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PREDICTING LATINO YOUTH ACADEMIC SUCCESS FROM A NORMATIVE CULTURAL-ECOLOGICAL PERSPECTIVE

By

Cidhinnia M. Torres Campos

A DISSERTATION

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Abstract

PREDICTING LATINO YOUTH ACADEMIC SUCCESS FROM A NORMATIVE CULTURAL-ECOLOGICAL PERSPECTIVE

By

Cidhinnia M. Torres Campos

Despite their growing numbers in the United States, research focused on Latino youth development is sparse (Chapa & Valencia, 1993; Ramos, 2002; Rodriguez & Morrobel, 2002), while the negative academic issues they face have been well documented (Dryfoos, 1998; Meir & Stewart, Jr., 1991; Romo & Falbo, 1996; U.S. Department of Education, 1992). This study seeks to address whether we have enough foundational knowledge to develop a core of information about the Latino community and the characteristics of its children who succeed academically (President's Advisory Commission on Educational Excellence for Hispanic Americans, 2000). In contrast to deficit-oriented research, this study adapted, augmented, and empirically tested García Coll and her colleagues' (1996) model, focusing on normative Latino academic development and outcomes, with data from the National Longitudinal Study of Adolescent Health (Add Health) using structural equation modeling (SEM). Although the model as a whole was not accepted, the exploration of the relationships between proximal and distal predictors of development and behavioral outcomes offers a foundation for continued research. This research also challenges educators, researchers, and policy makers to rise above the historical trend of explanatory models and solutions based on a deficits perspective (Bartolomé & Balderrama, 2001; Díaz & Flores, 2001; Reyes & Halcón, 2001; Moll, 2001).

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Dedication

A mi querida Abuelita Leonor.

Aunque no pudiste ver el trabajo final en vida,

sé que siempre me tienes la velita prendida.

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There are a great many people who contributed to and supported me through this process. I cannot even begin to mention everyone, but I'd like to recognize a few of the many who were central to my ability to successfully complete this process. To all who in some way supported, assisted, and mentored me, I offer my heartfelt thanks.

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Introduction

Existing research has explored factors most often related to the academic failure of Latino youth, which has lead to policy, educational reform, and programming that have not significantly positively altered the trajectory of these students. These failure approaches have not lead to effective intervention for the academic success of Latino youth. A success oriented model able to predict the academic success of Latino youth, despite growing odds against them, may inform future efforts aimed at improving Latino student outcomes. Currently, there is a dearth of empirically tested models that have been specifically examined in terms of their ability to explain and predict the academic success of Latino youth. This study seeks to empirically assess the effectiveness of an adapted and augmented version of Garcia Coll and colleagues' (1996) integrative model of minority youth developmental competencies in predicting Latino youth academic success.

The academic success of adolescents has ramifications throughout their lives, particularly given that education has been closely tied to opportunities for employment and economic development, as well as physical and mental health problems. Students who underachieve academically are more likely to need social services and contribute less to the economy than their academically successful peers (Carnegie Council on Adolescent Development, 1989). The costs to society and to individuals are high. The U.S. pays not only through increased social costs, but also in an estimated $260 billion in lost earnings and tax payments (Carnegie Council on Adolescent Development, 1989; President's Advisory Commission On Educational Excellence for Hispanic Americans, 2003; President's Advisory Commission On Educational Excellence for Hispanic Americans, 2000).

Although not all Latino students are impoverished, Latino students in general are viewed as academically "at-risk" (Gutiérrez, 2002). One family background characteristic commonly used to measure risks to future academic outcomes is whether students' parents primary language is English (Zill & West, 2000). Latino children are the largest racial/ethnic population among children in the United States. Given the criteria used to identify future academic risk, Latinos are over represented in "at-risk" categories. Living in poverty amplifies the barriers and difficulties faced by Latino students in school. In fact, about 40 percent of Latino children live in families with incomes below the poverty line (Federal Interagency Forum on Child and Family Statistics, 1998). Among the general Latino population(s) not all students have similar backgrounds, motivations and perceptions towards school (Reyes & Valencia, 1993). But as a group, Latinos do indeed have lower levels of educational attainment as compared to their African American and non-Hispanic Caucasian peers (Meir & Stewart, Jr., 1991; U.S. Department of Education, 1992). Significant gaps between high school graduation rates of Latino and non-Hispanic students have been found even after holding students' social class, English-language proficiency, and immigrant status constant (Weiner, Leighton, & Funkhouser, 2000).

Latino youth have been grossly underrepresented in research literature, and what literature they are included in, is often plagued with methodological and conceptual issues that misinform our understanding of their developmental pathways (Villarruel, Dunbar, Montero Seiburth, & Outley, 2005). There is even less on subgroups of Latino youth, such as those from different countries in Latin America and the Caribbean, different socioeconomic strata, and different generations and levels of acculturation, despite some data highlighting the within group differences that exist with regard to

educational attainment and SES among Latinos (Boswell, 2002). Moreover, the majority of the information that does exist often compares Latino and non-Latino youth, helping to reinforce perceptions that Latinos under-perform in an array of areas. The unfortunate consequence of this focus is that the literature tends to emphasize what is wrong, rather than what might be done to enhance the developmental outcomes for Latino youth. We know far more about the failure of Latino students and very little about their success. Researchers have focused on deviant behaviors rather than looking for normative behavior patterns for Latinos (García Coll, Meyer, & Brillon, 1995).

The knowledge have of why Latino youth fail has *not* produced policy, programming or educational reform which have been able to positively alter the trajectory of these youth (President's Advisory Commission on Educational Excellence for Hispanic Americans, 2000). Development of a success paradigm, examining Latino students who do well in school and considering how they differ from less successful Latino students, can greatly improve our understanding of the developmental pathways of Latino youth and support practical efforts that increase their opportunities for success. In order to expand our grasp of normative Latino development and to create a thriving Latino community, it is important to know why these resilient students succeed while other Latino students (i.e. nonresilient students) from equally stressful environments experience greater failure and despair in school. The investigation of resilient students, youth who succeed academically despite the presence of adverse conditions, has important implications for the educational improvement of Latino students (Gordon & Song, 1994; Masten, 1994; McMillan & Reed, 1994; Wang & Gordon, 1994; Winfield, 1991). Masten (1994, p. 46) articulates this point succinctly:

The rationale for examining resilience phenomena rests on the fundamental assumption that understanding how individuals overcome challenges to development and recover from trauma will reveal processes of adaptation that can guide intervention efforts with others at risk.

Academic success has been defined throughout the literature in a variety of ways and is a concept that has yet to be readily explored from a Latino perspective. The following review begins with an historic overview of the experiences of Latinos within the U.S. education system. Following the historic overview, theories from the field of education and human development that have contributed to our understanding of academic development of Latino youth are briefly examined. An adaptation and augmentation of an existing model for understanding the academic development of Latino youth is then presented with supporting literature, research, and examples from successful programs and interventions on the underlying factors associated with academic outcomes (e.g. grades, GPA, graduation, attainment, test scores, etc.). Included in this review is research regarding the ways in which Latino youth resemble all other youth, as well as research that highlights their unique strengths.

Latino Youth in the United States

Latinos represent the fastest growing ethnic minority population in the United States according to the most current U.S. Census Bureau. From 1990 to 2000, the Latino population increased by 57.9% (Guzmán, 2001). The most recent U.S. Census (Greico & Cassidy, 2001) found that Latinos comprise 13% of the total national population. According to the U.S. Census Bureau, in October of 1996, for the first time in the history of the United States, there were more youth of Latino origin than any other ethnic or

racial group except non-Hispanic White youth (Villarruel & Montero-Sieburth, 2000). The Latino youth population encompasses a variety of cultures, histories, and experiences. Latino is a term used in the US to identify persons of Spanish-speaking origin or descent who designate themselves as Mexican American, Chicano, Puerto Rican, Cuban, or of some other Hispanic Origin (Carrasquillo, 1991). This ethnic group is comprised of individuals from diverse racial backgrounds and diverse countries of origin, including South America, Central America, and the Caribbean; some who have immigrated here and some whose families have been here for. As a whole, "Latinos represent the fastest growing segment of the U.S. population under the age of 21" (Perkins & Villarruel, 2000, p. 83). However, it should be noted that differences between Mexican Americans, Puerto Ricans, and Cuban Americans (the largest Latino subgroups) exist. Whenever possible, this review reports research findings according to the nationality of the youth involved.

Studies have found that Latino students are less likely to graduate from high school than other students (Dryfoos, 1998; Meir & Stewart, Jr., 1991; U.S. Department of Education, 1992). In fact, Latino students are more likely than White students to possess one or more of the characteristics, such as living in poverty, living in single-parent families, parents who have lower educational levels, and attending lower quality schools, that increases their risk of academic failure (Davalos, Chavez, & Guardiola, 1999; National Commission on Children, 1991). Additionally, Latinos across the country have been found to have lower levels of educational attainment as compared to other groups (Meir & Stewart, Jr., 1991; U.S. Department of Education, 1992). Moreover, Latino students are often viewed as underachievers, illiterates, and dropouts regardless of their

socioeconomic background (Light, n. d.; Mercado, 2001). While this image of Latino students persists, some are successful academically despite adverse conditions and risky environments. Many Latino youth are doing well, and succeeding despite the fact that a disproportionate number of their families must contend with poverty, segregation, racism, discrimination, culture clash, and other stressors. Our understanding of the diverse backgrounds, motivations, and perceptions towards school is limited due to the lack of research on, about, and including Latino youth.

History of Latinos in US Education

When it comes to the educational problems faced by Latino students in the United States, educators, researchers, and policy makers have offered all manner of solutions. But these movements have rarely considered the needs of Latino students (Reyes & Halcón, 2001). As Díaz and Flores (2001) put it, "on the whole, school has not been a very successful place for these students despite extensive 'remedial' efforts by educators...the failure of these efforts is due to the deficit perspective inherent in them" (p. 29). Educators have often appropriated the views of policy makers and ascribed the poor academic performance of Latino students to their cultural, socioeconomic, and linguistic differences (Díaz & Flores, 2001).

There has also been a tradition in "...our nation's history of negating the political nature of education" (Bartolomé & Balderrama, 2001, p. 51). In the 1920s and 1930s, for example, there was widespread use of IQ testing of Spanish-speaking students, *in English*, which served as a means of placing a disproportionate number of Mexican children in remedial education programs (Halcón, 2001). Historically, the majority of Latino children (many of whom are American born) not only looked different from

mainstream children, but also spoke a language different from that used in schools. Furthermore, their parents adamantly persisted in maintaining their culture and language in spite of serious attempts by the schools to assimilate and Americanize the children (Donato, 1997). Latinos have been viewed as irresponsible, dependent on others, dirty, stupid, lawless, and spreaders or disease, and thus unsuited to attend schools with Anglo children (Donato, 1997). The popular and common solution to what at the time was seen as the "Mexican problem" was to segregate the children into "Mexican" classrooms and schools that provided a strict diet of English-language instruction, a rigid mainstream curriculum, and corporal punishment for speaking Spanish (Carter, 1970; Carter & Segura, 1979). The goal was to impose English at all costs, even if it meant forcing the children to lose their language and culture (San Miguel & Valencia, 1998). These historical trends persist in adapted ways in today's educational systems, and certainly have affected Latinos perceptions and beliefs about the U.S. educational system as a whole.

Today Latinos continue to be defined as deviating from the norm, thereby justifying educational policies that place them at the margins of mainstream school curriculum (Halcón, 2001). As Diaz and Flores (2001) state,

> In schools there is often the view that these students are deficient because they come from poor or working-class backgrounds or have a different language and culture. Viewed from this perspective it is easy to see why school does not enrich them. Rather, it creates an artificial academic "deficiency" that is a function of the attitudes and practices embedded in the social interactions of classroom lessons (p.45).

Latino students are thus labeled at-risk or high-risk regardless or socioeconomic level or acculturation status (Gutiérrez, 2002). Everyday these students face institutional practices, "such as devaluing of their home language and culture, or outright hostility and denigration by society, which must be addressed in order to create favorable educational circumstances" (Moll, 2001, p. 23).

Current Educational Status of Latinos

Concerns about the performance of Latino students in public schools are well warranted. Today, Latinos comprise 15% of the elementary school-age population (5-13) and 13% of students in secondary education (U.S. Census Bureau, 1999). Additionally, by 2020, Latinos are expected to make up 20 percent of all U.S. children (NCES, 1998). Young Latinos and Latinas have the highest dropout rates as compared to African Americans and non-Hispanic Caucasians, (NCES, 1999; Provitera Mcglynn, 2001). Overall, Latino students perform below the national average in the National Assessment of Educational Progress (NEAP) (NCES, n. d.). Some studies have found that gaps between Latino students and their peers emerge as early as the third grade, and continue to widen in subsequent years (Gándara, 1996). Additionally, the low high school completion rate for Latinos has not changed substantially in several years. In 1998, the high school completion rate for Hispanics was only 63% (NCES, n. d.). Meeting the needs of this growing population continues to be a major challenge for today's teachers, who are primarily non-Hispanic Caucasians, middle-class, monolingual English speakers (Berzins & López, 2001). The lack of academic success for Latino youth is particularly alarming given that education has been closely tied to long-term outcomes such as employment, welfare use, and health status. Further, there is a dearth of information

available on empirically tested factors that influence the academic success of Latino youth. However, there are a wide variety of theoretical and conceptual models in education and human development that purport to explain the academic success of youth in general.

Theories of Development and Educational Models of Academic Success

In order to support the model to be tested in this study, theories of development and education are reviewed. Theories of development and educational models have identified factors that should be attended to and have been found to impact students' academic success. Theories and models reviewed here include meritocratic ideology, political explanatory models, bilingual education model, economic and cultural capital models, theory of resistance, academic failure and success factor explanations, psychoanalytic theories, social learning theory, cultural determinism/relativism/conditioning theories, ecological and contextualist theories.

Meritocratic ideology and economic model explanations for achievement reflect the belief that in school, the talented are chosen and moved ahead on the basis of their achievement alone. What is largely ignored is that those deemed "talented," for the most part, are members of the dominant culture whose values comprise the very foundations that inform the knowledge and skills students must possess or achieve to be designated as meriting reward (Darder, 1991). Similarly, the dominant approach to human developmental models of competence have been built upon assumptions, including that a child's "school success and perhaps success in adult life depend on the acquisition of white middle-class competencies through white middle-class child-rearing practices" (Ogbu, 1981, p. 414) and presumed universal laws of optimal development (García Coll,

Meyer, & Brillon, 1995). Public schools persistently legitimize the myth or meritocracy, knowingly or otherwise, and in that way successful participation in the educational system becomes the only *visible* means by which individuals are allocated or rewarded higher social status. Although there are many talented Latino students, they are not bestowed the label nor perceived as having the attributes necessary to succeed. Meritocratic ideology and economic model explanations continue to shape and support many educators', parents', and society's view of why Latino youth have lower rates of academic success than their peers. It creates a belief system that can dismiss Latino youth's lack of academic success as an individual predicament, a lack of ability or appropriate experiences, and not a systemic problem.

Several theories of human and personality development focus on key characteristics that may be important for understanding the development of youth in general, including Latinos. Perkin's (1981) snowflake model of creativity for example, focuses on the individual traits including a strong commitment to a personal aesthetic, the ability to excel in finding problems, mental mobility, a willingness to take risks, objectivity, and inner motivation, which creative individuals' posses. Psychoanalytic theories, such as Erikson's (1950), have also detailed the internal/individual factors of youth that affect behavior in school and academic success. The social and behavioral problems that adolescents encounter, such as acting out behavior and dropping out of school, are seen as reflective of difficulties in resolving earlier life stages and an adolescent's experiencing role diffusion/confusion, including a desire for independence, a need to find a job, a search without a goal, and an expression of inner discontent and restlessness (Erikson, 1950; Muuss, 1962; Muuss, 1996). The task of searching for a

personal identity is more difficult in a historical period of rapid social change, such as the one we are currently experiencing, where the older generation no longer provides effective role models, and the peer group becomes of central importance (Erikson, 1950). Although Erikson (1950) never specifically addressed the identity development of Latino youth, their search for a sense of identity and desire for independence can be seen as affected not only by their changing roles within the US culture but also by values and cultural roles within their native culture that may clash with mainstream US culture. They must create a sense of identity while facing depreciation of their culture, racism, and prejudice.

Phinney (1989) has expanded Erikson's (1950) identity development constructs into the area of ethnic identity development. Ethnic identity is "a secure commitment to one's group, based on knowledge and understanding obtained through an active exploration of one's cultural background" (Phinney & Chavira, 1992, p. 272). Phinney and Alpuria's (1990) study found that achieving a positive sense of ethnic identity was related to self-esteem for Mexican American adolescents. Bernal, Saenz, and Knight (1991) found that a positive sense of ethnic identity may promote achievement by buffering the psychological stressors experienced by Mexican American youth in school settings. Behavior that promotes academic success is likely even in instances in which cultural disparities exist between home and school if academic success is embedded within students' ethnic identity. They also suggest that if academic success is not valued within students' ethnic identity, then cultural inversion, the tendency of a minority group to see behaviors, events, and meanings of the dominant group as irrelevant to them, may occur (Bernal, Saenz, & Knight, 1991).

Bandura's (1977) social learning theory puts forward that adolescents learn complex skills most effectively by imitating the behavior of their parents, teachers, and peers. Teachers serve the model function and, in addition to the influence they exert through cognitive, instructional academic curriculum, they have an indirect but potent influence in shaping values and attitudes. An individual student may feel respect, admiration, infatuation, and adoration of an individual teacher and imitate a teacher's behavior, even when a more general identification with the teacher as a person is lacking (Muuss, 1996). Additionally, when students are in academic settings where peers value learning, take school seriously, and aspire to academic success, their own attitudes and behaviors will be similar to the extent that they accept and imitate this academic striving. The demand that Latino students be taught by Latino teachers, because they tend to identify better with them, receives some implicit support from social learning theory's concept of imitation of esteemed models (Elizondo, 2005; Hernandez, 2000; Monzó & Rueda, 2001). Bandura's (1977) theory also suggests that Latino youth are more likely to be academically successful when attending a school with Latino teaching faculty and administrators, as well as other Latino students who value schooling and demonstrate behaviors related to academic success.

Ecological and contextualist theories go beyond individual characteristics and focus on the necessity of considering behavior and development as occurring within a context and on understanding the interdependency of individual and contextual factors. Ecological theories of human development, such as Bronfenbrenner's (1979, 1983), Lerner's (1983, 1986), and Lewin's (1935, 1942) have at their center the individual who develops within varying contexts. Within these models, culture, ethnicity, and race are

viewed as critical dimensions of growth and development, underlying the development of identity, belief, cognition, and social interactions. Bronfenbrenner (1993) has expressed concern regarding the growing isolation between the family and school systems, such as the decreased likelihood of teachers and parents knowing each other. Another important factor within Bronfenbrenner's (1979, 1993) model is the educational system (i.e. school board or school committee), which sets school policy, directly affecting the resources within, and the types of interactions that occur inside of school.

Lerner's (1986) developmental contextualism purports that relevant variables concerning academic success and other issues within educational situations include more than just individual characteristics, such as age, gender, past experiences within educational settings, academic self-concept, and temperament. Developmental contextualism also highlights the goodness-of-fit between adolescent and the task (i.e. homework, projects, or tests) or between adolescent and parents and/or educator. Goodness-of-fit refers to the circumstances that enhance development and adjustment or impair growth and well-being. Goodness-of-fit takes into consideration the relationship between an individual's personality and the corresponding characteristics of the significant other people who constitute the social context within which behavior occurs (Lerner, 1983; Muuss, 1996). The developmental outcome of an interaction is mostly dependent on the match between individual and context.

Kurt Lewin's (1935, 1942) field theory emphasizes for successful teaching the social atmosphere, the amount of security, the interest and meaningfulness of the material, and the atmosphere in which the material is taught. Additionally, students' perceptions of reality are of key importance. Two aspects, according to field theory, that

will be relatively stable within a given culture but will *differ* greatly between cultures are: (1) the ideologies, attitudes, and values that are recognized and emphasized and (2) the way in which different activities are seen as related or unrelated (Lewin, 1942). Lewin's (1942) theory also states that the varying length of the adolescent period between cultures and between social classes within a culture may account for cultural differences in adolescent behavior, including academic performance.

Ecological theories imply a complex set of relationships that affect Latino students. As suggested by ecological theories, peers valuing education and academic success, more so than parents valuing of education and academic success, has been found to be predictive of whether Latino adolescents also feel and behave in a manner consistent with those beliefs (Azmitia & Cooper, 2001; Romo & Falbo, 1996; Steinberg & Darling 1993). A disconnect between Latino parents and their children's teachers may exist due to cultural, linguistic, and socioeconomic differences. The definitions of adolescence and the time span of adolescence may be different for the native culture of Latinos and the US main culture and may be different for members of Latino youth's social class and the social class of their educators. A limited amount of research on goodness-of-fit in classroom settings and teaching styles has found cooperative classroom cultures, which reflect Latino student's home culture more than traditional classroom cultures, increase individual learning, improve student attitudes toward school, and decrease racial tension (Chiu, 1996; Gutiérrez, Baquedano-López, & Alvarez, 2001). Latinos' involvement at the larger educational systems level is often influenced by racism, discrimination, social stratification, and politics, thereby decreasing the likelihood of their having meaningful impact on the system. Additionally, Latino

adolescents who transition from one set of core values from their native country society to another set of core values in the dominant society of the United States may face conflicting societal values, including gender roles and collectivist versus individualistic values. Similarly, a disconnect between values and beliefs held by family members, peers, and the larger societies may cause difficulties for Latino adolescents trying to balance conflicting messages or who decide to take part in behaviors (e.g. gang involvement) considered to be antisocial by the overall culture. Being in possession of two or more diverse ways of perceiving reality, acting, and conveying meaning, Latino students have to make choices more frequently (Lima & Lima, 1998).

Similar to other ecological and contextualist models, Valsiner's (1987, 1988) cultural-historical and Vygotsky's (1962, 1978) socio-historical life course theories place an emphasis on the previous experiences of the developing child and those they interact closely with, such as parents, teachers, and peers, along with the current societal patterns and phases that influence development over time. The child's life course is seen as the continual reconstruction of the self or personality as the result of interactions among the child's state of biological maturation, existing knowledge and skills, and new encounters with the environment (Elder, 1996; Elder, Modell, & Parke, 1993). Important among these encounters are mediators' transmitting to the child significant societal conditions (Thomas, 2000). Schools are also conceptualized as "cultural settings," with special routines and forms of discourse, where adults help children acquire important mediational means (e.g. literacy and mathematics) of a culture, systems of communicating and representing knowledge, extending and restructuring the children's communicative and

cognitive abilities (Moll, 2001). Thus school characteristics are seen as playing a large role in learning and academic success.

These theories suggest that the values, bodies of knowledge, and customs of both the US mainland and native culture of Latino youth, parents/caregiver's previous experiences within educational settings and level of educational attainment, family culture, and Latino youth's accumulated experiences within educational settings will define their perceptions of the importance of academic success and the value of education. Expectations of and the historical perception of Latino students as poor learners, and the possibility of racism and discrimination playing a role within teacher-student relationships, may mean that teachers as mediators may be sending either mixed or incomplete messages to Latino students in regards to acquiring academic skills.

At-risk explanations and success factors explanations focus on student vulnerability and resiliency. Educational resilience has been 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, et al. 1999, p. 46). Alva (1991) used the concept of academic invulnerability to describe students who "sustain high levels of achievement motivation and performance, despite the presence of stressful events and conditions that place them at risk of doing poorly in school and ultimately dropping out of school" (p. 19). From this perspective, it is the balance of vulnerability, or risk factors, and resiliency, or protective factors in Latino students lives that defines how academically successful they will be.

Freire's (1972) approach to education focuses on the importance of "naming the world" for those educators who work with students who do not have a voice and are

oppressed, and on children learning best when their native language and culture are used as the springboard for learning educational activities (Freire, 1972; Freire & Macedo, 1987). Additionally, teaching is seen as a political act (Freire, 1972; Freire & Macedo, 1987). Similarly, a major underpinning of Meier and Stewart's (1991) model of second-generation discrimination is that education is a political process. Latinos, as political minorities in the U.S. face limited opportunities for educational equity. The educational system often does not support students' language and culture, but has instead tried to "Americanize" them (Meier & Stewart, 1991, p. 83). In their research, Meier and Stewart (1991) found that school districts with greater Latino representation on the school board and among teaching faculty had significantly less second-generation discrimination against Latino students. Educational policies and reform efforts such as bilingual education, grouping, and differential assignment can serve to limit Latinos access to educational opportunity. Given that Latino students come to school with a history of oppression and having been socialized to a cultural system that is not entirely that of the dominant culture, indeed is often dismissed or devalued by the dominant culture, they will be less likely to "read the world" without the support of educators.

