, 2005). When the independent variable is categorical, the beta coefficient represents a mean difference among groups; when the independent variable is continuous, the beta coefficient represents the slope. Second, the association of school support with liking school and performance was analyzed, which in the model are thought to be in the causal pathway between school support and expectations. Two multivariable regressions were analyzed. One was a logistic regression with liking school as a dichotomous outcome variable, and the second with school performance as the outcome variable. All contextual variables and school variables were entered into the multivariable models simultaneously.

Logistic regression analysis was used to analyze expectations of school success, a dichotomous outcome variable, by performing a multivariable analysis to estimate the effect of school support with respect to expectation of school success after adjusting for contextual factors. A step-wise model approach was used to include the variables into the model. The first model included the main independent variables, i.e., school support variables to analyze the crude association. In the second model, the contextual variables were added to measure the association of school support variables with expectation of school success independent of other factors. The third model, included in addition to the contextual variables, the mediating variables to measure the direct association after excluding the indirect effect mediated by liking school and performance.

Logistic regression (LR) is appropriate for analysis when the outcome variable is mutually exclusive or dichotomous. The independent or predictor variables can be either categorical or continuous and do not require a normally distributed curve. The hallmark of LR is the natural logarithm that predicts the probability of occurrence as a function of a given independent variable. The LR coefficient produces an Odds Ratio (O.R.) of 0–1 associated for each predictor value and the confidence interval (CI) at the 95% level, indicates a more precise estimate *when the confidence interval is narrower* (DesJardins, 2001; Garson, 2008; Leech, Barrett & Morgan, 2005; Peng, Lee and Ingersoll, 2002; Petrucci, 2009).

## Chapter 5

# Results

Results of the present study that examined the question: *Do high levels of school support predict Latino students' high expectations of school success?* are presented in this chapter. The outcome variable, 'expectations of school success' was drawn from question 9 in the MSS which asked students to describe their future plans and was coded as a dichotomous variable named 'future' that defined students future Expectations of School Success (ESS). That is, if students responded on their future plans that they would like to quit school, the ESS result was low but if students had plans to finish high school, go on to college, seek trade or vocational schooling or go on to graduate school, the ESS is high.

In accordance with the statistical analysis plan outlined in Chapter 3 (Methods), the results of the study are presented in three levels of analysis guided by a path model shown in Figure 4.1(p.53). The first level provides results of descriptive statistics for the sample. Associations of demographic as well as school categorical characteristics to future ESS are presented. Comparisons of responses on family relations, performance, peer relations, teacher regard, feeling safe at school, and illegal substance use to future ESS follow. To begin the examination of the school environment, demographic and school support characteristics were cross-tabulated for their association to feeling cared for at school (school care). Finally, the descriptive level of analysis presents the association results of family relations, performance, peer relations, teacher regard, and feeling safe to school care.

The second level of analysis consisted of a step-wise approach using multivariate models (AN-

COVA) and regressions to better understand the association of variables of interest within the school environment independent of other factors. In the first step, the association of selected school support and demographic variables were analyzed, controlling for the effect of family relationships.

The second step of the multivariate analysis examined the association of the mediator variables to determine the pathways between school support and future ESS. In this second step, two multivariate regressions were analyzed. The first model examined student performance, reflected in average marks, as the outcome variable with demographic and school support variables entered into the (ANCOVA) equation. The second model analyzed a logistic regression entering the demographic and school support variables into the equation with students liking school as the outcome variable.

The third and final level of analysis presents the results of the step-wise approach of logistic regressions used to analyze the outcome dichotomous variable, future expectations of school success (future ESS). Three models of multivariable analyses were used to estimate the effect of school support with respect to ESS after adjusting for contextual factors. In the first model the main independent variables, i.e., school support variables were entered to analyze the crude association to future ESS. In the second model added contextual variables to measure the association of school support variables with ESS independent of other factors. The third and final model, included in addition to the contextual variables, the mediating variables to measure the direct association after excluding the indirect effect mediated by liking school and performance.

## **First Level Analysis**

### **5.1 Characteristics of the Study**

Descriptive statistics were applied to present a portrait of the sample population. Means and standard deviation for continuous variables, and frequency distribution for categorical variables were used. As can be seen in Table 5.1(*p.64*), the total adjusted sample of the 2004 survey contained 5,318 cases. The seven county metro area contained  $N = 3,295$  or 62% of the cases while

greater Minnesota had the remaining  $N = 2,023$  or 38% of the cases. The gender distribution was almost evenly divided among boys and girls with the frequency for males being slightly lower ( $N = 2,571$ , 48%) than for females ( $N = 2,747$ , 52%). With respect to Latino origin, students who described themselves as Chicano/a or Mexican American comprised 72% of the sample ( $N = 3,848$ ) while those who described themselves as Puerto Rican or other Latin American comprised 28% of the sample. The distribution of the sample by grade level was 44% in 6<sup>th</sup> grade ( $N = 2,335$ ), while 38% ( $N = 2,030$ ) were 9<sup>th</sup> graders and 18% in the sample were enrolled in 12<sup>th</sup> grade.

**Table 5.1:** Frequency distributions of Latino students of the 2004 MSS: by region, gender, origin, and grade

		<u>Frequency</u>	<u>Percent</u>
<i>Region</i>	Seven County Metro	3,294	62.0
	Greater Minnesota	2,023	38.0
<i>Gender</i>	Male	2,571	48.3
	Female	2,747	51.7
<i>Latino Origin</i>	Chicano/Mexicano or Mexican Am.	3,848	72.4
	Puerto Rican or Other Latino	1,470	27.6
<i>Grade</i>	6 <sup>th</sup>	2,335	43.9
	9 <sup>th</sup>	2,030	38.2
	12 <sup>th</sup>	953	17.9
<i>Totals</i>		<b>5,318</b>	<b>100.0</b>

## 5.2 Associations of Demographic and School Characteristics to Future ESS

Chi-square tests were used to assess the association between categorical demographic and school variables to the outcome variable. As can be seen in the demographic characteristics in Table 5.2( $p.66$ ), most students showed high expectations of continuing with school. The smallest dif-

ference in future ESS was found in the attendance region (0.03%,  $p \leq 0.05$ ). Females were more likely than boys to have high ESS by 7%. Comparing Latino heritage, Puerto Rican or other Latinos had showed a 7% higher ESS than Chicano/Mexicano or Mexican Americans. The largest difference in expectations was found by grade level for students in the 9<sup>th</sup> grade, who were 10% less likely to expect to continue with school in the future than either their 6<sup>th</sup> grade or 12<sup>th</sup> grade students.

School characteristics that were associated with high levels of ESS occurred when students did not miss school for safety reasons (86%,  $p < 0.0001$ ) and when they reported that they liked school, even a little (84%). The school care variable showed the highest difference in ESS. Students who indicated they felt cared for *a little* or *some* were associated with an 84% ( $N = 1,944$ ) likelihood of having high ESS and 89% ( $N = 1,963$ ) were associated with a high ESS if they felt cared for *a lot*. Adding together the sub-categories of those who felt cared for *some* and *a lot* raises the level of association of future ESS to 93% compared with those the 7% who reported not feeling cared for at all. Of the students who reported that teachers or other adults did not care for them, only 62% ( $N = 280$ ) showed high ESS. All characteristics were significant ( $p < 0.0001$ ).

### 5.3 Associations of School Support and Family Closeness to ESS

Comparison among the groups was divided between students who planned to continue with their schooling, or high ESS, and those who planned to quit school, or low ESS. Results of independent samples *t*-tests were conducted to compare the means of responses to family closeness, performance, peer relations, teacher regard, feeling safe and illegal gang or substance abuse activity are shown in Table 5.3(p.67). All results were significant ( $p < 0.0001$ ). The highest mean score difference was obtained on the *family closeness* variable, a contextual characteristic that measured how close students felt to parents and adult relatives. The performance variable, as measured by *average marks*, also shows a significant difference between the continuing group and the quitting group. In this comparison of means peers relations appear to have a greater influence than *teacher regard*. *Feeling safe* at school and *illegal gang or substance abuse activity* appear to not make much difference on

**Table 5.2:** Analysis of demographic and school categorical characteristics:  
Association to Future ESS

<i>Demographic Characteristic</i>		<b>Proportion Expecting to Continue School</b>	<b><i>p</i>-value</b>
<i>Gender</i>	Male	2,017 (80%)	< 0.0001
	Female	2,334 (87%)	
<i>Grade</i>	6 <sup>th</sup>	1,971 (87%)	< 0.0001
	9 <sup>th</sup>	1,566 (78%)	
	12 <sup>th</sup>	815 (87%)	
<i>Region</i>	Seven County Metro	2,722 (85%)	< 0.0576
	Greater Minnesota	1,627 (82%)	
<i>Latino Heritage</i>	Chicano/Mexicano or Mexican Am.	1,282 (89%)	< 0.0001
	Puerto Rican or Other Latino	3,070 (82%)	
<hr/>			
<b><i>School Relations</i></b>			
<i>School Care</i>	Not at all	280 (62%)	< 0.0001
	Little - some	1,944 (84%)	
	A lot	1,963 (89%)	
<i>Liking School</i>	Hate	741 (67%)	< 0.0001
	Little or more	4,337 (84%)	

whether or not to continue with school.

## 5.4 Associations of Demographic and School Characteristics with School Care

Dimensions of the school environment and demographic characteristics were analyzed to test (Chi square) their association to *school care*, a categorical variable where students responded to feeling cared for by teachers or other adults at school. Results are shown in Table 5.4(*p*.68). Responses in feeling cared for differed by gender. Males reported feeling 6% less cared for in both the ‘*little/some*’ and the ‘*a lot*’ categories; and boys differed much more (16%) in the ‘*not at all*’ category, where 58% of boys felt not cared for ( $p < 0.0001$ ).

The grade level category showed the greatest differences in responses. Students in 9<sup>th</sup> grade

**Table 5.3:** Associations of School Support and Family Closeness to ESS

	<b>Continuing School</b> (High ESS) Mean (SD)	<b>Quitting School</b> (Low ESS) Mean (SD)	<b><i>p</i>-value</b>
<i>Family Closeness</i>	4.1 (0.9)	3.6 (1.1)	< 0.0001
<i>Performance</i>	3.7 (0.9)	2.9 (1.1)	< 0.0001
<i>Peer Relations</i>	3.4 (0.6)	3.1 (0.8)	< 0.0001
<i>Teacher regard</i>	3.2 (0.8)	2.9 (1.0)	< 0.0001
<i>Feeling Safe at School</i>	3.1 (0.6)	2.8 (0.7)	< 0.0001
<i>Illegal Gang/Sub. Abuse</i>	2.9 (0.8)	2.7 (0.9)	< 0.0001

who did not feel cared for accounted for almost twice (56%) of responses of 6<sup>th</sup> graders who did not feel cared for (27%) and, 12<sup>th</sup> graders represented 17%. While grade level differences were significant, ( $p < 0.0001$ ), no significant differences were found in the distributions for the region variable. Latino ethnicity did not appear to be significant with regards to feeling cared for and responses were roughly consistent with the distribution of the sample. Students who did not miss school for safety reasons had a high association to school care in both the ‘*little/some*’ (88%) and ‘*a lot*’ (92%) categories ( $p < 0.0001$ ).

