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INDIVIDUAL AND ENVIRONMENTAL DIFFERENCES BETWEEN ACADEMICALLY HIGH-ACHIEVING AND LOW-ACHIEVING MICHIGAN LATINO STUDENTS

presented by

CIDHINNIA M. TORRES CAMPOS

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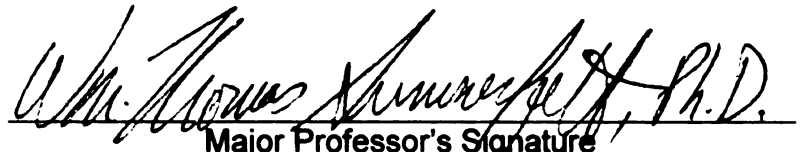

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INDIVIDUAL AND ENVIRONMENTAL DIFFERENCES BETWEEN ACADEMICALLY HIGH-ACHIEVING AND LOW-ACHIEVING MICHIGAN LATINO STUDENTS

By

Cidhinnia M. Torres Campos

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ABSTRACT

INDIVIDUAL AND ENVIRONMENTAL DIFFERENCES BETWEEN ACADEMICALLY HIGH-ACHIEVING AND LOW-ACHIEVING MICHIGAN LATINO STUDENTS

By

Cidhinnia M. Torres Campos

This investigation examined both individual level and environmental level predictors of academic success for Latino students. These included students' academic motivation, personal time allocation, school affiliation, social support, parental involvement in school, and peer influence. The study focused on whether high- and low-achieving students, as measured by grades, differ significantly on these. Participants consisted of 216 Latino students in grades 6 through 12 attending Michigan schools, who were administered the Search Institute Profiles of Student Life: Attitudes and Behaviors (ABS) during the 1998-1999 school year. Discriminant analyses and logistic regressions, using split-half samples along with cross validation, were used to evaluate differences among groups and build a predictive model. The hypothesized differences between the groups, and thus a valid predictive model, were not found. Despite this, several of the results point towards further research. The utility of applying the ABS to Latino populations is also questioned due, in part, to the lack of cultural variables measured. The lack of significant findings also suggests that factors found to be significant for achievement in other populations may not be culturally universal or may need re-operationalization for Latino students.

To Tristan Josef, so you may know that anything is possible.

To Latinos students everywhere, may you never give up hope, know that success is possible, and never let anyone tell you otherwise.

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CHAPTER 1
INTRODUCTION

In a 1997 Public Agenda Survey, 60% of United States adults thought that youth, when they became adults, would not make the country a better place in which to live. In fact, 21% thought that youth would make the country worse (Farkas, Johnson, Duffet, & Bers, 1997). This startling finding points to the need for more positive images of youth to be made public, as well as the need for better understanding and responses to the factors affecting youth developing into competent and responsible adults.

Much of the literature on adolescents has shown that, while adolescence is an age of promise, there is also cause for concern about our young people (Dryfoos, 1990; Hawkins, Catalano, & Miller, 1992; Jessor, 1992, 1993). Almost half of the youth in the United States ages ten to seventeen are estimated to abuse alcohol and other substances, fail in school, commit crimes, or engage in early, unprotected intercourse (Dryfoos, 1990). Adolescents are at risk from accidental injury, violence, and the initiation of lifestyles and habits, which present long-term health risk (American Medical Association, 1990; Johnston, O'Malley, & Bachman, 1995; National Institute on Drug Abuse, 1995). Recent statistics suggest that adolescents are experiencing several difficulties, including mental illness, suicide, low achievement scores, school dropout, substance abuse, adolescent pregnancy, and juvenile violence (Dryfoos, 1990; Kalil & Kunz, 1999; Moore, Romano, Gitelson, & Connon, 1997; National Center for Education Statistics, 1996; National Institute on Drug Abuse, 1995; Voydanoff & Donnelly, 1999). Other areas of concern include tobacco use, sexual activity, school noncompliance, and engagement in

behaviors that, although not illicit or illegal, are imprudent at best (Lavery, Siegel, Cousins, & Rubovits, 1993).

Of the adolescent population in the United States, "Latinos represent the fastest growing segment of the U.S. population under the age of 21" (Perkins & Villarruel, 2000, p. 83). Unfortunately, Latino youth continually have higher rates of teenage pregnancy, juvenile violence, and school noncompliance (Dryfoos, 1990; Frank & Lester, 2001; Kalil & Kunz, 1999; Moore, Romano, Gitelson, & Connon, 1997). On a national scale, Hispanic students have been found to engage in more risky behaviors than their Black or White peers (Frank & Lester, 2001). Studies have also 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 that increases their risk of academic failure (Davalos, Chavez, & Guardiola, 1999).

Unfortunately, most of the literature to date has focused on issues of individual failure as opposed to conditions that promote the success of Latino youth (Montero Sieburth & Villarruel, 2000). However, many Latino youth are doing well, and succeeding despite the fact that a disproportionate number of their families must contend with poverty and other stressors. Regrettably, little is known about the achievement behavior of Latino students. This imbalance in the literature about Latino students' educational achievement has provided the impetus for this study. The research will look at Michigan Latino students who participated in the 1998-99 Search Institute Profiles of Student Life: Attitudes and Behaviors (ABS) survey.

In order to advance the understanding of the contextual influences promoting successful Latino youth, only respondents who self-identified as Latino will be included in this investigation. This study, therefore, will depart from previous studies that attempt to define only the prevalence of and factors that promote conditions of risk for Latino youth and instead, try to discern what circumstances promote individual "success." Specifically, this study will extend previous research by identifying potential individual and environmental processes that lead to and foster academic success for Latino youth.

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. It is expected that by the year 2050, Hispanics will represent approximately twenty-five percent of the population of the United States. 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). From 1995 to 2050, Latinos will be the racial/ethnic group adding the largest number of people to the population (Day, 1996). This racial/ethnic group is comprised of individuals from diverse backgrounds including those who have ancestry from Mexico, Puerto Rico, Cuba, as well as countries in Central and Southern America (e.g. Costa Rica, and Argentina). The Latino population also tends to be significantly younger than the median population age, and much of the Latino population is concentrated in its youth (U.S. Census Bureau, 1999).

In the past decade, there has been an increase in the number of Latino youth, affected by problems such as truancy, school dropout, substance abuse, and poverty. Unfortunately Latino youth also continually have higher dropout rates, higher rates of teenage pregnancy, and higher rates on many other negative outcomes as compared to other groups across the nation (Frank & Lester, 2001; Dryfoos, 1990, 1998; NCES, n. d.). For example, 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).

Concerns about the performance of Latino students in public schools are warranted. Today, Latinos comprise 15% of the elementary school-age population (5-13) and 13% of students in secondary education (U.S. Census Bureau, 1996). Young Latinos and Latinas have the highest dropout rates as compared to Blacks and Whites, 31% and 26% respectively (Provitera Mcglynn, 2001). Some research has even shown that only about 50% of Latinos graduate from high school (National Council of La Raza as cited in Borman, 1998). Overall, Latino students perform below the national average in the National Assessment of Educational Progress (NEAP) (NCES, n. d.). By age nine, Latino students lag behind their non-Hispanic peers in reading, mathematics, and science proficiency (NCES, n. d.). Some studies have found that gaps emerge as early as the third grade, and continue to widen in subsequent years (Gándara, 1996). Unfortunately, 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.). Given the average disparity between the educational achievements of White and Latino students, it is vital that a better understanding of these patterns be provided.

These disturbing patterns have also been found in mid-western states, including Michigan. Programs and interventions designed for students at risk for failure have not necessarily been effective for Latino students. This is due, in part, to these programs, as well as research conducted around these issues, not specifically addressing the concerns of these students (Waxman, Huang, & Padrón, 1997).

Vulnerability and Resilience

Much of the research conducted by psychologists that examines Latino youth has focused on their *vulnerability*, and negative outcomes (e.g. Alva & de los Reyes, 1999; Vera, 2000*)*. Vulnerability has been defined as "a heightened probability for maldevelopment ostensibly because of the presence of a single or multiple risk factors" (Garmezy, 1993, p.379). Risk factors are individual or environmental markers that are related to the increased likelihood that a negative outcome will occur or will compromise health, well-being, or social performance (Bernard, 1993; Masten, 2001; Voydanoff & Donnelly, 1999; Werner & Smith, 1992). Sociocultural risk can also be characterized as the impoverishing of an individual's world so that he/she lacks the basic social and psychological necessities of life. Youth become identified as *at risk* because of both biological and environmental factors (Garmezy 1993; Honig, 1984).

Garbarino (1995) points out, "in all environments, as in all individuals, there are weaknesses and strengths, sources of risk and opportunity" (p. 27). Each individual faces opportunities and risks for development throughout the growth process. The particular opportunities or risks that a person may face are dependent upon the person's mental and physical make-up and the type of environment the person inhabits (Garbarino, 1982). "By opportunities for development we mean a person-environment relation in which the

developing child is offered material, emotional, and social encouragement compatible with the needs and capacities of the child at a given time" (Garbarino, 1982, p. 17). The absence of opportunities and direct threats to development represent risks.

In general, a deficits-based approach has been taken in investigating Latino adolescents. Subjects in this kind of research are often adolescents who have been identified as at-risk. But, the presence of risk factors does not assure that a negative outcome will occur; it simply increases the probability of its occurrence (Bowman, 1994; Garmezy 1985; Werner & Smith, 1992; Masten 2001). Primarily, the literature on adolescent development has been based on uncovering unmet needs and has rarely, if ever, taken natural support resources into account. This has been particularly evident with Latino communities—"in short, these communities supposedly have prodigious unmet needs and little or no natural resources" (Delgado, 1998, p.6). As a result, this "biased deficits perspective" has serious limitations for the development of culturally specific interventions that seek to involve significant community sectors (Marín, 1993).

On the other hand, whereas *vulnerability* provides a singular emphasis on risk elements, *resilience* describes a process whereby people bounce back from adversity and go on with their lives (Bernard, 1993; Garmezy 1993). Resilience is defined by the presence of any or many risk factors, "but the accompanying adaptive outcomes are now presumed to be a function of evident, or unidentified, positive elements within the individual and external environments that serve a protective function" (Garmezy 1993, p.379). These positive individual and external elements are known as protective factors. Protective factors decrease the probability of a negative outcome (Cowan, Cowan, & Schulz, 1996). Protective factors are specific competencies, healthy skills, and abilities

that the individual can access and may occur within the individual or in the interpersonal or family environment (Garmezy 1985; Jessor, 1992; Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995). The interpersonal environment includes the adolescent's neighborhood, school, and youth serving organizations. Protective factors can also be defined as individual or environmental safeguards that enhance a person's ability to resist risks (Voydanoff & Donnelly, 1999). Garmezy (1993) found that a review of the literature on resilience suggests the presence of three core factors that may operate as protective factors for individuals. These are: 1) personality attributes; 2) families, particularly cohesion and the presence of some caring adult; and 3) the availability of social support, whether in the form of a strong mother substitute, a concerned teacher, or a caring agency, institution or church (Garmezy 1991, 1993). Although the concept of resiliency has been widely used in areas like developmental psychopathology (Garmezy 1991; Masten, 1994; Masten, Best, & Garmezy, 1990; Rutter, 1987, 1990), its application in the area of education has been somewhat more recent.

Educational Resilience

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).

While the image of Latino students as underachievers, illiterates, and dropouts still persists, some Latino students are successful academically despite adverse conditions and at-risk environments. 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. Even among the general Latino population not all students have similar backgrounds, motivations and perceptions towards school (Reyes & Valencia, 1993). Consequently, it is important to look at Latino students who do well in school and see how they differ from less successful Latino students. This area of research, that of investigating resilient students, or students 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).

A thrust in this area of research is to extend previous studies that identified and categorized students as at risk and shift to studies that concentrate on identifying potential individual and environmental processes that lead to and foster success (Winfield, 1991). This approach is essential for it focuses on the predictors of academic success rather than on academic failure. This focus may be influential in the design of more effective educational interventions as it enables the identification of those alterable factors that distinguish resilient and nonresilient students. In other words, educational resilience is not seen as a fixed characteristic "but rather as alterable processes or mechanisms that can be developed and fostered for all students" (Wang, et al. 1999, p. 138).

Despite impressive advances in recent years in our understanding of adolescent behavior and development, there still exist troubling lacunae in what we know about the

normative development of youth (Jessor, 1993). An example of an area of research that has been neglected is research on the role of race and ethnicity, as well as other racial and cultural variables in adolescent behavior and development. "Race and ethnicity are central issues that reverberate throughout contemporary American society" (Jessor, 1993, p. 119). They are linked to major differences in access to opportunity, institutionalized in stereotypical social definitions, and intricately linked to adolescents' self-identity and self-definition.

It is remarkable, then, how little attention these issues have received in research, and how little they have figured into theoretical formulations about adolescent development. Compounding this neglect is the negative focus of most of the research that does examine these variables. Given that much of the literature available surrounding Latino youth has focused on their risks and vulnerabilities, this study therefore seeks to explore an area of scholarship that has traditionally been overlooked in this population. This investigation examined both individual level and environmental level predictors of academic success for Latino students. Given that few studies have actually compared resilient and nonresilient Latino students on these characteristics, this research seeks to provide researchers, policy makers, and program efforts with a broader knowledge base for how Latino students can succeed. Given the severity of the dilemma facing many Latino students today, understanding what factors promote success is one way in which Latinos' failure in school and lack of academic achievement can be tackled.

Rationale for the Current Study

The Carnegie Council on Adolescent development estimates that about one-quarter of the adolescent population is at risk for academic failure and other problem

behaviors, and that another quarter is considered "moderately" at risk (Carnegie Council on Adolescent Development, 1989, p. 8). Latino youth are regrettably over-represented in these numbers (Dornbusch, Ritter, Liederman, Roberts, & Fraleigh, 1987; Ekstrom et al., 1986). The lack of academic success for Latino youth is particularly alarming given that education has been closely tied to opportunities for employment and economic development, as well as physical and mental health issues. Latinos, however, are markedly underrepresented in studies that attempt to understand issues of academic success and failure. Many of the studies that do include Latino students examine only those factors associated with academic failure, leading to little literature that clarifies what leads to their achievement. Non-diverse and deficits perspective studies have failed to demonstrate which factors affect academic achievement among different populations.

Students who underachieve academically are more likely to need social services and contribute less to the economy than their peers who succeed academically. The costs to society and to the individual are high. The U.S. pays not only through welfare payments, but also in an estimated $260 billion in lost earnings and tax payments (Carnegie Council on Adolescent Development, 1989). Unfortunately, we know far more about the failure of Latino students and very little about their success. Those variations between Latino youth may prove to be unique indicators that have strong social and cultural implications (Villarruel & Montero-Sieburth, 2000).

There is an abundance of literature, which examines the internal and external factors affecting the academic success of adolescents as a general population. This literature however, has largely ignored the effects of these factors in the lives of adolescents in different ethnic groups, including Latinos. The most important unanswered

questions in the resiliency literature are whether the relevant variables show the same relations for different ethnic groups (Scales & Gibbons, 1996). Also lacking in the educational resiliency literature are studies that address the way in which significant variables, including ethnicity and socio-economic factors, interact in relation to adolescents' academic achievement. Given the average disparity between the educational achievements of White and Latino students, it is vital that a better understanding of these patterns be provided. This study endeavors to provide greater understanding of this disparity by examining both internal and external factors, along with socio-economic factors among Latino students. Variables that have been found to be related to academic success for youth will be examined with a sample of Latino youth to discern whether these relationships hold true for this population.

Cultural sensitivity has been recognized as a critical factor in producing successful policies and social programs (Laosa, 1990; McLoyd, 1998; McLoyd & Steinberg, 1998; Slaughter, 1988). Research examining cultural distinctions and commonalities is critical to successful culturally sensitive measures. Unfortunately, a coherent picture of academic development among Latino youth is missing in most of the theories of normal adolescent achievement. This is due, in part, to the lack of research addressing the academic success of Latino students. Since the importance of specific protective factors is known to vary across developmental levels and contexts (Masten & Coatsworth, 1998), "contextually and culturally relevant research that identifies the unique aspects of Latino youth and communities" (Villarruel & Montero-Sieburth, 2000 p.xii) is the next logical step to take in order to fill this deficit.