Cultural capital, cultural deficit, cultural difference, and culture determinism theories all center cultural factors in explaining the development of academic competencies. Bourdieu's (1997; Bourdieu & Passeron, 1977) cultural capital theory explains the cultural differences that reproduce social class division. It emphasizes how children socialized into the dominant culture have an advantage over children not socialized into this culture because schools are one of the main transmitters of culture and tend to reward the cultural capital of the dominant classes and devalue that of the lower

classes. Latino parents seldom share the same knowledge and disposition that constitute cultural capital attributes. Cultural deficit theory posits that Latino students' lack of academic success is due to problems in their culture, or the lack of the proper experiences within their cultural context (Montero-Sieburth & Batt, 2001; Valencia & Black, 2002). This perspective states that Latino students do not achieve because they are not reared in cognitively stimulating environments and are "socially disadvantaged" or "culturally deprived," and allows educators and policymakers to place the responsibility for school success and especially failure outside the school (Foley, 1997; Montero-Sieburth & Batt, 2001; Valencia & Black, 2002). Often students previously called "culturally deprived" or "culturally disadvantaged" are today labeled high-risk or at-risk (Gutiérrez, 2002). Cultural difference theory or cultural relativism blames neither the teacher nor the student, but instead places the responsibility for failure on cultural differences in communication styles between teachers and students. Latino students and their families are not blamed for the cultural differences, but it has done little to change the circumstances within which these differences occur.

Cultural difference model as applied to bilingual education exposes much of the current ambivalence that many Latino students face in school (López, 1995). Bilingual education is largely concerned with teaching students English, so that student and teacher communication styles are similar, and has focused on what works rather than what makes sense for students and families. Parents may promote language retention while schools promote language assimilation, and Latino students are caught in the middle. In this respect, the cultural difference explanation as applied to the bilingual education model has only created greater discontinuity in linguistic experiences at home and at school, and

coupled with other cultural differences, serves to confound Latino students and diminish their academic aspirations (Montero-Sieburth & Batt, 2001).

Cultural determinism, also known as cultural relativism or cultural conditioning (Benedict, 1938 as cited in Muuss, 1980), emphasizes that advancing from one grade or group to another introduces anxiety and insecurity. Moving from one type of school or school system to another creates transitions that lack continuity and coherence. These disjointed transitions, often the norm for Western societies, require that the attitudes, values, and skills children have learned must be unlearned when they become adults. The development of Latino adolescents, like that of all adolescents is influenced by the biological changes occurring in puberty, but they face the additional challenge of discontinuities found not only in the dominant culture and their native culture, but the clashes between these as well.

Ogbu's (1981, 1999) model of human development stresses a cultural contextual component. Unlike other models, it examines competence in the context of cultural necessities or constraints in a given population. Competence is the ability to perform a culturally specified task, and Ogbu's (1981, 1999) model focuses on the roles and tasks of making a living. Children are taught these roles and tasks not only by their parents, but also in school and in their communities. Differences in societal needs and cultural tasks exist for populations within the United States, such as middle-class whites and other minority populations. Ogbu (1981, 1999) posits that voluntary and involuntary minorities are populations within the US that may have differing cultural tasks as related to subsistence demands. Voluntary minorities are immigrant groups, such as Cuban Americans, South and Central Americans, who have historically moved to the United

States of their own free will often for economic, social, or political reasons. Voluntary minorities, despite possibly facing subordination and exploitation, perceive and react to schooling positively because they regard their current situation in the U.S. as better than their situation in their country of origin. In contrast, involuntary minorities, such as Mexican Americans and Puerto Ricans, are groups who have historically been involuntarily and permanently incorporated into U.S. society through slavery, conquest, or colonization. The model suggests, similar to Paul Willis's (1972) theory of resistance, that involuntary minorities are unlikely to work hard in school because they do not wish to assimilate and because they recognize that, relative to whites, they have limited opportunities for benefiting from education.

While Latinos and white middle-class youth may have similar goals, they may differ in their belief that the appropriate school credentials will result in these desired goals. Rules of behaviors for achievement and related competencies for many Latinos have been developed historically as alternatives to those of the school that represent white middle-class cultural ways whose racial policies and practices have prevented generations of Latinos from using these same rules of behavior and competencies to obtain the desirable adult tasks open to whites. Latino youth, especially those from involuntary minority groups, may consider "acting white" in school and community unacceptable, and may form coethnic peer communities that perpetuate this perception for second generation Latino students from Latino ethnic groups not traditionally considered involuntary minorities (Portes & Rumbaut, 1996; Portes & Zhou, 1993). Additionally, involuntary minorities do not have a dual frame of reference that is available to voluntary minorities, which allows them to view their situation and

educational experiences in contrast to the obstacles that were faced "back home" (Suárez-Orozco, 1987). Ogbu's (1981) conclusion is that "minority groups experience a continuing disproportion of school failure mainly when their historical and structural relationship with the dominant group has led to evolution of alternative competencies" (p. 426).

Recently, some of Ogbu's (1981, 1987) ideas regarding the patterns of assimilation and acceptance of US mainstream culture by Latino immigrants has been called into question. Segmented assimilation theory in particular presents an interesting model that counters Ogbu's (1981) original contentions regarding immigrant groups (Portes & Zhou 1993). For example, a recent study by Bleakley and Chin (2004) found that children of immigrant Hispanic parents with lower English-speaking proficiency are more likely to drop out of high school or below their age-appropriate grade. Hispanic immigrants, despite being what Ogbu (1981, 1987) would consider voluntary minorities, and their descendents do not converge to native levels of education as quickly as non-Hispanic immigrants and their descendents (Card, DiNardo & Estes, 2000; Grogger & Trejo, 2002; Smith, 2003). In fact, Bleakley and Chin's (2004) study found that parental English-language skills can account for 60% of the difference in dropout rate between non-Hispanic whites and U.S.-born Hispanic children of immigrants. The Census 2000 Supplemental Survey found that 65% of U.S.-born Hispanics retain a non-English heritage language in the home. This statistics along with research on English proficiency is a striking example of the persistence of heritage language among Latinos. It counters Ogbu's (1981, 1999) assertions that voluntary minorities will more quickly assimilate and adopt U.S. mainstream values and behaviors.

Building and expanding on previous theory, Cynthia García Coll and her associates (García Coll et al., 1996) created a model of human development that is "anchored within social stratification theory and emphasizes the importance of racism, prejudice, discrimination, oppression, and segregation to the development of minority children and families" (p. 1892). This model has guided previous research and further conceptually developed as a framework to examine various areas of child and youth development (Erkut, Szalacha, & García Coll, 2005; Johnson, Jaeger, Randolph, Cauce, & Ward, 2003). Figure 1 below presents this model.

The model consists of eight major components connected by pathways of influence. These eight major components are 1) Social position variables; 2) Racism; and 3) Segregation, which form the social stratification structure; these affect 4) Promoting/Inhibiting Environments that are the intermediate societal institutions; these environments influence and interact with 5) Adaptive Culture; and both of these interact with the 6) Child's Characteristics; all three of these components influence and interact with the 7) Family; it is these last three components that directly influence children's 8) Developmental Competencies. This model challenges researchers to take into consideration issues of social stratification, including racism and oppression, as well as to identify the alternative competencies in Latino youth not measured by traditional assessment tools, not only in areas of established developmental competencies but in areas of bicultural adaptation and coping with racism as well.

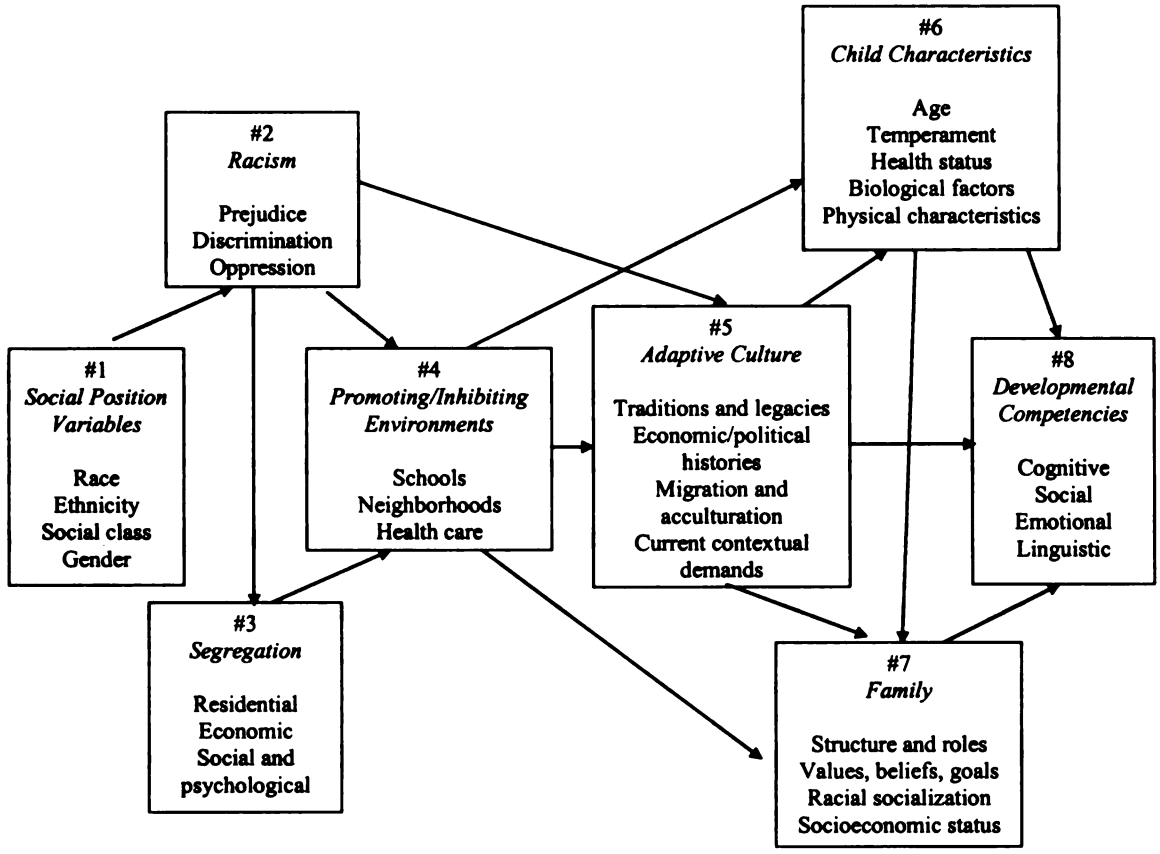

Figure 1. Integrative model of development competencies in minority children (García Coll, et.al, 1996).

Effective Academic Programs for Latinos

Evaluations of programs aimed at increasing the academic success of Latino youth may provide insight into the development and empirical testing of a comprehensive model of Latino academic success. By examining the components of programming that have been effective, their impact, and the populations with which they have produced the greatest results we may gain an increased understanding of how to aim future efforts.

Successful programs aimed at Latino students offer insights into multiple factors at different levels of school systems that are important for their academic success.

NCES's (2001) review of programs for increasing college-going rates of Latino and other minority students, found that the most effective programs provide a key person, including guidance counselors, who monitors and guides students over a long period of time. The most effective programs also provided high-quality instruction through access to the most challenging courses offered by the school ("untracking"), through special coursework that supports and augments the regular curricular offerings, or by revamping the curriculum to better address the learning needs of the students. Paying attention to the cultural backgrounds of students was also a key component. These early intervention programs show evidence of doubling the college-going rate of their participants, but do not appreciably alter their academic achievement because they augment and supplement what schools do without fundamentally changing the ways schools interact with students (NCES, 2001).

Weiner, Leighton, and Funkhouser (2000) in their review of programs aimed at helping Latino students reach high academic standards found that successful programs share some key features: 1) they provide curriculum instruction that lead to mastery of standards set for all students in forms that accommodate the particular resources and needs of Latino students; 2) they offer special support for Latino students who are English-language learners; and 3) programs serving migrant students tailor their services to enhance continuity and progress in the educational experience. Chavkin and Gonzalez's (2000) review of research and programs addressing Mexican immigrant youth and resiliency, also found that relationships with caring adults were associated with resiliency.

Researchers at the Center for Research on Education, Diversity, and Excellence at the University of California, Santa Cruz have similarly identified five principals to govern programs intended to assist Latino students achieve high standards (Rueda, 1998; Tharp & Gallimore, 1988): 1) joint productive activity; 2) reading and language development is embedded in the curriculum; 3) connections to everyday life; 4) challenging expectations; and 5) instructional conversations.

Research on family and community involvement in children's education suggests that three key strategies may be particularly effective in promoting Latino families' participation in school-related activities: 1) bridging language and cultural differences between school and home; 2) moving beyond traditional school-family activities; and 3) providing training of parents and staff for effective partnerships (U.S. Department of Education, 1997).

Although there are a myriad of programs that aim to improve the academic success of Latino youth, evaluating which components contribute to their effectiveness is hampered by several factors. The connections between research and practice are not strong, in large part because of the lack of empirical research involving Latino youth and, in the existing limited research, absence of theory. The lack of evaluation regarding program impact means that much of what we know of Latino youth programming is anecdotal and relatively untested. Additionally, understanding how these programs may affect Latino students of different nationalities, acculturation level, or immigrant status is virtually impossible as most studies do not specify these variables. For those programs that do serve Latino youth, in the context of diverse communities, we know little about

what makes them successful, if in fact they are successful with Latino youth (Rodriguez & Morrobel, 2002).

Conclusions

Although it is well known that Latinos account for most of the growth in the US youth population (Chapa & Valencia, 1993; Ramos, 2002), research focused on their development is sparse (Rodriguez & Morrobel, 2002). The academic success of Latino youth, in particular, has gained national focus. As the largest youth group in the United States, the academic success of these youth will impact the entire nation. The negative academic issues facing Latino students have been well documented: low academic achievement, low levels of high school graduation, and low educational attainment (Dryfoos, 1998; Meir & Stewart, Jr., 1991; Romo & Falbo, 1996; U.S. Department of Education, 1992). Although we may know how many Latinos complete high school or college, or how many are located in various levels of poverty concentration, we are no closer to understanding the academic development of Latino youth because of it (Rodriguez & Morrobel, 2002; Villarruel, Dunbar, Montero Seiburth, & Outley, 2005).

The tradition of focusing on and describing the problems and deficits that characterize Latino youth is long and deep (García Coll, Meyer, & Brillon, 1995; Gutiérrez, 2002; Light, n. d.; Mercado, 2001; Rodriguez & Morrobel, 2002). Research and theory focused on negative aspects of Latino youth development, and Latino academic success in particular, has been based on a relatively unchallenged assumption that there are barriers that must be overcome to achieve successful youth development (Díaz & Flores, 2001; Ogbu, 1981; Rodriguez & Morrobel, 2002; Zill & West, 2000). Often these barriers, sometimes referred to as cultural, socioeconomic, and linguistic

differences, are seen as naturally occurring or pre-existing in the lives of Latino youth (Díaz & Flores, 2001; Rodriguez & Morrobel, 2002). This has led us to another historical tradition and unfortunate orientation to promote intervention and prevention efforts (Carter, 1970; Carter & Segura, 1979; Halcón, 2001). Such an orientation is unfortunate because intervention and prevention presumes that there are universal laws of optimal academic development and the existence of negative, harmful, or life-threatening behaviors and conditions that require intervention or the development of prevention strategies (García Coll, Meyer, & Brillon, 1995; Rodriguez & Morrobel, 2002). Efforts based on this orientation have already been proven ineffective in positively altering the academic developmental trajectory of Latino youth (President's Advisory Commission on Educational Excellence for Hispanic Americans, 2000; President's Advisory Commission on Educational Excellence for Hispanic Americans, 2003).

The need to develop coherent, contextual, and culturally relevant empirical theory regarding Latino youth development and academic success drives this work. The lack of research guided by a normative model of development of competencies as related to academic outcomes is a glaring omission in the literature on Latino youth (Torres Campos, 2003). In her review, McLoyd (1998a) also found that empirical studies were rarely guided by a conceptual or theoretical framework and were primarily exploratory. She also noted that researchers rarely explained why race or ethnicity should matter. The research and literature on effective programming for Latino youth has a similar void, in that it lacks systematic and consistent evaluation and information regarding effectiveness by nationality, acculturation level, and immigrant or voluntary/involuntary status. Further research that examines the most effective types of strategies for various groups of Latino

children and youth is still necessary. This study promotes an alternate orientation to that used in the majority of existing research and focuses on youth development as a primary strategy for studying, intervening, and ultimately positively altering the academic outcomes of Latino youth.

The theories of human development and education that have been reviewed here should be both critiqued and built upon in order to establish a model that more accurately reflects the academic development of Latinos. It is important to note that the knowledge base of child development has generally come from studies of middle-class White families and based on Euro-American values and standards of behavior (Zayas, 1994; Zayas & Solari, 1994). Proponents of the dominant model attribute Latino students' failure in school to developmental "deficits," and they propose rehabilitation or reform to correct these deficits and enhance school success. Although meritocratic ideologies and mainstream theories have dominated education, many theorists and researchers have moved away from these explanations that use white middle-class values and parenting patterns as the norm. This is due in part because despite decades of educational reform Latino students have not seen the expected gains in academic success nor have these reforms been successful "in permanently inculcating a white middle-class type of school success" (Ogbu, 1981, p. 415).

Theorists such as Perkins (1981) and Erikson (1950) have identified several key characteristics of individuals that are important for youth's academic success. These include characteristics such as intrinsic motivation and identity development. But these theories do not fully explore how these characteristics develop differently or how they may interact differently with environmental factors in the lives of Latino youth. Ethnic

identity is one area of adolescent development that has received significant attention and has been viewed as an aspect of personal identity (Phinney, 1989; Phinney & Alipuria, 1990). But this factor alone does not explain the development of academic competencies for Latino youth and is highly related to other cultural, contextual, and familial factors in Latino youth's lives (Marín & Marín, 1991; Zayas & Solari, 1994).

Theories that view development as occurring within contexts and as interrelationships between developing individuals and the systems surrounding them, have expanded our understanding of the environmental factors and interrelationships that impact the academic success of Latino youth. Theorists such as Bronfenbrenner (1979, 1983), Lerner (1986), Lewin (1935, 1942), Valsiner (1987, 1988), and Vygotsky (1962, 1978) make clear the importance of contextual factors on the development of academic competencies in youth. These theories and models have generally included a dimension of "culture" or "ethnicity" in their models of human development. But these theories have fallen short of producing research or policy that fully takes into account the cultural factors that affect academic development for Latino youth and often place these forces at a more distal level in affecting development. Researchers have generally avoided examining the impact of ethnicity, race, and to some degree, culture on human development within their investigations. There are a variety of reasons offered for why ethnicity and other such variables are omitted from research, including but not limited to difficulties in measuring ethnicity and the general question of whether this is a primary or secondary variable influencing development. But there is growing recognition within the fields of human development that ethnicity must be central to future research endeavors if

responsive programs and policies are to be developed (Fisher, Jackson, & Villarruel, 1997).

Educational resilience perspectives, while focusing on the assets or positive factors in Latino youth's lives, have not yielded a clear working model or set of key factors that explain Latino students' academic success. Additionally, most of the research using this perspective has not addressed the cultural factors that may impact the academic development of Latino students. Nor is there a clear sense of how much weight individual protective/risk factors have in youth's lives with regards to academic outcomes. The author, in previous research testing the utility of this model, found it was not capable of distinguishing between academically high-achieving and low-achieving Latino students (Torres Campos, 2003).

Political explanatory models such as Freire's (1972) and Meier and Stewart's (1991), expand the vision presented in both ecological contextualist theories as well as educational resilience perspectives to highlight the importance of education as a political act. These theories also focus our attention on understanding the political connotations of not only the educational activities that take place within the classroom, but also the political factors at various levels of development that impact Latino youth's academic success. Both of these theories have been unable to create a large empirical or political movement within the U.S. to substantiate their effectiveness with Latino populations. In conjunction with the factors identified in other theories and models, this political aspect of education may be critical to understanding the normative development of Latino academic competencies.

Theories which place cultural factors at their center, such as cultural capital, cultural deficit, cultural difference, and culture determinism while highlighting the importance of cultural factors on development and particularly academic success, have not yielded a normative understanding of how Latino youth develop. This is due in part to these theories defining Latino culture only in relationship to Western, mainstream U.S. culture, while ignoring in-group differences or attending to Latino culture as a whole. These perspectives have in some ways perpetuated the view of Latinos as exceptions to the rule, and "at-risk" as a result. These perspectives continue to guide much of the current research, programming, and educational policy/reform, despite the lack of improvement for Latinos.

In contrast, Ogbu (1981, 1987) and García Coll and her colleagues' (1996) models have integrated much of the previous research concerning the development of minority, including Latino, youth into frameworks that explore development from the perspective of these youth themselves and not in comparison to white, middle-class values or structures. But Ogbu's (1981, 1987) model cannot always be clearly applied to Latinos given the complex set of ecologies in which they develop. García Coll and her colleagues' (1996) model builds from Ogbu's (1981, 1987) model as well as drawing from other theories to provide a perspective that places important contextual and cultural factors at the center of development.

From this review of the literature on Latino youth development, education, and academic success, this study argues that ethical and practical considerations demand a reorientation. Despite advances in scientific methodologies, the predominant trend in social science research has involved the inclusion of race and ethnic identity differences

among less dominant racial and ethnic groups (Rodriguez & Morrobel, 2002). This approach has served to foster and justify supposed differences, particularly, with respect to the problematic aspects of adolescence (e.g., lower levels of attainment, academic failure, and high dropout rates) and a tendency to ignore intragroup variability (McLoyd, 1998b; Rodriguez & Morrobel, 2002). As Vonnie McLoyd (1998b) so eloquently put it "The relative absence of systematic research on normative development among ethnic minority youth is a bit like the weather: Everyone complains about it, but no one ever does anything" (p. vii). Consequently, relatively little is known about individual differences among Latino youth or the sources of deviation from the norms of development within the Latino population. The importance of attending to intragroup variation in minority groups is underscored by research demonstrating that variables which best explain differences within certain minority groups in academic achievement are sometimes different from those that best explain intergroup differences (Howard & Scott, 1981). Additionally, race-comparative studies that view Latino youth as abnormal, incompetent, and change-worthy, draw attention away from the structural forces that undermine their development.

> Because they emphasize the race[/ethnicity] of the subjects (which often is confounded with social class) or personal characteristics associated with race[/ethnicity], race-comparative studies often promote person-blame interpretations of social problems rather than thoughtful analyses of the roles of situational and systemic factors (McLoyd, 1990, p. 264).

In response to the overwhelming amount of deficit oriented and exploratory research conducted on Latino youth (Rodriguez & Morrobel, 2002), this study seeks to confirm

and build a model of normative academic development and to challenge educators, researchers and policy makers to turn historic trends and consider a more balanced and strengths based approach. Specifically, García Coll and her colleagues' (García Coll et al., 1996) model has been adapted and augmented and was empirically tested focusing on the development of competencies related to academic outcomes for Latinos. This resilience research may serve to fill the gaps in our current knowledge of Latino youth development and as a foundation for future research, intervention, and educational policy/reform.

Pathways to Latino Academic Success

The adapted and augmented model presented below (see Figure 2) follows the original closely in terms of its major components. The components of the integrative model have been adapted to include factors, described in detail below, that are particularly important to the academic success of Latino students. An augmentation of the model includes an outcomes factor related to the various ways in which academic success is defined.

This adapted, augmented model recognizes that Latino students' development of competencies related to positive academic outcomes will be greatly affected by the context in which these youth develop. The key to understanding this model is that the competencies that youth develop will be adaptive and normative based on their context. García Coll and her colleagues (1996) state that studies of Latino children need to move away from conceptualizing developmental outcomes as either negative or positive to a more balanced conceptualization that reflects both the strengths and weaknesses. This adapted, augmented model provides a framework to empirically examine the

developmental processes and competencies of academic success for Latino youth in a more balanced approach. Latino students are generally considered academically successful if the normative developmental competencies that result from their contexts match the competencies expected to contribute to success as defined by mainstream U.S. society. In order to positively alter the current disparate trends in academic success, it is important to know not only what factors are related to the academic success of Latino youth, but also how these factors interact to produce the competencies that lead to academic success for Latinos. What follows is a brief overview of the model as a framework for understanding the relations among the 9 components.