## 5.5 Associations of Family Relations, Performance, Peer Relations, Teacher Regard, and Feeling Safe to School Care

One-way ANOVAs were conducted to compare the mean differences of school support characteristics and family closeness to determine group differences among respondents. The results summarized in Table 5.5( $p.68$ ), show significant differences among the groups. The greatest differences in the means was between the group of students that responded ‘*a lot*’ and the group that responded ‘*not at all*.’ The family closeness variable showed the greatest variance among the three groups, followed by teacher regard. Feeling safe showed the least difference among the means. While the

**Table 5.4:** Associations of Demographic and School Characteristics with School Care

<i>School Care</i>		<b>Not at All</b>	<b>Little-Some</b>	<b>A Lot</b>	<b><i>p</i>-value</b>
		<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)	
<b>Demographic</b>					
<i>Gender</i>	Male	267 (58%)	1,103 (47%)	1,052 (57%)	< 0.0001
	Female	195 (42%)	1,250 (53%)	1,199 (53%)	
<i>Grade</i>	6 <sup>th</sup>	125 (27%)	779 (33%)	1,322 (59%)	< 0.0001
	9 <sup>th</sup>	258 (56%)	1,071 (46%)	595 (26%)	
	12 <sup>th</sup>	79 (17%)	503 (21%)	334 (15%)	
<i>Region</i>	Seven County Metro	283 (61%)	1,464(62%)	1,360 (60%)	< 0.4552
	Greater Minnesota	179 (39%)	889(38%)	891 (40%)	
<i>Latino Heritage</i>	Chicano/Mexicano or Mex. Am.	127 (27%)	677 (29%)	592 (26%)	< 0.1717
	Puerto Rican or Other Latino	335 (73%)	1,676 (71%)	1,659 (74%)	
<b>School Support</b>					
<i>Safety</i>	Missed School	109 (24%)	276 (12%)	173 (8%)	< 0.0001
	Not Missed School	343 (76%)	2,060 (88%)	2,065 (92%)	

highest scores were associated with feeling cared for ‘*a lot*,’ on average, feeling cared for even ‘*a little or some*’ was significant ( $p < 0.001$ ).

**Table 5.5:** Associations of School Support and Family Variables with School Care

<i>School Care</i>	<b>Not at All</b>	<b>Little-Some</b>	<b>A Lot</b>	<b><i>p</i>-value</b>
	Mean (SD)	Mean (SD)	Mean (SD)	
<i>Family Closeness</i>	2.9 (1.2)	3.8 (0.9)	4.5 (0.6)	< 0.0001
<i>Average Marks</i>	2.9 (1.1)	3.5 (1.0)	3.7 (0.9)	< 0.0001
<i>Teacher regard</i>	2.3 (0.8)	3.0 (0.7)	3.5 (0.7)	< 0.0001
<i>Peer Relations</i>	2.8 (0.8)	3.3 (0.6)	3.5 (0.6)	< 0.0001
<i>Feeling Safe at School</i>	2.6 (0.8)	3.0 (0.6)	3.2 (0.6)	< 0.0001

## Second Level Analysis

## 5.6 Association of Student Characteristics and Family Closeness with School Support

After exploring the associations of demographic and school characteristics, the effects of selected school support variables were examined controlling for family closeness. Contextual variables—socio-demographic and family closeness—were examined in multivariate regressions (ANCOVA) on three selected school support variables. Table 5.6 shows the regression results for the ANCOVA model on peer support, feeling safe and teacher regard. As can be seen in Table 5.6, the covariate Family Closeness is associated with peer support ( $\beta = 0.18$ ,  $p < 0.0001$ ), feeling safe ( $\beta = 0.18$ ,  $p < 0.0001$ ), and teacher regard ( $\beta = 0.27$ ,  $p < 0.0001$ ). Socio-demographic variables were only associated with feeling safe. Male students felt less safe than females. Students in the 12<sup>th</sup> grade felt safer than grades their younger counterparts and 9<sup>th</sup> grader felt least safe.

**Table 5.6:** Association of Student Characteristics and Family Closeness on Selected School Support Variables (ANCOVA)

	Peer Relations		Feeling Safe		Teacher Regard	
	$\beta$ -coefficient	<i>p</i> -value	$\beta$ -coefficient	<i>p</i> -value	$\beta$ -coefficient	<i>p</i> -value
<b>Intercept</b>	2.639	0.000	2.539	0.000	2.122	0.000
<b>Family Closeness</b>	0.179	0.000	0.177	0.000	0.269	0.000
<hr/>						
<b>Gender</b>						
Male	-0.005	0.797	-0.058	0.001	0.016	0.477
Female (reference )	0	.	0	.	0	.
<hr/>						
<b>Grade Level</b>						
6th	-0.034	0.205	-0.135	0.000	0.058	0.074
9th	-0.001	0.975	0	.	-0.141	0.000
12th (reference )	-0.182	0.000	0	.	0	.
<hr/>						
<b>Latino Heritage Group</b>						
Chicano/Mexicano or Mex. Am.	0.025		0.065		0.020	
	0.252		0.002		0.438	
Puerto Rican or other Latino (reference )	0		0		0	
	.		.		.	

## 5.7 Associations of School Support with School Performance and Liking School

The next model examined the association of school support and demographic characteristics with the mediator variables of student performance, measured in earning average marks, and liking school. Two regressions were analyzed, an ANCOVA with school performance as the outcome variable and, a logistic regression with liking school as the dichotomous outcome variable. In this analysis the mediator variables were thought to be a causal pathway between school support and ESS. All contextual variables and school variables were entered into the multivariable models simultaneously. The ANCOVA on performance is shown in Table 5.7(p.73).

Results from Table 5.7 indicate that independent of family closeness, feeling safe ( $\beta = 0.14$ ,  $p < 0.0001$ ), feeling cared for at school ( $\beta = 0.13$ ,  $p < 0.0001$ ), and feeling cared for specifically by teachers ( $\beta = 0.13$ ,  $p < 0.0001$ ) was associated with student performance. Use of illegal substances or gang activity showed an association with student performance but it was less significant ( $\beta = -0.012$ ,  $p < 0.525$ ). Although previous  $t$ -tests on ESS showed that peers were more closely associated with future plans than teachers (Table 5.3), the peer relations variable did not show association to student performance ( $\beta = -0.004$ ,  $p < 0.877$ ).

## 5.8 Association of School Support and Student Characteristics to Liking School

Table 5.8(p.74) presents results of the Logistic Regression on liking school as a mediator variable. Again, demographic and school support variables were entered in the equation.

Results of the Logit shown in Table 5.8 indicate that teacher regard (OR = 1.6, 95% CI=1.4–1.8,  $p < 0.0001$ ) and feeling safe (OR=1.7,  $p < 0.0001$ ) were associated with liking school. Students who did not feel cared for at all (OR=0.33,  $p < 0.0001$ ) or feel cared for a little (OR=0.74,  $p = 0.002$ ) are less likely to like school as compared to those who feel cared for. Again, peer relationships and use of illegal substances were not significantly associated with liking school.

## Third Level Analysis

### 5.9 School Support Associations to Expectations of School Success

The final level of analysis examined three separate questions regarding the association of school support to Latino students' expectations of school success: Is school support associated with ESS independent of family support and student characteristics? Are there individual and family characteristics that are associated with ESS? Does school performance mediate the association of school support and school success?

For this final level of analysis, Logistic Regressions (LR) models were used to estimate the association to ESS, a dichotomous outcome variable, by performing a multivariable analysis to evaluate the effect of school support with respect to ESS after adjusting for contextual factors. A step-wise model approach was used to include the variables into the models by first entering the school support variables, secondly adding the demographic and family variables, and finally adding the mediator variables. The three models are presented in Table 9.

The first model included the main independent variables, i.e., school support variables to analyze the association to future ESS. Results from the first model indicate that feeling safe (OR=1.5, 95% CI=1.3–1.7,  $p < 0.0001$ ) and high teacher regard (OR=1.3, 95% CI=1.1–1.5,  $p < 0.001$ ) was positively associated with future ESS. On the other hand, students who missed school one day or more because of safety concerns at school (OR=0.54, 95% CI=0.42–0.68,  $p < 0.0001$ ) and did not feel cared for (OR=0.36, 95% CI=0.27–0.48,  $p < 0.0001$ ) were inversely associated with future ESS. Neither the peer nor the illegal substances/gang activity variables were associated to ESS.

In the second model the contextual variables, demographic and family, were added to measure the association of school support to ESS. By adding these contextual variables to school support variables on ESS, the effects of school support variables are less likely to be confounded by the student and family characteristics. Teacher regard was significant but to a lesser extent (OR=1.2, 95% CI=1.05–1.40,  $p = 0.01$ ) than in the first model. Students who reported feeling safe at school

were again significantly associated with ESS (OR=1.34, 95% CI=1.15 – 1.56,  $p < 0.0001$ ), while students who reported missing one or more days due to safety (OR=0.50, 95% CI=0.39 – 0.65,  $p > 0.0001$ ) were less likely to be associated with ESS. Students who did not feel cared for were less likely to be associated with ESS in the adjusted model to a greater extent than in the first model (OR=0.49, 95% CI=0.35 – 0.68;  $p > 0.0001$ ). As was the case in the first model, neither the peer nor the illegal substances/gang activity variables showed association to ESS.

The third model included, in addition to the contextual variables, the mediating variables were added to estimate the direct association after excluding the indirect effect mediated by liking school and performance. With all variables entered in the equation, the highest association to future ESS was found in the performance mediator variable. Students who received average marks (OR=1.84, 95% CI=1.67–2.02,  $p < 0.0001$ ), while students who disliked school were less likely to have ESS (OR=0.44, 95% CI=0.36–0.55,  $p < 0.0001$ ). However, the direct effects of school support on ESS remain even with the addition of performance and liking.

Students who reported not feeling cared for at school were less likely to have higher expectation (OR=0.67 95% CI=0.47 -0.96,  $p < 0.05$ ) although the association was attenuated somewhat by the inclusion of the mediator variables. Students who missed school due to safety were less likely to be associated with future ESS (OR=0.55, 95%CI = 0.42 - 0.72,  $p < 0.0001$ ). The association of feeling safe to ESS remained even after adding the mediator variables but its significance was somewhat attenuated (OR=1.18, 95% CI=1.00 – 1.38,  $p < 0.05$ ). The effects of teacher regard on ESS appear to be indirect and increasingly attenuated by the mediator variables. Peer relations and illegal substance or gang activity was not shown to be significant in any of the models. The results in the final model suggest that some of the effects of school support, especially school care on future ESS permeate through performance and liking school.

**Table 5.7:** Association of school support and student characteristics on Student Performance (ANCOVA)

<i>DV: Student Performance</i>			
<b>Parameter</b>	$\beta$ -coefficient	<i>p</i> -value	
<i>Intercept</i>	2.242	0.000	
<i>Family Closeness</i>	0.083	0.000	
<i>Feeling Safe at School</i>	0.142	0.000	
<i>Illegal Substances/Gang Activity</i>	0.012	0.525	
<i>Peer Relations</i>	-.004	0.877	
<i>School Care</i>	0.133	0.000	
<i>Teacher Regard</i>	0.132	0.000	
<b>Gender</b>			
<i>Male</i>	-.233	0.000	
<i>Female (Reference)</i>	0	.	
<b>Grade level</b>			
<i>6th</i>	-.151	0.000	
<i>9th</i>	-.287	0.000	
<i>12th (Reference)</i>	0	.	
<b>Latino Origin</b>			
<i>Chicano Mexicano or Mex. Am.</i>	0.310	0.000	
<i>PR or other Latino (Reference)</i>	0	.	