A body of research exists that reports on the *problems* associated with educating Latino children (National Council of La Raza as cited in Borman, 1998; NCES, n. d.; Provitera Mcglynn, 2001). To the further detriment of these youth, rarely does one see terms such as competent, resourceful or motivated used to describe their performance in school. As a result, many teachers, parents, and even students begin to believe that failure is the norm for Latino students, and their expectations for the achievement of Latinos students are subsequently lowered creating a cycle of failure. It is imperative that research move away from a deficit-oriented explanations of failure for Latino youth to highlighting the successes they achieve through their own personal cultural values and experiences. Efforts that fall short in developing and fostering the distinctive qualities of Latino youth and families can and may lead to continued failure and underachievement of Latino youth (Villarruel & Montero-Sieburth, 2000).

To continue to conduct research that focuses primarily on the academic problems of Latino youth, in isolation from data that highlight possible solutions to this problem, is to promote distorted and negative stereotypes that perpetuate defeat and pessimism (Floyd, 1996). In order to move away from these stereotypes, it is essential to focus attention on Latino youth themselves. The present study addressed this discrepancy in the field by focusing exclusively on Latino students' academic success. This exclusive focus provided the current investigation with the ability to more thoroughly explore the internal, external, and socio-demographic factors associated with academic achievement among Latinos.

The high number of Latino students failing in school is regarded as a major national problem. Therefore, at first glance a study of Latino students from Michigan may

seem unimportant. Nonetheless, it is widely acknowledged that most of the solutions to the problem of the educational disparity between Whites and minorities must come from individual school districts and communities dealing with individual students. Although not as well known as Latinos on the East coast or West coast of the United States, there is a significant Latino population not only in Michigan, but also in the Midwest in general. By focusing on this segment of the Latino population this study explores the nature of the relationships between various factors found in the academic resiliency literature and academic achievement. In this way, the information gathered can have important implications for both national and school- and community-based programs designed to help youth develop positively and succeed academically.

Before detailing the current study, a review of the research conducted in the area of Latino academic resiliency is warranted. This research examines the factors promoting academic success and identifies several areas that are important for youth's success in school. Both individual level and environmental level factors are examined. Particular attention has been paid to literature attending to the academic success of Latino youth. Finally, the author will describe the current study within the context of its parameters as an extension of previous work.

CHAPTER 2
LITERATURE REVIEW

This study will examine several individual as well as environmental predictors of academic success to gain a greater understanding of how these function for Latino students. The literature on educational resilience has identified many factors that affect students' academic success, including social support, achievement motivation, and peer influence. Not all of these have been examined thoroughly or even in a preliminary fashion with the Latino youth population. This investigation hopes to provide additional insight into the literature describing the success of Latino youth in education. With that in mind, what follows is a review of the literature on several predictors of academic success and their relationship to the academic success of Latino youth, paying particular attention to those factors that may be used in assessments or are most amenable to programming and intervention efforts.

Predictors of Academic Success

The academic achievement of adolescents has generated numerous arguments and has remained the subject of extensive debate. In an effort to obtain greater educational outcomes for school children in the United States, researchers have explored differing influences on children's performance (Paulson, Marchant, & Rothlisberg, 1998). Research in the area of educational resilience has found both individual and environmental factors that are associated with students' academic success.

McMillan and Reed (1994), after integrating the existing literature with their own research, found that the factors relating to academic resiliency could be organized into

four categories: (a) individual attributes, (b) positive use of time, (c) family, and (d) school factors..

They found that individual attributes of resilient at-risk students include temperamental characteristics that elicit positive responses from individuals around them, such as high intrinsic motivation and internal locus of control, higher educational aspirations, self-efficacy, having clear realistic goals, and remaining optimistic about the future. McMillan and Reed (1994) also found that resilient students spend their time positively and are meaningfully involved in school and other activities. Hobbies, sports, creative interests, volunteering, and "helping out" leave these students without much spare time, promote the growth of self-esteem, and provide social support. Involvement in both academic and extracurricular activities appears to maintain resilient students' positive engagement in school (McMillan &Reed, 1994).

Additionally, McMillan and Reed (1994) found that family factors are also related to students' academic resiliency. Most resilient students have a close bond with at least one caregiver. They receive attention and support from a parent, or some other family member. Family support then can be an attribute of successful at-risk youth. Parents' educational background is also related to student resiliency. Students whose parents have had a high school education or beyond are more likely to be resilient students than those whose parents had less than a high school education.

Finally, McMillan and Reed (1994) also discuss school factors that are related to resiliency. Beyond the support and maintained engagement provided by students' involvement in academic and extracurricular activities at school, teachers and other school personnel play an important role in the success of resilient students. Resilient

students often describe teachers or other adults at school who have provided support, encouragement, and guidance as important to their success. Unfortunately, McMillan and Reed's (1994) analysis of the literature does not make any mention of how the previously described factors affect any minority students, including Latinos. It is unclear if these same four factors would be found to play a key role in the success of resilient Latino students.

Bogenschneider (1998) in her review of resiliency literature, has similarly discovered that protective factors are found at various levels of the ecosystems of youth: (1) individual level, (2) familial level, (3) peer level, (4) school level; and (5) community level. In her study, Bogenschneider (1998) examines 30 scientifically substantiated risk and protective factors. At the individual level, she presents protective factors such as self-esteem, personal responsibility, and well developed problem solving skills. At the family level, emphasis is placed on support from or having a close relationship with at least one person in the family. Similarly, at the peer level, Bogenschneider(1998) presents support from a close friend as an important protective factor. The protective factor at the school level is positive school experiences, including school engagement and support from a teacher. Community protective factors include belonging to a supportive community, where youth can rely on neighbors, teachers, and clergy, and bonding to family, school, and other institutions (Bogenschneider 1998).

Chavkin and Gonzalez's (2000) review of the resiliency literature identified five comparable key protective factors for youth: (1) supportive relationships, (2) student characteristics, (3) family factors, (4) community factors, and (5) school factors. Unfortunately these reviews of resiliency research do not report literature that specifically

addresses this framework for Latino youth. While these same five areas are often examined in resiliency research, there is less research that addresses whether these five factors play a protective role in the lives of Latino adolescents, and if so, in what ways.

Benard (1991) as well as Dossey, Mullis, Lundquist, and Chambers (1988) found that students' personal time allocation was an important variable related to students' academic achievement, as it is an indicator of the amount of their daily lives which is structured or influenced by different types of people and activities. 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). Students' motivation has been highly related to their academic achievement as well (Uguroglu & Walberg, 1986; Waxman, Huang, & Padrón, 1997).

Parental involvement in school is another factor that has been associated with students' school achievement (Clark, 1983). Clark (1983) perceived that frequent school contact initiated by parents, parents expecting to play a major role in the child's schooling, and parents frequently engaging in deliberate achievement training activities, are characteristics of successful children.

Other studies have found that levels of support from family, school, and the community are related to students' academic achievement and resiliency (Alva, 1991; Benard, 1991; Clark, 1983; Clark, 1991; Werner 1989). Werner and Smith (1992) in their classic study of over 700 at-risk Hawaiian residents over a forty year period, argued that the most important of the protective factors was a caring relationship with someone, regardless of whether the person was a parent, teacher, or community mentor. Clark

(1983) also found that stimulating and supportive school teachers, and nurturing and supportive parents, were attributes of successful youth. Peer influence has also been found to be particularly important for the academic achievement of Latino youth (Steinberg & Darling, 1993).

In sum, the literature on academic resiliency has identified several key individual as well as contextual level protective factors: Community factors, such as organized youth activities (e.g., sports, clubs, hobbies); student characteristics, such as motivation; school factors such as an engaging environment; family factors such as parental support/concern and school involvement; supportive relationships, particularly encouragement from school personnel, and other adults, and peer influence, such as friends who do well in school (Chavkin & Gonzalez, 2000). One major question still confronting educational researchers is why some minority students are successful in school and others are not (Rumberger & Larson, 1998). In order to address this question, this study will assess several of the factors found to be associated with academic success among a sample of Latino students, including students' time allocation, achievement motivation, school affiliation, parent involvement, social support, and peer influence.

What follows is a more in-depth examination of the educational research conducted, which examines these factors and their relationship to academic performance. The research in this area has predominantly used White suburban youth in its analyses. As such, particular attention will be paid to those studies that address these variables among Latino populations. While research of these factors in Latino student populations is limited, this work seeks to build from and expand the current knowledge base.

Larson, Richards, Sims and Dworkin (2001) have documented how students' time allocation, or how they spend their free time, provides useful information regarding their daily experiences and socialization. Their study examined the time budgets for a sample of 253 5th to 8th grade students from Chicago area elementary schools, which provided important information about how time budgets for ethnic minority students may be distinct from those of other populations, with implications for their socialization and development (Larson, et. al, 1995). This is particularly true for adolescents from collectivist cultures, such as Blacks and Latinos, who may spend more time with family and extended family than their White peers.

As noted earlier, McMillan and Reed (1994) have remarked that youth's positive use of time is related to resiliency. They found that resilient students, who spend their time involved in positive academic or extracurricular activities, hobbies, sports, or volunteer work, have little spare time, maintain a higher engagement with school, and receive valuable support and increased levels of self-esteem (McMillan & Reed, 1994). Several researchers have noted that the amount of time an individual devotes to schoolwork is related to his or her individual achievement level (Fuligni & Stevenson, 1995; Leone & Richards, 1989; Wahlberg & Fredrick, 1982). Youth, who spend large amounts of personal time doing homework and those who spend large amounts of time in leisure, are participating in different sets of socialization experiences (Whiting & Edwards, 1988, Rumberger, 2001). Steinberg and Darling (1993) and Fulgini (1997) have found that time spent on homework is associated with academic achievement or lack thereof. Low interest in school activities and low participation in school activities have

also been linked with an increased likelihood of school failure and dropout rates (Goldschmidt & Wang 1999; Rumberger 2001).

Several studies have found that participation in organized activities outside of school time is related to educational attainment and academic achievement (Barber & Eccles, 1997; Eccles & Berber, 1999; Hanks & Eckland, 1976; Larson, 1994; Posner & Vandell, 1994; Quinn, 1995; Scales, et al., 2000). Quinn (1995), using data from a three-year study of American youth organizations, found that youth's participation in organized activities outside of school time was positively related to their educational attainment.

Eccles and Barber's (1999) study used participants from the Michigan Study of Adolescent Life Transitions (MSALT), a longitudinal study begun in 1983 that followed a cohort of approximately 1,800 youth for eight years. Using 1,259 of the respondents they found that adolescents involved in pro-social activities, such as attending church or participating in volunteer or community service-type activities, were more likely to have better academic performance as measured by high school grade point average (GPA). Students' sports participation, participating in one or more school teams, was also found to predict an increase in liking school as well as a higher-than-expected GPA. Similarly, participation in the performing arts, including school band, drama and/or dance, was related to a greater liking of school and to higher GPAs.

Higher-than-expected GPAs were also found for students who participated in school-related clubs and non-athletic activities, such as student government, pep club, and/or cheerleading. In addition, involvement in academic clubs, such as debate, foreign language, math or chess clubs, science fair or tutoring in academic subjects, also predicted higher-than-expected high school GPAs. Scales and his colleagues (2000), in

their study of 6,000 youth grades 6-12, also found that the amount of time youth spent in youth programs was a predictor of school success. Overall, participation in organized activities outside of school predicted greater academic performance for those adolescents involved (Eccles & Barber, 1999).

Participation in organized activities has also been found to provide a buffering effect between risk factors and grades (Voydanoff & Donnelly, 1999). Voydanoff and Donnelly's (1999) study of 929 parents and children interviewed for the National Commission on Children's 1990 Survey of Parents and Children, found that moderate protective effects suggest that opportunities for constructive activities and support can interact to reduce the effects of negative peer behavior on grades. In other words, in their study, positive time allocation seemed to protect against risk factors for academic achievement (Voydanoff & Donnelly, 1999). But their study did not find a direct effect of this variable on grades. Regrettably, only a modest amount of the research on youth's use of personal time has examined its relationship to academic performance in Latino youth

A few studies of Latino students have found that successful students report higher levels of being involved in high school activities than unsuccessful students (Alva, 1991; Waxman, Huang, & Padrón, 1997; Davalos, Chavez, & Guardiola, 1999). Davalos and her colleagues (1999), conducted a study with of 2,621 dropouts and youth still enrolled in school, including 1163 Mexican American adolescents, in the southwestern region of the U.S. to examine the effects of extracurricular activity and ethnic identification on school success. They found that involvement in extracurricular activities, including athletic participation, other than band had a significant positive effect on whether

Mexican American youth were in good standing at school (Davalos, Chavez, & Guardiola, 1999). But this in and of itself did not predict whether these youth were academically successful in school.

In a study of Latino middle school students from the south central region of the United States, Waxman, Huang and Padrón (1997) examined the differences between resilient and nonresilient students. Waxman (1997) and her colleagues found significant differences between resilient and non-resilient students' use of personal time. Specifically, resilient Latino students reported that they spent significantly more time doing homework each week, and more time on additional reading than nonresilient Latino students (Waxman, Huang, & Padrón, 1997). Scales, Benson, Leffert, and Blyth (2000) using a sample of 6000 youth, including 1000 Latino youth, found that time spent in youth programming was a significant predictor of student's success in school for all ethnic groups except African Americans. Fuligni (1997) in his study of over 1,100 immigrant youth including Latinos, found that the amount of time students reported that they spent studying was a predictor of their academic achievement as measured by grades. As can be seen, the majority of these studies did not look at positive time allocation for Latinos specifically, but as a subset of a larger sample, or in conjunction with other variables associated with academic achievement. Further research in this area is needed to clarify how time spent outside of school and participation in organized activities affects Latino students' academic performance, particularly in conjunction with other factors.

Achievement Motivation

Researchers have found a connection between students' academic motivation and their academic achievement including higher grades (Anderson & Keith, 1997; Jessor,

Van Den Bos, Vanderryn, Costa, & Turbin, 1995; Paulson, Coombs, & Richardson, 1990; Scales, Benson, Leffert, & Blyth, 2000; Wentzel, 1993). Wentzel (1989) conducted a study of 203, 9th through 12th-grade adolescents from a suburban high school in the San Francisco bay area, on their goals, standards for performance, and academic achievement. She found that effort towards academic mastery goals, including being a successful student, learning and understanding new things, was significantly correlated with grade point average. Wentzel (1996), in her longitudinal study of 216 junior high school students, found that students' academic motivation was positively and significantly correlated to their English class grades. Both of Wentzel's studies shed light on the relationship of motivation to academic performance, but do not address how this differs across ethnic groups. Nor do they take into consideration other factors that may affect student's academic achievement.

Marchant, Paulson, and Rothlisberg's (2001) analysis of this same data found that academic motivation was significantly correlated to academic achievement as measured by students' self-reported grades. Their regression analyses revealed that students' perceived motivations, along with school competence, predicted a significant portion of the variance in academic achievement above and beyond all of the other factors examined (Marchant, Paulson, & Rothlisberg, 2001).

A longitudinal study of a total of 2,410 7th, 8th, and 9th-grade adolescents in a large, urban school district, found that for youth, including Latino students, academic motivation was significantly related to their academic achievement. However, the focus of this study was to assess the relation of psychosocial protective factors to involvement in problem behavior. Although this study had a large enough sample size to conduct

analyses by ethnicity, its goal was neither to examine the relationship of risk and protective factors for Latino youth nor to examine their effects on academic achievement.

Achievement motivation was found to be a significant predictor of school success across all racial/ethnic groups by Scales, Benson, Leffert, and Blyth (2000). In their study, examining a sample of 6,000 students from across the United States, they observed that high academic motivation predicted higher grades (Scales, et al., 2000). Keith and Perkins (1995), examining data collected from over 13,000 students in Michigan during the 1993-94 school year using Search Institute's Profiles of Student Life: Attitudes and Behaviors (ABS), found that achievement motivation was one of the factors most associated with preventing at-risk indicators or behaviors at school.

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). Goldschmidt and Wang (1999) used the National Education Longitudinal Study database to examine student and school factors associated with dropping out in different grades. They found that students' attitudes toward school were a factor for dropping out of school (Goldschmidt & Wang, 1999). Paulson, Coombs, and Richardson (1990) examined the relationship between drug use, school performance, and academic aspirations in a study of 446 Anglo and Hispanic youths (aged 9-17 yrs),using interview data analyzed and made comparisons of the data by age, ethnicity, and gender. Paulson and his colleagues (1990) found that academic motivation, more interest in schoolwork, and stronger feelings of its importance, were correlated with higher overall grades for both Anglo and Hispanic students. But it is important to note that the main

focus of this study was to examine the differences between current substance users and nonusers, and not to examine the differences in academic achievement of these students.