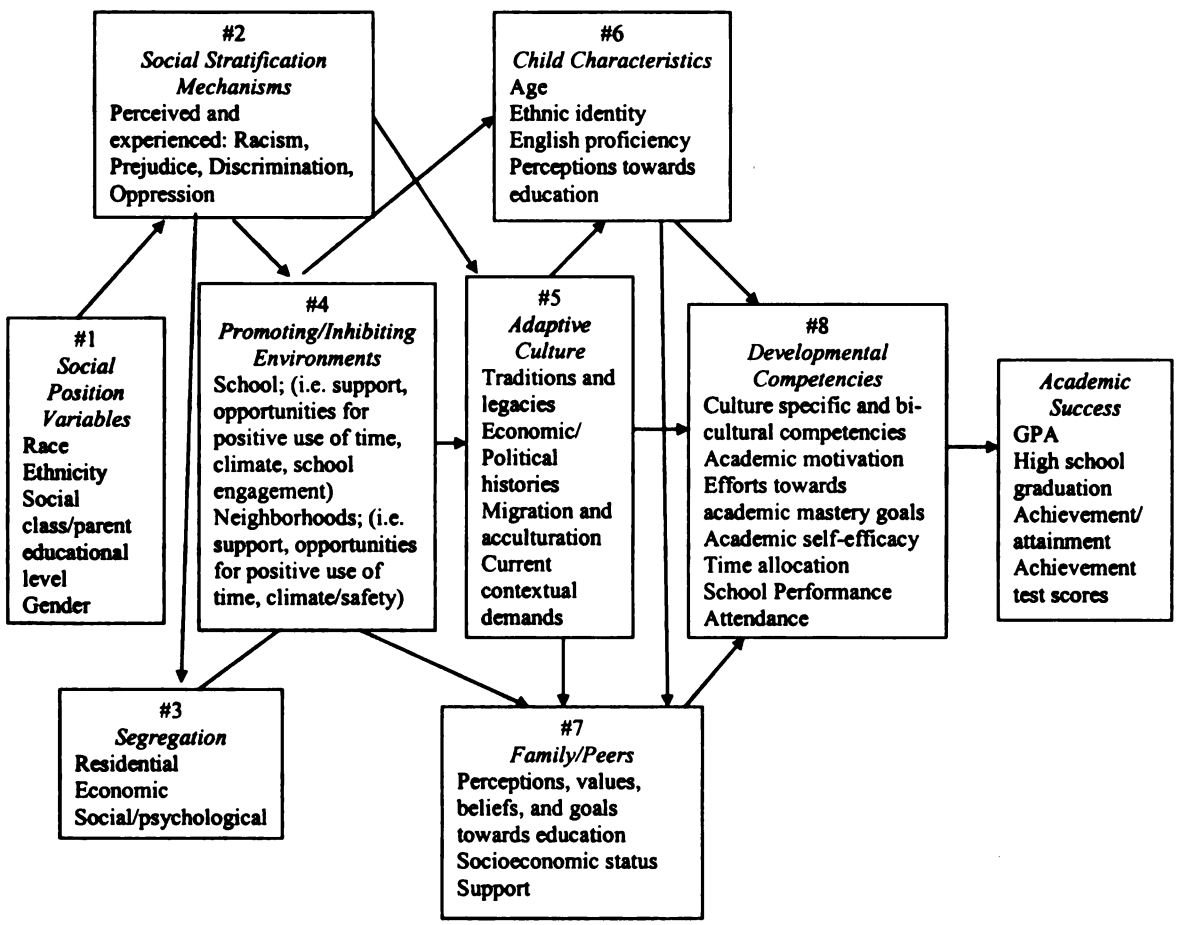

Figure 2. Adapted, augmented model of Latino academic developmental competencies

The figure above depicts 9 major constructs hypothesized to influence the academic developmental processes for Latino children (see Figure 2). As with the original integrative model, social position factors are preeminent. These are attributes or characteristics of individuals used by society to stratify or place individuals in a social hierarchy that pertain to Latino children. These factors include race, ethnicity, social class, and gender. These social position factors have the potential to interact in ways that magnify or diminish the importance of other factors in the model (Bronfenbrenner & Crouter, 1983).

The effect of social position is mediated through pervasive social mechanisms of racism, prejudice, discrimination, and oppression. The segregated environments that Latino children and their families are subjected to are created by the influence of social position variables through these social mechanisms. It is hypothesized that the effects of racism on Latinos operates through the creation of segregated contexts (García Coll et al., 1996). The interplay of these factors creates the unique, "nonshared" conditions faced by Latinos and affects the nature of the developmental processes that operate and the eventual competencies that result. Segregation directly influences the inhibiting and promoting environments experienced by Latino youth.

Racism, discrimination, and prejudice both indirectly, through segregation, and directly affect Latinos experience through social interactions in inhibiting and promoting environments. These environments, in turn, directly influence the adaptive cultures that are created in response to experiences within these environments. "An adaptive culture involves a social system defined by sets of goals, values, and attitudes that differs from

the dominant culture" (García Coll et al., 1996, p. 1896). Inhibiting/promoting environments and adaptive culture directly influence family and peer processes, and interact with Latino children's individual characteristics. Latino children influence their family and peer processes and contribute to their own socialization. Latino youth's developmental competencies result from the direct contributions of adaptive culture, family processes, peer process, and personal characteristics as individual factors, as well as from the interactions among these factors.

In terms of Latinos academic success, key developmental competencies include culture specific and bicultural competencies, academic motivation, efforts towards academic mastery goals, academic self-efficacy, time allocation, and academic behaviors. Behaviors related to academic success include performance on homework, grades, test scores, and the like, as well as both overall attendance and class/course specific attendance. Academic success emerges from the academic competencies developed by youth. Included below is research supporting the inclusion of each model component and component factors as related to academic outcomes.

Social Position Variables. Social position variables such as race, ethnicity, social class, and gender, as described previously in the overview of the history and current educational status of Latinos in U.S. education, indirectly affect Latino students' development of competencies related to academic outcomes. In the United States these are the most important attributes on which society is stratified, are overlapping, and result in additive and multiplicative effects, depending on the degree to which an individual occupies specific combinations of these social positions (Gracía Coll et al., 1996; Krieger, Rowley, Herman, Avery, & Phillips, 1993). For Latino children, their expected

gender roles also influence access to resources, social interactions, and expectations that will consequently influence their academic developmental outcomes (Gracía Coll et al., 1996). The socioeconomic resources available to Latino families, due to social class, and how they are used are also important influences on the developmental competencies of Latino children (Huston, McLoyd, & García Coll, 1994). Race, ethnicity social class, and gender also play a part in teachers' perceptions of students, as well as the amount of racism, prejudice, discrimination, and oppression students perceive and experience.

Parent educational level has been found by several researchers to be related to academic outcomes (Baker, McGee, Mitchell, & Stiff, 2000; Educational Testing Service, 1996; NCES, 1995; Shumow & Miller, 2001; Torres Campos, 2003; Voydanoff & Donnelly, 1999). But there have been some inconsistent results on whether parent educational level is a useful factor for explaining Latino academic success (e.g. Cooper, Cooper, Azimitia, Chavira & Gullat, 2002; Torres Campos, 2003). The relationship between parent educational level and other predictors of academic success, such as parental involvement in schooling, may hold the key to understanding its effect on Latino children's academic outcomes (Lareau, 1996; Shumow & Miller, 2001).

Social Stratification Mechanisms. Racism, both perceived and experienced, contributes to Latino students' development of competencies (Korzenny & Schiff, 1987). Minority children currently face subtle forms of educational racism that include low teacher expectations and attitudes, clinical definitions of academic problems, testing and tracking, biased curriculum and textbooks, and socializing into lower expectations and inferior jobs (Fisher, Wallace, & Fenton, 2000; Ogbu, 1991b, 1992). Latinos may be discriminated against for multiple reasons, including skin color, English language

proficiency, and poverty (Fennelly, Mulkeen & Giusti, 1998). In one study of a Mexican-American community, Greenberg, Burgoon, Burgoon, and Korzenny (1983) found that pervasive racism and discrimination, particularly in the media, were identified as contributing to Mexican-American youth's lack of academic success. Fennelly, Mulkeen and Giusti's (1998) study, found that Puerto Rican adolescents and their mothers perceive discrimination to lead to several negative academic outcomes. These negative outcomes included a good education not necessarily translating into success for Puerto Ricans, Puerto Ricans being kept from getting ahead, and Puerto Rican students being held down in school despite extensive efforts (Fennelly, Mulkeen & Giusti, 1998). Indeed several studies have shown that discrimination persists in hiring practices and therefore minorities have a harder time than whites securing employment (Coontz, 1992; Shulman, 1990; Turner, Fix, & Struyk, 1991). Students' response to discrimination is important in that it may mediate the influence of discrimination on academic success (Fisher, Wallace, & Fenton, 2000; Ogbu, 1981). In Fennelly, Mulkeen and Giusti's (1998) study responses to discrimination took two forms: 1) Rejecting majority culture to do well in school and being influenced by peer pressure to do poorly; and 2) A desire to "prove them wrong" by succeeding in school and work. Both of these can be seen as adaptive normative responses, but only the latter will be viewed by society as contributing to academic success.

Segregation. Segregation is the systematic separation of groups and individuals based on attributions made in regard to their social position (Taeuber & Taeuber, 1965). Residential segregation, the most pervasive form of segregation in the U.S., determines many of the elements that will either promote or inhibit children's development (Blau,

1981). Economic segregation affects Latino child development through differential access to resources. Families with higher economic status have greater access to the resources that enhance the development of children's competencies than families of lower economic status (García Coll et. al., 1996). Given the detrimental effects of poverty on children's development, the economic segregation produced by economic discrimination are particularly troublesome (Duncan, Brooks-Gunn, & Klebanov, 1994; Huston, McLoyd, & García Coll, 1994). Social and psychological segregation occurs when Latino families and children are not permitted to access important social and emotional resources as a result of social stratification mechanisms (García Coll et. al., 1996). Latino students may be exposed to a combination of high or low levels of all three types of segregation.

Promoting/Inhibiting Environments-School. School variables that can influence Latino youth behavior operate on three levels: 1) The school district or system (i.e. organizational and instructional philosophies, policies, procedures, and the political power of Latinos within the district); 2) The individual schools (including personnel and resources); 3) and the individual classrooms (including child, teacher, and peer characteristics, classroom structure, curriculum, and instructional strategies) (Wasik, 1992). Most research on the effects of school on academic success has focused at the individual classroom level. Other important school factors that need to be attended to when discussing the academic success of Latinos include the influence of administrators and school boards, policies on tracking and staffing, and the extent to which the school promotes parental involvement.

Not surprisingly, the climate and support provided by the school environment have been associated with better academic performance. Students whose schools foster caring and supportive relationships have higher math, language, and reading achievement scores (Felner, et al., 1997). Schools that have high expectations, encourage cooperation, and have teachers who are supportive, have lower levels of failure and dropouts than schools that emphasize competition, testing, tracking, and have low expectations (Powell-Cope & Eggert, 1994; Rumberger & Thomas, 2000; Rutter, 1979). Support from teachers and friends have been found to be related to Mexican American students' resiliency and G.P.A. (Alva, 1991; López, Ehly, & García-Vázquez, 2002). Kaplan's (1999) study of black and Latino students revealed that students gave their teachers credit for strengthening their academic skills. Similarly, Lucas, Henze, and Donato (1990) noted that support provided by teachers, specifically in the form of valuing students' primary language and encouraging academic achievement, promoted the academic success of Latino students.

School engagement refers to the kind and level of student "connectedness" to school. Academic competence and intrinsic achievement motivation have both been described as two key features governing students' engagement in school (Wigfield, Eccles, & Rodriguez, 1998). Level of school engagement is considered an important early indicator of scholastic achievement and school completion (Connell, Spencer, & Aber, 1994; Hawkins, Catalano, Kosterman, & Hill, 1999). The majority of research on school affiliation, engagement, or bonding has reported that the greater students' sense of connectedness to school the greater their academic performance (Paulson, Marchant, & Rothlisberg's, 1998; Scales, et al., 2000). The opposite relationship has also been found

to be true; students who feel alienated from school are more likely to fail academically (Eckstrom, Goertz, Pollack, & Rock, 1986). Research examining successful Latino students has also found that these students were more satisfied and felt more involved at school than less successful Latino students (Alva, 1991; Reyes & Jason 1993; Waxman, Huang, & Padrón, 1997). Sense of school belonging and engagement have similarly been found to be related to school success for Latino students in general and language minority Mexican American students in particular (Goodenow & Grady, 1993; Rumberger & Larson, 1998). Latino students with low levels of school bonding have also been found to be more at risk for school failure (Robertson, Harding, & Morrison, 1998).

Promoting/Inhibiting Environments-Neighborhood. Children develop the tasks necessary to be successful and acquire instrumental competencies based on their context and surroundings (Ogbu, 1981). Although children who grow up in a poor, Latino neighborhood may not have the availability or access to ample resources (i.e., health care or good schools), the community can still encourage and provide them with the competencies needed to be successful outside of the community (García Coll et. al., 1996). A middle-class environment can provide Latino children with some type of economic stability, better schools, and access to other resources, but it may not buffer the effects of prejudice, racism, and discrimination to which these children might be exposed within and outside the community (Rodriguez, 1975; Tatum, 1987). The neighborhood community also influences Latino students through climate and the opportunities for use of outside-of-school time that are available.

Support provided by other adults and neighbors has been associated with higher grades and higher academic achievement in the general youth population (Cochran & Bø,

1989; Entwisle, Alexander, & Olson, 1994; Wenz-Gross & Siperstein, 1997). Extended family and non-related adults are known to fulfill attachment functions in supporting personal and academic adjustment, particularly within families of color (Harrison, Wilson, Pine, Chan, & Buriel, 1990; Kenny & Perez, 1996). Similarly, a review of research and programs addressing Mexican immigrant youth found that relationships with caring adults were associated with resiliency (Chavkin & Gonzalez, 2000). Additionally, Latino student dropout has also been related to a lack of supportive adult relationships (Chavkin & Gonzalez, 2000; Nesman, Barobs-Gahr, & Medrano, 2001; Rumberger, 2001).

Adaptive Culture. Latino families and children have developed goals, values, attitudes, and behaviors that set the apart from the dominant culture. This adaptive culture is a product of Latinos collective cultural, political, and economic history, and current contextual demands posed by their environments. At the collective level there are three sources of historical processes that influence the development of adaptive culture: traditions and other cultural legacies, economic and political events, and migration and acculturation patterns. There are large differences among Latinos of different nationalities and immigrant status in these three historical processes.

Traditions and cultural legacies are part of the group's collective history for generations. For example, Puerto Ricans have internalized and externalized expressions of a mixed heritage that incorporates Taino, colonial Spanish, and African influences, as well as influences from the United States (García Coll, et. al., 1996). Economic and political events that have shaped Latino's collective history also influence adaptation. In the case of Puerto Ricans, the history of colonization from Spain and the U.S. has been

proposed as a major contributor to psychosocial development (García Coll & Vázquez García, 1995). Migration and acculturation patterns include the initial reasons for migration (i.e. seasonal employment and completion of higher education), length of the settlement of the community, and the ease of back and forth, or circular, migration (García Coll, et. al., 1996).

The acculturation level of Latinos has been linked to almost every possible outcome of interest, including academic success (e.g. López, Ehly, & García-Vázquez, 2002). García Coll, Meyer, and Brillon (1995) have addressed the importance of cohort effects when assessing the impact of migration and acculturation as ongoing processes that can be experienced by recent immigrants as well as by individuals who move from an ethnic neighborhood to one that is predominantly white. Additionally Ogbu's (1991a) distinction between voluntary and involuntary minorities may also influence these processes.

Current contextual demands are the more immediate sources of influence that contribute to the development of adaptive culture. These include factors such as rates of unemployment, neighborhood safety, racism, prejudice transmitted through systems of formal education, the media, and interpersonal interactions.

Child Characteristics. Latino child characteristics specifically related to academic success include age, ethnic identity, involuntary vs. voluntary minority status (Ogbu, 1991a), English proficiency, and perceptions, attitudes, and beliefs regarding education. Adolescents who have a positive attitude towards school and who value school are less likely to fail or drop out than adolescents who hold a negative attitude towards school or value school less (Powell-Cope & Eggert, 1994; Goldschmidt & Wang, 1999; Rumberger

2001). Latino students' perceptions, attitudes, and beliefs regarding education will determine the basis of behavior displayed during school interactions. Phinney and Alpuria's (1990) study found that achieving a positive sense of ethnic identity is another characteristics related to self-esteem for Mexican-American adolescents. Bernal, Saenz, and Knight (1991) also found that a positive sense of ethnic identity promotes achievement for Mexican American youth. English proficiency is an individual characteristic which greatly affects students' interactions with teachers and other educators. Ogbu's (1991b) work has elucidated how minority status affects the emergence of developmental competencies particularly as related to academics.

Family. Latino family values, beliefs, and goals towards education, along with support and involvement will directly influence the emergence of academic developmental competencies in Latino children. Research has shown that what the family does to develop language, motivate students, monitor homework, and limit television watching is more important to student success than family income or education (de Kanter, Ginsburg, & Milne, 1987; Henderson & Berla, 1994). It is important to note that some Latino parents view teachers as educational experts and feel it is inappropriate interfere with their children's education (Flores, Cousin, & Diaz, 1991). In general, research has found that students whose parents are involved in school have relatively high levels of school performance (Furstenberg & Hughes, 1995; Muller, 1993, 1995; Paulson, 1996; Steinberg, Lamborn, Dornbusch, & Darling, 1992; Zill & Nord, 1994). Studies have found that parental involvement in school is associated with Latino students' grades, G.P.A., and overall academic performance (Bogenschneider, 1997; Jones & Velez, 1997; Lopez, 1996) Romo and Falbo (1996) found in their longitudinal

qualitative study of Latino youth, that parents of academically successful adolescents were aggressive in making contacts with the schools. But parental involvement with children relative to education can take many forms and depends on a wide variety of factors, such as financial and human resources, motivation, time constraints, basic relationship between parent and child, and the willingness to engage parents in the process of schooling (Jones & Velez, 1997). The contexts for parental involvement can be the home, the school, and/or families within their cultural group and the broader society (Jones & Velez, 1997).

An abundance of research has also reported that family support is associated with higher grades and higher standardized test scores (Bisnaire, Firestone, & Rynard, 1990; Cauce, Felner, & Primavera, 1982; Christenson, Rounds, & Gorney, 1992; Eccles, Early, Fraser, Belansky, & McCarthy, 1997; Feldman & Wentzel, 1990; Glasgow, Dornbusch, Troyer, Steinberg, & Ritter, 1997; Masselam, Marcus, & Stunkard, 1990; Rosenthal & Feldman, 1991). Lopez (1996) found that Latino students receiving higher grades were more likely to have greater parental support than their low achieving peers. Some researchers have also found that the expanded role that family and kin networks play in the developmental processes for minority children may serve to protect them from economic hardships and social and psychological sources of oppression they experience as a result of their relative position in society (Harrison, Wilson, Pine, Chan, & Buriel, 1990; McAdoo, 1982).

Peers. There is an abundance of literature that suggests that, similar to families, peers have a direct influence on the emergence of academic developmental competencies. Academically successful youth often have one or more close and stable friendships on

which they rely for ongoing emotional support (Werner & Smith, 1992). Positive peer influence has been associated with higher academic achievement (Chen & Stevenson, 1995; Hanson & Ginsberg, 1988), higher math achievement (Hanson & Ginsburg, 1988), and better grades (Mounts & Steinberg, 1995). Adolescents whose peers have high expectations and positive attitudes towards school are less likely to fail or drop out of school (Powell-Cope & Eggert 1994; Wang, Hartel, & Walberg, 1999; Rumberger 2001).

Some research has found that for Latino adolescents peers are relatively more influential than are parents for academic success (Steinberg & Darling 1993). Involvement with peers who are motivated to succeed in school, and who spend time doing homework, has also been found to positively affect Latino students' academic achievement (Romo & Falbo, 1996). Muskal and Chairez (1990) found that high-achieving Latino students, whose families live in middle- to upper- income neighborhoods of mixed ethnicity, regardless of parents' birthplaces, benefited from peer pressure to succeed in school. In contrast, peer pressure, particularly to participate in risky behaviors, was found to be a barrier to academic achievement in Vera's (2000) study of Chicano urban youth.

Developmental Competencies. Key academic developmental competencies include, culture specific and bicultural competencies, academic motivation, efforts towards academic mastery goals, academic self-efficacy/self-concept, and time allocation. Beyond traditional areas of concern, developmental competencies such as Latino children's ability to function in two or more different cultures, cope with racism, subtle and overt discrimination, and social and psychological segregation must be considered in relation to academic success. Culture-specific and bi-cultural competencies

are needed if Latino children are to learn the codes that are appropriate to both cultures and master the activities that are called upon in each (LaFromboise, Coleman, & Gerton, 1993). Research has found that Cuban children and Latino children with bicultural abilities are less likely to experience family and school conflict or to become involved in illegal drug use (Szapocznik, Kurtines, & Fernandez, 1980; Szapocznik, Santisteban, Kurtines, Perez-Vidal, & Hervis, 1984). Hurtado, Figueroa, and Garcia (1996) found that young adults who have learned to be bicultural themselves are able to pass on their understanding of how to retain community traditions while entering and succeeding in school and beyond.

Children's motivation to succeed is considered a key feature of educational competence (Harter, Runbaugh, Whitesell, & Kowalski, 1992). The achievement motivation of students has been found to be a predictor of the type of coursework they select, the effort that put into their work, and their overall levels of educational attainment and performance across racial/ethnic groups (Anderson & Keith, 1997; Harter et al., 1992; Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995; Keith & Perkins, 1995; Paulson, Coombs, & Richardson, 1990; Scales, Benson, Leffert, & Blyth, 2000; Wentzel, 1993; Wentzel,1996; Whitehead, 1984). Waxman, Huang, and Padrón (1997) found, in their study of Latino middle school students, that academically successful students are more motivated than their less successful classmates. Shultz's (1993) study found that achievement motivation was a significant mediator of academic performance in Hispanic children, independent of intellectual ability. A study of Latino students attending a predominantly Latino (80%) high school in California found that academic self efficacy,

including academic motivation, was the strongest predictor of academic performance (Buriel, Perez, De Ment, Chavez, & Moran, 1998).)

Academic self-concept refers to students' perceptions of their competence or level of ability within the academic realm and is linked to motivation to succeed in school, as well as academic performance. Students with more positive academic self-concepts tend to have higher school grades and test scores (Marsh & Byrne, 1999). Students' academic self-concept also influences the courses they choose to take in school, with students being more likely to take courses in a subject in which they have a more positive self-concept (Marsh & Yeung, 1997).

Time allocation pertains to students' time management skills during school and for academic activities, as well as use of outside of school time. There is an abundance of literature that has found that positive and creative use of outside of school time by students is related to greater academic success (Alva, 1991; Barber & Eccles, 1997; Davalos, et al., 1999; Eccles & Barber, 1999; Hanks & Eckland, 1976; Larson, 1994; McMillan & Reed, 1994; Posner & Vandell, 1994; Quinn, 1995; Scales et al., 2000; Voydanoff & Donnelly, 1999; Waxman, Huang, & Padrón, 1997). Several researchers have noted that the amount of time an individual devotes to schoolwork is related to his or her individual achievement (Fuligni, 1997; Fuligni & Stevenson, 1995; Leone & Richards, 1989; Steinberg & Darling, 1993; Wahlberg & Fredrick, 1982). Some studies of Latino students have found that successful students report higher levels of involvement in high school activities than unsuccessful students (Alva, 1991; Waxman, Huang, & Padrón, 1997; Davalos, Chavez, & Guardiola, 1999). Davalos and her colleagues (1999), in their study including Mexican American adolescents found that involvement in

extracurricular activities had a significant positive effect on whether they were in good standing at school. Waxman (1997) and her colleagues, in a study of Latino middle school students, found successful students reported they spent significantly more time doing homework each week and more time on additional reading than unsuccessful students. Fuligni (1997) in his study of immigrant youth including Latinos, found that the amount of time students reported they spent studying was a predictor of their academic achievement as measured by grades.

Behaviors related to academic success are developmental competencies that directly affect students' academic success. Students who attend school and class regularly and who use study skills to increase positive school performance will be more academically successful. Note taking and test preparation are two study skills Latino students may use to increase academic performance and thereby increase academic success (Redd, Cochran, Hair, & Moore, 2002). Most educators and parents consider the performance of homework a key component of students' academic responsibilities (U.S. Department of Education, n. d.). Students who fail to complete their homework or who complete it but fail to meet the teacher's standards are more likely to receive lower grades in class (U.S. Department of Education, n. d.). Research suggests that, for high school students, greater hours spent on homework are related to higher levels of student achievement (Cooper, 1989; Cooper, Lindsay, Nye, & Greathouse, 1998). Rumberger and Larson's (1998) study of Mexican-American Language Minority students in California also found that how often students were absent, their classroom work habits, and their classroom social behavior were predictive of students' GPAs.

Academic Success. Academic success is the final outcome of this adapted, augmented integrative model. Academic success involves a wide range and multiple levels of outcomes that are intertwined and cannot be defined by any one single index, indicator, or measure. Although academic success has been defined in many ways (i.e. GPA, persistence, achievement, attainment, etc.) it has yet to be thoroughly explored from a Latino perspective. Grades have often been used to examine academic success, but may present only a limited view of what academic success means (López, et al., 2002). There is a body of research that examines students who persist in school as examples of success in relation to those who drop out. Other researchers have examined students who go on to higher education to gauge academic success. Standardized test scores are also becoming one of the most common ways to rate students in public schools. Several schools are also using portfolios as measures of student progress. Given the lack of research on Latino definitions of academic success, using multiple definitions and operationalizations will be important when examining the processes associated with developing academic competencies. The academic success of Latino students at any given point in time is in turn an important influence on the successive ecological processes that will continue to affect their developmental course.