**Table 5.8:** Logistic Regression on the Mediator Outcome Variable Liking School

	<b>Sig.</b>	<b>Odds Ratio</b>	<b>95.0% CI for OR</b>	
			Lower	Upper
<b>Gender</b>				
<i>Male</i>	0.000	0.612	0.522	0.719
<i>Female</i> (reference)	.	.	.	.
<b>Grade</b>				
<i>Grade 6</i>	0.347	1.119	0.885	1.416
<i>Grade 9</i>	0.782	1.032	0.828	1.286
<i>Grade 12</i> (reference)	.	.	.	.
<b>Latino Origin</b>				
<i>Puerto Rican or Other Latino</i>	0.128	1.152	0.960	1.383
<i>Chicano Mexicano</i> (reference)	.	.	.	.
<b>Peer Relations</b>	0.323	1.079	0.928	1.253
<b>Family Closeness</b>	0.000	1.222	1.122	1.331
<b>Teacher Regard</b>	0.000	1.571	1.377	1.792
<b>School Care</b>				
<i>Not at all</i>	0.000	0.329	0.244	0.444
<i>A little</i>	0.002	0.736	0.606	0.894
<i>A lot</i> (reference)	.	.	.	.
<b>Feeling Safe at School</b>	0.000	1.668	1.456	1.912
<b>Illegal Substance/Gang</b>	0.421	0.959	0.865	1.062

**Table 5.9:** Logistic regression models for Latino students associated with Future ESS

	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>	
	<b>OR (95% CI)</b>	<i>p</i> -value	<b>OR (95% CI)</b>	<i>p</i> -value	<b>OR (95% CI)</b>	<i>p</i> -value
<b>School Support</b>						
<b>School Care</b>						
<i>Not at all</i>	0.34 (0.27 - 0.48)	< 0.0001	0.49 (0.35 - 0.68)	< 0.0001	0.67 (0.47-0.96)	= 0.027
<i>Little-some</i>	0.80 (0.66 - 0.98)	= 0.032	0.91 (0.74-1.13)	< 0.401	0.99 (0.78-1.24)	= 0.905
<i>A Lot (Ref)</i>	.	.	.	.	.	.
<b>Peer</b>	1.07 (0.91 - 1.25)	= 0.430	1.08 (0.92-1.23)	= 0.338	1.08 (0.90 -1.28)	= 0.409
<b>Teacher Regard</b>	1.27 (1.10 - 1.46)	< 0.001	1.21(1.05-1.40)	= 0.010	1.05 (0.90-1.23)	= 0.504
<b>Feeling Safe</b>	1.47 (1.27 - 1.69)	< 0.0001	1.34 (1.15 -1.56)	< 0.0001	1.18 (1.00-1.38)	= 0.044
<b>Some days missed due to Safety</b>	0.54 (0.42 - 0.68)	< 0.0001	0.50 (0.39 - 0.65)	< 0.0001	0.55 (0.42-0.72)	< 0.0001
<b>No days missed due to safety (Ref)</b>	.	.	.	.	.	.
<b>Illegal Substances / Gang Activity</b>	0.97 (0.88-1.08)	= 0.618	0.95 (0.85-1.07)	= 0.400	0.94 (0.84-1.06)	= 0.350
<b>Dem. and Family</b>						
<b>Gender</b>						
<i>Male</i>			0.64 (0.54-0.77)	< 0.0001	0.73 (0.60-0.88)	< 0.001
<i>Female (Ref)</i>			.	.	.	.
<b>Grade</b>						
<i>6th</i>			0.93 (0.71- 1.23)	= 0.630	1.0 (.75 - 1.36)	= 0.939
<i>9th</i>			0.63 (0.49- 0.81)	< 0.0001	0.78 (0.59-1.0)	= 0.068
<i>12th (Ref)</i>			.	.	.	.
<b>Latino Origin</b>						
<i>Puerto Rican</i>			1.95 (1.56-2.4)	< 0.0001	1.64 (1.3 -2.01)	< 0.0001
<i>Mexican (Ref)</i>			.	.	.	.
<b>Region</b>						
<i>7 County Metro</i>			1.16 (0.97 - 1.39)	= 0.104	1.05(0.87-1.27)	= 0.622
<i>Rural (Ref)</i>			.	.	.	.
<b>Family Closeness</b>			1.26 (1.15 -1.38)	< 0.0001	1.18(1.07-1.30)	< 0.001
<b>Mediators</b>						
<b>Average Marks</b>					1.84 (1.67-2.02)	< 0.0001
<b>School Liking</b>						
<i>Dislike School</i>					0.44 (0.36-0.55)	< 0.0001
<i>Like School (Ref)</i>					.	.

## Chapter 6

# Discussion

This chapter discusses the findings of the study of the 2004 Minnesota School Survey in response to the question: *Do high levels of school support predict Latino students' high expectations of school success?* The chapter first considers descriptive statistics of the sample and its associations to the outcome variable, Expectations of School Success (ESS). The analysis of school support using multivariate regressions is addressed next, followed by a discussion of results on family as a contextual variable and the extent of its influence on ESS. Discussion of the results of the effects of school support characteristics on ESS through the use of logistic regression models concludes the answers to the research question. The discussion concludes with a summary of study's findings. Recommendations based on the findings of the study follow. The chapter concludes with a discussion of the contributions and limitation of the study and introduces possibilities for future research.

### 6.1 Characteristics of the Sample

The total adjusted sample of the 2004 MSS survey contained 5,318 cases (See Table 5.1). The distribution of Latino ethnic origin echoes national demographics of the majority of Latinos being of Mexican origin as 72% of the sample ( $N = 3,848$ ) described themselves as Chicana/o or Mexican American while 28% ( $N = 1,470$ ) described themselves as Puerto Rican or other Latin American. That the larger number of students reside in the seven county metro area ( $N = 3,295, 62%$ )

highlights the increased demographic growth of Latinos in Minnesota's Twin City area since the 1990's and represents a shift from the previous century when Minnesota migrant families worked in agricultural fields. The most conspicuous statistics in the sample is that of grade level. Sixth graders comprised 44% of the sample ( $N = 2,335$ ), and while 9<sup>th</sup> graders represented 38% ( $N = 2,030$ ), only 18% of the total sample ( $N = 953$ ) made up students at the 12<sup>th</sup> grade level. Comparing 6<sup>th</sup> grade students to the remaining 12<sup>th</sup> grade level students, the grade level reduction of the sample population between 6<sup>th</sup> and 12<sup>th</sup> grade at almost 60%, reveals compelling data for further examination and highlights the disproportional low levels of high school graduation rates among Latinos.

## 6.2 Demographic Associations to ESS

Initial exploration of the relationship between demographic characteristics and student's expectation of school success (ESS) showed variability. While most students showed high ESS, **girls** had a higher association to ESS by 7%. This is interesting given that prevailing literature suggests cultural differences on how gender roles are manifested whereby females in some Latino communities are expected to adhere to traditional norms that favor early child bearing. **Ethnic** differences also emerged with Puerto Rican or other Latino students having a 7% higher ESS. Previous literature suggests these within group differences are explained by non Chicano/Mexicano Latinos have historically a more privileged social status that allows for a higher ESS. Estimates at the **grade** level showed the largest difference in ESS among students in the **9<sup>th</sup> grade** who were almost 10% less likely to expect to continue with their school studies than either their 6<sup>th</sup> or 12<sup>th</sup> grade peers. It is possible that these differences in ESS can be attributed to developmental stages of adolescence. However, they do not appear to account for the large number of respondents that can be seen in the distribution of the sample at 2,030 cases in 9<sup>th</sup> grade but only 953 cases in the 12<sup>th</sup> grade, a difference of 53%. These grade level differences, whereby 6<sup>th</sup> graders can expect to see only 41% of their peers in the 12<sup>th</sup> grade (shown in Table 5.2), highlight the importance of examining institutional level supports available to Latino students.

### 6.3 School Support Characteristics Associations to Expectations of School Success

Preliminary analysis of the school environment in relation to ESS shows a high association when students liked school and did not miss attending for safety reasons. The highest differences were observed in the category called *school care* where students indicated feeling cared for by teachers or other adults. Of the students who reported not feeling cared for only 62% ( $N = 280$ ) expected to continue with school. But students who indicated they felt cared for “a little” or “some” were associated with 84% ( $N = 1,944$ ) ESS and 89% ( $N = 1,963$ ) were associated with ESS if they felt cared for “a lot.” When the two sub-categories of those who felt cared for ‘some’ and ‘a lot’ are added together, the association to ESS is raised to 93% (See Table 5.2). This level of high ESS among students who felt *cared for*—even a little underscores previous literature on Latino academic achievement and the longitudinal resilience literature that suggests that feeling cared for is a significant predictor of future academic competence (Jodry, Robles-Piña, & Nichter 2004; Masten & Coatsworth 1998; Smokowski, Mann, Reynolds & Fraser, 2004; Valenzuela, 1999).

In fact, when groups were compared on whether they expected to quit or continue with school, those with *average marks* scored high ESS, which is reasonable considering that positive reinforcement conferred by doing reasonably well (Feliciano, 2001; Gonzales & Padilla, 1997; Masten & Coatsworth 1998; Sánchez, Colón & Esparza, 2005). Interestingly, in this descriptive analysis *peers* appear to have a greater influence than *teacher regard* on high ESS. Literature on peer influence is mixed. On the one hand, peers can exert a positive influence on achievement when they emphasize education values and provide social support in that direction (Alva, de Los Reyes & Fuligni, 1997; Fuligni, 1997; Gonzalez et. al, 1996; Santon Salazar, 2001) or act as mentors in the Americanization process (Padilla, 2006). On the other hand, peers may exert a negative influence if they reside in high poverty neighborhoods where they may receive negative messages about the worth of academic achievement (Fordham & Ogbu, 1986, Garcia-Reid, Reid, & Peterson, 2005; Masten et. al, 1999; Matute-Bianchi, 1986; St-Hilaire, 2002).

Further exploration of the school care category did not reveal significant differences based on

attendance region or Latino ethnic origin, but gender differences continued to be found, especially in the *'not at all'* category where 58% ( $N = 267$ ) of boys reported not feeling cared for but fewer girls reported not feeling cared for 42% ( $N = 195$ ) with a difference of 16%. Previous literature supports that some gender differences are to be expected but the size of this difference merits further study. Feeling safe and liking school were highly associated with feeling cared for *'a little'* and *'a lot,'* a finding that is supported by attachment and belonging literature (Goodenow & Grady, 1993; Ibañez, et al., 2004; Johnson, Crosnoe & Elder, 2001; Osterman, 2000; Reinke & Herman, 2002).

As was the case with the initial exploration of students own ESS, the greatest differences in *feeling cared for* were found in the grade level distributions of the *'not at all'* category where 9<sup>th</sup> grade students accounted for 56% ( $N = 258$ ). Feeling cared for a *'little or some'* was also significant for 9<sup>th</sup> graders but less so for 6<sup>th</sup> graders and 12<sup>th</sup> graders. These age level differences are consistent with developmental literature that suggests staged differences among early, middle and later adolescent development (French et al., 2006; Pahl & Way, 2006; Phinney, 1997, 2004). But, across all variables, one way ANOVA results show the greatest differences in the means was between the group that reported being cared for *'a lot'* and the group that responded *'not at all.'* For Latino students, feeling cared for at school even a little appears to make a difference on their expectations of future academic achievement (Gibson & Bejinez, 2002; Valenzuela, 1999).