Waxman, Huang, and Padrón (1997) found that resilient Latino students' motivation was significantly different from that of less resilient students. They found, in their study of Latino middle school students, that resilient students are much more motivated than their nonresilient classmates. Shultz's (1993) study examined relationships among socioeconomic advantage, achievement motivation, and academic performance in an urban elementary school population of 130 African-American and Hispanic 4th through 6th grade students. He found that achievement motivation was a significant mediator of academic performance in Hispanic children, independent of intellectual ability (Schultz, 1993).

In a recent study of 122 Latino students in the 9th and 10th grades attending a predominantly Latino (80%) high school in California, which examined the relationship of language brokering, biculturalism, academic self-efficacy, and social self-efficacy, found that academic self efficacy, including academic motivation, was the strongest predictor of academic performance (Buriel, Perez, De Ment, Cahvez, & Moran, 1998). Although this study focused on the academic achievement of Latino students, it did not take into account many of the external factors that may play a role in these students' academic performance.

While it provides some insight into the academic performance of a group of Latino students, this study still leaves several areas unexamined As previously noted, Scales and his colleagues (2000), in their study of 6000 students, also found achievement

motivation to contribute meaningfully to school success, as measured by self reported grades, across all ethnic groups including Latino students.

School Affiliation

The majority of research on school affiliation, engagement, or bonding has reported that the greater the sense of students' connectedness to school the greater their academic performance. The opposite relationship has also been found to be true; students who feel alienated from school are more likely to fail academically (Eckstrom, Goertz, & Tock, 1989).

Several studies have shown that adolescents who report a positive orientation to school, school connectedness, or perceived school quality are less likely to engage in problem behavior and to have higher levels of school achievement (Furstenberg & Hughes, 1995; Jessor et al., 1995; Resnick, et al., 1993). Marchant's (1991) study of urban elementary students concluded that pursuing challenging activities might be related to more positive feelings about school learning. Finn and Rock (1997) found significant differences in school engagement of resilient students, nonresilient students, and dropouts, even after background and psychological characteristics were controlled statistically. Connell, Spencer and Aber (1994) also found that students' reported engagement in school predicted school performance. Scales, Benson, Leffert and Blyth (2000) found school engagement, as measured by the ABS in a sample of 6000 students, to be a significant predictor of student's school success. Unfortunately, despite the large overall sample size, this study did not include a sufficient sample of Latino students to conduct specific analyses for this group.

Paulson, Marchant, and Rothlisberg's (1998) study of 230 middle school students from the Midwest examined the effect of their perceptions of positive school climate and school affiliation on academic achievement, academic motivation, and self-efficacy. Their findings revealed that, in conjunction with students' perceptions of congruence between parental and teacher styles, positive school climate and affiliation were indeed associated with higher academic achievement for these students. This research provided valuable information on how students' perceptions of several external factors plays a role in their academic achievement. But it is also important to note that this study did not examine these relationships for different ethnic/racial minorities. So, the extent to which this same pattern holds true for Latino students is not investigated.

Some studies have examined the relationship between school affiliation and academic performance among Latino students. Goodenow and Grady (1993) found that a sense of school belonging had a strong relationship with school success for Latino middle school students. In another study, of 169 in the 5th and 6th grade of four elementary schools in a central coast community in California, Latino students with low levels of school bonding were found to be more at risk for school failure (Robertson, Harding, & Morrison, 1998). While this research focuses on a population of Latino students, it does not specifically explore whether the inverse positive relationship is true for Latino students; that higher levels of school bonding are related to greater academic achievement. Reyes and Jason (1993) found in their study of inner-city high school Latino students that more successful students reported significantly more satisfaction with their school than did less successful students. Alva's (1991) study of Mexican-American 10th graders also found high achievers reported enjoying coming to school.

A recent study examined the differences in educational achievement among 1,880 middle school Mexican-American Language Minority students in a large, urban school system in Los Angeles County, California (Rumberger & Larson, 1998). This study found that school engagement, including how often students were absent, their classroom work habits, and their classroom social behavior, were predictive of students' GPAs. They also found that the less engaged the students were, the lower their GPAs.

More engaged Latino students were also found to do better in school in a recent study by Scales and colleagues (2000). With a sample, which included 1,000 Latino students, they found school engagement to be a predictor of school success for Latino students (Scales, et al., 2000).

Parental Involvement

In general, research has found that students whose parents are involved in school have relatively high levels of school performance (Furstenburg & Hughes, 1995; Muller, 1993, 1995; Paulson, 1996; Steinberg, Lamborn, Dornbush, & Darling, 1992; Zill & Nord, 1994). As Chavkin and Gonzalez (1995) put it; "research has shown that one of the most promising ways to increase students' achievement is to involve their families (p. 1). This pattern, although found in the general literature on adolescent academic achievement, has not been thoroughly explored for Latino students.

Frequent school contact and involvement on the part of parents have been found to be characteristics of successful students (Clark, 1983). Henderson (1988) reviewed 49 studies of parent involvement programs and reported numerous benefits, including higher grades and test scores, and long-term academic achievement. Henderson and Berla (1994) in their extensive review of research on academic achievement found that the most

accurate predictor of a student's achievement in school is not income or social status, but the extent to which parents encourage learning, set high expectations, and become involved in their children's education at school and in the community.

Parents, who are more involved with their children's school, including conferring with school staff, presenting, observing or volunteering in the class or school, and attending a school event or meeting, have been found to have children who perform better in school (Population Reference Bureau, 2000). NCES (n. d.), drawing on data from the 1996 National Household Education Survey, studied the differences in the level of school involvement in a sample of parents of high school students. School involvement was defined as participating in at least three of four school activities: attending a general school meeting, attending regular parent-teacher conferences, attending a school or class event, or volunteering at school. They found that fathers' and mother's involvement was associated with a higher likelihood of students getting mostly A's.

Paulson, Marchant, and Rothlisberg (1998) examined adolescents' perceptions, congruence and noncongruence of parenting styles and involvement, teaching styles, and school atmosphere and the implications these have for academic achievement. The participants in the study were 230 students in the 5th- and 6th-grades from three school districts in the Midwest. Those students who had congruent authoritative styles at home and at school (moderate demand/control and high responsiveness) saw their parents as being highly involved in their school functions and were also the students with highest grades. This study did not examine ethnic differences in their results. And, as the authors themselves point out in their discussion of the study, as the diversity of the school population increases there will also be an increasing need to understand the relative

importance of these factors on academic performance in differing contexts and among differing populations.

Bogenschneider (1997), in her study of 10,000 students (12% Latino) from nine high schools in California and Wisconsin, found that both mother's and father's school involvement were significantly correlated with high school grade point average, regardless of the parent's educational level or the child's gender or ethnicity. But, Voydanoff and Donnelly (1999) in a study of 929 parents and children, ages 10 - 17, reported only a modest but not statistically significant relationship between parental involvement and childrens' grades.

There are also a few studies, which have found that students whose parents were more involved had lower mathematics achievement scores (Bempechat, Graham, & Jimenez, 1999; Muller, 1995). This may reflect the tendency on the part of some parents to respond to poor performance. Most aspects of parental involvement in the literature suggest a positive relationship with youth's academic achievement (Voydanoff & Donnelly, 1999). What effect parental involvement has for Latino students remains to be seen because parental school involvement has primarily been studied in White student populations (Bogenschneider, 1997).

There are a limited amount of studies that examine how parental involvement in school affects the academic achievement of Latino students. Lopez's (1996) study of Latino and White students in vocational and academic programs found that parental involvement in schooling (i.e. father and mother keeping track of progress in school, how often parents attend PTA meetings, parents volunteering for school projects, and how often parents visited classes) was related to their academic achievement as measured by

grades. Latinos and Whites, who had been kept in academic programs, as opposed to going to vocational programs, were also more likely to have greater parental involvement (Lopez, 1996). Bogenshneider (1997) found that for all students, including Latinos, parental school involvement was associated with GPAs, such that the more involvement the higher the GPA.

Romo and Falbo (1996) found, in their four-year longitudinal qualitative study of one hundred at-risk Latino youth, that parents of academically successful at-risk adolescents were aggressive in making contacts with the schools. Jones and Velez's (1997) study of twenty Latino parents and 76 10th-grade students from a Midwestern high school, found that direct involvement of parents by supervising the child, particularly as related to homework at home appeared to be related to academic performance.

The President's Advisory Commission on Educational Excellence for Hispanic Americans (2000) has stated that parental involvement is one of the essential factors for improving the education of Hispanic youth. But research still needs to be conducted that further examines the relationship of parental involvement in school for Latino students' academic performance.

Social Support

Clark (1991) has suggested that support networks also constitute resilient behaviors that need to be fostered and developed by students. Dryfoos (1998) has stated that for young people to succeed they have to be attached to a caring adult. Several researchers have found that support from family, school, and the community is related to students' academic achievement and resiliency (Alva, 1991; Benard, 1991; Clark, 1983; Clark, 1991; Lopez, 1996; Scales & Gibbons, 1996; Werner 1989). Scales and Gibbons

(1996), in their review of the literature, found that many reports on adolescent development have indicated that a relationship with a least one caring adult, not necessarily a parent, is perhaps the single most important element in protecting young people who have risk in their lives. Wang and Gordon (1994) have also noted that most resilient children have at least one strong relationship with an adult, not always a parent.

Werner and Smith (1992) in their longitudinal study of 700 at-risk youth found that a distinguishing factor shared by each resilient child was a long-term, close relationship with a caring, responsible parent or other adult. Specifically, when they were of school-age, they had more access than did less resilient peers to supportive teachers, clergy, neighbors, and other caring adults outside of the family. A lack of interpersonal relationships and support from significant adults, such as parents or teachers, has also been found to be a barrier to academic achievement (Vera, 2000). Clark (1983) found that both parent and teacher support were distinguishing patterns of high-achieving children. A recent study, in which racially/ethnically diverse students were interviewed found that many academically successful high school seniors from inner-city high schools attributed their academic success, at least in part, to the educational support they received from their social support networks (Kenny, Gallagher, Alvarez-Salvat, & Silsby, 2002).

Some research has even addressed the effects of social support exclusively on Latino students. One example is Robertson, Harding, and Morrison's research (1998) of at-risk, learning disabled, speech impaired, and not at-risk Latino elementary youth from California. They found that social support, measured as the number of significant

individuals in a student's life, was higher for those students who were not at risk for school failure (Robertson, Harding, & Morrison, 1998).

Parental support has been associated with a number of positive outcomes including higher levels of academic success. An abundance of research has reported that family support is associated with higher grades and higher standardized test scores (Bisnaire, Firestone, & Rynard, 1990; Cauce, Felner, & Primavera, 1982; Christenson, Grounds, & Gorney, 1992; Eccles, Early, Fraser, Belansky, & McCarthy, 1997; Feldman & Wentzel, 1990; Glasgow, Dornbush, Troyer, Steinberg, & Ritter, 1997; Masselam, Marcus, & Stunkard, 1990; Rosenthal & Feldman, 1991). Werner (1989) in her classic 40-year study of at-risk youth found that those students who did overcome adversity had higher levels of family support. Adolescents who have parental support and have communication with their parents are less likely to fail or drop out of school (Barnes & Farrell, 1994; Dryfoos, 1990; Goldschmidt & Wang, 1999; Rumberger, 2001)). Parental support has also been found to differentiate between high- and low-achieving groups (Clark, 1983).

Clark's (1983) study observed that students with parents who provided liberal nurturing and support were more likely to be high-achievers. Keith and Perkins (1995) found that, for students in Michigan, family support was associated with preventing problem indicators and behaviors in school. Floyd (1996), in her study of academically resilient African American high school seniors, reported that supportive parents were often mentioned as influential in students' academic achievement. In her qualitative study of 20 African American youth who were succeeding in school despite economic

hardship, Floyd (1996) found that many students cited supportive family members, including both mothers and fathers, as factors in their success.

A recent study of 100 multiethnic academically successful inner-city youth, found that mother's support, but not father's support, was significantly related to students' grade point averages (Kenny, et al., 2002). In the second part of this study, Kenny and her colleagues (2002) interviewed successful high school seniors, and found that the most successful seniors, in terms of academic achievement, reported high levels of family support. Scales and Gibbon's (1996) review of the literature on the presence of caring adults reported that parents were most often found to be the most important adults in the lives of adolescents. Regrettably, little research has examined the role parental support plays in the academic achievement of Latino youth.

Lopez (1996), in his study of both White and Latino students in vocational and academic (college-bound) programs, found that the amount of time students spent talking with their parents was positively related to their academic achievement. Comparatively higher levels of social capital at home, including parental support, also accompanied the higher performance of Latino students in academic programs (Lopez, 1996). In other words, students receiving higher grades were more likely to have greater parental support than their low achieving peers (Lopez, 1996). What little other research exists that examines family support and Latino students' academic achievement has not shown any relationship between these variables (López, Ehly, & García-Vázquez, 2002).

Scales and Gibbons (1996) reviewed the available literature with respect to identifying non-parental adults who positively affect adolescents, characterizing the kinds and frequency of contact between adolescents and non-parental adults, and articulating

the functions that the relationships serve and specifying personal characteristics of the non-parental adults. These non-parental adults included teachers and other school personnel as well as neighbors and other adults. They found in their review that although parents are the most important adults in the lives of adolescents and peers are the most important non-relatives, non-parental adults might play important roles in the healthy development of adolescents.

Not surprisingly, support provided by the school environment has also 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). Many of these researchers only examined this relationship in terms of school support and negative outcomes such as dropout rates (e.g. Rumberger & Thomas, 2000; Rutter, 1979). For example, Rumberger and Thomas (2000), in their study of 7,642 10th-grade students, observed that in schools where students reported a higher quality of teachers there were lower rates of dropout and turnover. While these findings are important, they do not explain the relationship of this factor to positive outcomes such as academic success.

Teachers represent a special case of non-related adults in adolescents' lives in that adolescents may have frequent contact with teachers (almost daily), and contact occurs in a structured setting (the school) (Scales & Gibbons, 1996). Several researchers have found that support from teachers and the school environment has been associated with

higher grades (Eccles & Harold, 1993; Felner, Ginter, & Primavera, 1982; Linney & Siedman, 1989; Graham, Updegraff, Tomascik, & Hale, 1997; Rutter, 1983).

Davis and Jordan's (1994) longitudinal study found that students who perceived their teachers to be supportive had the highest grades and the highest test scores. In a review of the literature on significant adults other than parents in the lives of adolescents, Galbo (1986) found that for youth who were high academic achievers, teachers were perceived to have an important role in their lives. Werner and Smith (1992) found, in a Kauai sample, that one of the three most common unrelated family adult relationships in the lives of resilient youth were teachers. Felner (1992), in a study of more than 4,000 middle school students, reported that the degree of overall student-teacher closeness in the school contributed to higher academic achievement.

Floyd's (1996) study of academically resilient Black students also found teachers to be motivating influences in school success. Having exposure to teachers that are stimulating and supportive has been found to be a predictor of whether students are high- or low-achieving (Clark, 1983). But this relationship has not been as thoroughly explored with Latino students.

There is a limited amount of literature, which examines the relationship of school support on the academic success of Latino youth. Alva's (1991) study of Mexican-American high school students found educational support from teachers and friends to be important factors related to resiliency. Kaplan's (1999) study of Black and Latino students revealed that students gave their teachers credit for strengthening their academic skills. Conversely, Erickson and Schutlz (1982) found in their study of Latino and African American junior high, high school, and college students in northern California

that students often reported unsupportive teachers and counselors as barriers to academic success.

Lucas, Henza, 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. Their study of six effective high schools found that two of the features of high schools that promote achievement of Latino youth is the respect and value that school personnel give students, along with their challenging students and providing guidance to meet those challenges (Lucas, Henza, & Donato, 1990). López, Ehly and García-Vázquez's (2001) study of 60 9th-grade students of Mexican descent in a southwestern school district, found a significant correlation between perceived teacher support and students' GPA.