Study Aim and Hypothesis

A coherent picture of development among ethnic minority youth is missing in theories of normal adolescence. Research examining the academic development of Latino youth is rarely guided by a culturally specific theory or framework. In order to change this trend in developmental research, this study seeks to confirm and build a model of the academic development of Latino youth based on Garcia Coll and her colleagues' (1996)

integrative model of minority developmental competencies. The aim of the current study is to assess pathways through distal and proximal factors that account for social stratification and cultural factors related to developmental competencies and academic success for Latino youth not found in other ecological models.

Items from the National Longitudinal Study of Adolescent Health (Add Health) data set used to assess variables and constructs in the model are presented below. Add Health is a nationally representative study that explores the causes of health-related behaviors of adolescents in grades 7 through 12 and their outcomes in young adulthood. Add Health seeks to examine how social contexts (families, friends, peers, schools, neighborhoods, and communities) influence adolescents' health and risk behaviors.

The constructs presented in the model below represent latent constructs, which are multifaceted. Various indicators otherwise known as manifest variables from the Add Health data set were used to measure each latent constructs or portions of latent constructs. Whenever possible youth's self-reported items were used over parent report as indicators/measured variables of constructs. The indicators below represent the measured or manifest variables for purposes of structural equation modeling. Appendix A summarizes the data items used to assess each construct.

Social Position Variables

Social position variables examined in this study include race, ethnicity, gender, and social class/parent educational level. Race, ethnicity, and gender are collected on all youth. Social class/parent educational level was measured as parental educational attainment.

Social Stratification Mechanisms

For purposes of this study only perceived racism was used as construct of social stratification mechanisms. Youth's reports of students at school prejudiced were used as measures of perceived racism.

Segregation

There are three major types of segregation to be considered for purposes of testing this model. Residential segregation was measured by parents' report of their reasons for living in their current neighborhood, including being able to afford better housing, presence of friends, family, or children, and proximity to work. Economic segregation was measured using multiple indicators, parents' report of total family income, ability to pay bills, employment status, and receipt of public assistance/social welfare. Social segregation was measured as youth's level of feeling socially.

Promoting/Inhibiting Environments-School

School as a promoting or inhibiting environment included variables from the individual school level and the individual classroom level. The items used were drawn from youth's perceptions, parents' perceptions, and school administrators' reports. Youth measures included reports of getting along with teachers, perceptions of teacher fairness, teachers care about them, taking a gun/weapon to school, feeling close to people at school, feeling part of the school, feeling happy to be at school, and feeling safe at school. School administrators' reports of problems at school related to smoking or tobacco use, drug use, alcohol use, gang violence, teenage pregnancy, vandalism/thieving, eating disorders, and stress or pressure, school type, average daily attendance, full-time classroom teachers, average class size, race and ethnicity of full

time teachers, gender of full time teachers, presence of parent organization, dropout rates, retention rates, achievement score rates, percentage of 12th graders in academic or college preparatory, vocational or occupational preparatory, general program/no divisions, health related services offered at school, school policies and rules, urbanicity, and size of school were also included. Parents report of their child's school being a good one, being a school that prioritizes learning, and a safe school were also used.

Promoting/Inhibiting Environments-Neighborhood

Youth's neighborhoods as promoting or inhibiting environments were measured using both youth and parent report. Measures included youth's report of feeling safe in the neighborhood, knowing people in their neighborhood, being able to talk to someone in their neighborhood, neighbors looking out for one another, feeling happy in their neighborhood, and whether they would be happy or unhappy if they moved away from their neighborhood. Parent measures including report of the presence of crime, drugs, trash, and wanting to leave neighborhood were also used to assess the nature of youth's neighborhood environment.

Adaptive Culture

Given the constraints of the data set, acculturation and current contextual demands were assessed as aspects of adaptive culture. Acculturation was quantified as parents' report of whether child was born in the U.S. youth, born a US citizen, and for those not born in the U.S., parents' report of when child moved to the U.S. Youth's report of their language use and comfort with different languages were also used as a proxy measures for acculturation. Current contextual demands were measured using proxy

measures including youth's perceptions that they will live to be 35, be married by 25, will be killed by 21, and will have a middle class family.

Child Characteristics

Items used to assess characteristics of the youth themselves included English proficiency, self-esteem, learning disabilities, and perceptions towards. Youth's English proficiency was measured using items regarding the language interviews were conducted, youth's report of language used with family members and friends, buying music in language other than English, and reading, listening, or watching newspaper, radio or TV in languages other than English. Self-esteem questions included youth's comparisons of their intelligence to others, how intelligent they feel they are, feeling as good as others, feelings of having good qualities, feeling proud, liking themselves as they are, how confident they are, and whether they feel life has been a failure. Parents' and youth's report of learning disability and youth's retrospective report of ADHD symptoms were used as measures of learning disabilities. Perceptions of education were measured by youth's feeling they will go college and graduate from college.

Family

Parental support and perceptions of school were measured by parent and youth report regarding parent involvement in parent teacher organizations, talking with youth regarding school work or grades, talking with youth about school in general, talking with teachers, volunteering at school, working with child on school project, being disappointed if child does not graduate high school, and being disappointed if child does not graduate college. General parental and family support were measured as youth's report of parent caring, closeness, warmth and love, encouraging independence, satisfaction with parental

relationship, feeling loved and wanted, understanding, and being paid attention to, along with parent reports of their relationship with their child.

Peers

Due to constraints of the data set only general peer support and peer substance use were assessed as part of peer influence. Support from friends was measured as how much time is spent with peers, how often peers are talked to regarding problems, and feeling that friends care. Youth report of their peers' smoking, alcohol, and marijuana use were also included. One parent report item regarding their perceptions of the type of influence their child's best friend provides was also used.

Developmental Competencies

Culture specific and bi-cultural competencies are not represented in the Add Health data set and so were not assessed as part of this study. Other aspects of developmental competencies assessed in this study are presented below. Youth's time allocation was quantified as youth's report of time spent in after-school and out-of-school activities, athletics, physical activity, at religious services or activities and minimization of time spent watching television or playing video, and/or using the computer for activities other than schoolwork. Academic motivation was measured as youth's report of trying hard at school, paying attention in school, and wanting to go to college.

School performance, attendance, and behavior at school are three additional developmental competencies assessed in this study. Attendance was measured as youth's report of ever skipping school and the number of times they have skipped school. School performance measures included out of school suspensions, ever being expelled, and grades skipped and retained. Other behaviors included indicators of ever being high or

drunk at school, ever having problems with school because of being drunk or high, and carrying a weapon to and/or at school as reported by youth.

Academic Success

The effects of the above constructs on academic success were examined for Latino youth as measured by youth reports of grades, high school graduation, and attainment. This included grades in English/language arts, mathematics, history, and science, highest grade completed, high school completion, GED/equivalency attainment, post-secondary education and graduation, as well as vocational or job training.

The current study seeks to understand the relationships between the above mentioned constructs and academic success of Latino youth at two time points between 1994 and 1996 when youth are in grades 7 through twelve, and at a final time point between 2001 and 2002 when youth are between the ages of 18 and 26. Changes in relationships among the constructs may differ across time not only because youth and their families develop, but many of the youth and families may also have moved and been in different environments. Appendix A includes a list of the latent constructs with their underlying measurement variables in simplified format.

Figure 3 depicts the manifest variable model hypothesized that was tested in the current study. The effects of social position variables', in the form of race-ethnicity, parent educational level, and gender, are hypothesized to be mediated by social stratifications mechanisms, in this case youth's perceived racism, which directly predict the segregated environments, including residential, economic, and social. The effects of racism are in turn expected to directly predict youth's inhibiting and promoting environments as well as having a mediated effect on promoting/inhibiting environments

through youth's segregated contexts. Segregation is also predicted to directly predict youth's promoting/inhibiting environments. Inhibiting/promoting environments and racism are hypothesized to predict youth and families' adaptive culture. Both promoting/inhibiting environments and the adaptive culture are hypothesized to directly predict family and peer processes. They are also expected to have a mediated or indirect effect on family/peer processes and developmental competencies through child characteristics. Developmental competencies are hypothesized to be predicted by adaptive culture, child characteristics, and family/peer processes. Academic success is directly predicted by academic developmental competencies.

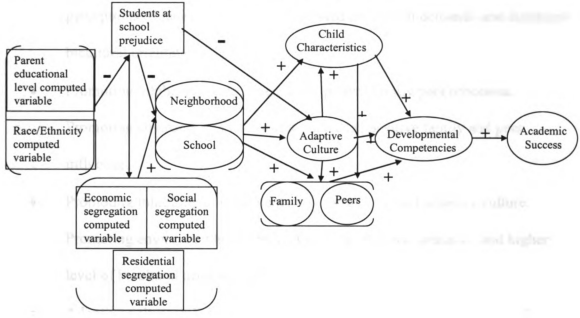

Figure 3. Manifest variable model

Direct Relationships:

- Social position variables are expected to predict measures of social stratification mechanisms. Identification with races other than White/Caucasian, Latino/Hispanic or Latin American nationality identification, female gender,

and lower levels of parental educational attainment will predict higher reports of perceived racism.

- Social stratification mechanisms are expected to impact segregation. Greater perceived racism will predict increased residential, economic, and social segregation
- Social stratification mechanisms will directly predict promoting/inhibiting environments. Increased perception of racism will predict more inhibiting environments.
- Social stratification mechanisms will impact adaptive culture. Increased perceptions of racism will predict increased contextual demands and decreased bicultural orientation.
- Promoting/inhibiting environments will predict family/peer processes. Promoting environments will lead to increased positive family and peer influence.
- Promoting/inhibiting environments will directly impact adaptive culture. Promoting environments will predict lower contextual demands, and higher level of bicultural acculturation.
- Adaptive culture will directly impact child characteristics. Low levels of contextual demands and bicultural orientation will predict positive child characteristics.
- Adaptive culture will directly impact family/peer processes. Low levels of contextual demands and bicultural orientation will predict positive family/peer influence.

- Adaptive culture will directly impact developmental competencies. Low levels of contextual demands and bicultural orientation will predict positive academic competencies.
- Child characteristics will directly influence family/peer processes. Positive characteristics will predict positive family/peer influence.
- Child characteristics will impact developmental competencies. Positive characteristics are hypothesized to predict positive academic competencies.
- Family/peer processes are hypothesized to impact developmental competencies. Positive family and peer influence will predict positive academic competencies.
- Developmental competencies are hypothesized to directly impact academic success. Increased positive academic competencies will predict positive academic success.

Mediating Relationships:

- The relationships between social position variables and segregation will be mediated by social stratification mechanisms.
- Social stratification mechanisms will mediate the relationships between social position variables and promoting/inhibiting environments.
- Segregation mediates the relationships between social stratification mechanisms and promoting/inhibiting environments.
- Child characteristics mediate the relationships between promoting/inhibiting environments and family/peer processes.
- Family/peer processes mediate the relationships between child characteristics and developmental competencies.

Initial analyses will focus on testing the hypothesized model in its entirety. The entire model may be accepted or rejected despite individual predictions resulting in significant or nonsignificant relationships. If the overall model reflects a poor fit to the data, additional analyses will examine model components and revisions to the model in an effort to understand the dynamic relationships suggested by the full model.

Methods

Data Collection

Data from the Add Health data set will be used in this study. Initiated in 1994 under a grant from the National Institute of Child Health and Human Development (NICHD) with co-funding from 17 other federal agencies, Add Health is the largest, most comprehensive survey of adolescents ever undertaken. Data at the individual, family, school, and community levels were collected in two waves between 1994 and 1996. In 2001 and 2002, Add Health respondents, 18 to 28 years old, were re-interviewed in a third wave to investigate the influence that adolescence has on young adulthood.

Beginning with an in-school questionnaire administered to a nationally representative sample of students in grades 7 through 12, the study follows up with a series of in-home interviews of students approximately one, two, and six years later. Other sources of data used in this study include questionnaires for parents and school administrators.

Waves I and II examine the forces that may influence adolescents' behavior, in particular: personal traits, families, friendships, peer groups, schools, neighborhoods, and communities. Wave III explores the transition between adolescence and young adulthood.

The clustered sampling design of Add Health is school-based for two reasons: First, it is the best way to screen for respondents of interest. Second, with the school as a center, it is relatively easy to access the majority of respondents' peers, whose influences are fundamental to the study's hypothesis. Systematic sampling methods and implicit stratification ensured that the 80 high schools selected are representative of US schools with respect to region of country, urbanicity, size, type, and ethnicity. Eligible high schools included an 11th grade and enrolled more than 30 students. More than 70 percent of the originally sampled high schools participated. Each school that declined to participate was replaced by a school within the stratum.

Participating high schools helped to identify feeder schools—that is, schools that included a 7th grade and sent at least five graduates to that high school. From among the feeder schools, one was selected with probability proportional to the number of students it contributed to the high school. If the feeder school declined to participate, a replacement was selected. The recruitment effort resulted in a pair of schools in each of 80 communities (Some high schools spanned grades 7 through 12; for those, a separate feeder school was not recruited.) There are 132 schools in the core study. Each participating school provided a student roster. Project staff assigned an identification number to each name and provided copies of the rosters to students for identifying their friends as they filled out the questionnaire. Rosters were collected at the end of the class period and destroyed.

Sample

All students who completed the In-School Questionnaire plus those who did not complete a questionnaire but were listed on a school roster were eligible for selection into

the core in-home sample. This is a nationally representative sample of adolescents in grades 7 through 12 in the U.S. in the 1994–95 school year. Students in each school were stratified by grade and gender. About 17 students were randomly chosen from each stratum so that a total of approximately 200 adolescents were selected from each of the 80 pairs of schools. A total core sample of 12,105 adolescents was interviewed.

Based on self-reported data from the In-School Questionnaire, four supplementary ethnic-group samples were drawn. Following are the numbers of completed cases in these samples: 1,038 blacks from well-educated families (with a parent with a college degree), 334 Chinese, 450 Cuban, and 437 Puerto Rican. In addition, the main sample contains more than 1,500 Mexican-Americans and significant numbers of Nicaraguans, Japanese, South Koreans, Filipinos, and Vietnamese.

Sample Characteristics. This study used youth who identified themselves as being of Hispanic/Latino background only at the time of the first in-home questionnaire. The overall Latino sample included 3525 respondents. The sample was almost equally divided by gender, 50.3% male and 49.7% female. At Wave I youth were between 12 and 21 years old with an average age of 16.4. Table 1 presents the frequency distribution for each Latino subgroup. Of note is over 1800 respondents identified as being of Mexican descent, while 363 identified as either another Latino subgroup or mixed Latino nationality. Table 2 presents each respondent's answer when asked to choose a single race category to identify their racial background. Youth were allowed to choose from all major racial categories, but were also allowed the option of choosing "Other race." Almost half of the respondents (45%) chose "Other" and almost an equal percentage (44.8%) chose "white." Almost two-thirds (73.9%) of the youth in the sample were born

in the United States and 76.2% were born U.S. citizens. Only 38.4% of the Latino youth reported their residential mothers were born in the United States. Only a quarter (25.0%) of resident fathers were reportedly born in the United States.

Table 1
Ethnic subgroup percentages for Latino samples

	Percent	
Ethnic group	Total Sample (N=3525)	SEM Sample (N=1138)
Mexican descent	51.2	47.9
Puerto Rican descent	15.5	16.4
Cuban descent	13.4	16.4
Central American descent	9.6	8.4
Latino/Other/Mixed descent	10.3	10.8

Table 2
Racial background percentages for Latino samples

	Percent	
.Racial background	Total Sample (N=3525)	SEM Sample (N=1138)
	(Missing=29)	(Missing=18)
White	44.6	45.5
Black or African American	3.3	3.3
American Indian or Native American	4.4	3.9
Asian or Pacific Islander	1.8	2.6
Other	45.0	43.1

Youth's report of their resident parents' educational levels is presented in Table 3. Almost identical percentages of resident mothers were reported as having none to an eighth grade education (21.3%) as were reported to have graduated from high school (21.4%). A small percentage of resident mothers were reported to have graduated college (8.4%), while only 2.4% were reported to have had professional training beyond college. A greater percentage of resident fathers were reported to have none to an eighth grade education (17%) than were reported to have graduated high school (14.2%). Similar to

reports for resident mothers, 6.5% of resident father's were reported to have completed college and 3% to have had professional training beyond college.

Table 3
Youth report of residential mother and father educational levels

Educational Level	Percent Total Sample **(N=3525)**	 SEM Sample **(N=1138)**
Mother	(Missing=497)	(Missing=131)
Eighth grade or less/none	21.3	20.9
Greater than eighth grade but did not graduate high school	15.4	14.9
Attended vocational/trade/technical school instead of high school	1.2	1.2
Graduated from high school	21.4	22.5
Completed GED/High school equivalency	3.3	2.7
Attended vocational/trade/technical school after high school	4.0	3.7
Some college/university but did not complete a degree	8.6	9.8
Graduated from college/university	8.4	9.8
Professional training beyond college	2.4	3.0
Father	(Missing=1354)	(Missing=364)
Eighth grade or less/none	17.0	17.0
Greater than eighth grade but did not graduate high school	10.0	10.5
Attended vocational/trade/technical school instead of high school	0.7	0.6
Graduated from high school	14.2	15.4
Completed GED/High school equivalency	1.5	1.5
Attended vocational/trade/technical school after high school	2.6	3.4
Some college/university but did not complete a degree	6.0	7.2
Graduated from college/university	6.5	8.8
Professional training beyond college	3.0	3.5

Of interest in this study are the educational and academic outcomes of the respondents. Table 4 summarizes the frequencies of various academic outcomes as reported in Wave III of the data when respondents were between on average 22.7 years old (range 18-28 years old). About a quarter of the respondents (25.4%) reported having

completed 12th grade, almost a third (29.6%) reported having completed at least one year of college, and a small portion (0.8%) reported having completed at least one year of graduate school. About half of the respondents (50.8%) reported having received a high school diploma. These data are similar to those presented in a recent report which calculated that the national graduation rate for public high school Latinos in the class of 2001 was 53.2% (Swanson, 2003). Table 5 summarizes the results for degree attainment by race-ethnicity. Chi-square analyses found no significant differences (p = .681) among the groups.

Table 4
Academic outcomes for Latino samples

	Percent	
Items	Total Sample **(N=3525)**	SEM Sample **(N=1138)**
What is the highest grade or year of regular school you have completed?	(Missing=1229)	(Missing=0)
6th	0.0	0.0
7th	0.1	0.1
8th	0.2	0.2
9th	1.4	1.6
10th	2.8	3.0
11th	6.5	6.7
12th	25.4	35.6
1 year of college	9.5	15.6
2 years of college	9.7	16.1
3 years of college	4.8	8.9
4 years of college	4.3	8.9
5 of more years of college	1.3	2.5
1 year of graduate school	0.5	0.6
2 years of graduate school	0.2	0.2
3 years of graduate school	0.1	0.0
What degrees or diplomas have you received?	(Missing=1227)	(Missing=0)
GED/High school equivalency	6.8	9.1
High school diploma	50.8	81.5
Jr. College degree	5.8	9.8
Bachelor's degree	4.3	7.3
Mater's degree	0.2	0.4
Doctoral degree	0.0	0.0
Professional degree	0.2	0.3

Table 5
Academic degrees by Race-ethnicity

Race-Ethnicity	GED	HS diploma	Degrees (N=1138) Bachelor's degree	Master's degree	Graduate degree
MexicanNative	0	4	17	12	2
MexicanBlack	0	0	2	4	0
MexicanOther	1	33	141	86	25
MexicanAsian	0	1	2	5	1
MexicanWhite	0	19	97	81	11
PRNative	0	0	1	0	0
PRBlack	0	1	8	8	1
PROther	0	6	36	35	4
PRAsian	0	0	1	4	0
PRWhite	1	6	37	34	4
LatinoNative	0	0	0	3	0
LatinoBlack	0	1	3	0	0
LatinoOther	0	4	26	19	5
LatinoAsian	0	0	4	7	0
LatinoWhite	0	3	19	22	6
CentralNative	0	0	5	1	0
CentralBlack	0	0	0	2	1
CentralOther	0	4	19	22	2
CentralAsian	0	0	4	1	0
CentralWhite	0	5	13	16	1
CubanNative	0	0	1	0	0
CubanBlack	0	1	2	2	2
CubanOther	0	2	11	10	5
CubanAsian	0	0	0	0	0
CubanWhite	0	8	50	65	24

The final structural equation modeling analyses used 1138 youth from the 3525 in the overall Latino sample. Youth who did not have any data collected for Wave III were not included in the overall model analyses. This sample was 47.3% male and 52.7% female. Table 1 presents the frequency distribution for each Latino subgroup for this SEM sample as compared to the overall Latino sample as a whole. This final sample has similar subgroup distributions as the entire Latino sample, including almost half of the youth (47.9%) reporting Mexican descent. Table 2 presents each respondent's single race

category choice in comparison to the overall sample. Here again similar frequency distributions between the SEM sample and the overall sample can be seen. In particular almost equal amounts of youth chose "white" as "other," 45.5% and 43.1% respectively. In the SEM sample, over two thirds (78.6%) were born in the United States and 80.8% were born U.S. citizens, which represent slightly higher percentages of native U.S. citizens that the overall sample. This sample reported 37.9% of their mothers and 27.1% of their fathers were born in the United States.

Resident parent educational levels are summarized in Table 3. It should be noted that, due to the high amount of missing data in the overall sample, the SEM sample represents a slightly more educated sample as compared to the Latino sample as a whole. Table 4 summarizes the academic outcomes of the SEM sample compared to the Latino sample overall. As was the case with parent educational level frequencies, due to large amounts of missing data in the overall Latino sample, the SEM sample represents a more educated sample of youth as compared to the overall sample. In particular, 81.5% had completed high school, 9.8% a junior college degree, and 7.3% a bachelor's degree.

Instrumentation-Wave I

Wave I encompasses all data collection between 1994 and 1995.

The In-School Questionnaire. A self-administered instrument formatted for optical scanning, was administered to more than 90,000 students in grades 7 through 12 in a 45- to 60-minute class period between September 1994 and April 1995. There was no "make-up" day for absent students. Parents were informed in advance of the date of the questionnaire and could direct that their children not participate. The questionnaire included topics such as social and demographic characteristics of respondents (of interest

both as data and as selection criteria for in-home special samples), education and occupation of parents, household structure, risk behaviors, expectations for the future, self-esteem, health status, friendships, and school-year extracurricular activities.

In-Home Interview: Wave I. In-home interviews were conducted between April and December 1995. All respondents received the same interview, which was one to two hours long depending on the respondent's age and experiences. The majority of interviews were conducted in respondents' homes.

To protect confidentiality, no paper questionnaires were used. Instead, all data were recorded on laptop computers. For less sensitive topics, the interviewer read the questions aloud and entered the respondent's answers. For more sensitive topics, the respondent listened through earphones to pre-recorded questions and entered the answers directly. In addition to maintaining data security, this minimized the potential for interviewer or parental influence. The following topics are covered by the In-Home Interview: health status, health-facility utilization, nutrition, peer networks, decision-making processes, family composition and dynamics, educational aspirations and expectations. Care was taken to screen respondents on age and experience so that only appropriate questions were asked. Additional questions concerning the co-occurrence of risk behaviors were asked of respondents who indicated multiple behaviors, for example, fighting while using drugs or drinking while carrying a weapon.

School Administrators Questionnaire. Administrators from participating schools completed self-administered questionnaires dealing with school policies and procedures, teacher characteristics, health-service provision or referral, and student body characteristics.

Parent Questionnaire. A parent, preferably the resident mother, of each adolescent respondent interviewed in Wave I was asked to complete an interviewer-assisted, op-scanned questionnaire covering topics, such as inheritable health conditions, marriages and marriage-like relationships, neighborhood characteristics, involvement in volunteer, civic, and school activities, health-affecting behaviors, education and employment, household income and economic assistance, parent-adolescent communication and interaction, and parent's familiarity with the adolescent's friends and friends' parents.

Instrumentation- Wave II

Wave II data collection includes follow-up in-home interviews with adolescents and follow-up school administrator interviews conducted in 1996. The second wave surveyed almost 15,000 of the same students one year after Wave I. The sample for the Wave II in-home interview comprised the respondents to the Wave I in-home interview, with a few exceptions.

In-Home Interview Wave II. Wave II in-home interviews took place from April through August 1996. The interview was generally similar to that at Wave I. Questions about attributes that should not change, such as ethnic background, were not repeated.

School Administrator Telephone Interviews. In the spring of 1996 school administrators were contacted by telephone and asked to update information from the first year and add information about specific dress codes and security procedures on their campuses.