## 6.4 The Context of Family

The highest mean score difference on whether to continue or quit school and the greatest variance in the school care category was obtained on the *family closeness* variable, suggesting family is an important contextual variable that is associated with students' own expectations and the school environment. This finding is not surprising given the centrality of familism in Latino life and the role it plays in academic achievement motivation (González, Umaña-Taylor, & Bámaca, 2006). The bulk of literature—focused on teacher student relations in the classroom—posits that family relations affects student performance and is closely associated with their future plans. However, the review of the literature has previously noted research that specifies the school environment in relation to

family has received scant attention. Although the central question of this study is not focused on family, the need to account for this variable is important given the paucity of research.

This study analyzed three separate models that focus on the school environment taking the family closeness variable into account. In the first model, multivariate regressions explored *peer relations*, *feeling safe*, and *teacher regard*. While family closeness was positively associated with all three variables, the ANCOVA results show that *peer relations* were not a significant school support variable. *Feeling safe* at school however, was a significant irrespective of family. Males felt less safe than females and students in 9<sup>th</sup> grade felt least safe. *Teacher regard* was significantly associated as a school support variable but in a negative direction for 9<sup>th</sup> grade students. Results of this model suggest that feeling safe and being well regarded by teachers are significant school supports for Latino students. This is particularly the case for students in the ninth grade and these two factors are unconnected to family closeness.

The second model examined the association of school support and demographic characteristics with student performance as a mediator to consider a possible pathway to ESS. In this model feeling safe, feeling cared for at school and feeling cared for specifically by teachers was associated with student performance **independent of family closeness**. Chicano Mexicano students had the highest association while males had a lower association, as did students in 9<sup>th</sup> grade. These results suggest that irrespective of family permeability, students who feel cared about by teachers as well as by other adults and feel safe in the school environment can be expected to do reasonably well in school. Furthermore, it appears that these school supports have a greater significance for Chicano -Mexicano students than for other Latino youth.

The third model examined the same variables as those entered in the second model with *liking school* as the mediator variable. The Logit results in this model indicate *teacher regard* and *feeling safe* are associated with liking school and, consistent with previous results, students who did not feel cared for are less likely to like school compared to those who feel cared for regardless of family closeness. It is noteworthy that feeling cared for even *a little* showed a higher association to liking school. Results for this model suggest that teachers play an important role on students liking school. Results also underscore the role of caring school relationships and supports previous literature on

school attachment, engagement, and belonging that has been linked to positive academic outcomes for Latino students.

Taking family closeness into account, results of the present study suggest that for all three models of school support: *safety*, *feeling cared for*, and *teacher regard*, do matter and play an important role on liking and performance regardless of *family closeness*. Moreover, these findings are more salient for students in 9<sup>th</sup> grade, Mexicano-Chicano students, and male students.

## 6.5 Effects of School Support on Expectations of School Success

After adjusting for contextual factors, three questions remain: *Is school support associated with ESS independent of family support and student characteristics? Are there individual and family characteristics that are associated with ESS? Does school performance mediate the association of school support and school success?* This study used a step-wise approach consisting of three separate models of logistic regressions on ESS to answer the core question of the study.

In the first model where only school supports were entered, feeling safe and teacher regard were positively associated with future ESS but students who missed school one or more days because of safety concerns and students who felt uncared for were inversely associated with future ESS. In the second model with demographic and family characteristics added, students who reported family closeness, high safety and teacher regard, were likely to have high ESS. Students who did not feel cared for were less likely to be associated with ESS in the adjusted model to a greater extent than in the first model. That is, the unconfounded association of school held true in the second model, thus underscoring the importance of the association of *school care* to ESS. Moreover, as in the first model, students who missed school due to safety were again less likely to be associated with ESS. In the third model with all variables entered in the equation, the highest likelihood to future ESS was found in the performance mediator variable of students who received average marks while students who disliked school were least likely to have positive ESS. However, the direct effects of school support on ESS remain even with the addition of *performance* and *liking*. Although the association of *school care* was somewhat attenuated by the inclusion of the mediators, the association of not

feeling cared for held constant as students who reported not feeling cared for at school were less likely to have higher ESS. As with *school care*, the association of feeling safe to ESS remained even after adding the mediator variables, although its significance was somewhat less. The effects of *teacher regard* on ESS appear to be indirect and increasingly attenuated by the mediator variables.

Results of the logistic regressions reveal several themes that held constant for all three models. For Latino students, feeling safe at school is an important element of support associated with expectations of school success. Indeed, when students missed school for even one or more days, the association to ESS went in the opposite, negative direction at a significant level. Feeling cared for, even a little, is in this study an important characteristic of school support. This is the case even for students who felt cared for a little, suggesting that a little care goes a long way. In fact, when students did not feel cared for at all, they were less likely to have positive expectations about their future success. Having *teacher regard* is also an important element of school support but its significance is indirect and mediated by *performance* and *liking*. Given the dynamic complexity of student–teacher interaction, this finding is not surprising (Alfaro, Umaña-Taylor & Bámaca 2006; Padrón, Waxman, & Rivera 2002; Stanton-Salazar & Dornbusch, 1995). Nevertheless, it is worth noting that the direct effects of school support on ESS remain even with the addition of *performance* and *liking*.

## 6.6 The Puzzle of Peer Relations

In the initial results of the study the *peer relations* support variable was significantly associated with high ESS including at a higher rate than *teacher support* on continuing with school. This was also the case when controlling for family closeness, and particularly on performance or liking school. However, peer relations—as well as the illegal substance/gang variable—were not shown to be significantly associated school supports in none of the three logistic regression models while *teacher regard* was significantly associated. It could be that strength of the associations of feeling cared for, high safety, and teacher regard are more powerful influences on ESS than peers. But given the initial findings, further research on the influence of peers as a source of school support is

merited.

## 6.7 Summary of Findings

The present study researched school supports in relation to Latino high school students' expectation of school success (ESS). Analysis of the sample indicated gender differences with girls having higher expectations. Looking at differences in Latino origin, students of non-Chicano/Mexicano descent had higher ESS. The greatest differences among the groups occurred at the grade level, particularly between students in 9<sup>th</sup> and 12<sup>th</sup> grade. Students in 9<sup>th</sup> had lower expectations, made remarkable by the difference in the sample size where less than half the number of cases was represented in 12<sup>th</sup> grade. As such, 9<sup>th</sup> grade Latinos appear to be most vulnerable and are less likely to have positive expectations of their future schooling. With respect to the school supports themselves, *feeling safe* and *feeling cared for at school* even a little is important, especially for males as well as students in mid adolescence. Performance, measured in average marks and liking school are important mediators in students' plans to continue with school and *peer support* appears to have a higher influence than *teachers* on this decision. *Family closeness* is an important contextual factor associated with ESS but the school supports of feeling safe, feeling cared for, and having teacher regard are important irrespective of family support. Moreover, when these three supports are present, they are more highly associated to performance and liking school for Chicano Mexicano students. Liking school and feeling cared for at school were associated irrespective of family closeness. How do school supports inform future ESS? Feeling safe, having teacher regard showed high association while not being cared for at all was inversely associated to ESS. Not being cared for was even more significantly associated even after adjusting for family and demographic characteristics. Performing reasonable well and liking school mediated student expectation ESS but the supports of school care and safety held constant and the association was direct.

## 6.8 Recommendations

Results of the current study support the proposition that school supports can make a positive difference in Latino students' expectations of their future academic success. Several recommendations flow from the current study.

The educational disparities suffered by Latino high school students evidenced by the problem of low graduation rates in Minnesota and the nation means that attending to the school environment must become a priority for school administrators and teacher training institutions that they may shift current practice towards making the school environment hospitable and safe for Latino students. Although several studies have addressed school safety (Chapman & Pereira, 2005; Garcia-Reid, Reid & Peterson, 2005; Ginorio & Huston, 2001; Rumberger & Thomas, 2000), this study highlights the extent of its prominence among Latino students in light of the unique conditions that these adolescents face as they forge identities that incorporate future success. The issue of safety is no small matter for this population in light of increased school segregation, mounting public hostility, the threat of deportations and separation from family, and threatened disenfranchisement (Contreras, 2004; Orfield, Losen, Wald, & Swanson, 2004). Feeling cared about—even a little—is a powerful force that can counter what Valenzuela (1999) calls 'subtractive schooling.' This study adds to the growing literature that seeks to give voice to Latino students' needs to feel cared for in light of the stressful challenges they may face as immigrants, as learners of a new language, as interpreters of new norms for their families, and as the recipients of racial stereotyping, particularly in reference to their documented status. Institutions of higher learning can be instrumental in teacher training by advancing knowledge regarding the connection between learning and caring in high school settings. Beyond their unique identity as Latinos, the feeling of belonging fulfills a basic human psychological need. When Latino students feel safe and cared about -even a little- in the school environment, positive learning communities that foster pro social behaviors, and successful academic outcomes can take place thereby enhancing future expectations of academic success.

Social workers and guidance counselors can play a key role as agents of resilience by encouraging teachers and other adults at school to shed light and affirm the cultural strengths of Latinos

and by being alert to their needs and promoting caring relationships that foster attachment to school. Results of this study suggest that Mexicano/Chicano students and male students should be considered as benefitting from additional supports. In this study students who are in 9<sup>th</sup> grade appear to be most vulnerable to having low ESS. This mid adolescence period appears crucial in making a difference on whether or not to continue with school. Building on previous research regarding adolescent stages of ethnic identity development, it is suggested that 9<sup>th</sup> grade Latinos and perhaps 8<sup>th</sup> graders be considered for special school supports programming, such as peer to peer, and structured adult mentorship that foster caring connections. Some models are already in place. For example, Gibson & Bejnez (2002) have chronicled work in Migrant Education Programs and Gándara, Larson, Rumberger, & Mehan (1998) have outlined common themes for high school graduation success that include attention to caring relationships coupled by high expectations. When youngsters are encouraged to see themselves as smart and expected to achieve academic excellence, they are more likely to have higher aspirations and see their identity as closely connected to school (Gándara et al., 2001).

In reference to Latino families, a preponderance of literature has established that family relations affect student performance and are closely associated with their future academic plans. However, this finding has been frequently used to argue that since families are the primary source of students' expectations of future school success, then Latino families should be the targets of intervention, thus suggesting that graduation rates would increase if only schools could successfully reach Latino families. The message from this literature as well as in public discourse offers the not too subtle subtext that Latino families do not value education as much as other families. The findings of the present study counter this view, showing that safety and care within the school environment are important to Latino student's ESS regardless of their family relationship. It is therefore recommended that this deficit view of Latino families be reframed by seeking a better understanding of the strengths Latino families as a source model that provides a structure of safety, care, and belonging. The deficit view has extended to the children of Latino families, the students themselves who are often seen as the problem (Valverde, 2004). Countering deficit thinking about Latino students is essential for teacher training and staff development (García & Guerra, 2004). Using strategies that honor cul-

ture and promote positive academic outcomes in the school environments will honor the ideals of John Dewey (1897) who envisioned schools as caring communities whose mission is to educate the future civil society.