Although there is much less research on neighborhood and other adult support than on support provided by families or schools, the research does suggest that support from these other adults can have a positive effect on various areas of youth's lives, including strengthening their academic performance. Support provided by other adults and neighbors has been associated with higher grades and higher academic achievement (Cochran & Bø, 1989; Entwilse, Alexander, & Olson, 1994; Wenz-Gross & Siperstein, 1997). Werner (1989; Werner & Smith, 1992) in her longitudinal study found support from other adults to play an important role in the lives of resilient students. High levels of support have been related to better grades among at risk youth (Dubois, et al., 1992).

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). Chavkin and

Gonzalez's (2000) review of research and programs addressing Mexican immigrant youth and resiliency, found that relationships with caring adults was associated with resiliency. Although Latino student dropout has also been related to a lack of supportive adult relationships (Chavkin & Gonzalez, 2000; Nesman, Barobs-Gahr, & Medrano, 2001; Rumberger, 2000), research examining supportive adult relationships and academic achievement in Latino youth are scarce.

Peer Influence

Peers can have either a positive or negative effect on adolescents' academic achievement. Resilient 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).

Voydanoff and Donnelly (1999), in their sample of 929 parents and students from a national random digit sample of telephone numbers, found that having friends who were planning to go to college was positively related to grades for students. This study also reported that the effect of peer activities actually became positive when children had high levels of other protective factors as well. Keith and Perkins (1995) in their sample of Michigan students found that high school students who had positive peer influence were less likely to display at-risk indicators or behaviors for school failure. Kenny and her colleagues (2002) also found that peers could provide support for academic success. In

their interviews with sixteen academically successful inner-city youth, they found that supportive relationships with friends were often mentioned as factors encouraging their academic success (Kenny, et al., 2002).

Azmitia and Cooper (2001) report on two longitudinal studies of peers as resources and challenges for students' school performance and future planning. The first study examined European American and Latino students' perceptions of peers' emotional support, academic guidance, and companionship from elementary to junior high school. Students' perceptions of peers' overall encouragement or discouragement of school were linked to English and math grades (Azmitia & Cooper, 2001). They also found that the link between seeing peers as a resource and grades were stronger in junior high than in elementary school (Azmitia & Cooper, 2001). The second study examined peers as both challenges and resources for youth in a community college academic outreach program. Participants in the program saw their peers as challenges as well as resources in reaching their career goals (Azmitia & Cooper, 2001). Peers were also seen as greater challenges than families (Azmitia & Cooper, 2001). Taken together, these studies demonstrate the significance of peers as having both positive and negative influences on adolescents.

Peers, who are involved in risky behaviors, such as alcohol use, drug use or delinquent behavior, have been found to have a negative effect on students' academic achievement ([Powell-Cope & Eggert, 1994; Romo & Falbo, 1996; Rumberger, 2001;Wang, et al., 1999). Negative peer behavior and peer pressure were found to be negatively correlated with youth's grades (Voydanoff & Donnelly, 1999). Specifically, the more friends a student had that participated in risky behaviors, and the more pressure

they felt to participate in risky behaviors, the lower their grades (Voydanoff & Donnelly, 1999).

A recent longitudinal study of 120 Black and Latino youth in outreach programs examined students' family backgrounds: challenges and resources across family, school, peer, and community (Cooper, Cooper, Jr., Azmitia, Chavira, & Gullat, 2002). This study found that students, including Latinos, saw peers, along with teachers, as their greatest challenges (Cooper, et al., 2002). This finding points to the possible negative effect that peers can have on students.

Although there is a limited amount of research on peer influence and academic success in Latino populations, some research has shown a relationship between types of peer influence and school success. Research has found that for Latino adolescents, peers are relatively more influential on their academic achievement than are parents (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. Unfortunately, this study only examined barriers to achieving youth's goals and did not examine what the youth felt would promote success. The relationship between peer influence and academic achievement for Latinos is still relatively unexplored.

While the factors affecting the academic achievement of Latino youth have been examined in varying degrees, few researchers have examined both individual level and environmental level factors simultaneously. Many have also looked at the factors affecting academic achievement from a failure perspective, looking only at those factors that negatively affect academic achievement.

The Current Study

Expanding on previous research in this area, the purpose of the current study was to compare high achieving and low achieving students using various attributes that have been found to be predictors of academic success. In the present analysis, the selection of predictors related to academic success was guided by an emphasis on variables that can be used for assessment or are amenable to prevention and intervention efforts. This research may particularly useful in framing successful efforts for Latino students. This study focused on whether high and low achieving Latino students differ significantly on their personal time allocation, their achievement motivation, their school affiliation, the type and amount of social support they receive, their parents' involvement in schooling, and the type of peer influence in their lives.

CHAPTER 3
METHODS

The current study used secondary data collected in collaboration with the Search Institute. Since 1989, Search Institute in Minneapolis, Minnesota has been conducting research, grounded in resilience, prevention, and adolescent development literature, that examines the positive relationships, opportunities, competencies, values, and self perceptions that youth need to succeed. This research has produced the institute's framework of developmental assets. Search Institute's Healthy Communities-Healthy Youth initiative sponsors research, evaluation, training, technical assistance, networking opportunities, and the development of resource materials based on this framework. The developmental assets have been measured using Search Institute's *Profiles of Student Life: Attitude and Behaviors survey* (ABS). Since 1994, more than 500,000 6th- to 12th-grade students in more than 600 communities across the United States have used the survey. If a community decides to employ the ABS, Search Institute provides them with resources to administer and get results of the survey. Results are reported from Search Institute back to the community. Data collected during a given school year is also aggregated and reported by state and as a national sample. The data being used in this study is an aggregate of the majority of the data collected from students in the state of Michigan during the 1998-99 school year.

Participants

The Search Institute's total aggregate state sample consisted of 20,872 youth in grades 6 through 12 who were attending public schools in Michigan during the 1998-99 school year. In total, 35 school districts had students who participated in the study.

Appendix A presents a map of Michigan with the number of school areas indicated where the Search data was used. Of these, 49% were male and 51% were female. The mean age for the sample was 14.4 years. Table 1 (below) shows the distribution of the students by grade level. 50.5% of the students were in middle school or junior high (6th-8th grade) and 49.5% were in high school (9th-12th grade) at the time the survey was administered.

Table 1
Background Characteristics of Total Sample and Hispanic/Latino Sample

Demographics	Percent	
	Total Sample (N=20872)	Hispanic/Latino Sample (N=219)
Gender	(Missing=29)	
Male	49	50
Female	51	50
Grade in school	(Missing=42)	
6th	8	7
7th	20	23
8th	23	23
9th	19	20
10th	12	14
11th	11	10
12th	8	5
Where does your family live now?	(Missing=988)	
On a farm	6	3
In the country, not on a farm	25	24
On an American Indian reservation	1	1
In a small town (under 2,500 in population)	16	15
In a town (2,500 to 9,9999)	14	19
In a small city (10,000 to 49,999)	21	15
In a medium size city (50,000 to 250,000)	14	18
In a large city (over 250,000)	3	4
What grades do you earn in school?	(Missing=363)	
Mostly As	26	14
About half As and half Bs	28	26
Mostly Bs	12	12
About half Bs and half Cs	19	22
Mostly Cs	6	7
About half Cs and half Ds	7	13
Mostly Ds	2	2
Mostly below Ds	1	4

*Percentages may not sum 100% due to rounding

The majority of the students reported their racial/ethnic background as White (see Table 2 below). The percentages reported for all other ethnic/racial categories are presented in Table 2.

Table 2
Ethnic/Racial Percentages for Total Sample

Race/Ethnicity	Percent (N=20698)
American Indian	1.7
Asian or Pacific Islander	1.2
Black	1.1
Hispanic	1.7
White	89.9
Multi-racial	4.4

It is of interest to note that 4.4% of the students reported a multiracial ethnic/racial background, and of these students 62.3% reported both White and American Indian. Thirty-two percent of the students reported living in rural areas (on a farm; in the country, not on a farm; and on an American Indian reservation), 30% in suburban areas (in a small town under 2,500 in population, and in a town 2,500 to 9,999 in population), and 38% in urban areas (in a small city -10,000 to 49,999, in a medium size city -50,000 to 250,000, and in a large city - over 250,000; see Table 1 for all percentages reported). One thousand, six hundred and forty-four participants' data were removed by Search from the total sample of those students who took the survey (leaving the 20,872 stated earlier) because it was determined that students were being inconsistent in their responses, were exaggerating alcohol or other drug use rates, or had not responded to 40 or more questions.

Hispanic/Latino Students

Of the sample surveyed by Search, 358 (1.7%) of the students self-identified as only Hispanic/Latino. This study focused on this subset of students. It is important to note that the ABS only includes the pan-ethnic terms Hispanic or Latino as possible choices for those students whose heritage is from Spain, Cuba, Puerto Rico, Mexico, or any other Latin American country. There are no options on the ABS to specify country of origin. This should be kept in consideration as differences have been found between the groups that come under the Hispanic/Latino label as to their levels of academic achievement.

Participants who were missing answers to any of the questions used in this study were excluded from analyses. This left a sample of 216 Latino students for analyses. Table 1 presents comparisons of the Hispanic/Latino sample and the total sample. The gender distribution of the Hispanic/Latino sample is comparatively equal. The median age for Latino students was 14.4 years old. The distribution of Latino students by grade level was also similar to that of the total sample, 51.9% were in middle school or junior high school and 48.1% were in high school . Of this sample, 36.3% indicated they lived in an urban area, 36% in a suburban area, and 27.8% in a rural area .

Measure

The survey, Search Institute Profile of Student Life: Attitudes and Behaviors (ABS), was used to measure protective and risk factors among youth in Michigan. The survey is a 156-item self-report questionnaire that has been administered to 6th- to 12th-grade students in public and private schools. Search Institute's ABS measures 40 developmental assets. The framework of 40 developmental assets with definitions is

presented in Table 3 below. The assets are measured by one or more survey items, with Likert-type response options. The ABS also measures a number of other constructs, including developmental deficits (e.g., whether youth watch too much television or are the victims of violence), thriving indicators (e.g., school success and maintenance of physical health behaviors), high-risk behaviors (e.g., alcohol, tobacco, and other drug use, sexual intercourse, and violence), and demographics. See Appendix B for all of the items included in the survey.

Table 3

The Framework of 40 Developmental Assets, with Definition

External Assets

Support

1. Family support-Family life provides high levels of love and support.
2. Positive family communication-Young person and her/his parent(s) communicate positively, and young person is willing to seek advice and counsel form parents
3. Other adult relationships-Young person receives support from three or more non-parent adults.
4. Caring neighborhood-Young person experiences caring neighbors.
5. Caring school climate-School provides a caring, encouraging environment.
6. Parent involvement in schooling-Parent(s) are actively involved in helping young person succeed in school.

Empowerment

7. Community values youth-Young person perceives that adults in the community value youth.
8. Youth as resources-Young people are given useful roles in the community.
9. Service to others-Young person serves in the community one hour or more per week.
10. Safety-Young person feels safe at home, at school, and in the neighborhood.

Boundaries and Expectations

11. Family boundaries-Family has clear rules and consequences and monitors the young person's whereabouts.
12. School boundaries-School provides clear rules and consequences
13. Neighborhood boundaries-Neighbors take responsibility for monitoring young people's behavior.
14. Adult role models-Parent(s) and other adults model positive, responsible behavior.
15. Positive peer influence-Young person's best friends model responsible behavior.
16. High expectations-Both parent(s) and teachers encourage the young person to do well.

Constructive Use of Time

17. Creative activities-Young person spends three or more hours per week in lessons or practice in music, theater, or other arts.
18. Youth programs-Young person spends three or more hours per week in sports, clubs, or organizations at school and/or in the community.
19. Religious Community-Young person spends one or more hours per week in activities in a religious institution.
20. Time at home-Young person is out with friends "with nothing special to do" two or fewer nights per week.

Internal Assets

Commitment to Learning

21. Achievement motivation-Young person is motivated to do well in school.

22. School engagement-Young person is actively engaged in learning.
23. Homework-Young person reports doing at least one hour of homework every school day.
24. Bonding to school-Young person cares about her or his school.
25. Reading for pleasure-Young person reads for pleasure three or more hours per week.

Positive Values

26. Caring-Young person places high value on helping other people.
27. Equality and social justice-Young person places high value on promoting equality and reducing hunger and poverty.
28. Integrity-Young person acts on convictions and stands up for her or his beliefs.
29. Honesty-Young person "tells the truth even when it is not easy."
30. Responsibility-Young person accepts and takes personal responsibility.
31. Restraint-Young person believes it is important to not be sexually active or to use alcohol or other drugs.

Social Competencies

32. Planning and decision making-Young person knows how to plan ahead and make choices.
33. Interpersonal competence-Young person has empathy, sensitivity, and friendship skills.
34. Cultural competence-Young person has knowledge of and comfort with people of different cultural/racial/ethnic backgrounds.
35. Resistance skills-Young person can resist negative peer pressure and dangerous situations.
36. Peaceful conflict resolution-Young person seeks to resolve conflict nonviolently.

Positive Identity

37. Personal power-Young person feels he or she has control over "things that happen to me."
38. Self-esteem-Young person reports having a high self-esteem.
39. Sense of purpose-Young person reports that "my life has a purpose."
40. Positive view of personal future-Young person is optimistic about her or his personal future.

Note. Adapted from Scales and Leffert, 1998.

Reliability

Thirteen of the assets measured by the ABS are measured with single items; therefore, internal consistency does not apply. Nineteen of the assets have demonstrated reliability coefficients above .60, four are between .50 and .59, and four are less than .50 (Leffert, et al., 1998). Most of the scales show acceptable reliability ranging from the .60s to the .80s, particularly those from items which were used to assess the predictors in this study. These include family support (α = .79), other adult relationships (α = .82), caring school climate (α = .68), parent involvement in schooling (α = .75), achievement motivation (α = .64), school engagement (α = .63), and peer influence (α = .71). Table 4 on the next page presents reliability coefficients for each of the asset scales.

Table 4
Reliability of Developmental Assets

Asset Scale	No. of Items	Reliability Coefficient*
1. Family Support	3	.79
2. Positive Family Communication	3	.50
3. Other Adult Relationships	3	.82
4. Caring Neighborhood	1	NA
5. Caring School Climate	3	.68
6. Parent Involvement in Schooling	4	.75
7. Community Values Youth	4	.81
8. Youth as Resources	3	.48
9. Service to Others	1	NA
10. Safety	3	.50
11. Family Boundaries	3	.62
12. School Boundaries	3	.52
13. Neighborhood Boundaries	1	NA
14. Adult Role Models	3	.31
15. Positive Peer Influences	4	.71
16. High Expectations	2	.53
17. Creative Activities	1	NA
18. Youth Programs	3	.40
19. Religious Community	1	NA
20. Time at Home	1	NA
21. Achievement Motivation	3	.64
22. School Engagement	4	.63
23. Homework	1	NA
24. Bonding to School	1	NA
25. Reading for Pleasure	1	NA
26. Caring	3	.75
27. Equality and Social Justice	3	.75
28. Integrity	2	.79
29. Honesty	1	NA
30. Responsibility	2	.68
31. Restraint	2	.80
32. Planning and Decision-Making	2	.62
33. Interpersonal Competence	3	.67
34. Cultural Competence	3	.80
35. Resistance Skills	2	.63
36. Peaceful Conflict Resolution	1	NA
37. Personal Power	2	.32
38. Self-Esteem	4	.78
39. Sense of Purpose	1	NA
40. Positive View of Personal Future	1	NA

Note. N=99,462. NA=Reliabilty coefficient not applicable for 1-item
*For scales including 3 or more items, Cronbach's (1951) alpha coefficient was used to assess reliability. For 2-item scales, Spearman-Brown prophecy formula was used to assess reliability.

Validity

A considerable portion of the established validity of the developmental assets is content validity in the form of face validity. In other words, the assets and the individual items that comprise them reflect important aspects of what is reported in the literature as to the structure of those domains, and they appear to measure what was intended in their development (Fitzpatrick, 1983).

Results from an exploratory factor analysis of the construct validity of the developmental assets framework, support the identification of a 16-factor solution that explains 49.6% of the variance (Furrow & Wagener, 1998). This factor analysis was conducted using only the 92 asset items of the 156 total ABS items utilizing a principal components method extraction with varimax rotation. The 16 factors were composed of 89 of these items; 3 items did not have sufficient loadings (>.35) with any one factor. Each of the 16 factors identified fell into at least one of the eight categories. These findings suggest that, while some of the individual assets may overlap in the domains that they measure, the developmental assets framework can indeed be used for assessing the variability of developmental outcomes for youth.