Instrumentation –Wave III

Wave III data collection, conducted in 2001 and 2002, includes in-home interviews with original respondents (now young adults). Data from Wave III allow for diverse analyses across a spectrum of social, economic, and behaviors.

The in-home Wave III sample consists of Wave I respondents who could be located and re-interviewed during the field-work period, August 2001 to April 2002, when they were between 18 and 26 years old. Interviews with 15,170 Wave I respondents were completed at Wave III. Wave I respondents who were out of the country were omitted from Wave III. Every effort was made to re-interview respondents who were located in correctional facilities. Data collection was conducted nationwide (including Hawaii and Alaska). To maintain confidentiality, no paper questionnaires were used. As in earlier waves, data were recorded on laptop computers. For less sensitive material, the interviewer read the questions and entered the respondent's answers. For more sensitive material, the respondent entered his or her own answers in privacy. The average length of a complete interview was 134 minutes. The laptop interview took approximately 90 minutes. Most interviews were conducted in respondents' homes.

Interviews of original Add Health respondents were pre-loaded with some Wave I and Wave II data, including the name, age, and sex of the respondent and identifications of parent figures, friends, and siblings from earlier waves. A monthly Event History Calendar (EHC) was designed to help respondents remember when events occurred, in a time continuum relative to pre-loaded public events. Important personal or relationship events entered by a respondent were automatically displayed in the calendar, which appeared on screen each time he/she was asked to date an event. The EHC could be

accessed at any time during the interview and dates could be corrected after they were entered.

In-Home Interview: Wave III. The Wave III questionnaire was designed to obtain relationship, marital, childbearing, and educational histories, and to date key labor force events. Some questions were unchanged from earlier waves. To enhance longitudinal measures, new sections focus on topics more relevant to young adults.

Wave III is designed to provide data on the new domains of young adult life, enabling researchers to model the dynamic processes of change over time. Wave III In-Home Questionnaire Sections include overview and demographics, household roster and residence history, parental support and relationships, retrospective ADHD, friends, education, economics and personal future, tobacco, alcohol, drugs, self-image, and interviewer's report.

Data Analyses

Before testing the theoretical model in its entirety, confirmatory factor analysis (CFA) was conducted to obtain estimates of parameters of the model and the residual error variances of the observed variables as well as assess the fit between the observed variables and their underlying constructs. Confirmatory factor analysis was conducted with all latent constructs including, segregation, promoting/inhibiting environments, adaptive culture, child characteristics, family/peer processes, developmental competencies, and academic success. Maximum likelihood (ML) estimation was used to perform the confirmatory factor analyses. In assessing model fit, the independence model was compared to the hypothesized and re-specified models. The hypothesized model for

this study was based on the theoretical and conceptual model described above. Appendix A presents the items used in each of the factors tested.

AMOS 5.0, a program for structural equation modeling techniques, was used to evaluate how well the specified models adequately described the data. Given the purpose of this study is to develop an empirical model that can be used for further research and intervention, it was decided a priori to use model misspecification information to revise and improve models if warranted. It is important to note that AMOS does not allow for the use of dichotomous categorical variables in analyses due to critical underestimation errors in factor loadings, factor correlations, and error variances which occur when items have fewer than three categories (Finch, West, & MacKinnon, 1997). Additionally, the use of highly correlated items to assess latent constructs will produce poor goodness-of-fit indices. The use of computed or aggregated variables is preferred when confronted with a number of correlated items. All statistical analyses were set with an alpha level of .05 or <.05.

Survey items vary somewhat from survey to survey. As a result, not all items were asked across all three waves of data collection. This distinction is particularly noticeable in the case of Wave III. Items from Waves I and II and the In-school were used predominantly as indicators for all latent constructs except academic success. This was done to account for variations in factors that may influence development over time. Wave III items were only used in these latent constructs when other measures were not available or not collected consistently across Waves I and II, for example the retrospective report of ADHD symptoms. Manifest variables/indicators were eliminated from latent constructs on the basis of the CFA results and previously reviewed literature.

Structural equation modeling (SEM) was used to determine whether the model is a valid representation of Latino academic success. Structural equation modeling was used to study the complex dependencies among the model constructs. SEM allows for modeling relationships among multiple predictor and criterion variables, construct variables (latent variables), model errors in measurements for observed variables, and statistically test a priori/theoretical and measurement assumptions against empirical data. This technique allows for multiple measures to be associated with latent constructs, and to derive unbiased estimates for the relations between latent constructs. Additionally, this technique can be used to compare multiple groups, such as subgroups of Latino nationalities, and perform longitudinal studies. The relationships between the theoretical constructs are represented by regression or path coefficients between the factors. For purposes of data analyses the hypothesized model to be tested is presented as a path diagram above (Figure 3). Moreover, alternative more simplified models were also tested and assessed for fit. Inclusion or omission of paths within alternative models was based on theoretical grounds and modification indices for model fitting were only used on the basis of theoretical support (Boosma, 2000; Hoyle & Panter, 1995).

Exogenous Variables. Exogenous variables are those for which the model makes no attempt to explain. Thus, exogenous variables are independent variables in all equations in which they appear. In this model only the social position variables construct is an exogenous variable. The social position construct included parent educational level, race, gender, and ethnicity.

Endogenous Variables. Endogenous variables are those which the model attempts to explain. Endogenous constructs are dependent variables in at least one equation,

although they may be independent variables in other equations in the system. In the case of this hypothesized model perceived prejudice, segregation, school, neighborhood, adaptive culture, child characteristics, family, peers, developmental competencies, and academic success represent endogenous constructs.

Model Fit. Multiple goodness-of-fit indices, residual error terms, modification indices, and their accompanying expected parameter change (Arbuckle & Wothke, 1999) were used to assess model fit. The indices used included the $\chi 2$ to df ratio, the Goodness of Fit (GFI) and AGFI (Adjusted GFI) (Jöreskog & Sörbom, 1989), the normed fit index (NFI), the comparative fit index (CFI), the Tucker-Lewis index (TLI) (Tucker & Lewis, 1973), and the root mean square error of approximation (RMSEA). If a model fits perfectly, all fit indices except RMSEA should have the value 1. A value of at least .90 was required to accept a model, and a value of at least .95 was required to judge the model fit as "good." For RMSEA values less than .05 indicate good fit, values ranging from .08 to .10 indicate mediocre fit, and those greater than .10 indicate poor fit (Browne & Cudeck, 1993; MacCallum et al., 1996).

Results

Confirmatory Factor Analyses

Before testing the hypothesized model in its entirety CFA models were conducted for each of the latent constructs. These were conducted to test the multidimensionality of the theoretical constructs. Both confirmatory and model generating factor analyses were used to not only test the proposed models but develop theoretically grounded models that are also empirically valid. Each of the hypothesized models was tested statistically in a simultaneous analysis of the entire system of variables to determine the extent to which

each is consistent with the data (Byrne, 2001). Results for each of the hypothesized latent constructs are presented below.

Social Position Variables. Variables included as part of the Social Position construct included ethnic identification, racial category identification, and parent educational levels. Gender as a dichotomous variable was ultimately not used in these analyses do to the limitations of SEM. Items regarding parental educational levels were highly correlated. In order to account for the relationships between these variables a single computed variable consisting of average parental educational level, including both mother and father, was used in analyses. Similarly, youth's report of their Latino background and their choice of racial category in Wave I were correlated. These variables were combined in order to create a second computed variable used in analyses. Although these variables are conceptually linked in the hypothesized model, these constructs are quite different social constructions and so testing them empirically as a single latent construct was not appropriate. These computed variables were used as manifest variables and their error variances calculated with 1138 cases. The error variance for the race-ethnicity variable was 56.464 and for average parent educational level was 5.243.

Perceived Prejudice. Measures of perceived prejudice are the only indicators of Social Stratification Mechanisms available in the Add Health data set. Youth reported whether students at their school are/were prejudice in Waves I and II. These items were highly correlated and so a computed variable using an average across both waves was used in analyses. The error variance for this variable was calculated at 1.322 using 1138 cases.

Segregation. The Segregation construct included indicators related to residential, economic, and social segregation. Ten dichotomous parental report items regarding their reasons for living in their current neighborhood, including being able to afford better housing, presence of friends, family, or children, and proximity to work, were totaled and used as an indicator of residential segregation. Indicators of economic segregation included parent report of total family income, ability to pay bills, and 7 dichotomous questions regarding receipt of public/economic assistance. These nine questions related to economic segregation were highly correlated, so a computed variable combining these items was created as a measure of economic segregation. Social segregation indicators included youth report of feeling socially accepted, others' friendliness towards them, and others' liking them from Waves I and II. There were significant correlations across these items and across waves. A computed variable utilizing an average score across items and waves was used as a measure of social segregation. These three computed manifest variables were then used in confirmatory factor analyses to test the validity of the Segregation construct using 1299 cases. The tested model yielded a poor fit to the data including factor loadings that were not significant ,CFI=.000, RMSEA=.091 (CI: .049, .140). The three computed variables were used as independent manifest variables for analyses. Error variance results were as follows; economic indicator, 18845.856; residential indicator, .4.693; and social indicator, .173.

Promoting/Inhibiting Environments-School. The School construct included indicators from youth, parent, and school administrator reports. Youth reports included items regarding feeling close to people at school, part of the school, happy to be at school, and safe at school, getting along with teachers, perceiving teachers to be fair, and

feeling teachers care about them from Waves I and II and the In-School survey. Parents' report of school characteristics included items on whether they felt their child's school was a good one, prioritized learning, and was safe. Administrators' report of school characteristics included a wide variety of items regarding problems related to smoking or tobacco use, drug use, alcohol use, gang violence, teenage pregnancy, vandalism/thieving, eating disorders, stress or pressure, average daily attendance, number of full-time classroom teachers, average class size, race and ethnicity of full time teachers, gender of full time teachers, presence of parent organizations, dropout rates, retention rates, achievement score rates, percentage of 12th graders in academic or college preparatory, vocational or occupational preparatory, general program/no divisions, and the availability of health related services, collected in two separate surveys.

Many of the items used to assess the school construct were correlated within and across waves of data collection. Several computed variables were created in order to account for the significant correlations. The three parent report items were averaged to create a computed variable representing parents' perceptions of their child's school. Youth report items were averaged across all surveys to create a computed variable gauging youth's report of their school sense-of-belonging. Administrator reports of the percentage of students dropping out in each grade were averaged to create a computed variable representing school dropout rate. Administrator reports of the percentage of students retained in each grade were similarly averaged to create a computed variable of school retention rate. A school climate variable was created using the sum of administrator report of dichotomous variables regarding problems related to smoking or tobacco use, drug use, alcohol use, gang violence, teenage pregnancy,

vandalism/thieving, eating disorders, stress, or pressure. A variable reflecting services offered was created as the sum of dichotomous items from the second administrator report regarding the availability of physical and psychosocial services at school.

Several individual items were also included in the confirmatory factor analyses. These items were included administrator report regarding average daily attendance, number of full-time classroom teachers, average class size, percent of Hispanic/Spanish teachers, percent of female teachers, percent of students whose parents belong to the school's parent organization, percent of students testing at least one grade level above on standardized tests, percent of students in academic/college prep courses, and school size.

Confirmatory factor analyses with 1533 cases resulted in weak indices indicating the model was a poor fit to the data, CFI=.441, RMSEA=.190 (CI=.185, .194). Using modification indices, several items were removed from the construct. The final version of the construct included 4 indicators, retention rates, average daily attendance, average class size, and parent perceptions of their child's school. This model yielded improved fit indices suggesting a stronger fit to the data, CFI=.993; RMSEA=.032, (.000, .068). The final version of the construct is presented in Figure 4 below.

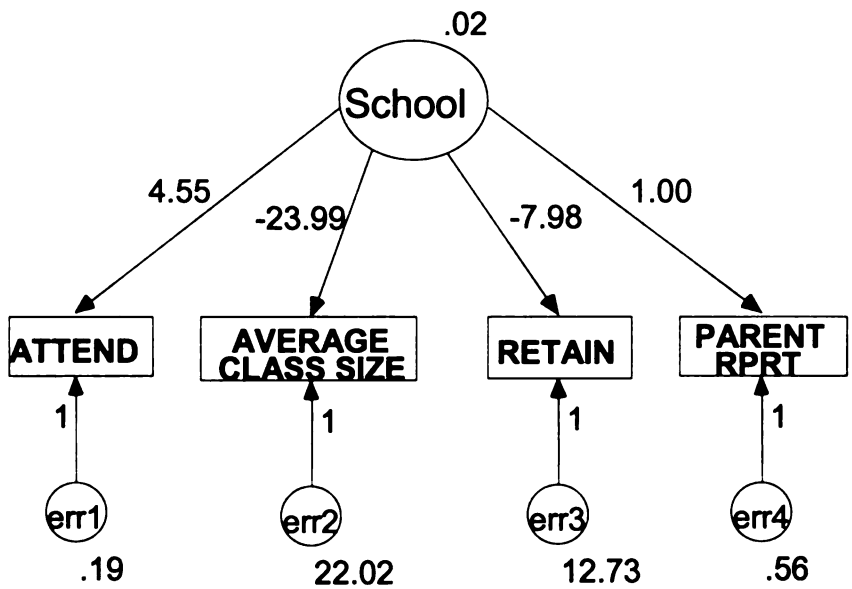

Figure 4. School latent construct with estimated parameters

Promoting/Inhibiting Environments-Neighborhood. The Neighborhood construct was composed of youth's report of how happy they are living in the neighborhood, how happy or unhappy they would be to leave their neighborhood, 4 dichotomous variables regarding youth knowing most people in the neighborhood, stopping to talk to a neighbor in the past month, neighbors look out for each other, and feeling safe in their neighborhood from Waves I and II. Additionally, parent report of their wanting to leave neighborhood and 3 dichotomous variables regarding the presence of crime, drugs, and trash in the neighborhood were also included. Computed variables were created that combined the 4 dichotomous variables from youth reports, one for each wave of data. An additional computed variable was created using the 3 dichotomous parental report items. Youth reports of their happiness living in the neighborhood and how happy/unhappy they would be to leave the neighborhood were used as 4 individual manifest variables. Confirmatory factor analyses using 2100 cases resulted in mediocre goodness of fit

indices (CFI=.811; RMSEA=.119, CI: .111, .126). Upon reviewing the modification indices, two variables, happy/unhappy to move and computed youth report of neighborhood, both from Wave I, were removed from the final construct. The resulting model yielded improved goodness of fit indices, CFI equal to .982 and RMSEA equal to .049 (CI: .033, .067), representing a good fit to the data. This enhanced model is presented in Figure 5 below.

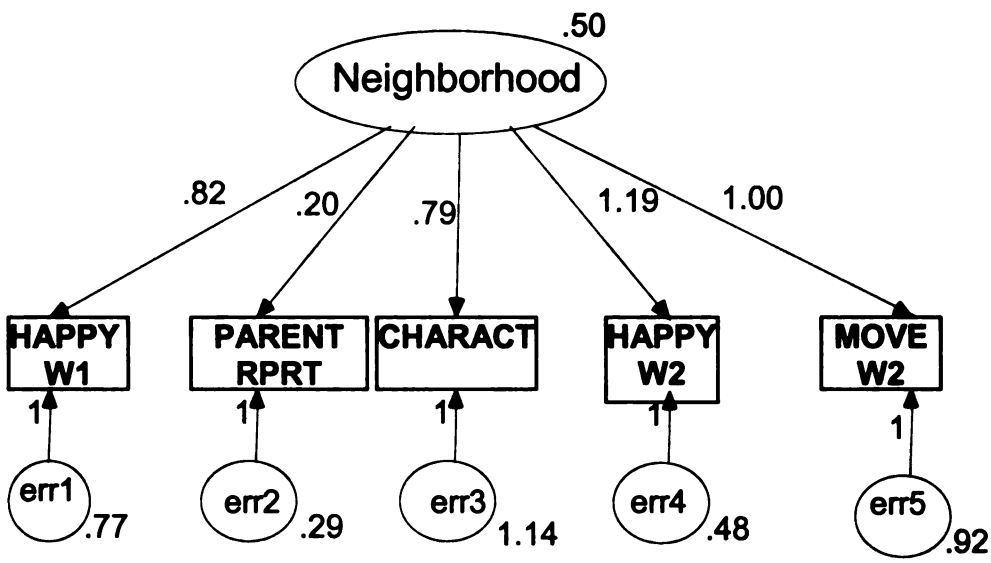

Figure 5. Neighborhood latent construct with estimated parameters.

Adaptive Culture. The Adaptive Culture latent construct was tested using indicators related to acculturation and current contextual demands. Acculturation indicators included youth report items regarding youth's US citizenship, country of birth, language spoken at home, and parental birth country from Waves I and II. Interviewer report of the language used for administering Wave I and II in-home surveys were also used. Six items from the Wave II in-home interview were also used as indicators of acculturation. These included language used with family, language used with friends,

purchasing music in a language other than English, and three items regarding the use of media in non-English languages. Current contextual demands included items from Waves I and II, and the In-school survey. These items served as proxy measures gauging youth's perceptions that they will have a middle class family, will be killed by age 21, will live to age 35, and will be married by age 25.

Due to significant correlations among adaptive culture construct items and across waves, various computed variables were created for use in confirmatory factor analyses. Youth report of parents being born in the U.S. from Waves I and II along with parental report of being born in the US were combined into one computed manifest variable. Another computed variable representing youth's language preferences consisted of youth report of language used at home, with family, and with friends, along with interviewer reports of language used to conduct surveys for both Waves I and II. Youth report of their use of non-English music and media items from Wave III were averaged into one indicator. Youth perceptions regarding having a middle class family, being killed by age 21, living to age 35, and being married by 25 from Wave I and the In-school report were combined into a single manifest variable representing contextual demands. A separate variable was created using these same items from Wave II. A measure of generational status was computed using youth report of being born in the United States and born a U.S. citizen from Waves I and III.

Confirmatory factor analyses with 1841 cases yielded only mediocre goodness of fit indices, CFI=.846; RMSEA=.151 (CI: .138, .164). Modification indices and a factor loading that was not significant suggested the removal of the Wave II contextual demands computed variable. The revised version of the Adaptive Culture construct

showed greatly improved goodness of fit results, CFI=.990; RMSEA=.049 (CI: .031, .067). Figure 6 presents this revised model with resulting estimates.

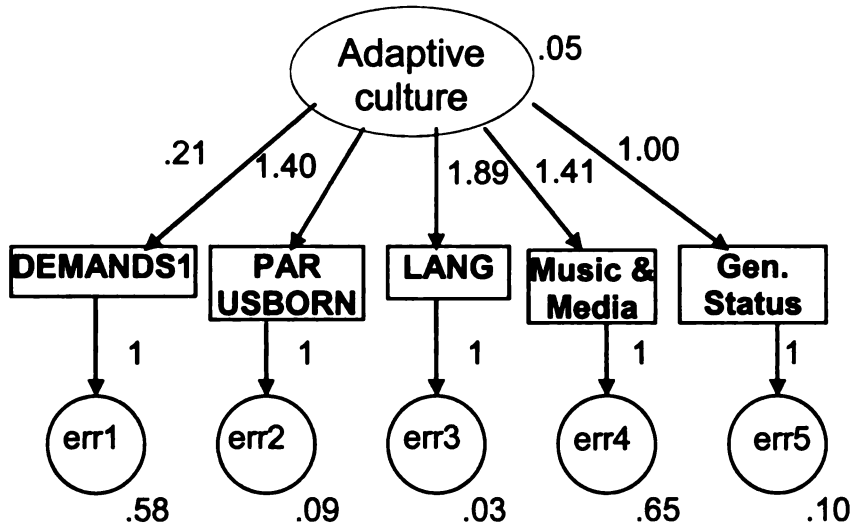

Figure 6. Adaptive culture latent construct with estimated parameters

Child Characteristics. The Child Characteristics latent construct included items from all three waves of data collection, the In-school survey, and parent report. This construct included youth's report of their intelligence, themselves compared to others, having good qualities, feeling proud of themselves, liking themselves, feeling life was a failure, trouble paying attention in school, trouble getting homework done, trouble keeping mind focused, likelihood that they will attend college, likelihood that they will graduate from college, and whether they consider themselves and/or others consider them to have a disability from Waves I and II and the In-school survey. Items used from the parent report survey included whether their child is mentally retarded, has a learning disability, has received special education, and is considered to have a disability by parent

and/or others. Finally, 18 items from Wave III that comprised an ADHD retrospective survey of symptoms were also used.

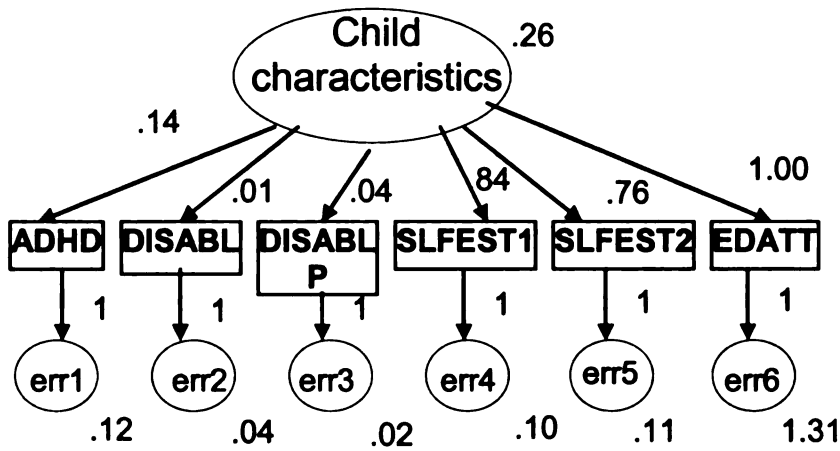

Figure 7. Child characteristics latent construct with estimated parameters

Several computed variables were created utilizing the above named variables in order to account for the significant correlations among items and across waves. An indicator of ADHD was computed totaling scores on all 18 ADHD retrospective report question responses along with youth report items regarding trouble paying attention in school, trouble getting homework done, and trouble keeping mind focused across Wave I and II. Items from Wave I, youth consider themselves and/or others consider them to have a disability, were averaged to create a computed variable of disability. All of the parent questions were also combined to create a parental measure of youth learning/physical disability. Two self-esteem computed variables were created, one for Wave I and another for Wave II, using youth's report of their intelligence, themselves compared to others, having good qualities, feeling proud of themselves, liking themselves, and feeling life was a failure. Finally, a measure of youth's attitudes towards

education was computed using Wave I, II, and In-school survey items regarding the likelihood that they will attend college and likelihood that they will graduate from college items. Confirmatory factor analyses with 1579 cases showed this model to be a good fit to the data, CFI=.972 and RMSEA=.045 (CI: .031, .061), despite the youth disability indicator having a factor loading that was not significant. Figure 7 above presents the Child Characteristics construct with estimated parameters.

Family. The Family construct included indicators regarding parental involvement in school, parent perceptions towards education, and general parental support. The parent involvement in school indicators included parent survey items regarding talking with youth regarding school work or grades, talking with youth about school in general, talking with youth's teachers, volunteering at school, and working with youth on school projects. Parent perceptions towards education included items from Wave I, II, and the parent survey regarding level of parents' disappointment if youth did not graduate from high school and if youth did not graduate from college. Parent support included a series of dichotomous youth report items regarding going shopping, playing a sport, attending religious service, discussing life, going to the movies, discussing a personal problem, and arguing about youth's behavior with their mother and father, as well as parental caring, good communication, good relationship, understanding, having fun with family, and family paying attention from Waves I and II. Additional items from the parent survey were also used as indicators of parental support including dichotomous variables regarding having met their adolescent's best friend and best friend's parents, having met adolescent's special boyfriend/girlfriend and the special boyfriend/girlfriend's parents, talking to the parents of adolescent's friends, as well as making decisions together with

adolescent, understanding adolescent, trusting adolescent, and to what degree adolescent interferes with activities.

Computed variables were created to compensate for the large amount of dichotomous variables and significant correlations among items and across waves of data collection. A measure of parent caring was created using youth report items regarding mother caring, father caring, and parents caring from Waves I and II. Parental involvement with adolescent's friends was gauged by a computed measure consisting of parent report of having met adolescent's best friend and best friend's parents, adolescent's special boyfriend/girlfriend and the special boyfriend/girlfriend's parents, and talking to the parents of adolescent's friends. Parent report of talking with youth regarding school work or grades, talking with youth about school in general, talking with youth's teachers, volunteering at school, and working with youth on school projects were used to create a computed parental school involvement measure. Parent attitudes towards education were measured using two computed variables, one for Wave I and another for Wave II. Youth report of how disappointed their mother and father would be if they did not graduate high school and college was used to create each one. An indicator of parent-child relationship was created using parent report items regarding how well they get along with adolescent, how often they make decision together, feel they understand adolescent, can really trust adolescent, and how often adolescent interferes with activities. Finally, an overall measure of family support was created using the youth report items from Wave I and II pertaining to family understanding, family having fun together, and family paying attention to youth, as well as parental caring, good communication, and good relationship. The family processes construct was tested using 2012 cases and had

excellent fit indices. Confirmatory factor analyses results showed CFI to be equal to 1.00, AGFI equal to .996, and RMSEA equal to .000 (CI: .000, .020). Figure 8 presents this construct with its estimated parameters.