## **6.9 Contributions and Limitations**

The present study contributes to the literature on Latino adolescent educational outcomes in a number of ways. First, examining the educational expectations of Latino youth advances the understanding of their educational disparities, a social justice concern on behalf of an oppressed minority that fulfills the professional mission of social work (EPAS, 2008). Second, the framework generated for the analysis used the Strengths Perspective as a research lens linking resilience theory with Latino youth identity, thereby strengthening the Strengths Approach. It has been argued that the Strengths Perspective lacks evidence of its effectiveness and ignores problems through the suspension of judgment (Staudt, Howard, & Drake, 2001; McMillen, Morris, & Sherraden, 2004). This study acknowledges the existence of the problem of educational disparities among Latino youth but, rather than viewing Latinos as the source of the problem and as being responsible for their own educational disparities, Strength principles are applied in the research that locate these youth as a source of cultural strengths whose experience is to be honored. At the same time, the research results point to ways that educational systems can change that they may better adapt to a growing student population that is culturally different. Thus, the application of the Strengths Perspective as a research lens reframes Latino students as a population who are traditionally seen from a deficit based perspective into a population rich with cultural assets, a view that is not readily visible in the social work literature. Third, the present study is consistent with culturally appropriate research through its focus on Latino youth and the use of a within group comparison among that population. By giving voice to the educational conditions faced by Latino youth in the school environment, the study enhances our understanding of their experiences. Adding knowledge about the role of family closeness in the educational setting helps to clarify the centrality of school systems' educational supports with respect to the future expectations of Latino youth. Fourth, results of the study shed

light on Latino youths' expectations of their future academic success and their culturally unique needs for safety and caring relationships. These attributes stand out as culturally appropriate elements of resilience producing school environments, particularly during mid adolescence, thereby adding knowledge that can strengthen educational systems' capacities to enhance the delivery of their services.

The study is limited in several ways. Because the study is cross sectional, it does not allow the exploration of changes that may occur over time and attribute causality, hence the generalizability of the research findings is limited. The MSS instrument presents number of limitations as well. Confidentiality issues confined the analysis to only two geographic regions, the metro area and out state Minnesota, such that a comparison among responses of urban, suburban, and rural school districts could not be made. Only two Latino groups are represented in the sample, severely restricting the analysis of variability among Latinos. The instrument does not contain questions that are important to Latino students such as language spoken at home, generational time of arrival, economic status, migrant or immigrant status, or parental educational status. Further, three questions on family could not be included in the analysis due to their focus on the nuclear family at the exclusion of extended family structures that are central to Latinos. Absent from the instrument were questions that contribute to supportive school climate such as representational art works, or programs such as language or music clubs. Last, the school care scale was limited because it did not distinguish caring relationships from among teachers and other adults in the school environment.

## **6.10 Directions for Future Research**

Several questions emanate from the current study. Given the significance of safety to Latino students, the subject invites further exploration on the subject. For example, how do aspects of school structures and behavioral expectations, affect Latino student perceptions of safety? How does the immigrant or documented status of non-white Latino students affect their safety concerns? What dimensions of safety are apt to make a difference in ESS: physical, social, psychological? How do safety concerns affect learning in whole or in part? With respect to school supports, how can

resilience promoting environments be strengthened? What dimensions of care matter enough to encourage higher academic expectations? How do elements of care with respect to cultural supports advance higher expectations? What role do peers play in enhancing school climate? What organizing principles and cultural norms in a given school setting work best to support higher ESS? Are there parallels to family closeness among Latinos that can serve as models of caring connections? What effects do educational policies, funding, teacher training and/or architectural elements have on caring relationships both short and long term? How can teacher training be enhanced to increase responsiveness to the educational and cultural needs of Latino students? How can school social workers team with teachers and other school personnel to enable a sense of safety, belonging and care for Latino students? In bridging family relationships and the school environment, how can educational systems be strengthened through culturally appropriate outreach in partnership with Latino families? In what ways would outreach strategies of Latino family account for the variation in income, education, literacy, nativity, gender, documented status, and skin color? What interventions can be deployed to help students at the 9<sup>th</sup> grade or earlier to raise their ESS? Promising research has already begun by Altschul and colleagues (2006) who use connectedness, awareness of racism and embedded achievement to promote academic achievement in mid adolescence and counter racial stereotypes (Oyserman, Brickman, & Rhodes, 2007). However, the heterogeneity of Latino students and the added complexity of their culture is fertile ground for research exploration that could target youth from specific populations.

A recent report by Pew Research (Lopez & Velasco, 2011) informs us that childhood poverty among Latinos has hit a negative milestone on two levels. Latinos under 18 are the largest minority group living in poverty and for the first time in the nation's history, they constitute the largest group who is not white living in poverty. Surely in Minnesota we can do better than that by providing research to strengthen education systems that they may be hospitable environments that foster brighter futures for all our youth.

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**MINNESOTA  
STUDENT  
SURVEY  
2004**

**LEVEL: SECONDARY (9th - 12th)**



*Minnesota*  
**Department  
of Education**

1500 Highway 36 W • Roseville, MN 55113

DHS-3650-ENG

**Students: You can help us learn a lot more about how young people feel about themselves and their lives.**

**These questions cover many areas. Your answers will help us understand the experiences and concerns of people your age. Some questions might make you feel uncomfortable. You do not have to answer any question you don't want to. This survey is voluntary. You can choose not to complete this survey.**

**No one will know your answers. Your name will not be on this survey. Your answers are confidential.**

Thank you for your help.

School/Program: \_\_\_\_\_

District Number		School Bldg.
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### BACKGROUND

- What is your sex?  Male  Female
- What is your grade in school right now?
 

<input type="radio"/> 6th grade	<input type="radio"/> 10th grade
<input type="radio"/> 7th grade	<input type="radio"/> 11th grade
<input type="radio"/> 8th grade	<input type="radio"/> 12th grade
<input type="radio"/> 9th grade	<input type="radio"/> Not applicable
- How old are you?
 

<input type="radio"/> 11 years old or younger	<input type="radio"/> 17 years old
<input type="radio"/> 12 years old	<input type="radio"/> 18 years old
<input type="radio"/> 13 years old	<input type="radio"/> 19 - 20 years old
<input type="radio"/> 14 years old	<input type="radio"/> 21 years old or older
<input type="radio"/> 15 years old	
<input type="radio"/> 16 years old	
- How do you describe yourself? (Mark all that apply)
  - American Indian
  - Black or African American
  - Mexican American or Chicano/Chicana
  - Puerto Rican or other Latin American
  - Asian American or Pacific Islander (including Cambodian, Hmong, Korean, Laotian, Vietnamese)
  - White
  - I don't know

- Which adults do you live with? (Mark all that apply)
  - The woman who gave birth to me (my biological mother)
  - My biological father
  - Sometimes with my mother, sometimes with my father
  - The mother that adopted me
  - The father that adopted me
  - My stepmother
  - My stepfather
  - My foster parent(s)
  - Other relative(s)
  - An adult or adults I am not related to
  - None

- Can you talk to your father about problems you are having?
  - Yes, most of the time
  - Yes, some of the time
  - No, not very often
  - No, not at all
  - My father is not around

- Can you talk to your mother about problems you are having?
  - Yes, most of the time
  - Yes, some of the time
  - No, not very often
  - No, not at all
  - My mother is not around

### SCHOOL

- How do you feel about going to school?
  - I like school very much
  - I like school quite a bit
  - I like school a little
  - I don't like school very much
  - I hate school
- Which of these best describes your school plans?
  - I would like to quit school as soon as I can.
  - I plan to finish high school but don't think I'll go to college.
  - I'd like to go to some kind of trade school or vocational school after high school.
  - I'd like to go to college after high school.
  - I'd like to go to college and then go on after college to graduate or professional school.
- During the last 30 days, how often have you skipped or cut full days of school?
  - Never
  - Once or twice
  - 3 to 5 times
  - 6 to 10 times
  - More than 10 times

11. Mark the two grades you get the most often.

- A
- B
- C
- D
- F or incomplete
- I don't get letter grades

12. Have you passed the Minnesota Basic Standards Tests (must pass to graduate)?

- |  |  |
|--|--|
| <b>Passed the Math test?</b>               | <b>Passed the Reading test?</b>            |
| <input type="radio"/> Yes                  | <input type="radio"/> Yes                  |
| <input type="radio"/> No                   | <input type="radio"/> No                   |
| <input type="radio"/> I don't know         | <input type="radio"/> I don't know         |
| <input type="radio"/> Not applicable to me | <input type="radio"/> Not applicable to me |

13. How many students in your school...

**All    Most    Some    A few    None**

Are friendly?  All  Most  Some  A few  None

Behave well in the hallways and lunchroom?  All  Most  Some  A few  None

Have made fun of or threatened students of different races or backgrounds?  All  Most  Some  A few  None

14. How many of your teachers...

**All    Most    Some    A few    None**

Are interested in you as a person?  All  Most  Some  A few  None

Show respect for the students?  All  Most  Some  A few  None

15. How much do you agree or disagree with the following statements?

	<b>Strongly Disagree</b>
	<b>Disagree</b>
	<b>Agree</b>
<b>Strongly Agree</b>	

I feel safe going to and from school.  Strongly Disagree  Disagree  Agree  Strongly Agree

I feel safe at school.  Strongly Disagree  Disagree  Agree  Strongly Agree

Bathrooms in this school are a safe place to be.  Strongly Disagree  Disagree  Agree  Strongly Agree

Illegal gang activity is a problem at this school.  Strongly Disagree  Disagree  Agree  Strongly Agree

Student use of alcohol or drugs is a problem at this school.  Strongly Disagree  Disagree  Agree  Strongly Agree

16. During the last 12 months, which of the following has happened to you on school property?

Has a student:

- |  |                       |                       |
|--|-----------------------|-----------------------|
|  | <b>Yes</b>            | <b>No</b>             |
| Insulted you? .....                      | <input type="radio"/> | <input type="radio"/> |
| Threatened you? .....                    | <input type="radio"/> | <input type="radio"/> |
| Pushed, shoved or grabbed you? .....     | <input type="radio"/> | <input type="radio"/> |
| Kicked, bitten, or hit you? .....        | <input type="radio"/> | <input type="radio"/> |
| Stabbed you or fired a gun at you? ..... | <input type="radio"/> | <input type="radio"/> |

17. During the last 12 months, how many times has someone stolen or deliberately damaged your property such as your car, clothing, or books on school property?

- 0 times
- 1 time
- 2 or 3 times
- 4 or 5 times
- 6 or more times

18. During the last 12 months, has anyone offered, sold, or given you an illegal drug on school property?

- Yes
- No

19. During the last 30 days, how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?

- 0 days
- 1 day
- 2 or 3 days
- 4 or 5 days
- 6 or more days

20. During the last 30 days, on how many days did you carry a gun on school property?

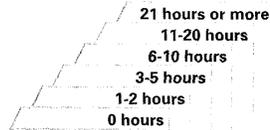
- 0 days
- 1 day
- 2 or 3 days
- 4 or 5 days
- 6 or more days

21. During the last 30 days, on how many days did you carry a weapon (other than a gun) on school property?

- 0 days
- 1 day
- 2 or 3 days
- 4 or 5 days
- 6 or more days

## ACTIVITIES

22. During the school year, how many hours in a typical week do you spend doing the following?



- Homework/study
- Band, choir, orchestra, music lessons, or practicing voice or an instrument
- Clubs or organizations outside of school
- Playing sports on a school team
- Other physical activities
- Attending services, groups, or programs at a church, synagogue, or mosque
- Reading for pleasure
- Watching TV or videos
- Playing computer or video games
- Volunteer work or community service
- Chores at home/babysitting for family
- Work for pay (including babysitting for others)
- Hanging out

23. Do you use a computer at home?

- Yes  No

24. Do you use the Internet at home?

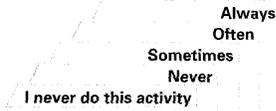
- Yes  No

If yes, what do you use the Internet for at home? (Mark all that apply)

- E-mail
- Surfing the Web
- Chat rooms
- Listening to or downloading music
- Playing games
- Entertainment or sports
- Homework or other research
- Shopping

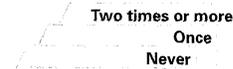
## SAFETY

25. How often do you wear a seat belt when you...



- ...ride in a car?
- ...drive a car?