Principal-axis factor analyses were conducted with orthogonal (varimax) rotation for all the scales included in this study, using the Latino student sample. Two primary criteria were set forth *a priori* for determining the number of factors to extract. The scree test and the root-one criterion were examined to decide the number of factors to retain. The root-one criterion states that factors with eigenvalues equal to or greater than one should be rotated (Guttman, 1954) and the scree test criterion (Cattell, 1966) suggests that factoring should cease when the plotted graph of the eigenvalues levels off, forming a

straight line with an almost horizontal slope. Both of these criterion suggested that one factor be extracted during principal-axis analysis using varimax rotation for several of the scales. Specific results for each scale are presented below. Correlations between the scales and the outcome variable were also conducted. Correlations ranged from .24 to .54 (see Table 5 on the next page).

Table 5

Correlations Between Scales and Outcome Variable (N = 219)

	Time allocation	Academic motivation	School affiliation	Parent involvement	Family support	School support	Other adult support	Peer influence	Grades
Time allocation	—								
Academic motivation	.38**	—							
School affiliation	.43**	.53**	—						
Parent involvement	.37**	.39**	.30**	—					
Family support	.24**	.50**	.43**	.59**	—				
School support	.27**	.43**	.41**	.35**	.40**	—			
Other adult support	.32**	.33**	.32**	.36**	.54**	.46**	—		
Peer influence	.40**	.44**	.51**	.36**	.37**	.24**	.27**	—	
Grades	.34**	.43**	.39**	.25**	.28**	.20**	.22**	.39**	—

** Correlation is significant at the 0.01 level (2-tailed).

Predictors

In order to examine background characteristics of time allocation, achievement motivation, school affiliation, parental involvement, social support, peer influence, and their relationship to academic success, a subset of the 156 items on the survey were used in this study. Predictors of academic success were chosen based on the literature. The items from the ABS chosen to measure each predictor were based on Search's grouping of items based on asset definition as well as on literature and face validity. Background characteristic were measured by the demographic questions included in the survey. These consist of age, gender, family situation, parental education level, and area of residence. The majority of the students live with both parents, and in a suburban area. Also, 42.6% of the students' fathers and 47.7% of their mothers had at least some education beyond high school. For a list of all the demographic items and their distributions for the Hispanic/Latino sample see Table 6 below.

Table 6
Demographic Items and Distributions for Hispanic/Latino Sample

Items	Percent (N=219)
Which best describes your family?	
I live with two parents	73.6
I live in a one-parent family with my mother	14.4
I live in a one-parent family with my father	3.2
Sometimes I live with my mother and sometimes with my father	8.8
Where does your family live now?	
On a farm	3.2
In the country, not on a farm	24.1
On an American Indian reservation	1.4
In a small town (under 2,500 in population)	15.3
In a town (2,500 to 9,9999)	19.0
In a small city (10,000 to 49,999)	15.3
In a medium size city (50,000 to 250,000)	18.1
In a large city (over 250,000)	3.7

How many years have you lived in the city where you now live?	
All my life	25.5
10 years or more, but I've lived in at least one other place	14.4
5-9 years	23.6
3-4 years	16.2
1-2 years	8.3
Less than 1 year	11.6
What is the highest level of schooling your father (or step-father or male foster parent/guardian) completed?	
Completed grade school or less	8.4
Some high school	13.9
Completed high school	27.8
Some college	20.8
Completed college	18.5
Graduate or professional school after college	10.6
Don't know, or does not apply*	
What is the highest level of schooling your mother (or step-mother or female foster parent/guardian) completed?	
Completed grade school or less	4.2
Some high school	12.0
Completed high school	33.3
Some college	23.1
Completed college	17.6
Graduate or professional school after college	9.7
Don't know, or does not apply*	

*Students that marked this response were not included in analyses.

Twelve items were chosen to measure students' personal time allocation. These included questions that ask about how students spend their time outside of school, and the kinds of activities they are involved in. This scale was a combination of several of Search's one-item scales, including helps others, TV overexposure, service to others, creative activities, religious community, time at home, homework, and reading for pleasure. It also included the three items in Search's youth program's scale and another item not used to assess any of the assets, deficiencies or thriving indicators. More than half of the students in this study were involved in creative or organized activities during the average week including sports, reading just for fun, and/or attending religious programs, groups or services (see Table 7 on next page). For a complete list of the items used to assess students' time allocation and their distributions see Table 7.

Table 7
Time Allocation Items and Distributions for Hispanic/Latino Sample

Items	Percent (N=219)
During an average week, how many hours do you spend playing on or helping with sports teams at school or in the community?	
0 hours	44.9
1 hour	11.1
2 hours	11.1
3-5 hours	13.0
6-10 hours	8.3
11 or more hours	11.6
During an average week, how many hours do you spend in clubs or organizations (other than sports) at school (for example, school newspaper, student government, school plays, language clubs, hobby clubs, drama club, debate, etc.)?	
0 hours	66.7
1 hour	19.9
2 hours	7.4
3-5 hours	3.7
6-10 hours	.9
11 or more hours	1.4
During an average week, how many hours do you spend in clubs or organizations (other than sports) outside of school (such as 4-H, Scouts, Boys and Girls Clubs, YMCA, YWCA)?	
0 hours	77.7
1 hour	10.5
2 hours	7.0
3-5 hours	2.3
6-10 hours	.4
11 or more hours	2.0
During an average week, how many hours do you spend reading just for fun (not part of your school work)?	
0 hours	37.5
1 hour	26.9
2 hours	14.8
3-5 hours	11.1
6-10 hours	2.3
11 or more hours	7.4
During an average week, how many hours do you spend going to programs, groups, or services at a church, synagogue, mosque, or other religious or spiritual place?	
0 hours	44.9
1 hour	22.7
2 hours	14.8
3-5 hours	11.6
6-10 hours	.9
11 or more hours	5.1

During an average week, how many hours do you spend helping other people without getting paid (such as helping out at a hospital, daycare center, food shelf, youth program, community service agency, or doing other things) to make your city a better place for people to live?	
0 hours	52.3
1 hour	25.5
2 hours	11.6
3-5 hours	5.6
6-10 hours	1.9
11 or more hours	3.2
During an average week, how many hours do you spend helping friends or neighbors?	
0 hours	25.5
1 hour	31.0
2 hours	22.7
3-5 hours	12.5
6-10 hours	3.2
11 or more hours	5.1
During an average week, how many hours do you spend practicing or taking lessons in music, art, drama, or dance, after school or on the weekends?	
0 hours	
1 hour	62.5
2 hours	10.6
3-5 hours	9.7
6-10 hours	6.9
11 or more hours	6.0
	4.2
On the average how many evenings per week do you go out to activities at a school, youth group, congregation, or other organization?	
0	
1	46.8
2	16.2
3	13.4
4	6.5
5	4.6
6	6.5
7	3.2
	2.8

Cronbach's alpha = .68

After conducting principal axis factor analysis with the items in the time allocation scale using the Latino student sample, the scale was reduced to 9 items. Three of the items chosen did not load on any factor. The principal axis analysis yielded two underlying factors that together accounted for 45% of the variance (see Appendix C).

Items in Factor 1 were specific activities students could be involved in. This factor alone accounted for about 31% of the variance. Item factor loadings for this factor ranged from .38 to .64. Factor 2 contained items related to general activities students could participate in. This factor accounted for about 14% of the variance. Eigenvalues for item factor loadings ranged from .43 to .69. In previous research, the youth programs scale has been found to have a reliability of .40 (Leffert, et al., 1998). This combined scale has a reliability coefficient of .68 for this sample. The first factor had a reliability of .55, and the second had a reliability coefficient of .48.

Three items measured the students' achievement motivation. These items are the same questions Search includes in their achievement motivation scale. Leffert, et al. (1998) found this scale to have a reliability of .64 based on a national sample. In this Latino sample, the scale had a reliability of .68. The distributions for all three of the items are also positively skewed in this sample. See Table 8 on following page for item description and distributions. One factor was extracted during principal axis factoring for the achievement motivation items. The item total factor loadings ranged from .27 to .43, and the factor accounted for 62% of the variance (see Appendix C).

Table 8
School Achievement Motivation Items and Distributions for Hispanic/Latino Sample

Items	Percent (N=219)
I don't care how I do in school.	
Strongly agree	7.4
Agree	6.0
Not sure	16.2
Disagree	28.7
Strongly disagree	41.7
At school I try as hard as I can to do my best work. *	
Strongly agree	20.4
Agree	47.7
Not sure	17.1
Disagree	11.1
Strongly disagree	3.7
It bothers me when I don't do something well. *	
Strongly agree	34.3
Agree	34.7
Not sure	18.1
Disagree	8.8
Strongly disagree	4.2

*reverse coded
Cronbach's alpha = .68

To examine students' school affiliation six items were used. This scale is an adaptation of two of the asset scales used by Search, school engagement and bonding to school. The school bonding scale is composed of only one item and as such, reliability coefficients are not applicable. Leffert and her colleagues (1998) found the school engagement scale to have a reliability of .63. The six-item school affiliation scale used in this study was found to have a reliability coefficient of .62. It is not surprising to note that the majority of the students who responded had not skipped any days of school in the four weeks prior to taking the survey (see Table 9 on next page). But more than half of the students also reported usually feeling bored at school. See Table 9 for a description of all the items along with their respective distributions. Principal axis factor analysis of the

school affiliation items yielded one underlying general factor that accounted for 40% of the variance. Item factor loadings for these items ranged from .40 to .66 (Appendix C).

Table 9
School Affiliation Items and Distributions for Hispanic/Latino Sample

Items	Percent (N=219)
How often do you feel bored at school?	
Usually	51.4
Sometimes	44.9
Never	3.7
How often do you come to classes without bringing paper or something to write with?	
Usually	12.0
Sometimes	39.4
Never	48.6
How often do you come to classes without your homework finished?	
Usually	15.7
Sometimes	65.3
Never	19.0
How often do you come to classes without your books?	
Usually	7.9
Sometimes	33.8
Never	58.3
I care about the school I go to. *	
Strongly agree	14.4
Agree	37.0
Not sure	25.0
Disagree	11.6
Strongly disagree	12.0
During the last four weeks, how many days of school have you missed because you skipped or "ditched"? *	
None	62.0
1 day	13.9
2 days	6.0
3 days	5.6
4-5 days	4.2
6-10 days	3.2
11 or more days	5.1

*reverse coded
Cronbach's alpha = .62

Parental involvement in schooling was assessed by four items. These are the same four items used by Search in their parent involvement in schooling scale. These indicators

reflect the degree to which parents express interest in and are actively engaged in their children's activities. Prior research (Leffert, et al., 1998) has found this scale to have a reliability of .75. In this study, the scale was found to have a reliability of .67. Table 10 below has a complete list with descriptions and distributions of the items being used to assess this predictor. Not surprising, given the age of the students who participated in the study, only about 25% of the students reported that their parents often or very often helped them with school work. Only one factor emerged from principal axis factoring for the items in the parent involvement in schooling scale, which accounted for 51% of the variance. Item factor loadings for this scale ranged from .43 to .76 (Appendix C).

Table 10
Parent Involvement in Schooling Items and Distributions for Hispanic/Latino Sample

Items	Percent (N=219)
How often does one of your parents help you with your school work? *	
Very often	9.7
Often	15.7
Sometimes	36.1
Seldom	23.1
Never	15.3
How often does one of your parents talk to you about what you are doing in school? *	
Very often	24.5
Often	28.2
Sometimes	24.1
Seldom	14.8
Never	8.3
How often does one of your parents ask you about homework? *	
Very often	37.5
Often	22.7
Sometimes	19.4
Seldom	12.0
Never	8.3
How often does one of your parents got to meetings or events at your school?	
Very often	11.1
Often	19.4
Sometimes	30.1
Seldom	19.4
Never	19.9

*reverse coded. Cronbach's alpha = .69

Three aspects of social support were examined. These were family support, school support, and other adult relationships. Items and distributions for all three aspects of social support are presented in Tables 11, 12, and 13 respectively. Five items from the survey were used to evaluate family support. This scale included the three items used by Search to assess family support as well as two other questions taken from two other scales that Search uses to measure the youth as resources asset, and the high expectations asset. Search's three-item family support scale has been found to have a reliability of .79. The adapted five-item version used in this study was found to have a reliability of .87. The distributions for the family support items are all somewhat positively skewed. For example, over 70% of the students reported that they either agreed or strongly agreed with the statement "my parents give me help and support when I need it" (see Table 11 below). Principal axis factor analysis of family support items yielded only one factor. This general factor accounted for 60% of the variance of this scale. The item factor loadings ranged from .51 to .79 (Appendix C).

Table 11
Family Support Items and Distributions for Hispanic/Latino Sample

Items	Percent (N=219)
I get along well with my parents. *	
Strongly agree	31.5
Agree	43.1
Not sure	10.6
Disagree	8.8
Strongly disagree	6.0
My parents give me help and support when I need it. *	
Strongly agree	37.5
Agree	37.0
Not sure	13.9
Disagree	6.9
Strongly disagree	4.6

My parents often tell me they love me. *	
Strongly agree	42.6
Agree	32.9
Not sure	10.6
Disagree	9.3
Strongly disagree	4.6
In my family, I feel useful and important. *	
Strongly agree	26.4
Agree	40.7
Not sure	18.1
Disagree	9.7
Strongly disagree	5.1
My parents push me to be the best I can be. *	
Strongly agree	45.8
Agree	30.6
Not sure	13.4
Disagree	4.6
Strongly disagree	5.6
I have lots of good conversations with my parents. *	
Strongly agree	19.4
Agree	35.2
Not sure	23.6
Disagree	14.8
Strongly disagree	6.9

* reverse coded
Cronbach's alpha = .87

Four items were used to gauge school support. This is an adaptation of Search's caring school climate scale, which uses three items. The fourth item used in this scale was taken from Search's high expectations scale. Leffert and her colleagues (1998) found Search's caring school climate scale to have a reliability of .68. The adapted school support scale used with this Latino sample had a reliability of .74. It is interesting to note that about an equal number of students reported agreeing and not being sure about whether the "students in my school care about me" item (see Table 12 on next page). Factor analysis of the school support items extracted one general factor accounting for 56% of the variance. The item factor loadings for this scale ranged form .46 to .80 (Appendix C).

Table 12
School Support Items and Distributions for Hispanic/Latino Sample

Items	Percent (N=219)
My teachers really care about me. *	
Strongly agree	17.6
Agree	23.6
Not sure	38.4
Disagree	10.6
Strongly disagree	9.7
I get a lot of encouragement at my school. *	
Strongly agree	7.9
Agree	33.3
Not sure	26.4
Disagree	21.3
Strongly disagree	11.1
Students in my school care about me. *	
Strongly agree	17.1
Agree	36.1
Not sure	30.6
Disagree	6.9
Strongly disagree	9.3
Teachers at my school push me to be the best I can be. *	
Strongly agree	15.3
Agree	35.6
Not sure	22.2
Disagree	18.1
Strongly disagree	8.8

*reverse coded
Cronbach's alpha = .74

Support from other adult relationships was measured using seven items. Three of these items are used by Search to assess student's other adult relationships, three of them come from Search's 4-item scale assessing the community values youth assets, and the 7th item is Search's caring neighborhood scale. Leffert, et al. (1998) found Search's other adult relationships scale to have a reliability.82, the community values youth scale to have a reliability of .81. The combined other adult support scale used in this study has a reliability coefficient of .84. Little variability is seen in the distribution for the "how many

adults have you known for two or more years who you look forward to spending time with?" item (see Table 13 below).