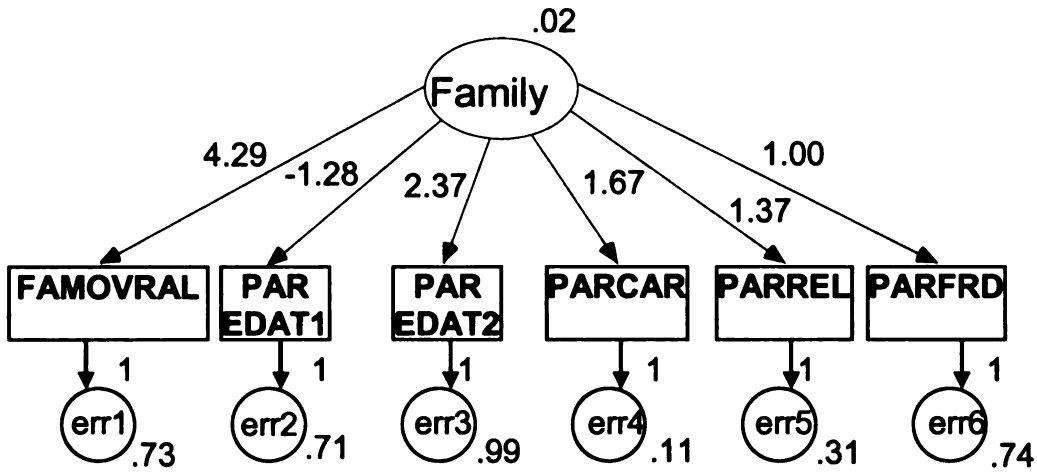

Figure 8. Family processes latent construct with estimated parameters.

Peer Processes. The Peer Processes construct included several indicators of peer influence. Youth report items from Wave I, II, and the In-school survey used in this construct incorporated questions regarding time spent hanging out with friends, a series of dichotomous questions for male and female friends concerning going over to friends' houses, meeting after school, spending time on the weekends, talking about a problem, and talking on the phone. Additionally, items from Wave I and II regarding friends caring, friends smoking, drinking alcohol, and using marijuana were also incorporated. A single item from the parent survey concerning the influence of adolescent's best friend was also used.

Related peer influence items were significantly correlated within and across waves of data collection. Computed variables were created to account for these correlations as well as the dichotomous activities with friends by gender questions. All

items from Wave I and II with reference to friends drug and alcohol use were combined to create a substance use influence variable. Two items concerning time spent with peers were computed. These items were computed using Wave I, II, and In-school items by gender, such that an indicator of time spent with male friends and another of time spent with female friends were created. Wave I and II items regarding hanging out with friends were similarly combined to create an overall indicator. Friends caring questions from Wave I and II were also averaged to create a computed indicator. The item from the parent survey was used as an independent manifest variable.

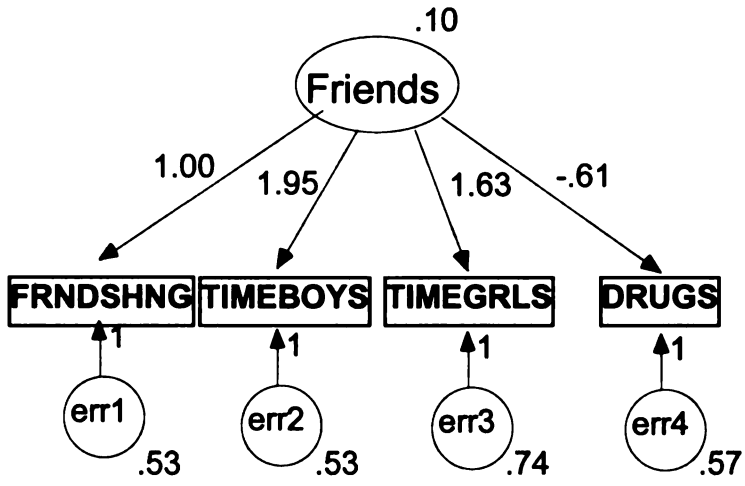

Figure 9. Peer processes latent construct with estimated parameters.

Confirmatory factor analyses with 1242 cases showed this construct was a poor fit to the data, CFI equal to .747 and RMSEA equal to .101 (CI: .086, .117). Modification indices suggested the removal of the parent survey item and the friend caring computed indicator. This revised version of the construct had a much better fit to the data. Results included CFI equal to .989 and RMSEA equal to .037 (CI: .000, .076). Figure 9 above portrays the revised construct with its estimated parameters.

Developmental Competencies. The Developmental Competencies construct included indicators from Wave I and II youth report. These include measure of youth time allocation such as time spent in after-school and out-of-school activities, athletics, physical activity, watching television or playing video, using the computer for activities other than schoolwork, and at religious services or activities. Academic motivation measures from Wave I, II, and the In-school included youth's report of trying hard at school, paying attention in school, and wanting to go to college. Additionally, a variety of school behaviors were included in the Developmental Competencies construct. The measures of school behaviors used were youth's report of the number of times they have skipped school, ever being high or drunk at school, and ever having problems with school because of being drunk or high, and taking/carrying a weapon at/to school from Wave I, II, and the In-school survey. Items from Wave I and II regarding grades skipped, grades retained, suspensions, and expulsions were also incorporated.

Items included as indicators of Developmental Competencies were found to be significantly correlated both within and across waves of data collection. Computed variables were developed and used in confirmatory factor analyses in order to account for dichotomous variables and item correlations. A measure of participation in after-school and out-of-school activities was created incorporating religious activities and services, clubs, groups, athletics, physical activity, watching television, and playing video games from Wave I and II items. A computed variable using In-school survey items regarding club, activity, and athletics participation was also created. A measure of responsible school behavior was computed using Wave I and II reverse coded items regarding use of substances at school and carrying a weapon at school from Waves I and II. The average

sum of hours spent watching television or videos and/or playing video games was created using Wave I and II items. An academic motivation indicator regarding wanting to go to college was computed using the youth report items from Wave I and II. A computed variable combining suspensions, expulsions, and retentions (repeating a grade) was created using reverse coded items from Waves I and II. Dichotomous items from Wave I regarding skipping grades were combined into a computed variable. The three items regarding skipping school from Wave I, II, and the In-school survey were used as individual manifest variables for purposes of confirmatory factor analysis. The In-school survey item regarding working hard at school was also used as a unique manifest variable.

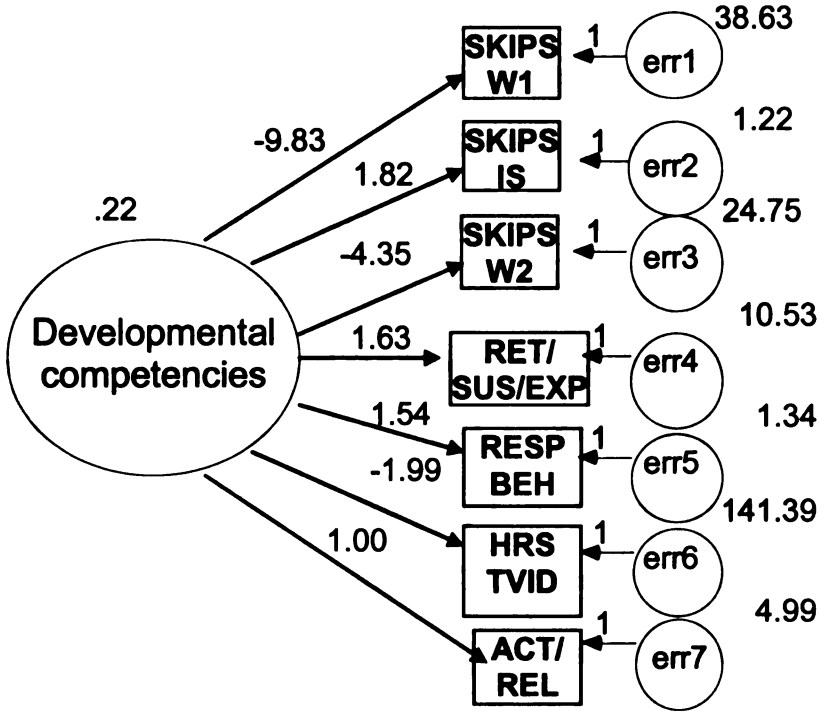

Figure 10. Developmental competencies latent construct with estimated parameters.

Confirmatory factor analyses of the Developmental Competencies construct were conducted using 1533 cases. Results showed this model was a poor fit to the data. Fit indices results included CFI equal to .609 and RMSEA equal to .102 (CI: .095, .109). Modification indices suggested the removal of three variables, the In-school measure of trying to do well at school, the computed measure of ever skipping a grade, and the computed school group measure. The revised construct (see Figure 10 above) had a stronger fit with the data. CFI was equal to .962 and RMSEA was equal to .036 (CI: .023, .049).

Academic Success. The Academic Success construct included indicators from Waves I, II, and III of the youth report surveys. Items from Wave I and II included youth report of grades received in English, math, history, and science. Wave III items concerning highest grade completed, 8 dichotomous variables regarding degrees received, and vocational trainings attended were also used. A computed variable of grades averaged across subjects and waves was created due to significant correlations across items and waves. A computed variable summing all 8 dichotomous degrees received variables was created as a measure of attainment. The highest grade completed variable and the vocational training attended variable were used as independent manifest variables. This construct was tested using 2377 cases and results showed almost perfect fit to the data. CFI was equal to 1.00, AGFI was equal to 1.00, and RMSEA was equal to .000 (CI: .000, .014). Parameters estimates are shown in Figure 11.

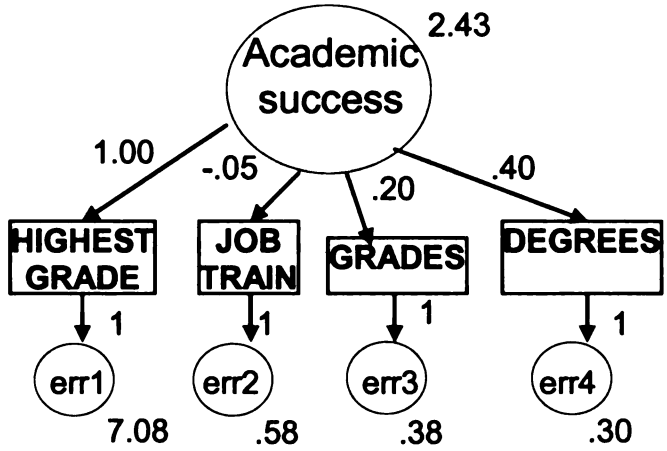

Figure 11. Academic success latent construct with estimated parameters.

Structural Equation Modeling

Hypothesized Model. Using the results from the confirmatory factor analyses presented above, the hypothesized overall adapted augmented model was tested using structural equation modeling in AMOS 5.0. The observed covariance matrix of the variables was compared to what would have been expected given the set of relationships that were proposed. The model included only one dependent factor, academic success, and thirteen independent factors, average parent educational level variable, race-ethnicity variable, student prejudice variable, economic segregation variable, residential segregation variable, social acceptance variable, neighborhood influence, school influence, adaptive culture, child characteristics, family influence, peer influence, and developmental competencies.

The model was constructed based on the factor analyses done previously which identified the most unique items for each measure. The revised versions of the constructs along with their estimated parameters were used to test the model in its entirety. After imputing missing variables (see Table 5 below) the hypothesized model was tested using

1138 cases and resulted in a poor fit to the data. Goodness of fit indices included CFI equal to .405, AGFI equal to .774, and RMSEA equal to .065 (CI: .064, .067). Although the model as a whole was rejected certain expected relationship were found to be significant. The predicted relationships with their standardized estimated parameters and significance levels are specified below.

Table 6

Missing Variable Imputations

Items	Percent Imputed (N=1138)
Contextual demands computed variable	0.2
Parents US born computed variable	0.2
Language preference computed variable	0.2
Non-English music and media use computed variable	0.2
Generational status computed variable	0.2
Youth report of disability computed variable	14.3
Parent report of youth disability computed variable	14.3
Self-esteem Wave I computed variable	14.3
Self-esteem Wave II computed variable	14.3
Youth attitudes towards education	14.3
ADHD retrospective scale score	14.3
Youth ever skip school-Wave I	0.2
Youth ever skip school-Wave II	0.2
Parent involvement with youth friends computed variable	17.1
Parental relationship with youth computed variable	17.1
Youth report of parental/family caring	17.1
Family support computed variable	17.1
Parent attitudes towards education-Wave I computed variable	17.1
Parent attitudes towards education-Wave II computed variable	17.1
Peers' drug use computed variable	26.9
Friends care computed variable	26.9
Hanging out with friends computed variable	26.9
Time spent with boys computed variable	26.9
Time spent with girls computed variable	26.9
How happy living in neighborhood-Wave I	14.7
Parent report of neighborhood computed variable	14.7
Neighborhood characteristics-Wave I computed variable	14.7
How happy living in neighborhood-Wave II	14.7
Happy/Unhappy to move-Wave II	14.7
Economic segregation computed variable	28.6
Residential segregation computed variable	28.6
Social segregation computed variable	28.6

Direct Relationships. Several direct relationships were predicted according to the hypothesized adaptive augmented model. Below each of the expected relationships are presented with their regression results from the SEM analyses. Table 6 summarizes the direct relationship results below.

Social position variables were expected to predict measures of social stratification mechanisms. Social position variables were expected to have a negative relationship to perceived prejudice. Results showed that neither the race-ethnicity variable (β =.049, p=.099) nor the average parental educational level variable (β =-.014, p=.639) were significantly predictive of perceived prejudice.

Social stratification mechanisms were expected to impact segregation. Greater perceived racism should have predicted increased residential, economic, and social segregation. In this case the constructs should have all been negatively related. SEM results showed that youth's perception that students at school were/are prejudice was not significantly related to the economic segregation or residential segregation variables, β= .022, p=.451 and β= .035, p=.242 respectively. The perceived prejudice factor was significantly predictive of social segregation but not in the direction expected (β= .113, p<.001).

Social stratification mechanisms were expected to directly predict promoting/inhibiting environments. Increased perceptions of racism would be predictive of more inhibiting environments, a negative relationship. The perceptions of prejudice variable was not significantly predictive of either neighborhood environment (β= .062, p=.062) or school environment (β= .06, p=.184).

Social stratification mechanisms were predicted to impact adaptive culture. Increased perceptions of prejudice were expected to predict increased contextual demands and decreased bicultural orientation, a negative relationship. A significant relationship was found between youth's perceptions of prejudice and adaptive culture factors in the direction expected, β= -.078, p=.015.

Promoting/inhibiting environments were anticipated to predict family/peer processes. Promoting environments were reasoned to lead to increased positive family and peer influence. School environment was found to be significantly and positively related to family processes, $\beta = .276$, $p < .001$. School environment was also found to be significantly predictive of peer influence but not in the direction expected, $\beta = -.202$, $p = .005$. Neighborhood environment was also found to be significantly and positively predictive of family processes, $\beta = .291$, $p < .001$. Neighborhood environment was not significantly related to peer influence ($\beta = .079$, $p = .125$).

Promoting/inhibiting environments were anticipated to directly impact adaptive culture. Promoting environments were thought to predict lower contextual demands and higher level of bicultural acculturation or in other words to have positive relationships. School environment was found to be significantly predictive of adaptive culture as expected, $\beta = .247$, $p < .001$. Neighborhood environment, on the other hand, was not found to be significantly predictive of adaptive culture ($\beta = .045$, $p = .214$).

Adaptive culture was expected to directly impact child characteristics. Low levels of contextual demands and bicultural orientation would predict positive child characteristics, a positive relationship. Results showed that indeed there was a significant positive relationship between adaptive culture and child characteristics, $\beta = .131$, $p < .001$.

Adaptive culture was also anticipated to directly impact family/peer processes. Low levels of contextual demands and bicultural orientation were expected to predict positive family processes and positive peer processes. Although adaptive culture was significantly related to family processes it was in a negative rather than a positive direction, $\beta = -.186$,

$p<.001$. Adaptive culture's relationship to peer influence was both significant and positive, $\beta= .256$, $p<.001$

Additionally, adaptive culture was predicted to directly impact developmental competencies. Low levels of contextual demands and bicultural orientation would be predictive of positive academic competencies. Results showed that adaptive culture did not significantly predict developmental competencies ($\beta= .083$, $p=.083$)

According to the overall model, child characteristics were presumed to directly influence family/peer processes. Positive characteristics were expected to be predictive of positive family processes and peer processes. Child characteristics was found to be significantly predictive of family processes ($\beta= .685$, $p<.001$), but not predictive of peer processes ($\beta= .018$, $p=.738$).

It was anticipated that child characteristics would impact developmental competencies, such that positive characteristics would predict positive academic competencies. Result showed the relationship between child characteristics and developmental competencies was not significant ($\beta= -.102$, $p=.245$).

Family/peer processes were also expected to impact developmental competencies. Positive family and peer influences were anticipated to predict positive academic competencies. Family processes were found to be significantly and positively predictive of developmental competencies, $\beta= .651$, $p<.001$. Peer influences, on the other hand, negatively predicted developmental competencies, $\beta= -.343$, $p<.001$.

Table 7

Standardized regression weight estimates for predicted direct relationships

Relationship			Estimate	S.E.	P
Race-ethnicity	→	Perceived prejudice	-0.014	.005	.099
Average parent educational level	→	Perceived prejudice	0.113	.015	.639
Perceived prejudice	→	Social segregation	0.022	.011	***
Perceived prejudice	→	Economic segregation	0.035	11.208	.451
Perceived prejudice	→	Residential segregation	0.062	.056	.242
Perceived prejudice	→	Neighborhood	0.06	.021	.062
Perceived prejudice	→	School	0.217	.003	.184
Social segregation	→	Neighborhood	0.086	.059	***
Economic segregation	→	Neighborhood	0.172	.000	.009
Residential segregation	→	Neighborhood	0.114	.011	***
Social segregation	→	School	0.177	.008	.010
Economic segregation	→	School	-0.047	.000	***
Residential segregation	→	School	-0.078	.001	.288
Perceived prejudice	→	Adaptive culture	0.247	.006	.015
School	→	Adaptive culture	0.045	.159	***
Neighborhood	→	Adaptive culture	0.131	.011	.214
Adaptive culture	→	Child characteristics	-0.186	.073	***
Adaptive culture	→	Family	0.256	.022	***
Adaptive culture	→	Friends	0.276	.054	***
School	→	Family	-0.202	.090	***
School	→	Friends	0.291	.235	.005
Neighborhood	→	Family	0.079	.006	***
Neighborhood	→	Friends	0.685	.016	.125
Child characteristics	→	Family	0.018	.011	***
Child characteristics	→	Friends	0.083	.027	.738
Adaptive culture	→	Developmental competencies	-0.343	.090	.083
Friends	→	Developmental competencies	-0.102	.112	***
Child characteristics	→	Developmental competencies	0.651	.083	.245
Family	→	Developmental competencies	0.5	.427	***
Developmental competencies	→	Academic success	0.569	.063	***

*** p<.001

Developmental competencies were expected to directly impact academic success.

Positive academic developmental competencies were anticipated to predict higher grades

and higher levels of attainment. SEM results showed developmental competencies to be positively and significantly predictive of academic success, $\beta = .500$, $p < .001$.

Mediating Relationships. According to the hypothesized model there were several mediating relationships between constructs that could be expected. The standardized indirect effects estimates for all predicted mediating relationships are presented in Table 7 below.

The relationships between social position variables and segregation were expected to be mediated by social stratification mechanisms. This relationship was expected to be a fully mediated one, such that perceived prejudice would completely mediate the effects of race-ethnicity and average parent educational level on residential, economic, and social segregation. The race-ethnicity variable and the average parent educational level variable were expected to have only indirect effects on the segregation variables. As previously reported, race-ethnicity and parent educational level had no direct effect on perceived prejudice and perceived prejudice had no direct effect on either the residential or economic segregation variables. Results also showed that race-ethnicity had no significant indirect effect on residential segregation ($p = .15$) or economic segregation ($p = .482$). Similarly, average parent educational level showed no significant indirect effects on residential segregation ($p = .581$) or economic segregation ($p = .883$). Although perceived prejudice was shown to have a significant direct effect on social segregation, neither race-ethnicity ($p = .06$) nor parent educational level ($p = .57$) had significant indirect effects on social segregation.

It was anticipated that social stratification mechanisms would mediate the relationships between social position variables and promoting/inhibiting environments.

Race-ethnicity and parent educational level's effect on school and neighborhood environments were expected to be completely mediated by youth's perceptions of prejudice. As reported above, race-ethnicity and parent educational level had no direct effect on perceived prejudice and perceived prejudice had no direct effect on either school or neighborhood environments. Consequently, results showed no significant indirect effects of race-ethnicity on school environment ($p=.238$) or neighborhood environment ($p=.06$). Similarly, no significant indirect effects were found for average parent educational level on school environment ($p=.67$) or neighborhood environment ($p=.57$).

Segregation was expected to mediate the relationships between social stratification mechanisms and promoting/inhibiting environments. The relationship between perceived prejudice and school and neighborhood environments was expected to be partially mediated by residential, economic, and social segregation. Social segregation and economic segregation were found to have a direct effect on school environment, $\beta= .114$, $p=.01$ and $\beta= .177$, $p<.001$ respectively. No direct effects were found for either residential segregation ($p=.456$) or perceived prejudice ($p=.276$) on school environment. No indirect effect was found for perceived prejudice on school environment ($p=.14$).

Significant direct effects were found for residential segregation, economic segregation, and social segregation on neighborhood environment, $\beta= .172$, $p<.001$, $\beta= .086$, $p=.009$, and $\beta= .217$, $p<.001$ respectively. Only an indirect effect, but no direct effect ($p=.092$), of perceived prejudice on neighborhood environment was found to be statistically significant ($\beta= .032$, $p=.01$).

Child characteristics were anticipated to mediate promoting/inhibiting environments' relationship to family/peer processes. School and neighborhood environments were expected to have both a direct effect and an indirect effect, through child characteristics, on family and peer processes. As reported above, school environment had direct effects on both family processes and peer influence, positively and negatively respectively. Neighborhood environment was also found to have a direct effect on family processes, but not on peer influence. Child characteristics were found to have a direct effect on family processes, but not on peer influence. Results showed school environment had an indirect effect on peer influence (β= .064, p=.01), but not on family processes (p=.082). Neighborhood did not have an indirect effect on either peers (p=.31) or family (p=.367).

Table 8
Standardized indirect effects estimates for mediated relationships

Relationship			Estimate
Race-ethnicity	→	Residential segregation	0.002
Race-ethnicity	→	Economic segregation	0.001
Race-ethnicity	→	Social segregation	0.006
Race-ethnicity	→	School	0.004
Race-ethnicity	→	Neighborhood	0.005
Average parent educational level	→	Residential segregation	0
Average parent educational level	→	Economic segregation	0
Average parent educational level	→	Social segregation	-0.002
Average parent educational level	→	School	-0.001
Average parent educational level	→	Neighborhood	-0.001
Perceived prejudice	→	School	0.015
Perceived prejudice	→	Neighborhood	0.032**
School	→	Friends	0.064**
School	→	Family	-0.024
Neighborhood	→	Friends	0.012
Neighborhood	→	Family	-0.004
Child characteristics	→	Developmental competencies	0.44**

**p=.01

Finally, according to the hypothesized model family/peer processes were expected mediate the relationships between child characteristics and developmental competencies. Child characteristics were expected to have both a direct and an indirect effect on developmental competencies. As was reported above, no direct effects were found for child characteristics on developmental competencies. Alternately, significant direct effects were found for both family and peer processes on developmental competencies. A significant indirect effect was found for child characteristics on developmental competencies, $\beta = .44$, $p = .01$.

Alternate Models

The hypothesized model as a whole was also tested for its predictive ability with one Latino subgroup, those of Mexican descent. Structural equation modeling results with 545 cases yielded poor fit indices for this sub-sample, (CFI=.000, AGFI=.683, RMSEA=.091). Given the poor fit for the overall sample and this subgroup model invariance analyses were not undertaken.

Given poor overall model fit results, revised models and portions of the model were tested using the entire Latino sample to further examine relationships between the model latent constructs. The first alternate model tested removed several items and constructs that were limited in their predictive ability due to limitations of the Add Health data set. These included social position factors (race-ethnicity and parent educational level), the perceptions of prejudice factor, and all three segregation factors (residential, economic, and social). The rest of the model was tested in it's entirety as presented above. Fit indices indicate that this revised model was not a good fit to the data. Model fit results were CFI equal to .490 and RMSEA equal to .063 (CI: .061, .065). As was found

in the initial results for the overall model, there were no significant relationships between neighborhood environment and adaptive culture, neighborhood and peer influence, child characteristics and friends, adaptive culture and developmental competencies, or child characteristics and developmental competencies (Table 8). Tables 8 and 9 summarize the estimates for all predicted direct and indirect effects in the model.