26. During the last 12 months, how often have you...



- ...blacked out because someone hit you in the head?
- ...blacked out because you fell and hit your head or were accidentally hit in the head by something?

## HEALTH

27. When was the last time you had a physical exam?

- Within the last 12 months
- 1-2 years ago
- 3-4 years ago
- More than 4 years ago
- I have never had a physical exam

28. Do you have a mental or physical condition or other health problem that has lasted at least 12 months?

- Yes  No

29. Have you ever been treated for an alcohol or other drug problem?

- Yes  No

30. On how many of the last 7 days did you exercise or participate in sports that made you sweat or breathe hard for at least 20 minutes?

- 0 days  1 day  2 days  3 days  4 days  5 days  6 days  7 days

31. On how many of the last 7 days were you physically active for a combined total of at least 30 minutes?

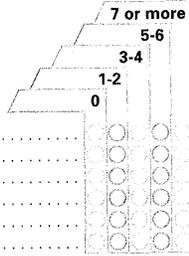
- 0 days  1 day  2 days  3 days  4 days  5 days  6 days  7 days

**32. How many servings of fruits, fruit juices, or vegetables did you eat yesterday?**

- 0 servings
- 1 serving
- 2 servings
- 3 servings
- 4 servings
- 5 servings
- 6 servings
- 7 servings
- 8 or more servings

**33. How many glasses of each of the following did you drink yesterday?**

- |                          |                       |                       |                       |                       |                       |                       |                       |
|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Milk .....               | <input type="radio"/> |
| 100% fruit juice .....   | <input type="radio"/> |
| Fruit juice drinks ..... | <input type="radio"/> |
| Pop or soda .....        | <input type="radio"/> |
| Sports drinks .....      | <input type="radio"/> |
| Water .....              | <input type="radio"/> |



**34. At the present time, do you think you are...**

- Underweight?
- About the right weight?
- Overweight?

**35. During the last 12 months, have you ever eaten so much in a short period of time that you felt out of control (binge-eating)?**

- Yes
- No

**36. During the last 12 months, have you done any of the following to lose weight or control your weight? (Mark all that apply)**

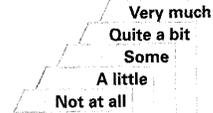
- Exercise
- Fast or skip meals
- Smoke cigarettes
- Use diet pills or speed
- Vomit (throw up) on purpose after eating
- Use laxatives

**37. Where have you received most of your information about alcohol and other drugs? (Mark all that apply)**

- Friends/peers
- Parents
- Brothers or sisters
- School/teachers/counselors
- Clinics/doctors/nurses
- Internet
- TV/radio/magazines/newspapers/books
- I do not know much about alcohol or other drugs

**38. Where have you received most of your information about sex? (Mark all that apply)**

- Friends/peers
- Parents
- Brothers or sisters
- School/teachers/counselors
- Clinics/doctors/nurses
- Internet
- TV/radio/magazines/newspapers/books
- I do not know much about sex



**39. How much do you feel...**

- |   |                       |                       |                       |                       |                       |                       |                       |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ...friends care about you? .....                            | <input type="radio"/> |
| ...teachers or other adults at school care about you? ..... | <input type="radio"/> |
| ...church or spiritual leaders care about you? .....        | <input type="radio"/> |
| ...police officers care about you? .....                    | <input type="radio"/> |
| ...other adults in your community care about you? .....     | <input type="radio"/> |
| ...your parents care about you? .....                       | <input type="radio"/> |
| ...other adult relatives care about you? .....              | <input type="radio"/> |
| ...your family cares about your feelings? .....             | <input type="radio"/> |
| ...your family understands you? .....                       | <input type="radio"/> |
| ...your family has lots of fun together? .....              | <input type="radio"/> |
| ...your family respects your privacy? .....                 | <input type="radio"/> |

**40. I usually feel good about myself.**

- Disagree
- Mostly disagree
- Mostly agree
- Agree

**41. I am able to do things as well as most other people my age.**

- Disagree
- Mostly disagree
- Mostly agree
- Agree

**42. On the whole, I'm satisfied with myself.**

- Disagree
- Mostly disagree
- Mostly agree
- Agree

**43. I feel I do not have much to be proud of.**

- Disagree
- Mostly disagree
- Mostly agree
- Agree

**44. Sometimes I think that I am no good.**

- Disagree
- Mostly disagree
- Mostly agree
- Agree

**45. I feel that I can't do anything right.**

- Disagree
- Mostly disagree
- Mostly agree
- Agree

46. I feel that my life is not very useful.

- Disagree  
 Mostly disagree  
 Mostly agree  
 Agree

47. During the last 30 days, how has your mood been?

- Excellent  
 Very good  
 Up and down a lot  
 Bad  
 Very bad

48. During the last 30 days, have you felt you were under any stress or pressure?

- Yes, almost more than I could take  
 Yes, quite a bit of pressure  
 Yes, more than usual  
 Yes, a little  
 Not at all

49. During the last 30 days, have you felt sad?

- All the time  
 Most of the time  
 Some of the time  
 A little of the time  
 None of the time

50. During the last 30 days, have you felt so discouraged or hopeless that you wondered if anything was worthwhile?

- Extremely so, to the point that I have just about given up  
 Quite a bit  
 Some, enough to bother me  
 A little bit  
 Not at all

51. During the last 30 days, have you felt nervous, worried, or upset?

- All the time  
 Most of the time  
 Some of the time  
 A little of the time  
 None of the time

52. During the last 30 days, how satisfied have you been with your personal life?

- Extremely satisfied  
 Very satisfied  
 Satisfied  
 Somewhat dissatisfied  
 Very dissatisfied

53. Have you ever thought about killing yourself?

- No  
 Yes, during the last year  
 Yes, more than a year ago

54. Have you ever tried to kill yourself?

- No  
 Yes, during the last year  
 Yes, more than a year ago

55. Have you ever been the victim of violence on a date?

- Yes  No

56. Have you ever been the victim of date rape?

- Yes  No

57. Has alcohol use by any family member repeatedly caused family, health, job, or legal problems?

- Yes  No

If yes, whose use? (Mark all that apply)

- Parent who lives with me  
 Parent who doesn't live with me  
 Other relative

58. Has drug use by any family member repeatedly caused family, health, job, or legal problems?

- Yes  No

If yes, whose use? (Mark all that apply)

- Parent who lives with me  
 Parent who doesn't live with me  
 Other relative

59. Has any adult in your household ever hit you so hard or so often that you had marks or were afraid of that person?

- Yes  No

60. Has anyone in your family ever hit anyone else in the family so hard or so often that they had marks or were afraid of that person?

- Yes  No

61. Has any adult or older person outside the family ever touched you sexually against your wishes or forced you to touch them sexually?

- Yes  No

62. Has any older or stronger member of your family ever touched you sexually or had you touch them sexually?

- Yes  No

**BEHAVIOR**

63. During the last 12 months, how often have you done these activities?

- Daily
- About once a week
- About once a month
- Less than once a month
- Not at all

- Played cards for money
- Bet money on games of personal skill like pool, golf, or bowling
- Bet money on sports teams
- Bought lottery tickets or scratch offs
- Gambled in a casino

64. During the last 12 months, have you ever felt bad about the amount you bet, or about what happens when you bet money?

- Yes
- No
- I don't bet for money

65. During the last 12 months, have you ever felt that you would like to stop betting money but didn't think you could?

- Yes
- No
- I don't bet for money

66. During the last 12 months, how often have you run away from home?

- Never
- Once or twice
- 3 to 5 times
- 6 to 10 times
- More than 10 times

67. During the last 12 months, how often have you damaged or destroyed property (for example: broken windows or furniture, put paint on walls or signs, put scratches or dents in a car) at school or somewhere else?

- Never
- Once or twice
- 3 to 5 times
- 6 to 10 times
- More than 10 times

68. During the last 12 months, how often have you hit or beat up another person?

- Never
- Once or twice
- 3 to 5 times
- 6 to 10 times
- More than 10 times

69. During the last 12 months, how often have you taken something from a store without paying for it?

- Never
- Once or twice
- 3 to 5 times
- 6 to 10 times
- More than 10 times

70. Do you get a real kick out of doing things that are a little dangerous?

- Not at all
- A little
- Quite a bit
- Very much

71. Do you ever ride with friends after they have been using alcohol or other drugs?

- No
- Yes, but rarely
- Yes, often
- None of my friends use alcohol or other drugs

72. During the last 12 months, how often have you used the following?

- Daily
- Weekly
- Monthly
- Less than monthly
- Not at all

- Cigarettes
- Chewing tobacco or snuff
- Cigars, cigarillos, or little cigars

73. If you have not smoked a cigarette in the last 12 months, do you think you will at any time during the next year?

- Definitely yes
- Probably yes
- Probably not
- Definitely not

If you have not used any tobacco product in the last 30 days, skip to Question 78.

74. During the last 30 days, on how many days did you smoke a cigarette?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days



86. On how many occasions (if any) have you sniffed glue, or breathed the contents of aerosol spray cans, or inhaled any other gases or sprays in order to get high...

0 1-2 3-5 6-9 10-19 20-39 40+

...during the last 12 months?

87. On how many occasions (if any) have you used LSD ("acid"), PCP, or other psychedelics (like mescaline, peyote, psilocybin)...

0 1-2 3-5 6-9 10-19 20-39 40+

...during the last 12 months?

88. On how many occasions (if any) have you used MDMA ("ecstasy")...

0 1-2 3-5 6-9 10-19 20-39 40+

...during the last 12 months?

89. On how many occasions (if any) have you used "crack" (cocaine in chunk or rock form), or cocaine in any other form...

0 1-2 3-5 6-9 10-19 20-39 40+

...during the last 12 months?

90. On how many occasions (if any) have you used methamphetamine (meth, speed, crank, crystal meth) by any method...

0 1-2 3-5 6-9 10-19 20-39 40+

...during the last 12 months?

91. Amphetamines are sometimes called uppers, ups, speed, bennies, dexies, pep pills, and diet pills. Amphetamines do **not** include any non-prescription drugs, such as over-the-counter diet pills (like Dexatrim®) or stay awake pills (like No-Doz®), or any mail-order drugs.

On how many occasions (if any) have you taken amphetamines on your own—that is, without a doctor telling you to take them...

0 1-2 3-5 6-9 10-19 20-39 40+

...during the last 12 months?

92. Barbiturates and tranquilizers are sometimes prescribed by doctors to help people relax or get to sleep. They are sometimes called downs, downers, goofballs, yellows, reds, blues, or rainbows.

On how many occasions (if any) have you taken barbiturates or tranquilizers on your own—that is, without a doctor telling you to take them...

0 1-2 3-5 6-9 10-19 20-39 40+

...during the last 12 months?

93. On how many occasions (if any) have you used heroin or any other narcotics/opiates...

0 1-2 3-5 6-9 10-19 20-39 40+

...during the last 12 months?

94. On how many occasions (if any) have you taken other people's prescription drugs...

0 1-2 3-5 6-9 10-19 20-39 40+

...during the last 12 months?

95. If you used drugs other than alcohol in the last 30 days, how did you get them? (Mark all that apply)

I did not use other drugs in the last 30 days.