Table 13
Other Adult Support Items and Distributions for Hispanic/Latino Sample

Items	Percent (N=219)
In my neighborhood, there are a lot of people who care about me. *	
Strongly agree	15.7
Agree	23.6
Not sure	33.3
Disagree	12.0
Strongly disagree	15.3
Adults in my town or city make me feel important. *	
Strongly agree	10.2
Agree	29.2
Not sure	31.0
Disagree	15.7
Strongly disagree	13.9
Adults in my town or city don't care about people my age.	
Strongly agree	11.1
Agree	13.9
Not sure	35.6
Disagree	25.9
Strongly disagree	13.4
Adults in my town or city listen to what I have to say. *	
Strongly agree	9.3
Agree	25.5
Not sure	30.1
Disagree	18.1
Strongly disagree	17.1
In my town or city, I feel like I matter to people. *	
Strongly agree	7.9
Agree	24.1
Not sure	36.6
Disagree	16.7
Strongly disagree	14.8
How many adults have you known for two or more years who give you lots of encouragement whenever they see you? (don't count parents or relatives)	
0	17.6
1	10.6
2	20.8
3 or 4	17.6
5 or more	33.3

Table 13 (continued)

How many adults have you known for two or more years who you look forward to spending time with? (don't count parents or relatives)	
0	
1	21.8
2	16.2
3 or 4	20.8
5 or more	19.4
	21.8
How many adults have you known for two or more years who talk with you at least once a month? (don't count parents or relatives)	
0	14.8
1	19.4
2	23.6
3 or 4	11.1
5 or more	31.0

*reverse coded
Cronbach's alpha = .82

Principal axis factor analyses yielded two underlying factors for the other adult support scale (see Appendix C), which together explained 67% of the variance. The factors extracted measure two aspects of non-familial adult support. The first factor includes items that address the non-familial adult support students receive locally in their town, city or neighborhood. This factor singularly accounted for about 47% of the variance, and item factor eigenvalues ranged from .44 to .90. The second factor includes items that examine the total number of non-familial adults students have supporting them. The second factor explained about 20% of the variance. Item factor loadings for this factor were between .70 and .83. Reliabilities were then conducted on the subscales. The local support available subscale had a reliability coefficient of .81 for this sample. The number of adults providing support subscale had a reliability of .83.

Four items were used to measure peer influence. These are the same four items Search uses to assess peer influence. Leffert and her colleagues (1998) found Search's

positive peer influence scale to have a reliability of .71. In this study the scale was found to have a similar reliability of .73. It is interesting to note that 45.8% of the students reported that none of their closest friends "have used drugs such as marijuana or cocaine" (see Table 14 below). Factor analysis extracted one factor for the items in the peer influence scale. This factor accounted for 56% of the variance. Item factor loadings ranged from .20 to .93.

Table 14
Peer Influence Items and Distributions for Hispanic/Latino Sample

Items	Percent (N=219)
Among the people you consider to be your closest friends, how many would you say drink alcohol once a week or more? *	
None	47.2
A few	27.8
Some	6.5
Most	13.4
All	5.1
Among the people you consider to be your closest friends, how many would you say have used drugs such as marijuana or cocaine? *	
None	45.8
A few	20.8
Some	10.2
Most	15.7
All	7.4
Among the people you consider to be your closest friends, how many would you say do well in school?	
None	8.3
A few	20.4
Some	18.1
Most	37.0
All	16.2
Among the people you consider to be your closest friends, how many would you say get into trouble in school? *	
None	33.8
A few	28.7
Some	21.3
Most	10.6
All	5.6

*reverse coded
Cronbach's alpha = .73

Outcome

School success was measured by student self-report of grades. Students reported whether they received "mostly As, about half As and half Bs, mostly Bs, about half Bs and half Cs, mostly Cs, about half Cs and half Ds, mostly Ds, or mostly below Ds." Researchers have found student self report of grades to be highly correlated with actual grades (Crockett, Schulenberg, & Petersen, 1987; Leffert et al., 1998). Previous research that included Latino high school students (Dornbush, Ritter, Liederman, Roberts, & Fraleigh, 1987) has found a strong correlation, .76, between self-reported grades and recorded grades. Students were divided into high- and low-achieving using two criteria. Both of these categorizations were tested in the data analyses. The first method, by which students were considered either as high or low achieving was based on whether they were above or below the median. This break occurred between "mostly Bs". Those students reporting between "mostly Bs" or above were categorized as high-achieving, and those reporting "about half Bs and half Cs" or below were categorized as low-achieving. The second scheme used to divide the students into high- and low-achieving youth was to categorize those students in the upper quartile as high-achieving, and those students in the lower quartile as low-achieving.

Strategies of using single-item outcome measures are not uncommon in survey research with large samples; recent examples of common secondary analysis datasets that utilize numerous single-item measures are the National Educational Longitudinal Study (Manlove, 1998) and the National Household Survey of Drug Abuse (Hoffman & Johnson, 1998). This is the only indicator of academic achievement used in the study as a result of it analyzing secondary data. Self-report of grades is the only measure included in

the ABS that assesses academic success. Although there are some limitations to using only one outcome (in that this study may not take into account other ways in which youth succeed in school), even as a single item, this outcome indicator has considerable construct validity since it reflects a salient element represented in the literature. This is also the indicator most often used by schools themselves as a measure of academic achievement.

Procedure

The ABS was administered to students in grades 6 through 12 in 35 school districts throughout Michigan during the 1998-99 school year. Each of the school districts opted to have their students complete the survey, the data from which were then used to generate the aggregate data set for the state of Michigan. Standardized administration procedures were provided to school staff by Search Institute to enhance the quality of the data. These instructions are included in Appendix D. The survey asked sensitive and personal questions of the students, in particular, items regarding sexual activity, drug use, and delinquent behavior. For this reason, the survey was administered anonymously in a classroom setting during one class period with the standardized instructions. To ensure complete anonymity, no names or identification numbers were collected from individual participants. Students placed completed surveys in an envelope that was then sealed and mailed to Search Institute for processing and generation of a school district report. The school districts surveyed a complete census of all 6th to 12th-grade students attending school on the day the survey was administered.

Data Analyses

The objective of this study was to compare high- and low-achieving Latino students' personal time allocation, achievement motivation, school affiliation, parental school involvement, peer influence and social support. Specifically, this study hypothesized that high- and low-achieving Latino students would differ significantly in their constructive use of personal time, on their motivation to achieve academically, their degree of affiliation to their school, how involved their parents are in their schooling, type of peer influence, and the amount of social support they receive. Before evaluating the hypothesis any limits in range for each scale, as well as correlations between the scales and the outcome variable, were explored. Also, factor analyses were conducted of the personal time allocation, school affiliation, family support, school support, peer influence, and other adult support scales. Because the number of variables in each scale was small ($v \geq 11$) and the reliabilities were imperfect, principal axis analysis was selected as the factor procedure.

Initially, chi-square tests and t-tests were used to compare the frequencies of responses between high- and low-achieving students on background characteristics. Discriminant and logistic regression analyses were then used to examine students' personal time allocation, achievement motivation, school affiliation, parental school involvement, peer influence and social support. For both of the analyses the sample was randomly split into two. Discriminant and logistic regression analyses were run on one-half of the sample, and the other half was used to cross-validate the utility of the model and probabilities created by each of the analyses.

In discrminant analysis, as with any inferential technique based on sample data, the percent correct prediction tends to overestimate the power of the classification procedure (Klecka, 1980). The classification functions are more accurate for the particular sample than they would be for the full population (Klecka, 1980). When the sample is large enough, the classification procedure can be verified by randomly splitting the sample into two subsets (Klecka, 1980). This procedure of splitting the sample in half to run analyses was used because there was no comparison or control group. Not having some type of control groups raises the probability of encountering Type I errors, which in this case, would mean finding significant differences between the groups even when there are none. Using only half of the sample at a time and using the other half to verify the original results reduces the possibility of drawing erroneous conclusions due to the idiosyncratic characteristics of the sample.

In evaluating the choice of analyses and their subsequent results, an advantage of discriminant analysis over related statistical procedures such as MANOVA is that groups cannot only be predicted and categorized, but that the nature of those relationships may be interpreted (Tabachnick & Fidell, 1989). This process operates much the same way as dimensions are interpreted following a factor analysis (Betz, 1987). Discriminant function analysis was used to build a predictive model of group membership (i.e. high- and low-achieving students) based on students' personal time allocation, achievement motivation, school affiliation, parental involvement in schooling, social support, peer influence, and background characteristics. This analysis was used to determine which of these variables allows for the best discrimination between the groups. A forward stepwise entry model was used to examine the independent contribution of each of the variables in

determining group membership. The discriminant functions canonical correlation was used to test the strength of the relationship between the groups and the discriminant function. The standardized discriminant function coefficients were used to describe the impact or independent contribution of each variable on the grouping variable, holding constant the impact of all the other discriminating variables. These analyses were conducted using both the outcome variable defined by the natural break as well as by upper and lower quartiles.

Logistic regression analysis was employed to predict the probability that a student was high-achieving, and to examine the predictive power of each variable as well as the entire model. The predictor variables used were personal time allocation, achievement motivation, school affiliation, parental school involvement, peer influence and social support, as well as those demographic variables on which the groups were found to differ significantly. Forward stepwise procedure was used to estimate the model. The logistic regressions were used with students divided into high- and low-achieving categories according to the natural break as well as when using upper and lower quartiles. The logistic regression coefficients were used to estimate odds ratios for the independent variables in the model. R^2 was used to assess the strength of the model. Goodness-of-fit tests and the Wald statistic were used as indicators of the model's success and significance.

A power analysis was conducted to ascertain the minimum detectable effect size given the fixed study parameters. The minimum detectable effect size for this study is between .55 and .60 when alpha and power are set at the conventional levels (0.05 and 0.80, respectively) with the smallest group size being 41. Lipsey and Wilson (1993) in

their classic meta-analysis found that the average effect size within education was .45, with a median of .40, and a mode of .47. Medium effect sizes range from -.15 to 1.31 (Lipsey & Wilson, 1993).

CHAPTER 4
RESULTS

Before evaluating the hypothesis, t-tests, for continuous variables, and chi-square tests, for categorical variables, were used to evaluate whether significant differences existed between high- and low-achieving students on the basis of demographic variables including age, gender, mother and father's educational level, and area of residence. Any demographic variables on which the student groups were found to differ significantly were then included in the discriminant function analyses as well as the logistic regressions. Additionally, cross validations of the discriminant function analyses and logistic regressions were conducted. These cross validations were done by randomly splitting the samples, using one of the sub samples for all original analyses, and the other to verify the results. Cross validation was used to ensure that the results of the analyses were not do to chance, which is inherent in any stepwise analysis. All of these analyses, including the t-tests and chi-square tests, were conducted on both the students grouped by median split, as well as the students grouped by upper and lower quartiles groups (extreme quartiles). Significance testing used the conventional alpha level of .05 to determine significance.

Testing for Group Differences Before Analysis

Groups Defined by Median Split

Analyses conducted with the students divided into high- and low-achieving based on median split, used a sample of 216 Latino students. No significant difference was found between the students in each group based on age ($t(214) = -.508$, $p = .612$). The chi-square results for the two students groups revealed that there were also no significant

differences between the two groups based on gender, father's educational level, living area, or living situation. For example, there were about equal percentages of males and females in the low- achieving group (58% and 42% respectively), and similarly almost equal amounts of males and females in the high-achieving group (47% and 53% respectively). Correspondingly, the majority of the students in both the high- and low-achieving groups reported that their fathers had completed at least some college (47% and 54% respectively). Table 15 below presents all the chi-square results and significance levels, along with the frequencies for each variable by high- and low-achieving groups.

Table 15
Chi-square Results of Demographic Variables for High- and Low-Achieving Students

	Extreme Quartiles Split (N=153)					Median Split (N=216)				
Variable	n_L* (41)	n_H* (112)	χ^2	**df**	**p**	n_L* (57)	n_H* (159)	χ^2	**df**	**p**
			.18	1	.67			1.93	1	.17
Gender										
Male	21	53				33	75			
Female	20	59				24	84			
Father's Educational Level			4.98	2	.08			1.62	2	.45
Grade school or less to completed high school	12	18				13	35			
Some college	21	55				31	74			
Completed college-graduate or professional school after college	8	39				13	50			

Variable	Extreme Quartiles Split (N=153)					Median Split (N=216)				
	n_L* (41)	n_H* (112)	χ^2	df	p	n_L* (57)	n_H* (159)	χ^2	df	p
Mother's Educational Level			7.10	2	.03			7.10	2	.03
Grade school or less to completed high school	10	15				12	23			
Some college	26	61				37	85			
Completed college-graduate or professional school after college	5	36				8	51			
Living Area	13	28	.70	2	.71	16	46	.08	2	.96
Rural	14	41				19	55			
Suburban	14	43				22	58			
Urban										
Living Situation			1.51	2	.47			3.74	2	.15
Two parents	27	84				37	122			
One parent	9	20				12	26			
Sometimes with mother, sometimes with father	5	8				8	11			

* n_L = low-achieving sub-sample ; n_H = high-achieving sub-sample

There were, however, significant differences between the two groups on mother's educational level ($\chi^2(2) = 7.10$, $p = .03$). About 32% of the high-achieving students reported that their mothers had completed college and/or graduate /professional school after college, compared with only 14% of the low-achieving students. Due to the

significance of this variable, mother's educational level was included in subsequent analyses.

Groups Defined by Extreme Quartiles

Analyses conducted using the upper and lower quartiles to divide students into high- and low-achieving included 153 participants. High- and low-achieving students were not found to differ significantly by age ($t(151) = -1.30$, $p = .208$). As in the results for the groups split using the median, chi-square results showed no significant differences between the high- and low-achieving students based on gender, living area, or living situation (see Table 15). Again, about equal percentages of males and females were found in the low-achieving (51% and 49%), and the high-achieving group (47% and 53%). Similarly, 51% of the low-achieving students and 49% of the high-achieving students reported that their fathers had some college education.

Just as was the case in the analyses conducted using the groups divided by median split, mother's educational level ($\chi^2(2) = 7.10$, $p = .03$) significantly differed for high- and low-achieving youth. 32% of the high-achieving students reported their mothers had completed college and/or graduate /professional school after college, while only 12% of the low-achieving students reported the same. The discriminant function analysis and the logistic regression conducted with the groups split by upper and lower quartiles included mother's educational level.

Discriminant Function Analysis

Discriminant function analysis was used to build a predictive model of group membership (i.e. high- and low-achieving students) based on students' personal time allocation, achievement motivation, school affiliation, parental involvement in schooling,

social support, peer influence, and mother's educational level. This analysis was used to determine which of these variables allows for the best discrimination between the groups. A forward stepwise entry model was used to examine the independent contribution of each of the variables in determining group membership. These analyses were conducted both using the outcome variable defined by the natural break as well as by upper and lower quartiles.

Groups Defined by Median Split

The 216 students included in this sample were randomly split leaving 107 students for analysis and 109 students for cross validation. A discriminant function analysis was performed to determine the extent to which the high- and low-achievers differed with respect to their time allocation, achievement motivation, school affiliation, parental involvement in schooling, social support, peer influence, and mother's educational level. The direct entry model examines the independent contribution of each of the variables in determining group membership. Using all of the predictor scales, as well as mother's educational level, only the school affiliation scale (discriminant function coefficient = .276) was found to be most useful in classifying students into the high- and low-achieving groups; Wilks' lambda of .910, $F(1, 105) = 10.45$, $p < .001$. The discriminant function had a canonical correlation of .30, indicating a moderate relationship between the groups and the discriminant function (Waxman, Huang, & Padrón, 1997). The squared canonical correlation coefficient for the model was .09, indicating that about 9% of the variance between the two groups can be explained by this one variable in the model. A classification matrix revealed that overall, 80.4% of the cases were classified correctly.

This scale alone correctly classified 96.4% (80 of the 83) of the high-achieving students and 25.0% (6 of 24) of the low-achieving students.

Using the cross-validation sample grouped by median split, the results of the original analysis were not confirmed. Using all of the predictors and mother's educational level, as before, only the peer influence scale was found to be most useful in classifying students into the high- and low-achieving groups; Wilks' lambda of .788, $F(1, 107) = 28.80$, $p < .001$. In this case, the discriminant function had a canonical correlation of .46, indicating a moderate relationship between the groups and the discriminant function (Waxman, Huang, & Padrón, 1997). The squared canonical correlation coefficient for this model was .21, indicating that about 21% of the variance between the two groups can be explained by the peer influence scale. The classification matrix reported that overall, 72.5% of the cases were classified correctly. This scale correctly classified 73.7% (56 of the 76) of the high-achieving students and 69.7% (23 of 33) of the low-achieving students.

Groups Defined by Extreme Quartiles

After the Latino students were divided into high- and low-achieving groups based on the upper and lower quartile, this left a sample size of 148. This sample was then randomly split, leaving 74 students for the original analyses and 79 for cross validation. Discriminant function analysis was conducted, using students divided into high- and low-achieving groups by the upper and lower quartiles, to determine how well the time allocation scale, achievement motivation scale, school affiliation scale, parental involvement in schooling scale, social support sales, peer influence scale, and mother's educational level classified students into groups. In each of the steps of the discriminant

function analysis, items were selected based on the contribution a given item made to classify the students.