Table 9
Standardized regression weight estimates for 8 component alternate model

Relationship			Estimate	S.E.	P
School	→	Adaptive culture	0.038	.155	***
Neighborhood	→	Adaptive culture	0.13	.012	.303
Adaptive culture	→	Child characteristics	-0.162	.074	***
Adaptive culture	→	Family	0.245	.022	***
Adaptive culture	→	Friends	0.237	.053	***
School	→	Family	-0.211	.088	***
School	→	Friends	0.27	.229	.003
Neighborhood	→	Family	0.067	.007	***
Neighborhood	→	Friends	0.697	.017	.199
Child characteristics	→	Family	0.015	.012	***
Child characteristics	→	Friends	0.078	.027	.774
Adaptive culture	→	Developmental competencies	-0.344	.090	.098
Friends	→	Developmental competencies	-0.076	.112	***
Child characteristics	→	Developmental competencies	0.627	.086	.402
Family	→	Developmental competencies	0.501	.440	***
Developmental competencies	→	Academic success	0.038	.063	***

***p<.001

Table 10
Standardized indirect effects estimates for 8 component alternate model

Relationship			Estimate
School	→	Friends	0.045**
School	→	Family	-0.013
Neighborhood	→	Friends	0.009
Neighborhood	→	Family	-0.003
Child characteristics	→	Developmental competencies	0.432**

**p=.01

The second alternate model tested was a version of the overall model adapted according to theory and modification indices results. The race-ethnicity and parent educational level social position factors, the residential segregation factor, and the peer influence latent construct were eliminated from this structural equation model. Other modifications included the deletion of predicted relationships between perceived prejudice and economic segregation, neighborhood environment, and school environment. Finally the relationship between child characteristics and developmental competencies was also eliminated. Modification indices also suggested the addition of several direct relationships between constructs that were included in this model. These additional direct relationships were between economic segregation and adaptive culture, social segregation and child characteristics, social segregation and child characteristics, school environment and child characteristics, school environment and developmental competencies, child characteristics and academic success, and finally social segregation and academic success. A simplified latent construct version of this alternate model is presented in Figure 12 below. All of the expected direct relationships were found to be significant (see Table 10), but the model as a whole remained a poor fit to the data, CFI=.551 and RMSEA=.059 (CI: .058, .061).

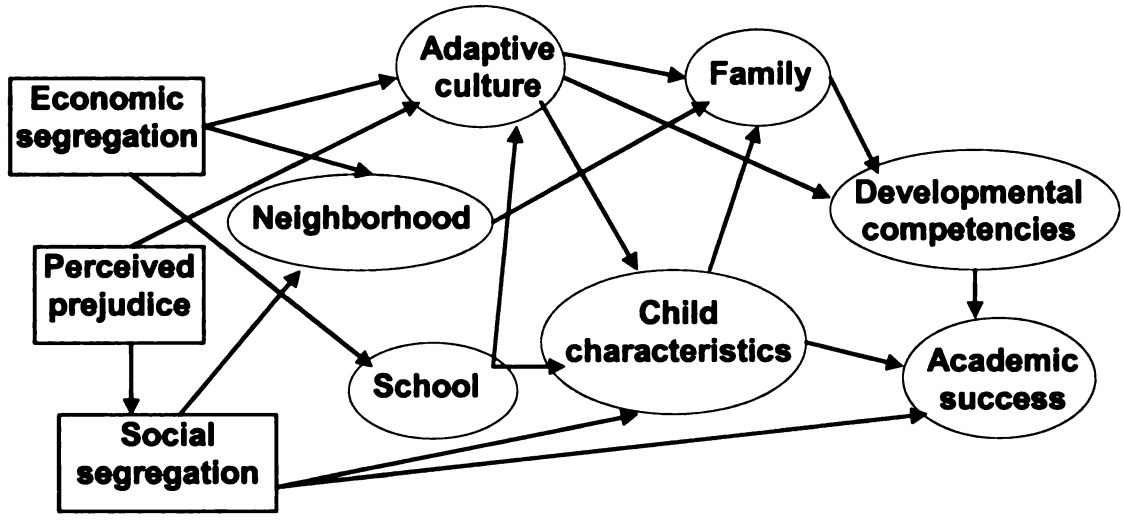

Figure 12. Model altered according to modification indices

Table 11
Standardized regression weights for simplified model

Relationship			Estimate	S.E.	P
Economic segregation	→	School	0.157	.000	***
School	→	Adaptive culture	0.113	.154	.001
Perceived prejudice	→	Social segregation	-0.064	.011	***
Perceived prejudice	→	Adaptive culture	0.204	.006	.036
Residential segregation	→	Adaptive culture	0.231	.000	***
Social segregation	→	Neighborhood	0.093	.058	***
Economic segregation	→	Neighborhood	0.636	.000	.005
Social segregation	→	Child characteristics	0.115	.032	***
School	→	Child characteristics	0.078	.287	.009
Adaptive culture	→	Child characteristics	-0.109	.066	.013
Adaptive culture	→	Family	0.252	.021	.011
Neighborhood	→	Family	0.682	.007	***
Child characteristics	→	Family	0.457	.011	***
Family	→	Developmental competencies	0.36	.194	***
School	→	Developmental competencies	-0.088	.365	***
Adaptive culture	→	Developmental competencies	0.366	.083	.041
Developmental competencies	→	Academic success	0.374	.068	***
Child characteristics	→	Academic success	-0.146	.076	***
Social segregation	→	Academic success	0.157	.070	.003

***p<.001

A final alternate model was tested to explore the possibility of more direct relationships between, segregation, neighborhood, family, developmental competencies, and academic success. A simplified SEM version of the tested model is presented below in Figure 13. Of note are the predicted direct effects of perceived prejudice on developmental competencies and social segregation on family processes. Table 11 presents the SEM regression weights results for this model. Results show all the anticipated relationships were statically significant. The model fit indices indicate that the model as a whole was only a mediocre fit to the data. CFI was equal to .643 and RMSEA was equal to .053 (CI: .050, .056). Results of the overall and alternate models are discussed below.

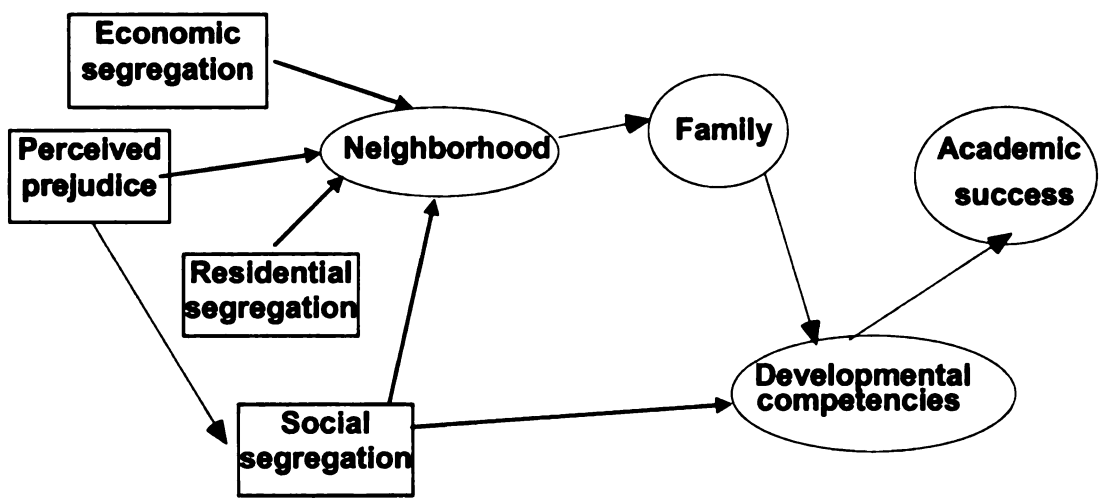

Figure 13. Perceived prejudice and segregation direct relationships model

Table 12

Standardized regression weights for perceived prejudice and segregation direct relationships model

		Estimate	S.E.	P
Perceived prejudice	→ Social segregation	0.219	.011	***
Social segregation	→ Neighborhood	0.085	.058	***
Economic segregation	→ Neighborhood	0.174	.000	.010
Residential segregation	→ Neighborhood	0.296	.011	***
Neighborhood	→ Family	0.452	.007	***
Social segregation	→ Family	0.518	.011	***
Family	→ Developmental competencies	0.102	.199	***
Perceived prejudice	→ Developmental competencies	0.496	.013	.004
Developmental competencies	→ Academic success	0.219	.062	***

***p<.001

Discussion

The present study examined the empirical validity of a conceptual model of Latino academic success. Building from Garcia Coll and her colleagues' (1996) work, an adapted augmented integrative model of developmental competencies and academic success was postulated. This conceptual model was broad in scope, centering on social stratification, racism, prejudice, discrimination and oppression, and segregation, and was tested using the Add Health nationally representative data set. An overarching and guiding normative model has been largely lacking in previous and current efforts aimed at improving the academic outcomes of Latinos. The focus of this study was to fill that gap by identifying an empirical model that could be used to guide further research, intervention, and policy.

As the largest minority youth population in the United States, Latino youth are poised to be one of the most influential groups in the nation. And yet there are gaps in the levels of academic success Latinos achieve as compared to their black and white peers.

Increasing the academic achievement and attainment of Latino youth is a matter of national importance. But a comprehensive model of Latino academic success has yet to be elucidated through research. As was presented earlier, the great majority of the research on Latino youth and their educational outcomes has focused on their failures and not their successes. These failure approaches have not lead to the kinds of programming or policy which have been able to reduce the educational gaps between Latinos and their non-Hispanic peers. This study took a normative approach and used a strengths paradigm to examine those factors and processes of development that improve Latino youths' competencies and outcomes.

Results in this study did not support the hypothesized model as whole, but important progress was made towards the development of an empirically tested normative model of Latino youth academic development. The implications of the predicted relationships and overall model results are discussed further. Limitations and strengths of the study are also addressed in greater detail below. Suggestions for future areas of research building from these results are discussed. Finally, a challenge is made to policy makers, intervention designers and staff, and researchers to take on a normative development frame of reference and be motivated by the results of this study.

Major Findings

Overall Hypothesized Model

The overarching goal of this research was to lay the foundation for the establishment of a normative empirically tested model of Latino academic outcomes that could be practically applied to future research, intervention, and policy and educational reform. Garcia Coll and colleagues' (1996) integrative model of minority developmental competencies was used as the basis for developing an empirical model that is centered on

normative development and a strengths based approach while recognizing the unique constellation of distal and proximal factors affecting the lives of Latino youth. Below is a discussion of the structural equation modeling results for this model and study limitations affecting these results.

Results from the structural equation modeling analyses showed that the adapted augmented integrative model of Latino academic success was not a good fit to the national data set. Analyses included 8 latent constructs, over 45 manifest variables, and over 25 predicted relationships among model constructs. Given the high level of complexity present in the model the lack of significant findings is not completely surprising. Interestingly, although goodness of fit indices overall did not indicate good model fit, some of the indices, such as the RMSEA (.065), suggested that model with some modifications might have better results. The alternative models explored after initial analyses further examine the relationships suggested by the hypothesized model and contribute to our knowledge regarding the academic development of Latino youth.

In addition to the high level of complexity in the model, other limitations to this research may have also contributed to the lack of significant fit results for the model. In particular, although the Add Health data is quite large and includes a myriad of variables, the data set was designed to capture information more specifically related to physical health outcomes. So, for some constructs in the model, particularly social position variables, social stratification mechanisms, and segregation, the data elements available for use in testing the model were extremely limited. This limitation on the availability of data elements meant that many aspects of some proposed latent constructs were not included in analyses. As an example, the limitations in regards to data regarding

perceived and experienced prejudice, discrimination, and oppression meant only a limited aspect of the conceptual social stratification mechanism construct was included in the model. Similarly, neighborhood environment characteristics such as support from neighbors/other adults and opportunities for positive use of time could not be assessed using the Add Health data set. Items related to both youth and parent perceptions towards education were also narrow in scope. Cognitive, social, emotional, and linguistic developmental competencies as well as academic self-concept and self-efficacy could not be fully explored using the Add Health data set. These data element limitations also meant the use of single computed manifest variables in place of full latent constructs for such components as social position variables, social stratification mechanisms, and segregation.

In a similar fashion, there were limited questions available to assess aspects of adaptive culture, including acculturation, traditional and cultural legacies, migration patterns, and current contextual demands, because the Add Health data set was not designed to examine these constructs in detail. Future research may look to the neighborhood contextual data from the Census included in the larger overall Add Health data set to include factors related to current contextual demands such as rates of employment and neighborhood safety. The lack of a measure of ethnic identity precluded the use of this factor in assessing child characteristics. The lack of culturally relevant variables available in the Add Health data set also meant that aspects of developmental competencies, in particular bicultural competencies, could not be addressed in this research.

Additional limitations to this study were due to the characteristics of structural equation modeling as an analysis technique. One example of the limitation of structural equation modeling was the need to exclude gender as a manifest variable from the social position construct because it is a dichotomous variable. Future research should consider the creation of interaction variables that take into account gender when examining the role of social position variables such as race, ethnicity, and social class on Latino academic development. Similarly, a manifest variable categorizing youth as either a voluntary or involuntary minority (Ogbu, 1991a) could not be included as a child characteristic because it would have been dichotomous in nature. Further exploration into the concept of voluntary/involuntary minority status (Ogbu, 1991a) and its current impact, meaning, and operationalization among Latino youth is needed before this concept can more accurately be incorporated into a model of Latino youth developmental competencies. Age, as a child characteristic, was also not included in these analyses due to the use of indicators/manifest variables across time points. Future research could include age in the analyses by creating a looped model using only Wave I indicators the first time the model is run and looping the model back from academic outcomes to examine Wave II and then Wave III items.

Predicted Factor Relationships

Garcia Coll and her colleagues' (1996) model offers a multidimensional and multilevel perspective of the development of minority children. As part of this study a critical analysis of the combined effects and relationships between factors known to contribute to the academic development of Latino youth was conducted. Several relationships between the factors in the conceptual model were predicted. Although the

adapted, augmented, integrative model was not completely supported by the results of this study, the specific findings for each of the expected relationships merit further examination.

Social position variables. Social position variables were expected to be negatively related to social stratifications mechanisms, assessed in this model as perceived prejudice. Higher scores on the race-ethnicity computed variable and on average parent education level were predicted to lead to lower levels of perceived prejudice. Results from the analyses found that neither the race-ethnicity construct nor the parent educational level construct were significantly related to perceived prejudice. Given that there was only one variable available for use as a perceived prejudice factor, "students at school are prejudiced," social stratification mechanisms as a construct was not fully represented as described by Garcia Coll and her colleagues (1996). Similarly, not all aspects of the variables conceptualized to be part of the social position variables were assessed by this study and so a full understanding of the effects of social position variables on social stratification mechanisms is not possible in this case. Another limitation that should be noted is the decision to use youth's ethnic identification and identification of one race from Wave I for analyses. The use of one race for purposes of identification may extremely limit its explanatory power. Additionally, if youth's identification of race or ethnicity changed over time due to other factors, such as racial and ethnic identity development or the 2000 Census allowing for identification as multiracial, this was not taken into consideration in these analyses.

There is also conflicting research regarding whether parents educational level in general versus mother's or father's level of education are most useful in explaining

Latino academic success (Baker, McGee, Mitchell, & Stiff, 2000; Cooper, et al., 2002; NCES, 1995; Shumov & Miller, 2001; Torres Campos, 2003; Voydanoff & Donnelly, 1999). The use of a construct that included both parents' educational levels may have produced a variable that was not as predictive of social stratifications mechanisms as separate constructs may have been. Additionally, the possibility of direct effects of parent educational level on other factors in the model, such as parental involvement in school and segregation, should be examined directly (Lareau, 1996; Shumov & Miller, 2001). Future research should also note that ethnicity/ethnic identification and perceived prejudice can have a negative relationship when the prejudice is not seen as directed towards the self identified group (McCoy & Major, 2003). Assessing more complete measures of both ethnicity/ethnic identification and perceptions of prejudice will support continued understanding of how these factors interact to impact youth's lives.

Perceived prejudice. Youth's report of perceived prejudice was hypothesized to be predictive of several factors in the adapted, augmented, integrative model. The first of these were economic segregation, residential segregation, and social segregation. It was expected that perceived prejudice would be negatively related to all three segregation factors. Perceived prejudice was only found to be related to one of these three segregation factors and not in the direction expected. Specifically, the higher youth scored on "students at school are prejudice" the higher they scored on a computed measure of feeling social integrated. This also counters Oliver and Wong's (2003) recent study that found a significant relationship between negative out-group perceptions and social isolation.

Despite some research that has suggested that there is a relationship between prejudice and residential segregation (Bobo & Zubrinsky, 1996; Charles, 2000), results of this study did not find a significant relationship. A review of the evidence from social science investigations found that there are multiple causes of racial residential separation in U.S. metropolitan areas (Clark, 1986). So, it may be that perceived prejudice as it is measured in this study is only one of several factors that need to be explored when predicting residential segregation. Perceptions of prejudice are also not the same as experiences of oppression and institutional discrimination. Residential segregation would more likely be a consequence of structural and institutional racism, systemic policies that influence and lead to truncated options rather than individual perceptions of prejudice.

Although these findings are contrary to what would have been expected, they may be due to the limitations of the data set and the use of structural equation modeling discussed above. A limitation of examining the relationships between social stratification mechanisms and segregation was the use of single manifest items to represent the constructs. Further examination of the relationships between perceived and experienced prejudice/discrimination and segregation is needed before a complete understanding of how these factors relate to each other and of the pathways that exist to affect youth development is obtained.

Perceived prejudice as a measure of social stratification mechanisms was also expected to be predictive of promoting/inhibiting environments. In this case, analyses were conducted that examined perceived prejudice's relationship to both neighborhood and school environments. Greater amounts of perceived prejudice were expected to predict more negative neighborhood and school environments. Previous research has

demonstrated a relationship between perceptions of racism and influences of and experiences in neighborhood contexts. (Loury, 2005; Quillian & Pager, 2001; Sampson & Raudenbush, 2005). Previous research has also found a relationship between Latinos perceived prejudice and perceptions of teachers (Katz, 1999), achievement test score rates (Osborne, 2001), and dropout rates (Gibson, 1994). The results from this study were unable to support previous research linking perceptions of racism and prejudice to school and neighborhood context.

According to the hypothesized model, perceived prejudice was also expected to be predictive of adaptive culture. Greater reported amounts of perceived prejudice were expected to be negatively related to adaptive culture. This predicted relationship was substantiated based on analyses. Researchers have both theorized and examined how perceptions of prejudice can lead to adaptive behaviors and cultural group histories that help support youth development (Ogbu, 1981, 1999; García Coll & Vázquez García, 1995; McAdoo, 1981). This finding offers additional support to the conceptualized interactions and impacts of perceptions of prejudice on the development of Latino youth.

According to Garcia Coll and colleagues' (1996) model, social stratification mechanisms, operationalized as perceptions of prejudice for purposes of this study, were expected to fully mediate the relationship between social position variables and segregation. As reported above there were no significant direct effects for any of the social position variables used in this study on perceptions of prejudice. Similarly, perceptions of prejudice had no significant direct effect on either the residential or economic segregation variables. Perceived prejudice was only found to have a direct effect on social segregation. Structural equation modeling results showed no significant

indirect effects for either race-ethnicity or average parent educational level on residential segregation, economic segregation, or social segregation. Social stratification mechanisms were also expected to fully mediate the relationship between social position variables and promoting/inhibiting environments. Race-ethnicity and average parent educational level did not have any significant direct effects on perceived prejudice. Perceptions of prejudice also did not have any significant direct effects on school or neighborhood environments. Similarly, no significant indirect effects were found between social position variables and either of the promoting/inhibiting environments.

Although some of the expected relationships between perceived prejudice and other model constructs were found to be significant, it is important to note some limitations of this construct that should be considered when interpreting these results. The measure of perceptions of prejudice did not take into account the make up of the school in terms of racial ethnic background of students. The percentages of Latinos students, teachers, administrators, and school board members are likely to affect Latino youth's perceptions of whether other students are prejudiced (Meier & Stewart, 1991). The lack of variables regarding perceptions of prejudice in both school and neighborhood contexts similarly may have affected these results. It could also be argued that youth's perceptions of students at school being prejudice are more accurately reflections of school context/environment rather than a true measure of perceptions of prejudice. Future research should consider broader and more inclusive indicators of perceived prejudice and social stratification mechanisms as a whole. Social position variables may also have a more direct effect on segregation and school and neighborhood that merit further exploration. Moreover, the limited nature of the variables assessed as part of adaptive

culture suggests that future research is necessary to completely understand the impact of social stratification mechanisms on the adaptations made by Latino youth and their families as well.

Segregation. According to Garcia Coll and her colleagues' (1996) model, segregation was expected to partially mediate the relationship between social stratification mechanisms and promoting/inhibiting environments. Results did not find any direct effect of perceived prejudice on either school or neighborhood environments. Significant direct effects were found for social segregation and economic segregation but not residential segregation on school environment. Residential segregation, economic segregation, and social segregation were all found to have significant and direct impact on neighborhood environments. Perceived prejudice did not have a significant indirect effect on school environment. Significant indirect effects were only found for perceived prejudice on neighborhood environments.

The measurement limitations of both the perceived prejudice construct and the segregation constructs likely influenced the lack of significant findings. The significant direct effects found for social and economic segregation support previous work linking segregation to school contexts (Bankston & Caldas, 1996; Clotfelter, 1999; Moody, 2002; Orfield, Bachmeier, James, & Eitle, 1997). Similarly, the finding of direct effects of all three aspects of segregation on neighborhood environments supports previous research linking segregation to neighborhood quality and resources (Blau, 1981; Massey, 1990; Massey & Fong, 1990). But the single manifest variables used for residential segregation, economic segregation, and social segregation likely do not accurately represent all factors that contribute to these constructs as expressed in the conceptual model. Another

limitation is that the three aspects of segregation were tested separately. Santiago and Galster (1995) found that economic segregation was predictive of residential segregation for Puerto Ricans. So it may be that the relationships among the segregation factors are more complex than were tested in the hypothesized model. Future research should consider broader measures of segregation in order to assess the nature of the segregation's effects on school and neighborhood environments.

Promoting/inhibiting environment-school. The adapted augmented integrative model hypothesized in this study suggested that school environments would be positively predictive of family and peer processes. The anticipated relationship between school environment and family processes was found to be significant. This supports the idea that schools and youth's interactions in school affect family processes (Cowan, 2001). Future research should more finely examine the nature of this interaction. The characteristics and impact of school on academic success may be due to effects of family sorting into neighborhoods or family background, so teasing apart the actual causal direction of this relationship is still necessary (Chase-Lansdale et al., 1997; Ginter et al., 2000; Levine & Painter, 2000; Sanbonmatsu, et. al., 2006). Additionally, school characteristics, such as those reported by school administrator's, may have a more direct effect on some portions of family processes, such as parental involvement in school/their children's education and parental attitudes towards education (Campbell, 1992; Duncan, 1992; Hoover-Dempsey, et al., 1987; Vaden-Kiernan, 1996).

School environment was also found to be a significant predictor of peer process, but in a negative direction. This supports results from other studies that have found school characteristics to have both positive and negative influences on peer effects and

processes for youth (Crosnoe & Needham, 2004; Osterman, 1998). Gibson, Gándara, and Koyama (2004) have articulated how schools can both positively and negatively impact peer relationships. They make the case that concepts such as a sense of school belonging are measures of relationships between peers and between adults and students (Gibson, Gándara, & Koyama, 2004). Some research has found for example that youth who feel comfortable at school may spend less time with peers, but feel that those peers they do spend time with care about them (Hamm & Faircloth, 2005; Osterman, 1998). The causal relationship between sense of belonging and peer processes may actually function in the opposite direction, in that peer factors may influence youth's school sense of belonging or bonding (Kester, 1994). School characteristics also may not be enough to increase access to positively influencing college-bound schoolmates and peers (Gibson, 2003). Establishing structures in ways that provide these in-school connections and supports are also necessary (Stanton-Salazar, Vasquez, & Mehan, 2000). Understanding the underlying nature of the relationship between school environments and peer influence on Latino academic success will require additional research that can examine a wider array of interactions.

School environment was also expected to positively predict Latino youth's adaptive culture. Structural equation modeling results supported school environment's positive predictive ability on adaptive culture, supporting previous research that has found a positive relationship between these factors (Trickett & Birman, 2005). Given differences in traditions, cultural legacies, economic and political events, and migration and acculturation patterns among Latinos of different nationalities, the relationship between school factors and adaptive culture should, in the future, be tested with Latino

subgroups. Including measures that describe the presence of Latinos in the school system and school district, including employment levels and school board positions, would help to understand whether Meier and Stewart's (1991) model of second-generation discrimination also impacts this relationship.