I bought drugs:  from people I know  
 from people I don't know  
 on the Internet

I got drugs:  from friends  
 from family members  
 by getting someone else to buy for me  
 at parties

I took drugs:  from my home  
 from a friend's home

96. Do you ever use alcohol or other drugs...

	Yes	No
...before school? .....	<input type="radio"/>	<input type="radio"/>
...during school? .....	<input type="radio"/>	<input type="radio"/>
...right after you leave school? .....	<input type="radio"/>	<input type="radio"/>

97. If you use alcohol or other drugs, which of the following are reasons you use? (Mark all that apply)

I don't use alcohol or other drugs

To relax

To get high or smashed

To have fun at parties

To escape from school, family or personal problems

Because my parents aren't around

Because my friends do

Because my parents do

Because I like the taste

Because I'm sad, lonely, or angry

Because it's illegal

Because of peer pressure

If you have not used alcohol or any other drug during the last 12 months, please skip to question 111.

98. During the last 12 months, have you found that you had to use a lot more alcohol or other drugs than before to get the same effect?
- Yes  
 No
99. During the last 12 months, have you tried to cut down on your use of alcohol or other drugs but couldn't?
- Yes  
 No
100. During the last 12 months, has alcohol or other drug use hurt your relationships with friends or family?
- Yes  
 No
101. During the last 12 months, how many times have you spent all or most of the day using alcohol or other drugs, or getting over their effects?
- 0  
 1  
 2  
 3 or more
102. During the last 12 months, how many times have you given up activities like sports, work, school, or being with friends or relatives in order to use alcohol or other drugs or get over their effects?
- 0  
 1  
 2  
 3 or more
103. During the last 12 months, how many times has alcohol or other drug use left you feeling depressed, agitated, paranoid, or unable to concentrate?
- 0  
 1  
 2  
 3 or more
104. During the last 12 months, how many times have you neglected your responsibilities because of alcohol or other drug use?
- 0  
 1  
 2  
 3 or more
105. During the last 12 months, how many times have you missed work or school because of alcohol or other drug use?
- 0  
 1  
 2  
 3 or more
106. During the last 12 months, how many times have you driven a motor vehicle after using alcohol or other drugs?
- 0  
 1  
 2  
 3 or more
107. During the last 12 months, how many times has alcohol or other drug use caused you problems with the law?
- 0  
 1  
 2  
 3 or more
108. During the last 12 months, how many times have you hit someone or become violent while using alcohol or other drugs?
- 0  
 1  
 2  
 3 or more
109. During the last 12 months, how many times have you used so much alcohol or other drugs that the next day you could not remember what you had said or done?
- 0  
 1  
 2  
 3 or more
110. During the last 12 months, how many times have you used more alcohol or other drugs than you intended to?
- 0  
 1  
 2  
 3 or more

<p><b>111. Have you ever had sexual intercourse ("gone all the way")?</b></p> <p><input type="radio"/> No → <b>If no please skip to question 121.</b></p> <p><input type="radio"/> Yes, once or twice</p> <p><input type="radio"/> Yes, three times or more</p> <p><b>112. Have you talked with your partner(s) about protecting yourselves from getting <u>sexually transmitted diseases/HIV/AIDS</u>?</b></p> <p><input type="radio"/> Never</p> <p><input type="radio"/> Not with every partner</p> <p><input type="radio"/> At least once with every partner</p> <p><b>113. Have you talked with your partner(s) about preventing pregnancy?</b></p> <p><input type="radio"/> Never</p> <p><input type="radio"/> Not with every partner</p> <p><input type="radio"/> At least once with every partner</p> <p><b>114. During the last 12 months, with how many different male partners have you had sexual intercourse?</b></p> <p><input type="radio"/> None</p> <p><input type="radio"/> 1 person</p> <p><input type="radio"/> 2 persons</p> <p><input type="radio"/> 3 persons</p> <p><input type="radio"/> 4 persons</p> <p><input type="radio"/> 5 persons</p> <p><input type="radio"/> 6 or more persons</p> <p><b>115. During the last 12 months, with how many different female partners have you had sexual intercourse?</b></p> <p><input type="radio"/> None</p> <p><input type="radio"/> 1 person</p> <p><input type="radio"/> 2 persons</p> <p><input type="radio"/> 3 persons</p> <p><input type="radio"/> 4 persons</p> <p><input type="radio"/> 5 persons</p> <p><input type="radio"/> 6 or more persons</p> <p><b>116. How many times have you been pregnant or gotten someone pregnant?</b></p> <p><input type="radio"/> 0 times</p> <p><input type="radio"/> 1 time</p> <p><input type="radio"/> 2 or more times</p> <p><input type="radio"/> Not sure</p> <p><b>117. Do you have primary responsibility for raising a child or children?</b></p> <p><input type="radio"/> No</p> <p><input type="radio"/> Yes, my brother(s)/sister(s)/other relatives</p> <p><input type="radio"/> Yes, my own child(ren)</p>	<p><b>118. If you have sexual intercourse, how often do you and/or your partner use any birth control method?</b></p> <p><input type="radio"/> I don't have sexual intercourse</p> <p><input type="radio"/> Never</p> <p><input type="radio"/> Rarely</p> <p><input type="radio"/> Sometimes</p> <p><input type="radio"/> Usually</p> <p><input type="radio"/> Always</p> <p><b>119. If you have sexual intercourse, how often is a condom used?</b></p> <p><input type="radio"/> I don't have sexual intercourse</p> <p><input type="radio"/> Never</p> <p><input type="radio"/> Rarely</p> <p><input type="radio"/> Sometimes</p> <p><input type="radio"/> Usually</p> <p><input type="radio"/> Always</p> <p><b>120. The last time you had sexual intercourse, did you or your partner use a condom?</b></p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> <p><input type="radio"/> I don't have sexual intercourse</p> <p><b>121. If you do <u>not</u> have sexual intercourse, what factors influence your choice <u>not</u> to have sexual intercourse? (Mark all that apply)</b></p> <p><input type="radio"/> I <u>do</u> have sexual intercourse</p> <p><input type="radio"/> One or both of my parents would object</p> <p><input type="radio"/> I don't want to have sex</p> <p><input type="radio"/> Most students in my school don't have sex</p> <p><input type="radio"/> My friends don't have sex</p> <p><input type="radio"/> I don't think it's right for a person my age to have sex</p> <p><input type="radio"/> I'm afraid of getting caught</p> <p><input type="radio"/> My religious/spiritual beliefs</p> <p><input type="radio"/> Sex education at school has shown me the advantages of waiting until I'm older</p> <p><input type="radio"/> I don't want to get a sexually transmitted disease</p> <p><input type="radio"/> Fear of pregnancy</p> <p><input type="radio"/> My parents have taught me the advantages of waiting until I'm older</p> <p><input type="radio"/> I have chosen to wait until I'm married</p>
---	--



# Appendix B

```
*****
Syntax for Analysis
*****
.

* my first frequencies .
CD "/Users/elena/Desktop/DataSetRgab/".
INSERT
FILE=InitialiseSyntax4Data1_2.SPS
CD=NO
ERROR=STOP
SYNTAX=INTERACTIVE.

* NEVER MODIFY BEFORE HERE .

*****BEGIN ANALYSIS HERE.

FREQUENCIES
VARIABLES=Gender Grade LatinoEthnicity region
/ORDER= ANALYSIS .
FILTER OFF .

**** The following CODE is to look if our scores could be
treated as continuous variables, not to include in the findings.

FREQUENCIES
VARIABLES=Peer
/HISTOGRAM
/ORDER= ANALYSIS .

FREQUENCIES
VARIABLES=Peer TchrRegard HiSfty Ilglsub
/HISTOGRAM
```

```
/ORDER= ANALYSIS .
```

```
FREQUENCIES
```

```
VARIABLES=MarkHi MarkLo MarkAv
```

```
/ORDER= ANALYSIS .
```

```
FREQUENCIES
```

```
VARIABLES=MarkAv
```

```
/HISTOGRAM
```

```
/ORDER= ANALYSIS .
```

```
FREQUENCIES
```

```
VARIABLES=Grade
```

```
/HISTOGRAM
```

```
/ORDER= ANALYSIS .
```

```
*****.
```

```
* Analysis of association of categorical characteristics in  
relation to future.
```

```
*****.
```

```
Demographic Charachteristics.
```

```
CROSSTABS
```

```
/TABLES=Gender BY Future
```

```
/FORMAT= AVALUE TABLES
```

```
/STATISTIC=CHISQ
```

```
/CELLS= COUNT ROW
```

```
/COUNT ROUND CELL .
```

```
CROSSTABS
```

```
/TABLES=Grade BY Future
```

```
/FORMAT= AVALUE TABLES
```

```
/STATISTIC=CHISQ
```

```
/CELLS= COUNT ROW
```

```
/COUNT ROUND CELL .
```

```
CROSSTABS
```

```
/TABLES=region BY Future
```

```
/FORMAT= AVALUE TABLES
```

```
/STATISTIC=CHISQ
```

```
/CELLS= COUNT ROW
```

```
/COUNT ROUND CELL .
```

```
CROSSTABS
```

```

/TABLES=LatinoEthnicity BY Future
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT ROW
/COUNT ROUND CELL .

```

```

****School Characteristics.
CROSSTABS
/TABLES=NoDaysMissed BY Future
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT ROW
/COUNT ROUND CELL .

```

```

CROSSTABS
/TABLES=schoolcare BY Future
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT ROW
/COUNT ROUND CELL .

```

```

CROSSTABS
/TABLES=liking BY Future
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT ROW
/COUNT ROUND CELL .

```

```

*****.
* Analysis of continuous variables in relation to future.

```

```

T-TEST
GROUPS = Future(0 1)
/MISSING = ANALYSIS
/VARIABLES = MarkAv
/CRITERIA = CI(.95) .

```

```

T-TEST
GROUPS = Future(0 1)
/MISSING = ANALYSIS
/VARIABLES = Peer
/CRITERIA = CI(.95) .

```

```

T-TEST

```

```
GROUPS = Future(0 1)
/MISSING = ANALYSIS
/VARIABLES = TchrRegard
/CRITERIA = CI(.95) .
```

```
T-TEST
GROUPS = Future(0 1)
/MISSING = ANALYSIS
/VARIABLES = FamilyClose
/CRITERIA = CI(.95) .
```

```
T-TEST
GROUPS = Future(0 1)
/MISSING = ANALYSIS
/VARIABLES = HiSfty
/CRITERIA = CI(.95) .
```

```
T-TEST
GROUPS = Future(0 1)
/MISSING = ANALYSIS
/VARIABLES = Ilglsub
/CRITERIA = CI(.95) .
```

```
*****
```

```
* Analysis of association of categorical characteristics in
relation to SchoolCare.
```

```
*****.
```

```
Demographic Charachteristics.
```

```
CROSSTABS
/TABLES=Gender BY SchoolCare
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT column
/COUNT ROUND CELL .
```

```
CROSSTABS
/TABLES=Grade BY SchoolCare
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT column
/COUNT ROUND CELL .
```

```
CROSSTABS
/TABLES=region BY SchoolCare
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT column
/COUNT ROUND CELL .
```

```
CROSSTABS
/TABLES=LatinoEthnicity BY SchoolCare
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT column
/COUNT ROUND CELL .
```

```
****School Characteristics.
CROSSTABS
/TABLES=NoDaysMissed BY SchoolCare
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT column
/COUNT ROUND CELL .
```

```
CROSSTABS
/TABLES=liking BY SchoolCare
/FORMAT= AVALUE TABLES
/STATISTIC=CHISQ
/CELLS= COUNT column
/COUNT ROUND CELL .
```

```
*****.
* Analysis of continuous variables in relation to SchoolCare.
```

```
ONEWAY
Peer BY SchoolCare
/STATISTICS DESCRIPTIVES
/MISSING ANALYSIS .
```

```
ONEWAY
MarkAv BY SchoolCare
/STATISTICS DESCRIPTIVES
/MISSING ANALYSIS .
```

```
ONEWAY
TchrRegard BY SchoolCare
/STATISTICS DESCRIPTIVES
```

/MISSING ANALYSIS .