Using this procedure, three of the variables, peer influence, achievement motivation and mother's educational level, were found to be significant classifying predictors. This model produced a Wilks' lambda of .597, $F(3, 70) = 15.78$, which was statistically significant at the $p < .001$. The canonical correlation, indicating the strength of the relationship between the discriminant function variate and the dichotomous classification variable (high- or low-achieving), was .64. This indicates a moderately strong relationship (Waxman, Huang, & Padrón, 1997). The square of the canonical correlation was .26, indicating that the variables constituting the function explained approximately 26% of the variation in the dependent variable. The classification matrix revealed that overall, 82.4% of the students were classified correctly. The function correctly classified 87.0% (47 of the 54) of the high-achieving students and 70.0% (14 of 20) of the low-achieving students.

The standardized discriminant function coefficients describe the impact or independent contribution of a given variable on the grouping variable (high- vs. low-achieving), holding constant the impact of all the other discriminating variables. The results indicated that the achievement motivation scale and the peer influence scale were found to have the greatest impact (.545, and .556 respectively), after adjusting for all the other variables in the analysis. Mother's educational level was found to have the least impact on the grouping variable. The canonical structure coefficients for each variable provide an indication of the relative contribution of each variable to the overall discriminant function. It describes how closely a variable and the discriminant function

are related. The results indicated that two of the three significant variables included in the discriminant analysis were found to have structure coefficient values of .40 or greater and have the greatest practical significance for distinguishing between high- and low-achieving students. These variables were achievement motivation and peer influence.

The stepwise discriminant function analyses, conducted using the 79 students in the cross validation sample yielded somewhat different results from the original analysis. Two of the scales, school affiliation and peer influence, were found to be useful in classifying students as high- and low-achieving. A Wilks' lambda of .754, $F(2, 76) = 12.37$, $p < .001$. This discriminant function had a canonical correlation of .50, and a squared canonical correlation of .25, indicating that the function accounted for 25% of the variance of the dependent variable. The classification matrix revealed that overall, 79.9% of the students were classified correctly. The function correctly classified 84.5% (49 of the 58) of the high-achieving students and 76.7% (14 of 21) of the low-achieving students.

The standardized discriminant function coefficients indicated that the school affiliation and the peer influence scale were found to both have a large impact, after adjusting for all the other variables in the analysis. The results also indicated that both of the variables were found to have structure coefficient values of .40 or greater and have the greatest practical significance for distinguishing between high- and low-achieving students.

Logistic Regressions

To examine further the possible differences between high- and low-achieving Latino students, logistic regressions were conducted to predict the probability that a

student was high-achieving, and to examine the predictive power of each variable as well as the entire model. The predictor variables used were personal time allocation, achievement motivation, school affiliation, parental school involvement, peer influence and social support, as well as mother's educational level. Forward stepwise procedure was used to estimate the model. The logistic regressions were used with students divided into high- and low-achieving according to the natural break as well as when using upper and lower quartiles.

Groups Defined by Median Split

As in the discriminant analyses, the 216 students included in this sample were randomly split leaving 107 students for analysis and 109 students for cross validation. Logistic regressions using all the predictor variables as well as mother's educational level did not identify any variables as being significant for classification (see Table 16 below). In fact parental involvement in schooling, family support, school support, and other adult support all had, although not significant, negative beta weights.

Table 16
Logistic Regression Results: Median Split

Variable	B	SE	Odds ratio
Time allocation	.0534	.0414	1.0548
Achievement motivation	.1495	.1137	1.1613
School affiliation	.1367	.0928	1.1465
Parent involvement in schooling	-.0968	.0905	.9078
Family support	-.0063	.0699	.9937
School support	-.0950	.0974	.9094
Other adult support	-.0072	.0579	.9928
Peer influence	.0296	.0844	1.0301
Mother's educational level (less than high school = 0)			
High school graduate	.0284	.8689	1.0288
More then high school	1.0325	.9991	2.8080
Constant	-1.1958	1.5810	

Note. Model χ^2 (8) = 12.624

Cross validation of the logistic regression using 109 students found somewhat different results. The logistic regression analysis identified the peer influence scale as being useful (odds ratio = 1.30; $p < .01$; 95% CI = 1.1043, 1.5420), according to the Wald statistic, for classifying students into high- and low-achieving. R^2 was equal to .06, indicating a weak model. In this case, school affiliation and other adult support has negative non-significant beta weights. Table 17 below presents the complete results.

Table 17
Logistic Regression Results: Cross Validation of Median Split

Variable	B	SE	Odds ratio
Time allocation	.0237	.0462	1.0240
Achievement motivation	.0566	.1312	1.0583
School affiliation	-.0231	.1017	.9771
Parent involvement in schooling	.0052	.0922	1.0052
Family support	.0657	.0744	1.0680
School support	.0343	.0919	1.0349
Other adult support	-.0754	.0684	.9273
Peer influence	.2661*	.0852	1.3049
Mother's educational level (less than high school = 0)			
High school graduate	.2147	.6212	1.2395
More then high school	1.0548	.8151	2.8715
Constant	-4.8932*	1.7683	

Note. Model χ^2 (8) = 10.846
* $p < .01$

Groups Defined by Extreme Quartiles

As before, the Latino students were divided into high- and low-achieving groups based on the upper and lower quartile, leaving a sample of 148 to be randomly split, 74 students for logistic regression and 74 students for cross validation. Logistic regression analysis showed that only the achievement motivation scale was identified as being useful (odds ratio = 1.4955; $p < .05$; 95% CI = 1.0046, 2.2262) for classifying students into

high- and low-achieving groups. See Table 18 on the next page for complete results. Interestingly, family support and other adult support had negative, although non-significant, beta weights.

Table 18
Logistic Regression Results: Extreme Quartiles Split

Variable	B	SE	Odds ratio
Time allocation	.0244	.0714	1.0247
Achievement motivation	.4025*	.2030	1.4955
School affiliation	.1172	.1576	1.1244
Parent involvement in schooling	.1447	.1363	1.1557
Family support	-.1084	.1151	.8973
School support	.0148	.1383	1.0149
Other adult support	-.0137	.0836	.9864
Peer influence	.1875	.1349	1.2062
Mother's educational level (less than high school = 0)			
High school graduate	1.6951	.9849	5.4470
More then high school	2.5291	1.3968	12.5418
Constant	-9.667*	3.2762	

Note. Model χ^2 (8) = 4.0286
* p < .05; ** p < .01

Cross validation of the logistic regression using 79 students found different results as compared to the original logistic regression. In this case none of the variables were found to be useful for classifying students into high- and low-achieving groups. The complete results are presented in Table 19 on the net page. In this case, parent involvement in schooling, school support, and mother's educational level were found to have negative non-significant beta weights.

Table 19

Logistic Regression Results: Cross Validation of Extreme Quartiles Split

Variable	B	SE	Odds ratio
Time allocation	.0780	.0562	1.0811
Achievement motivation	.0063	.1710	1.0064
School affiliation	.0982	.1162	1.1031
Parent involvement in schooling	-.0701	.1202	.9323
Family support	.0433	.0840	1.0442
School support	-.0633	.1213	.9387
Other adult support	.0538	.0807	1.0553
Peer influence	.1432	.1000	1.1540
Mother's educational level (less than high school = 0)			
High school graduate	-1.1985	.8151	.3016
More then high school	-.0835	.7156	.9199
Constant	-4.550*	1.8656	

Note. Model χ^2 (8) = 9.4768

* $p < .05$

CHAPTER 5
DISCUSSION

The present study examined an area of research that has largely been ignored in the educational resilience literature, the differences between high- and low-achieving Latino students. The focus of this study was to identify both internal and external factors that significantly differed between these groups. Specifically, this study hypothesized that there would be differences between students' personal use of time, their achievement motivation, their affiliation to their school, as well as the involvement of their parents in their schooling, the family support they received, the school support they received, the support they received from non-familial adults, and the influence of peers in their lives. Additionally, according to the literature, significant differences between socio-demographic variables could also have been expected (Jessor, 1993; Rumberger & Larson, 1998; Voydanoff & Donnelly, 1999).

As the largest minority youth population in the United States, Latino adolescents are poised to be one of the most influential groups in this nation. And yet, Latino youth consistently have significantly lower levels of academic success than their peers. As a result, increasing the academic achievement of Latino youth has become a matter of national importance. Despite the alarming gap between the academic achievement of Latino students and their peers, a comprehensive model of Latino academic achievement has yet to be elucidated through research. The great majority of the research that has been conducted on Latino adolescents and their educational outcomes has examined their failures and not their successes. The purpose of this study was to broaden our understanding of academic achievement, by examining the effect of both internal and

external factors, which in other groups have frequently been found to relate to academic success, on the academic success of Michigan Latino students, and to build a predictive model of high-and low-achievement for Latino adolescents. The following section will discuss the results and implications of this study.

Major Findings

Pathways to Latino Academic Achievement

Bronfenbrenner's (1979) ecological model of human development calls for research and theories of adolescent development to take a multi-dimensional, multi-level perspective, and a critical analysis of the combined effect of variables known to contribute to the development of youth. Using this perspective requires the inclusion of both individual and environmental factors affecting the development, including academic outcomes, of Latino youth. This study proposed the internal variables time allocation, achievement motivation, and school affiliation as well as the following external variables, parental involvement in schooling, family support, school support, non-familial adult support, and peer influence as part of a predictive model for Latino academic success. Although this model was not supported by the results of the study, certain findings merit further examination.

Family and Student Background Characteristics

As an ecological model, in examining the interrelationships between the internal and external factors and academic success, first the possibility of family and student background characteristics as predictors of academic success was considered. The highest level of education that students' mothers had completed was significantly correlated with their academic success. The greater the level of education completed by a

student's mother the greater the chance that the student was academically a high-achiever. This finding mirrors several studies on the academic achievement of adolescents that has found a relationship between parents' highest level of schooling and educational outcomes (Baker, McGee, Mitchell, & Stiff, 2000; NCES, 1995; Educational Testing Services, 1996; Shumow & Miller, 2001; Voydanoff & Donnelly, 1999). Despite significant correlations with students' grades, mother's highest educational level completed was only found to be a useful classifier of high- and low-achieving students in the discriminant function analysis of extreme quartiles. But this finding was not verified in cross validation discriminant function analysis. Given the nature of stepwise analyses, conclusions cannot be drawn on the utility of this predictor. Mother's highest educational level was not a significant predictor of academic achievement in logistic regression. This may be due, in part, to the low variability of this variable as a large percentage of students' (about 48%) mothers had completed at least some education beyond high school. Given significant correlation between the two, the relationship of mother's highest educational level to the academic achievement of Latino students bears further study. The relationship between mothers' educational level and other predictors of academic success should also be explored as it may be a distal predictor, which affects academic success through other proximal predictors, such as parental involvement (Lareau, 1996; Shumow & Miller, 2001).

None of the other socio-demographic variables assessed in this study were found to have significant correlations with grades nor were they found to be significant classifiers or predictors of academic achievement. Research on academic resiliency has found some conflicting findings on whether student and family background

characteristics are related to students' academic success. For example, Cooper and her colleagues (2002), in their study of African American and Latino students, found that fathers' education was actually negatively correlated with students' college-prep GPA. Also, for several of the background variables there was little variability; most students lived in a suburban area, lived with two parents, and had mothers and fathers who had completed at least some higher education beyond high school. Additionally, the literature on Latinos and academic achievement has found other background variables that were not addressed in this study, such as English proficiency, language spoken in the home, and being held back a grade, to be important students' academic success (Nesman, Barobs-Gahr, & Medrano, 2001; Waxman, Huang, & Padrón, 1997).

Time Allocation

There is an abundance of literature that has found that positive and creative use of out-of-school time by students is related to greater academic success including better grades (Alva, 1991; Davalos, et al., 1999; Eccles & Barber, 1999; Scales et al., 2000; Voydanoff & Donnelly, 1999; Waxman, Huang, & Padrón, 1997). In this study, students' use of their personal time was not found to be a significant predictor of high- and low-achieving students in either the discriminant function analyses or in the logistic regressions. This finding is similar to the results of a recent study conducted by López (2002), which explored the habitual behaviors that Latino high school students reported practicing on an everyday basis. His study found that there was no clear relationship between students' everyday habitual behaviors and their academic achievement (López, 2002).

The lack of any significant findings for time allocation in this study may be due, in part, to the low reliability of this scale for this sample ($\alpha = .68$). Another reason this scale may not have been useful in understanding Latino academic achievement is that it attempts to address a large variety of activities, and so therefore lacks an underlying general factor for the items in the scale. Students' use of personal time might be better examined using several scales that address more specific kinds of activities and behaviors that young people may be involved in. It is possible that involvement in certain types of activities may be more directly related to and predictive of students' academic achievement.

Achievement Motivation

Despite the abundance of literature relating achievement motivation to academic achievement, this relationship was not confirmed for the Latino students in this sample (Anderson & Keith, 1997; Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995; Paulson, Coombs, & Richardson, 1990; Scales, et al., 2000); Wentzel, 1993). Achievement motivation was found to be a significant predictor of academic achievement in the logistic regression using the extreme quartiles split. These results were not confirmed in the cross validation. So, no conclusions can be drawn from these findings.

One explanation for this may rest in the cultural ecological model suggested by Ogbu and his colleagues (Gibson & Ogbu, 1991; Ogbu, 1974, 1991; Ogbu & Matute-Bianchi, 1986), which distinguishes between voluntary and involuntary minorities. Voluntary minorities (such as Japanese, Koreans, Chinese, Cuban Americans, Filipino Americans, and West Indians) are immigrant groups who have historically moved to the United States of their own free will, usually 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 African Americans, Mexican Americans, Puerto Ricans, and Native Americans) are groups who have historically been involuntarily and permanently incorporated into U.S. society through slavery, conquest, or colonization. Ogbu (1987) refers to these groups as "caste-like" because their incorporation often resulted in social and economic subordination. The paradigm suggests 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 a limited chance of benefiting from education. Ogbu concludes that "membership in a caste-like minority group is permanent and often arrives at birth" (p. 91). In general, involuntary minorities may develop oppositional subcultures and identities resistant to the assimilation process prevalent in schooling.

Related to the development of oppositional subcultures by involuntary minorities is the effect that peers in this subculture have on students' achievement motivation. Peers involved in the oppositional subculture may exert a negative influence on Latino students' motivation to succeed academically. This interaction between peer influence and achievement motivation was not examined in this study. This interaction may have provided greater insight into defining high- and low-achieving Latino students. Although the cultural ecological model, along with peer influence, may not explain all of the variations in school experience that exist within Latino students it may be a useful model for expanding on in further research on the academic achievement of Latino youth.

There are also measurement issues, which may have affected the findings in this study. This scale was a short three-item scale, which only had a reliability of .68 in this Latino sample. While this is slightly better than the reliability based on a national sample (α = .64; Leffert, et al., 1998), it is not a strong reliability for analyses. Additionally, three items may not be sufficient for examining school achievement motivation among Latino students. It may be worthwhile examining students' academic aspirations because they have been related to students' academic achievement (Cheng, 1994; Knight & Waxman, 1990; Uguroglu & Walberg, 1986). Some educational resilience research has also suggested examining academic success and achievement motivation in terms of specific scholastic areas (i.e. English, math, etc.) instead of as a global outcome (Waxman, Huang, & Padrón, 1997). A measure of scholastic achievement motivation with greater reliability and a more comprehensive examination of the construct may yield more significant results in research on the academic achievement of Latino students.

School Affiliation

Students' affiliation or bonding to their school was found to be useful in classifying Latino students as high- or low-achieving in discriminant function analysis using a median split and the cross validation of discriminant function analysis for extreme quartiles split. These results were not found in the analyses with their respective cross validation sample. As such, conclusions cannot be drawn from these findings.

School affiliation is a complex construct, which incorporates both school factors as well as the perception of youth (Conchas, 2001). The scale used in this study does not assess Latino students' perceptions of institutional impacts that may have an impact on their school engagement. Particularly important in the school affiliation of Latino

students is their perception of institutional systems in relationship to cultural processes. A recent study found that Latino students respond differently to institutional actions (Conchas, 2001). For involuntary minorities, such as Mexican Americans and Puerto Ricans, school affiliation will also be dependent upon whether students perceive institutional systems as dismantling the negative effects of school inequality or as adding to the stereotypes and widening the gap between their situation and that of their peers. These aspects of school affiliation were not addressed in the scale used in this study. Additionally, the reliability coefficient for this scale was a weak .62. These may have contributed to the lack of significant findings for school affiliation in this study.