Promoting/inhibiting environments-neighborhood. Garcia Coll and colleagues' (1996) model suggests that neighborhood environments will affect family processes. This study did not find a significant effect for neighborhood contexts on Latino youth family functioning. This reflects the complex interplay between community context and family influence on youth development (Brooks-Gunn et al., 1997; Klebanov et al. 1997; Caughy & Franzini, 2005; Pebley & Sastry, 2003; Pebley & Vaiana, 2002; Pinderhughes et al. 2001; Rodriguez, 1975; Tatum, 1987). Aspects of neighborhood contexts such as extended families and non-parental adult support which have been found to be related to general youth and Latino youth academic success (Chavkin & Gonzalez, 2000; Cochran & Bø, 1989; Entwilse, Alexander, & Olson, 1994; Harrison, Wilson, Pine, Chan, & Buriel, 1990; Kenny & Perez, 1996; Wenz-Gross & Siperstein, 1997) were not included in this model. Studies have also found that what has been considered neighborhood effects on academic success may be more correctly categorized as family effects (Chase-Lansdale et al., 1997; Ginter et al., 2000; Sanbonmatsu, et. al., 2006). Similarly, a recent longitudinal study of neighborhood effects on child outcomes in Los Angeles found that effects vary by race (Jackson & Mare, 2005). Further research on which specific neighborhood characteristics affect family process and Latino academic success is still needed.

The hypothesized model also suggested neighborhood contexts would positively predict peer processes. Again, this study did not find this expected relationship to be statistically significant. Recent research suggests that the relationship between neighborhood characteristics and peers is a complex one. For example, a recent study found negative neighborhood effects were related to an increase in the exposure and time spent with peers as well as to the characteristics of peer networks (Harding, 2005). Research considering alternate pathways between neighborhood characteristics and peers influence on academic success suggests that how these factors affect Latino youth's development needs to be further explored (Gonzales, Cauce, Friedman, & Mason, 1996).

Limitations regarding the measurement of neighborhood environment should be noted. This study used a composite factor that included indicators from both Wave I and II, not taking into account family mobility between surveys. Research has shown that there are varying impacts on youth developmental outcomes for "old" and "new" neighborhoods that were not examined in this study (Briggs, 1997; Duncan, 1992; Tienda, 1991; Yonkers Family and Community Project, 1997). Additionally, researchers examining neighborhood effects have not always agreed upon the best definition and measures of neighborhood characteristics. Some take an empirically-based approach in which numerous measures are submitted to factor analysis, which leads to the creation of composite scores based on somewhat disparate variables such as housing quality and density, unemployment, family structure, affluence, racial composition, population change, and other measures readily available through census data (Duncan & Aber 1997; Aneshensel & Sucoff 1996; Geis & Ross 1997). In this case, data based on parent and youth report of neighborhood characteristics was used. The Add Health data set also

includes information regarding neighborhood characteristics based on Census data. Including that data in analyses may yield different results than what was found in this study. A potential drawback to using Census data is that neighborhoods, as defined by the Census, are not necessarily the most relevant units from a scientific perspective.

According to the hypothesized model, the neighborhood construct should have positively predicted adaptive culture. In this study, neighborhood environment was not found to significantly predict adaptive culture. This counters previous research that has demonstrated a positive relationship between acculturation and neighborhood characteristics (Alba & Nee 1997; Rosenbaum, Friedman, Schill, & Buddelmeyer, 1998). It is important to note that some research examining neighborhood and acculturation has focused on acculturation's prediction of neighborhood characteristics (Kwon, Zuiker, & Bauer, 2004; Rosenbaum, Friedman, Schill, & Buddelmeyer, 1998; Rosenbaum & Friedman, 2001). So, the causal direction of this relationship is still very much in question. A recent study on the processes that link neighborhood effects and acculturation for Latinos found that it is spatial and social integration within neighborhoods that positively impact acculturation (Bauder, 2001). Spatial and social integration are related to the concepts of segregation assessed in this study. Future research should include these components and interactions with neighborhoods effects to further examine the linkages between neighborhood and acculturation, as well as other aspects of adaptive culture. Neighborhood resources not included in this study, such as social, human, economic, and physical capital, also need to be assessed in further research examining the relationship between neighborhood and adaptive culture (Bankston & Zhou, 1997; Portes & Rumbaut 1996; Portes & Zhou, 1993; Waters, 1994; Zhou, 1997).

Adaptive culture. The adapted augmented integrative model tested in this study projected that adaptive culture would significantly and positively impact child characteristics. Results from this study supported the positive predictive relationship between adaptive culture and child characteristics. This finding supports the premise that it is more than just genes and family characteristics that impact child characteristics (Bowman, 1994; Garcia Coll et, al., 1996; Harris, 2002). Adaptive culture was also expected to positively impact family processes. Structural equation modeling results showed adaptive culture negatively influenced family processes. This counters the work of Garcia Coll and her colleagues (1996) and other researchers whom have found significant effects between culture and family processes (Harwood, Schoelmerich, Ventura Cook, Schulze, & Wilson, 1996). It was similarly anticipated that adaptive culture would positively impact peer processes. Results of this study supported previous work suggesting adaptive culture's significance as a predictive factor of peer processes (Birman, Trickett, & Vinokurov, 2002; Garcia Coll, et al., 1996; Wong, 1999). The hypothesized model additionally conceptualized adaptive culture as having a direct influence on developmental competencies. This expected relationship was not supported by this study's results.

The mixed findings regarding adaptive culture's expected relationships demonstrates the complicated nature of this construct's impact on the lives and development of Latino youth. The limitations previously discussed regarding the measurement of adaptive culture should be carefully considered when interpreting these study results. In further research, it is vital to examine the relationship between adaptive culture and specific familiar processes rather than family influence as a whole. Similarly,

the separate aspects of adaptive culture need to be further explored to understand which aspects have the greatest impact on family, peers, and developmental competencies.

Child characteristics. According to Garcia Coll and her colleagues' (1996) model, child characteristics were presumed to directly impact family processes. Child characteristics were indeed found to positively predict family processes, which supports the notion that children are not just passive recipients but also impact their families' and parents' behavior (Bell,1979; Garcia Coll, et al., 1996; Harris, 1998; Langlois, Ritter, Casey, & Sawin, 1995; Scarr & McCartney, 1983). The adapted augmented model suggested child characteristics would also directly impact peer processes. The findings from this study did not support this expected relationship. It is important to note that the majority of research examining the multidimensional relationship between peers and child characteristics has most often investigated the effects peers have on youth, rather than how youth impact peers (Bobonis & Finan, 2005; Ladd, Kochenderfer, & Coleman, 1996; Powell-Cope & Eggert 1994; Wang, Hartel, & Walberg, 1999; Rumberger 2001). Asher and Williams (1993) have discussed the characteristics of children that affect their acceptance or rejection by peers, but many of the qualities they considered important were not used in this study. Additionally, only youth's self report of characteristics and not peer reports were used in this study. This study did support some research that has found children who show positive characteristics related to school success spend less time hanging out with peers in unstructured activities (Posner & Vandell, 1999).

Child characteristics were also expected to be directly predictive of developmental competencies. This relationship was not supported by the results of this study. Elliott, Hufton, Hildreth, and Illushin (1999) similarly found that U.S. students had

positive attitudes towards education, an aspect of child characteristics, but had less commitment to educational endeavors. Another recent study of high school students using SEM found that level of aspiration mediated that relationship between school attitudes and achievement (Abu Hilal, 2000). Additionally, the relationship between developmental competencies, such as time allocation, and child characteristics, such as attitudes towards school and school adjustment, may be highly interrelated (Heath & Soep, 1998; Huang et al., 2000; Rodriguez et al., 1999; Roth, Brooks-Gunn, Murray, & Foster, 1998; Posner & Vandell, 1999). Further research is needed to understand the relationships between these factors in the lives of Latino youth.

According to the adapted augmented version of the integrative model of minority developmental competencies (Garcia Coll, et. al, 1996), child characteristics were assumed to partially mediate the relationship between promoting/inhibiting environments and family/peer processes. Indeed, as mentioned above child characteristics were found to directly affect family processes. But no direct effects were found for child characteristics on peer processes. Structural equation modeling results found no significant direct effects of neighborhood environment on either family or peer processes. Alternately, school environment was found to directly impact both family and peer processes. The only significant indirect effect found was between school and peer processes.

Family processes. Garcia Coll and her colleagues (1996) propose that family processes directly affect youth's developmental competencies. This expected relationship was supported by the structural equation modeling results. This finding supports vast research on familial and parental impact on youth academic development (Bisnaire,

Fireston, & Rynard, 1990; de Kanter, Ginsburg, & Milne, 1987; Harrison, Wilson, Pine, Chan, & Buriel, 1990; Henderson & Berla, 1994; Lopez, 1996; Romo & Falbo, 1996). The family processes latent construct was also expected to mediate the relationship between child characteristics and developmental competencies. As reported earlier child characteristics was not directly related to developmental competencies while family processes were. Results did find a significant indirect affect for child characteristics on developmental competencies, supporting the proposed mediation relationship.

The encouraging findings regarding the influence and interaction of family processes and other model constructs provide a foundation to further explore familial impact on youth development. Several key aspects of familial processes suggested by Garcia Coll and her colleagues' (1996) were not assessed in this study. Future research assessing the utility of this model would do well to incorporate elements of data regarding structure and roles within the family, as well as parental racial and ethnic socialization. The mediation relationship suggested by the hypothesized model also needs to be further explored to understand whether it is a complete or partial mediation. Future research which examines multiple factors of family influence will also expand our knowledge of which family factors are most important for Latino academic developmental competencies.

Peer processes. According to the hypothesized model, peer processes were expected to be positively related to youth's academic developmental competencies. Although results did find that peer processes significantly impact developmental competencies the relationship was a negative one. The results of previous research suggest that this relationship may be more complicated than expressed in the

hypothesized model. The findings of Posner and Vandell's (1999) study of low-income urban youth suggests that time spent in out-of-school activities may also be predictive of time spent hanging out with peers; so the causal relationship may be from developmental competencies to peers rather than the other way around. Similarly, other research has found a correlational relationship between peers and individual behaviors (Rowe, 1994; Harris, 2000). Kinderman's (1993) study circumvented this problem, controlling for child's IQ and parents' attitudes, and observed the effects of changes in group membership over the course of the year. When a child switched from a clique of academic achievers to a clique of non-achievers (or vice versa), the child's attitude toward schoolwork shifted to match that of the new group. Changes in peer groups and peer effects over time were not considered in this study. Changes in group membership and peer influence over time should be further investigated to understand peer effects on the developmental competencies of Latino youth.

Developmental Competencies. The hypothesized model held that developmental competencies should have a direct and positive predictive effect on academic success. This relationship was supported by the structural equation modeling results. This finding provides support for expanding Garcia Coll and her colleagues' (1996) model to examine specific youth outcomes. This finding also supports research that has found relationships between academic developmental competencies and academic outcomes (Alva, 1991; Anderson & Keith, 1997; Buriel, Perez, De Ment, Chavez, & Moran, 1998; Davalos, et al., 1999; Eccles & Barber, 1999; Harter, et al., 1992; Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995; Keith & Perkins, 1995; Larson, 1994; McMillan & Reed, 1994; Paulson, Coombs, & Richardson, 1990; Posner & Vandell, 1994; Scales, et al., 2000;

Shultz, 1993; Voydanoff & Donnelly, 1999; Waxman, Huang, & Padrón, 1997). Future studies may expand this work by examining "skipping," cheating, completion of homework, and self sabotaging behavior (Cowman & Ferrari, 2002; Chrisman, Pieper, Glance, Holland, & Glickauf-Hughes, 1995; Ferrari, 2005; Ferrari & Thompson, 2006). Similarly, future studies should consider expanded indicators regarding participation in after-school and out-of-school activities.

Alternative Models

Several alternate models were tested to further explore the relationships between constructs suggested by the conceptual model and existing literature. While none of the models were a good fit to the data, the findings do suggest some interesting relationships between factors, as well as some areas for future research beyond the noted areas and limitations previously discussed. The poor fit indices for the adapted augmented integrative model, when tested using the Latino sample as a whole and the Mexican descent subgroup only, suggests that the model has not fully incorporated all the factors and pathways through which Latino students reach academic success. Recent data have demonstrated the high level of variability among Latinos, in particular between Cuban Americans and other Latino subgroups, on levels of educational attainment, income, and employment (Boswell, 2002). Future research should further test the model to examine invariant factor loadings as well as invariant structural relations for Latino subgroups to better understand the various pathways taken by students from different Latino backgrounds.

Even after removing those factors for which there was insufficient data to be able to create latent constructs, the model was not a good fit to the data. This may be

suggestive of the importance of these factors in explaining youth development. Indeed, perceived prejudice and segregation factors were subsequently examined models were found to have direct relationships to such constructs as adaptive culture, child characteristics, family, and academic success indicating that these constructs are indeed important to the academic development of Latino youth. Although longitudinal studies of the effects of segregation, prejudice, and oppression are complicated and often difficult to undertake, they will be necessary if we are to gain further clarity on how these pervasive community factors affect Latino youth development. The overall model as a whole also provides a wealth of possible relationships to explore in further research and may ultimately also prove useful as a conceptual framework guiding intervention and policy.

Conclusions

Although the proposed model as a whole wasn't accepted, several strengths of this study can be built upon in future research. As previously noted, few studies have examined the large constellation of factors affecting Latino youth development considered in this research. It provides much needed knowledge addressing how Latino youth behave and the underlying processes that explain their academic outcomes. The exploration of the relationships between proximal and distal predictors of development and behavioral outcomes contributes to our knowledge of the developmental pathways taken by Latino youth. This knowledge can support efforts to foster developmentally appropriate environments that embrace the culturally unique strengths of Latino youth in ways to enhance their ability to take advantage of the assets they have (Rodriguez & Morrobel, 2002). This study's use of a large nationally representative data set allows for greater generalization of the research results of Latinos across the country. The

developmental pathways investigated were able to take into account the various nationalities, socioeconomic statuses, and regional differences present among Latinos living in the U.S.

The relationships which proved to be significant predictive links offer a foundation for continued research geared to further understanding of Latino youth developmental pathways. In particular, adaptive culture proved to be an important mediator of the effects of perceptions of prejudice, school environment, and neighborhood environment on individual youth characteristics, youth's family and friends, and youth's developmental competencies. Further research that broadens our understanding of the adaptive cultures developed by the Latino community may well provide the cornerstone to understanding how to intervene in the lives of Latino youth in order to increase their academic success. This research also supports peers' role in the development and academic success of Latino youth and suggests both adaptive culture and school environment are predictive of the type of influence peers will have. Similarly, despite data limitations, perceptions of prejudice and segregation had significant direct and indirect effects on family, developmental competencies, and academic success. These significant effects suggest that the role of social stratification mechanisms and segregation on the development and academic outcomes of Latino youth merit further investigation. Given that the individuals in this sample were adolescents, it is not entirely surprising that school environment had such significant effects on adaptive culture, family, friends, developmental competencies, and academic success. But it does suggest that a greater focus on school contexts and their effects on the academic outcomes of

Latino youth are necessary. Examining the environments rather than simply blaming the students will be necessary in order to understand what truly predicts academic success.

The results of this study demonstrate that the dimensions and concepts included in Garcia Coll and her colleagues' (1996) model are critical components for understanding the developmental competencies of Latino youth. The pathways linking constructs and the model as a whole may require reconfiguration or adjustment to accurately capture the normative development of Latinos. The model in its entirety may be most useful as a conceptual model that identifies factors in the lives of Latino youth that impact their development. The model may be built upon and further adapted in order to develop a framework that may be empirically investigated.

Dialogue and research in youth development has not kept pace with demographic trends in the United States. Estimates project that between 2010 and 2020, 20% of youth ages 10 to 20 will be of Latino origin (Bureau of the Census, 2002; NCES, 1998). Although Latinos are the fastest growing youth group in the United States (Chapa & Valencia, 1993; Perkins & Villarruel, 2000; Ramos, 2002), research focused on their development is sparse. The negative academic outcomes of Latino youth on the other hand have been well documented, including low graduation rates and low educational attainment (Dryfoos, 1998; Meir & Stewart, Jr., 1991; NCES, 1999; Provitera Mcglynn, 2001; Romo & Falbo, 1996; U.S. Department of Education, 1992; Weiner, Leighton, & Funkhouser, 2000). The limited existing research has focused on factors related to the failure of Latino youth, leading to policy, educational reform, and programming that have not significantly positively altered the trajectory of Latino students (García Coll, Meyer, & Brillon, 1995; President's Advisory Commission on Educational Excellence for

Hispanic Americans, 2000; Villarruel, Dunbar, Montero Seiburth, & Outley, 2005). Latino students in general continue to be viewed as academically "at-risk," underachievers, illiterates, and dropouts (Gutiérrez, 2002; Light, n. d.; Mercado, 2001). If the current educational trends are not changed the ramifications will affect not only Latino youth as individuals but the nation as a whole (Carnegie Council on Adolescent Development, 1989; President's Advisory Commission On Educational Excellence for Hispanic Americans, 2003; President's Advisory Commission On Educational Excellence for Hispanic Americans, 2000).

Through the development of an empirically tested model, this study seeks to inform and begin to fill the gaps in our research regarding the normative development of Latino youth. Using a success paradigm, examining Latino students who do well in school and considering how they differ from less successful Latino students, this study seeks to improve our knowledge regarding the developmental pathways of Latino youth and to motivate researchers, policymakers, and the community at large to create efforts that increase their opportunities for success. Researching resilience has important implications for the educational improvement of Latino youth and provides opportunities for examining the processes of adaptation that can guide future intervention efforts (Gordon & Song, 1994; Masten, 1994; McMillan & Reed, 1994; Wang & Gordon, 1994; Winfield, 1991).

This research also hopes to inspire educators, researchers, and policy makers to overturn the historical trend of explanatory models and solutions based on a deficits perspective, which rarely consider the needs and values of Latino students, and negate the political nature of education thereby continuing to justify placing Latinos at the margins

of mainstream school curriculum (Bartolomé & Balderrama, 2001; Díaz & Flores, 2001; Reyes & Halcón, 2001; Moll, 2001). This research encourages others to move away from using a race-comparative paradigm that has impeded the development of a rich, meaningful, and culturally anchored knowledge base about Latino youth. Rather than focusing on documenting the ways in which Latino youth do not behave, directing research onto how they do behave, and the underlying processes or mechanisms that explain these behavioral outcomes, is the call of this study. Policy making and educational reform efforts should be informed with relevant youth development evidence and seek that evidence vigilantly (Rodriguez & Morrobel, 2002).

> Educators and policy makers are not released from their responsibility because of the lack of empirical research on Latino youth development. Ethical standards for policy and program design, implementation, and evaluation must be maintained, even in the face of empirical research drought (Rodriguez & Morrobel, 2002, p. 22).

Shifting to a success paradigm in research, education, and policy making will move us forward in our understanding of what makes Latino youth academically successful. The integrative model and research presented here provide a template of proximal and distal components that can inform knowledge seeking and intervention processes.

Appendix A

Appendix A

List of constructs and corresponding Add Health items

Observed Variables for Each Latent Construct
Social Position Variables
Race
Ethnicity
Gender
Parent educational attainment
Social Stratification Mechanisms
Youth's Perceived Prejudice
Students at school prejudiced
Segregation
Can afford better housing in that neighborhood as compared to other neighborhoods
Neighborhood close to where used to work
Neighborhood close to where currently work
Moved to neighborhood because had outgrown previous housing
Less crime in this neighborhood than others
Less drugs and illegal activity by adolescents in this neighborhood
Neighborhood close to friends or relatives
Schools better here than in other neighborhoods
Same age children as your children in neighborhood
Self or spouse/partner born in this neighborhood
Total family income
Ability to pay bills
Receipt of public assistance/social welfare
People were unfriendly
Feel socially accepted
Felt disliked by people
Promoting/Inhibiting Environment
School
Youth gets along with teachers
Youth perceives teachers fair
Youth feels teachers care about them
Youth feels close to people at school
Youth feels part of the school
Youth feels happy to be at school
Youth feels safe at school
School administrators' reports of problems at school related to smoking or tobacco use, drug use, alcohol use, gang violence, teenage pregnancy, vandalism/thieving, eating disorders, stress or pressure
School administrators' reports school type

(list continues)

Observed Variables for Each Latent Construct
School administrators' reports average daily attendance
School administrators' reports full-time classroom teachers
School administrators' reports average class size
School administrators' reports race and ethnicity of full time teachers
School administrators' reports gender of full time teachers
School administrators' reports presence of parent organization
School administrators' reports dropout rates
School administrators' reports retention rates
School administrators' reports achievement score rates
School administrators' reports percentage of 12th graders in academic or college preparatory, vocational or occupational preparatory, general program/no divisions
School administrators' reports health related services offered at school
School administrators' reports school policies and rules
School administrators' reports urbanicity
School administrators' reports size of school
Parents report of the their child's school being a good one
Parents report of the their child's school being a school that prioritizes learning
Parents report of the their child's school a safe school
Neighborhood
Youth feel safe in the neighborhood
Youth know people in their neighborhood
Youth able to talk to someone in their neighborhood
Youth feels neighbors looking out for one another
Youth feels happy in their neighborhood
Youth would be happy or unhappy if they moved away from their neighborhood
Parent report wanting to leave neighborhood
Litter and trash problem
Drug dealers and drug user problem
Adaptive Culture
Acculturation
Parents' report of whether child was born in the US youth
Parents' report of whether child was born into neighborhood
Parents' report of whether child was born a US citizen
Parents' report of when child moved to the US
Youth's language use
Youth's comfort with different languages
Language the interview was conducted in
Language used with family member and friends
Buying music in language other than English
Reading, listening, or watching newspaper, radio or TV in languages other than English

(list continues)

Observed Variables for Each Latent Construct
Current Contextual Demands
Youth's perceptions that they will live to be 35
Youth's perceptions that they will be married by 25
Youth's perceptions that they will be killed by 21
Youth's perceptions that they will have a middle class family
Child Characteristics
Self-esteem
Feels as intelligent as others
Feels intelligent
Feels as good as others
Feels has good qualities
Feels proud
Like themselves as they are
Confidence
Felt life was a failure
Learning Disability
Parents' report of learning disability
Parent report of mental retardation/learning disability
Parent report of participation in special education
Youth consider themselves disabled
Youth feel others consider them disabled
Youth's retrospective report of ADHD symptoms
Perceptions Towards Education
Youth feels will go to college
Youth feels will graduate from college
Family
Parental Involvement In School
Parent involvement in parent teacher organizations
Parent talks with youth regarding school work or grades
Parent talks with youth about school in general
Parent talks with youth's teachers
Parent volunteers at school
Parent works with child on school project
Parent would be disappointed if child does not graduate high school
Parent would be disappointed if child does not graduate college
Parent report met best friend/best friend's parents
Parent report met special friend/special friend's parents
Parent report talk to parents of youth's friends
Parental activities: shopping, playing a sport, attending religious service, discussing life, going to the movies, discussing a personal problem, and arguing about youth's behavior
Parent caring
Parent closeness
Parent warmth

(list continues)

Observed Variables for Each Latent Construct
Parent love
Parent encourages independence
Youth satisfaction with parental relationship
Youth feel loved and wanted
Parent/family understanding
Youth feel parent pays attention to them
Parental communication
Parent report get along with youth
Parent report understand youth
Parent report feel can really trust youth
Parent report make decision together with youth
Parent report youth interferes with activities
Peers
Time spent hanging out
Frequency of talking to peers regarding problems
Youth feeling that friends care
Go over to friends' houses
Meet friends after school
Spend time with friends on the weekends
Talk on the phone with friends
Peers smoking, drinking alcohol, and using marijuana
Parent report of best friend's influence
Developmental Competencies
Time Allocation
Participation in clubs/organizations/teams
Time spent in after-school and out-of-school activities
Time spent in athletics
Time spent in physical activity/exercising
Time spent in watching television or playing video
Time spent using the computer for activities other schoolwork
Time spent at religious services or activities
Time spend doing hobbies
Time spent roller-balding, roller-skating, skateboarding, bicycling
Academic Motivation
Youth try hard at school
Youth pay attention in school
Youth want to go to college
Behaviors
Number of times youth have skipped school
Youth get homework done
Out of school suspensions
Youth ever expelled
Grades youth retained
Grades youth skipped

(list continues)

Observed Variables for Each Latent Construct
Youth take a weapon to school
Youth high at school
Youth drunk at school
Academic Success
Grades in English/language arts
Grades in mathematics
Grades in history
Grades in science
GED/equivalency
High school completion
Post-secondary education
Post-secondary graduation
Vocational or job training
Attainment
Highest grade completed

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