ONEWAY  
FamilyClose BY SchoolCare  
/STATISTICS DESCRIPTIVES  
/MISSING ANALYSIS .

ONEWAY  
HiSfty BY SchoolCare  
/STATISTICS DESCRIPTIVES  
/MISSING ANALYSIS .

ONEWAY  
Ilglsb BY SchoolCare  
/STATISTICS DESCRIPTIVES  
/MISSING ANALYSIS .

\*\*\*\*\*.

\*\* Below are ANCOVAs on the school variables & Regressions \*\*\*\*.

UNIANOVA  
Peer BY Gender Grade LatinoEthnicity WITH FamilyClose  
/METHOD = SSTYPE(3)  
/INTERCEPT = INCLUDE  
/PRINT = PARAMETER  
/CRITERIA = ALPHA(.05)  
/DESIGN = FamilyClose Gender Grade LatinoEthnicity .

UNIANOVA  
TchrRegard BY Gender Grade LatinoEthnicity WITH FamilyClose  
/METHOD = SSTYPE(3)  
/INTERCEPT = INCLUDE  
/PRINT = PARAMETER  
/CRITERIA = ALPHA(.05)  
/DESIGN = FamilyClose Gender Grade LatinoEthnicity .

UNIANOVA  
HiSfty BY Gender Grade LatinoEthnicity WITH FamilyClose  
/METHOD = SSTYPE(3)  
/INTERCEPT = INCLUDE  
/PRINT = PARAMETER  
/CRITERIA = ALPHA(.05)  
/DESIGN = FamilyClose Gender Grade LatinoEthnicity .

\*\*\*\*\* Below are MEDIATOR variable analyses\*\*\*\*\*.

```
LOGISTIC REGRESSION LIKING
/METHOD = ENTER Gender Grade LatinoEthnicity Peer FamilyClose
TchrRegard SchoolCare HiSfty Ilglsub
/CONTRAST (Gender)=Indicator
/CONTRAST (Grade)=Indicator
/CONTRAST (LatinoEthnicity)=Indicator
/CONTRAST (SCHOOLCARE)=Indicator
/PRINT = SUMMARY CI(95)
/CRITERIA = PIN(.05) POUT(.10) ITERATE(20) CUT(.5) .
```

```
UNIANOVA
MarkAv BY Gender Grade LatinoEthnicity WITH FamilyClose HiSfty
Ilglsub Peer SchoolCare TchrRegard
/METHOD = SSTYPE(3)
/INTERCEPT = INCLUDE
/PRINT = PARAMETER
/CRITERIA = ALPHA(.05)
/DESIGN = FamilyClose HiSfty Ilglsub Peer SchoolCare
TchrRegard Gender Grade LatinoEthnicity .
```

\*\*\*\* with factor plots Only to see if I could do it \*\*\*.

```
UNIANOVA
Peer BY Gender Grade LatinoEthnicity WITH FamilyClose
/METHOD = SSTYPE(3)
/INTERCEPT = INCLUDE
/PLOT = PROFILE( Gender Grade LatinoEthnicity )
/PRINT = PARAMETER
/CRITERIA = ALPHA(.05)
/DESIGN = FamilyClose Gender Grade LatinoEthnicity .
```

\*\*\*\*\*

Below is the final step with three models of logistic Regressions. The first model has School Support Variables on Future. The second model adds demographics and family, the contextual variables. The third model adds the Mediator variables to the above. All three models include the NoDays missed variable, a measure of school support\*\*\*\*\*.

```

***Model 1 below***.
*SCHOOL SUPPORT on FUTURE.
LOGISTIC REGRESSION Future
/METHOD = ENTER Peer TchrRegard SchoolCare HiSfty Ilglsub
NoDaysMissed
/CONTRAST (SCHOOLCARE)=Indicator
/CONTRAST (nodaysmissed)=indicator
/PRINT = SUMMARY CI(95)
/CRITERIA = PIN(.05) POUT(.10) ITERATE(20) CUT(.5) .

```

```

***Model 2 below***.

```

```

*DEMOGRAPHICS +SCHOOL SUPPORT + FAMILY.
LOGISTIC REGRESSION Future
/METHOD = ENTER Gender Grade LatinoEthnicity region Peer
TchrRegard SchoolCare HiSfty Ilglsub FamilyClose
NoDaysMissed
/CONTRAST (Gender)=Indicator
/CONTRAST (Grade)=Indicator
/CONTRAST (LatinoEthnicity)=Indicator
/CONTRAST (region)=Indicator
/CONTRAST (SCHOOLCARE)=Indicator
/CONTRAST (nodaysmissed)=indicator
/PRINT = SUMMARY CI(95)
/CRITERIA = PIN(.05) POUT(.10) ITERATE(20) CUT(.5) .

```

```

***Model 3 below***.

```

```

*DEMOGRAPHICS +SCHOOL SUPPORT + FAMILY + LIKING & GRADES.

LOGISTIC REGRESSION Future
/METHOD = ENTER Gender Grade LatinoEthnicity region Peer
TchrRegard SchoolCare HiSfty Ilglsub FamilyClose
MarkAv NoDaysMissed liking
/CONTRAST (Gender)=Indicator
/CONTRAST (Grade)=Indicator
/CONTRAST (LatinoEthnicity)=Indicator
/CONTRAST (region)=Indicator
/CONTRAST (SCHOOLCARE)=Indicator
/CONTRAST (nodaysmissed)=indicator
/CONTRAST (liking)=Indicator
/PRINT = SUMMARY CI(95)

```

```

/CRITERIA = PIN(.05) POUT(.10) ITERATE(20) CUT(.5) .

* InitialiseSyntax4Data1_2.SPS .

*****
* Remember to change the below first line according to the
latest working FOLDER name
*****

CD "/Users/elena/Desktop/DataSetRgab+SPSS" .
GET
/FILE='izaksonas1.sav'
/KEEP=R1 R2 R4c R4d R8 R9 R11a R11b R11c R11d R11e R11f R13a
R13b R13c R14a R14b R15a R15b R15c R15d R15e R19 R39a
R39b R39f R39g R39h R39i year region.

RECODE
R8 R13a R13b R14a R14b
(1 = 5) (2 = 4) (3 = 3) (4 = 2) (5 = 1)
/R15a R15b R15c
(1 = 4) (2 = 3) (3 = 2) (4 = 1)
/R19
(1 = 5) (2 = 4) (3 = 3) (4 = 2) (5 = 1) .

SELECT if year EQ 2004.

SELECT if ~ (R4c & R4d).

* THIS SHOULD NOT BE A FILTER .

EXECUTE.

VALUE LABELS
/R8
1 'Hate' 2 "Don't like much" 3 'Like a little'
4 'Like quite a bit' 5 'Like very much'
/R13a R13b R14a R14b
1 'None' 2 'A few' 3 'Some' 4 'Most' 5 'All'
/R15a R15b R15c
1 'Strongly disagree' 2 'Disagree' 3 'Agree' 4 'Strongly agree'
/R19
1 "6 or more days" 2 "4 or 5 days" 3 "2 or 3 days" 4 "1 day"
5 "0 days" .

```

```
COMPUTE Gender = R1.
VARIABLE LABEL
Gender "Gender".
VALUE LABELS
/Gender
1 'Male' 2 'Female' .

COMPUTE Grade = R2.
VARIABLE LABEL
Grade "Grade".
VALUE LABELS
/Grade
6 '6th' 7 '7th' 8 '8th' 9 '9th' 10 '10th' 11 '11th'
12 '12th' 99 'NA' .

COMPUTE LatinoEthnicity = R4c.
VARIABLE LABEL
LatinoEthnicity "Latino origin: Chicano Mexicano or
PR other Latino" .
VALUE LABELS
/LatinoEthnicity
0 'PuertoRican Other Latino'
1 'Chicano Mexicano Mexican Amercan' .

RECODE R9 (1,2 = 0) (3 thru 5 = 1)
INTO Future.
VARIABLE LABEL
Future "Future Plans".
VALUE LABELS
/Future
0 'Quit school or no college'
1 'Vocational, college, grad school' .

RECODE R8 (1,2 = 1) (3 thru 5 = 2)
INTO Liking.
VARIABLE LABEL
Liking "Liking School".
VALUE LABELS
/Liking
1 'Hate or not like much'
2 'Like little, quite a bit, very much' .

COMPUTE Peer = (R13a + R13b + R13c) / 3.
VARIABLE LABEL
```

```

Peer "Peer relations".

COMPUTE TchrRegard = (R14a + R13b) / 2.
VARIABLE LABEL
TchrRegard "Teacher interest or respect" .

COMPUTE HiSfty = (R15a + R15b + R15c) /3.
VARIABLE LABEL
HiSfty "Feeling Safe at School" .

COMPUTE Ilglsub = (R15d + R15e) /2.
VARIABLE LABEL
Ilglsub "Illegal gang actv substance abuse" .

RECODE R19 (1 thru 4 = 0) (5 = 1)
INTO NoDaysMissed.
VARIABLE LABEL
NODAYSMissed "No days missed because feeling safe".
VALUE LABELS
/NoDaysMissed
0'missed day' 1 'no days missed'.

RECODE R39b (1=1) (2,3 = 2) (4,5 = 3)
INTO SchoolCare.
VARIABLE LABEL
SchoolCare "Teacher /Other adults care".
VALUE LABEL
/SchoolCare
1 "Not at all" 2 "Little-some" 3 "A lot".

COMPUTE FamilyClose = (R39f + R39g + R39h + R39i) /4.
VARIABLE LABEL
FamilyClose "Close Relation to family" .
VALUE LABELS
/FamilyClose
1 'Not at all' 2 'A little' 3 'Some' 4 'Quite a bit'
5 'Very much' .

* the following region transforms earned grades .
RECODE
R11a
(1 = 5) (0 = SYSMIS)
/R11b
(1 = 4) (0 = SYSMIS)
/R11c

```

```
(1 = 3) (0 = SYSMIS)
/R11d
(1 = 2) (0 = SYSMIS)
/R11e
(1 = 1) (0 = SYSMIS)
/R11f
(1 = -1) (0 = SYSMIS) .

COMPUTE MarkHi = MAX(R11a, R11b, R11c, R11d, R11e, R11f).
COMPUTE MarkLo = MIN(R11a, R11b, R11c, R11d, R11e, R11f).
COMPUTE MarkAv = (MarkHi + MarkLo) / 2.

VALUE LABELS
/MarkHi MarkLo MarkAv
-1 "Don't Get Letters" 1 "F or Inc" 2 "D" 3 "C"
4 "B" 5 "A" .
MISSING VALUES MARKAV (-1).
VARIABLE LABEL
MarkHi "High Mark" MarkLo "Low Mark" MarkAv "Average Marks" .

EXECUTE.

*SAVE OUTFILE='output.sav'.
```