Parental Involvement in Schooling

This study did not find parental involvement in schooling to be useful in classifying or predicting Latino students' as high- or low-achieving. These findings are similar to those in Catsambis's (2001) study of family educational involvement in secondary education using data form the National Educational Longitudinal Study of 1988, as well as others previously discussed (Bempechat, Graham, & Jimenez, 1999; Muller, 1995). Catsambis (2001) finds that some traditional aspects of parent involvement are not related to students' academic outcomes.

Similarly, Shumow and Miller's (2001) recent study found some distinctions in the relationship between parental involvement and academic outcomes. In their study, they found that parents of struggling students were more involved with homework and parents of successful students were involved more at school than were other parents (Shumow & Miller, 2001). Interestingly, parents' academic involvement at home was associated negatively with young adolescents' academic grades and a standardized

achievement test score (Shumow & Miller, 2001). Parental at-school involvement was associated with youth's academic grades, but not the standardized achievement test score (Shumow & Miller, 2001). These studies point to the complexity of parental involvement in schooling that was not addressed in this study. Additionally, the reliability for this scale based on this Latino student sample, was a weak .67.

The lack of significant findings for parental involvement in schooling may also have been due in part to the underlying focus of the questions included in this scale. It is widely accepted in the literature on parent involvement as well as in public perception that "parental involvement" supports achievement in schooling. Although, just how the involvement of parents contributes to academic achievement is not so easily agreed upon. The role of parental involvement in children's education has become a central issue in educational policy and research. The goal of most educational research on parental involvement efforts is to find out how to make children more "ready" for school and how to improve academic achievement by supporting school initiatives at home. 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 an 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).

Because the overriding focus is on promoting academic achievement, most of the literature is concerned with how to involve parents whose children are at greatest risk of not achieving academically – youth from economically or educationally "disadvantaged"

families who tend to be from racial and ethnic minority groups (Kerbow & Bernhardt, 1993). Many of the recent programs and policy initiatives focus on increasing parental involvement of minority parents in the education of their children, or at least to promote educators' version of what parents should be doing to help educate their children (Jones & Velez, 1997). The underlying assumption is that the level or type of involvement from minority parents is inadequate and is somehow contributing to their children's lack of success in school. Despite this, there is also a growing awareness that cultural values and behaviors are factors that affect just how parents involve themselves in the education of their children. These differences, inherent among racial/ethnic groups, are other factors complicating the study of parent involvement and how it affects academic achievement.

These cultural differences were not examined in the scale used to assess parental involvement in this study. In fact, the items predominantly represent educators' expectations for parental involvement. Jones and Velez's (1997) study of Latino parents and students, found that parents were involved in students' schooling in ways other than those described as being important by educators'. Their study suggests that schools are failing to take advantage of the resources inherent in the close relationships between Latino children and parents (Jones & Velez, 1997). A parental involvement scale that addresses a variety of both at-home and in-school parental involvement as well as the cultural differences in parental involvement may provide a more coherent understanding of how parental involvement in schooling affects Latino students' academic success.

Family Support

An abundance of literature has reported that family support is associated with higher grades and higher standardized test scores (Bisnaire, Firestone, & Rynard, 1990;

Cauce, Felner, & Primavera, 1982; Christenson, Grounds, & Gorney, 1992; Eccles, Early, Fraser, Belansky, & McCarthy, 1997; Feldman & Wentzel, 1990; Glasgow, Dornbush, Troyer, Steinberg, & Ritter, 1997; Masselam, Marcus, & Stunkard, 1990; Rosenthal & Feldman, 1991). This relationship was not found in this study of Latino students. A recent study by López, Ehly, and García-Vázquez (2002), of acculturation and social support and academic achievement in Mexican and Mexican American high school students had similar results. They found that perceived parental support was not related to students' grade point averages (López, Ehly, & García-Vázquez, 2002).

As was the case with several of the other scales included in this study, the family support scale may not address all of the aspects related to family support, particularly the cultural differences, that may exist for Latino families. Research has shown that Latino parents develop ties to community organizations, both for material support and help with children's future goals (Alva, 1991). These aspects of family support were not explored in this study. The scale included in this study examines social support in a general manner. It does not have items that address the social support families may provide to students specifically towards academic challenges and goals. This scale does not assess mother and father's support independently either. Some research has found mother and father's support to be related to different aspects of academic achievement (Kenny, et al., 2002). Additionally, variables, such as capital resources (Gordon, 2000) and parental educational (Cooper, et al., 2002), that may have been found to affect the level and kind of support were not examined in relation to their effect on family support. A scale addressing a more specified model of family support, including cultural variations, considering mother and father's support separately, and examining support specifically

provided for academic achievement, may better attend to the relationship between family support and Latino academic achievement.

School Support

Although it makes logical sense, and studies have shown that a relationship exists between teacher and school support and the Latino students' academic achievement, the relationship was not found in this study. Just as in the case of family support, there are measurement reasons that may at least partially explain why this variable was not found to be a useful classifier or predictor of Latino academic achievement.

This scale measures the general concept of support from people at school. It does not differentiate between support provided by teachers and support provided by classmates. Neither does it focus on support provided by people at school directly related to academic challenges or goals. A scale, which included these aspects, may have found a more significant relationship between school support and academic achievement.

While there is research to support the relationship between school support and Latino academic achievement, a recent study on African American and Latino youth found that students' viewed teachers as one of their greatest challenges (Cooper, et al., 2002). This study of 120 students in outreach programs indicated that teachers were infrequently cited as providing support and were often cited as providing difficulties (Cooper, et al., 2002).

Another factor that may affect the relationship of school support and academic achievement of Latino youth is the distrust of the school system as a means for social mobility, as suggested by Ogbu's (Gibson & Ogbu, 1991; Ogbu, 1974, 1991; Ogbu & Matute-Bianchi, 1986) cultural ecological model. Given that there is an under-

representation of Latinos as teachers and administrators in public schools across the country, it would seem reasonable that Latino students may feel distrustful of those who form part of the school system. Furthermore, if oppositional subcultures exist at the school, the influence of classmates on academic success may be a negative one, rather than one of support.

Other Adult Support

Although it was hypothesized that other adult support would be significantly related to Latino students' academic achievement, particularly given the significance of these relationships for families of color (Harrison, Wilson, Pine, Chan, & Buriel, 1990; Kenny & Perez, 1996), this factor was not found to be useful in the prediction of academic achievement or in the classification of students as high- and low-achieving. This scale did not specifically examine other adult relationship towards academic achievement, which would be more useful in analyses of its effect on Latino academic success. Also specific cultural differences that may exist for Latinos are not examined using this scale. The limited amount of research examining this construct in Latino academic achievement points to a gap in the literature the merits further investigation.

Cooper and her colleagues (2002) reported similar findings in their study of African American and Latino youth in outreach programs. Despite contact with program personnel, they found that program staff was the least cited source of support (Cooper, et al., 2002). Furthermore, support from these nonrelated adults was not significantly related to academic outcomes including grades.

Peer Influence

Peer influence was found to be significantly related to Latino academic achievement in several of the data analyses; cross validation of the discriminant function analysis using median split, cross validation of the logistic regression using median split, and both the discriminant function analysis and cross validation of discrimnant function analysis extreme quartiles. Peer influence was shown to be useful in classifying Latino students as high- or low-achieving. This finding mirrors research which has found that for Latino adolescents, peers are relatively more influential on their academic achievement than even parents (Steinberg & Darling, 1993).

This finding points to the importance of peers in the lives of Latino adolescents. This echoes the magnitude of the effect of oppositional subcultures set forth in Ogbu's (Gibson & Ogbu, 1991; Ogbu, 1974, 1991; Ogbu & Matute-Bianchi, 1986) cultural ecological model. Latino students and their peers may be involved in negative behaviors in defiance of the systems they distrust. This scale addressed predominantly these negative influences of peer behavior. Further studies examining the positive aspects of peer influences may shed greater light on this construct.

Predictive Model of Academic Achievement

The predictive model of Latino academic achievement was tested using two criteria to divide students into high- and low-achieving groups. The first method, by which students were considered either as high or low achieving, was based on whether they are above or below the median on self-report of grades. The second scheme used to divide the students into high- and low-achieving youth was to categorize those students in

the upper quartile of self-report of grades as high-achieving, and those students in the lower quartile of self-report of grades as low-achieving.

The use of two criteria for grouping students had a dual purpose. The first was to examine whether results from the analyses would be dependent on the way students were grouped. In part, the findings of this study do expose that different results may occur simply on the basis of the criteria chosen for grouping students. Since, most of the results could not be confirmed, how these grouping criteria affected the results is not known.

The second reason for utilizing two grouping criterion is that there is no agreed-upon way in the literature for deciding which students are to be considered high-achieving and which are to be considered low-achieving. The use of the two criteria was done in the hopes of finding the most parsimonious results. Some general patterns that emerged were that analyses conducted using the median split criteria were more likely to find little or no significant results. This is probably due to the inclusion of students who are not actually high- or low-achievers, but instead just average students, in the analyses. The extreme quartile split criteria seemed to produce results that truly reflected differences between high-achieving and low achieving students. But since few of the results of these analyses could be confirmed, no general conclusions can be drawn from them.

The predictive model of Latino academic achievement proposed by this study incorporated all the previously mentioned internal and external factors. The proposed ecological model of Latino students' academic achievement was not confirmed in this study. One external factor, peer influence, was confirmed through discriminant function analysis as a useful classifier of Latino students into high- and low-achieving groups.

Further research on this construct may prove useful in understanding the magnitude of the relationship between peer influence and the academic achievement of Latino youth.

Limitations of the Current Study

There are several facets of this study that may have contributed to the lack of significant findings in the results. Limitations of this study should be acknowledged. First, is the issue of the data in this study consisting of a secondary data, which was collected for other types of analyses. This data was collected as part of an effort to unite communities to improve the lives of local youth. This leads to several issues that affect the results of this study.

One issue is that the Hispanic/Latino sample included in this study is not completely representative of the Hispanic/Latino adolescent population in Michigan. Most notable is the lack of participants from urban schools. This led to little variance and skewness (this is a statistical term) on several of the measures included in this study, which leads to another issue: scales used in this study were not created to assess students' internal and external factors in relationship to academic achievement. Instead, they were created predominantly as a checklist of the types and amount of protective factors (assets) and of risk indicators and behaviors. Furthermore, Search Institute has never released their scoring method for the scales included in the ABS or for the ABS as a whole. Scoring in this study was then based solely on sums of scales. This may not be the best use of these scales especially for examining predictive relationships.

Another issue related to the use of Search's ABS items is the availability of only one measure of academic success. While grades have often been used to examine academic success, self-report of grades may contain exaggerations due to students

wanting to make themselves appear more successful then they actually are. Grades are also a limited view of what academic success means. There is a large body of research that examines students who stay in school as examples of success in relation to those who drop out. Other researchers examine students who go on to higher education. Standardized test scores are also becoming the one of the most common ways to rate students in public schools. Several "magnet" public schools, schools centered on certain academic subjects, music, art, or racial/ethnic cultures, are also using portfolios more and more often as measures of student progress. Grades may not represent quantity of knowledge (López, et al., 2002). So the use of only one measure of academic achievement provides a narrow view of the ways in which Latino students may achieve.

Another concern is that the use of only one indicator of success, grades, may not accurately reflect the construct of educational resilience or being successful over time despite having educational risk factors (Waxman, et al., 1997). Second, a number of variables that may be related to grades were not assessed or controlled. Grades are often seen as subjective, because teacher and student variables may influence them. Students who show some effort may receive higher grades than those who do not (López, et al. 2002).

Additionally, the ABS was validated and normed with a predominantly White national sample. The instrument used, although fitting the need and uniqueness of the investigation, was not normed on this particular ethnic group. Not only did several of the scales included in this study have low reliabilities for this sample of Latino youth ($\alpha <$ .70), but the ABS as a whole does not measure several constructs that are critical for research with Latinos (e.g. acculturation).

As an example, one of the most important constructs for Latinos that the ABS does not measure is acculturation. Acculturation is the process that results in the modification of the culture of a group or an individual as a result of contact with a different culture (Redfield, Lenton, & Herskovits, 1936). For Latinos, who are in contact with the dominant/majority culture in addition to their native culture, acculturation is a significant psychological process. The acculturation level of Latinos has been linked to almost every possible outcome of interest, including academic achievement (e.g. López, Ehly, & García-Vázquez, 2002). Cultural factors such as "marianismo," the belief that women's roles are that of mother and wife, as well as "fatalismo" ("destino"), the belief that one's life is in the hands of God, may also play a role in the academic achievement of Latino youth and are not assessed by the ABS. Other cultural differences that may be found in the constructs themselves are not measured by the ABS. In fact, the ABS has very little cultural content. This leads to a weak measure for most minority groups, and in this case for Latino adolescents.

Finally, the ABS only includes a limited amount of choices for students to self-identify themselves by race or ethnicity. In this case, students with a Spanish or Latin American heritage could only identify as Hispanic/Latino and could not specify country of origin or country of heritage. This may lead to some confounding (more stats jargon) results in analyses, since it is well known that there are large differences among subgroups of the Hispanic/Latino population in the United States when it comes to several outcomes, including academic achievement. Increasing awareness about these differences has pointed to the inappropriateness, in many situations, of making generalizations about students from Mexican, Puerto Rican, Cuban or South American

backgrounds (Fashola, Slavin, Calderóm, & Durán, 2001). For example, Mexican American and Central American children drop out at almost three times the rate of Cuban American and South American children, who are near the national average dropout rate (General Accounting Office, 1994). The fact that all Hispanic/Latino students are considered as a group in this study may have led to inconsistent or non-significant results. Nevertheless, it is important to consider the characteristics of Latino students as a whole, for on average they perform much worse then non-Hispanic White students on measures of academic achievement.

A limitation common to many studies is the generalizability of the results. The sample is unique to Michigan public school districts and may not be a true representation of Latino high school students throughout the country. An additional aspect of this study that may be viewed as a limitation of the study is that there is no comparison group used in analyses. While this means that any findings from this study cannot be presumed to be significant for Latinos only, the purpose of this study was to evaluate factors which have already been found to be significantly related to academic achievement with other groups (i.e. White adolescents). Much of the current research in the area of resilience is moving towards examining within group differences, but comparisons between groups may lead to further insights as to whether significant findings are culturally related or universal.

Strengths of the Current Study

Although there are few significant findings in this study, there are certain strengths, which should be addressed. The first is that there are no studies, that the author is aware of, which look at all of the individual and external factors examined in relation to the academic achievement of Latino youth. Given the growing epidemic of lack of

achievement and the general failure of programs in place to alleviate this problem, more research is needed that takes a similar focus. Secondly, the study also has a large sample size given the questions that were addressed. Although the Latino sample may not be fully representative of the national sample, the study does have a wide range in sampling representing several areas in Michigan.

Thirdly, this study provides a method and means for evaluating and potentially revising the appropriateness of the ABS for use with Latino youth populations. This measure has been used with several different racial-ethnic groups, including Latinos, but little to no evaluation has been done to examine the effectiveness and appropriateness of using the ABS with these groups. This study provides the first step in investigating this area further. There is a need to ensure that the measures used with minority groups are appropriate, particularly when looking at issues of education and Latinos, in order to guarantee cultural competence and a correct fit between racial/ethnic groups, areas of study, and results.

Implications for Further Research

The lack of academic achievement for Latino youth is well acknowledged as a pressing national issue. In spite of several years of academic reforms, little change has occurred in the situation of Latino adolescents. They continue to have lower graduating rates then their peers, are less academically successful, and only a small percentage of Latino students attend and complete college. As the largest minority youth group, problems facing these youth will affect the entire nation. Despite the growing concern over Latino academic achievement, a comprehensive model of their academic achievement has yet to be established.

The purpose of this study was to not only examine possible predictors of academic success for Latino youth, but also to create a predictive model of Latino academic achievement. Although the predictive model of Latino academic achievement was not confirmed in this study, the findings point to further research that should be conducted.

Firstly, the usefulness of peer influence in classifying high- and low-achieving students suggests that greater attention needs to be paid to the socializing experiences that youth have in school. Peers may be undermining both the goals and expectations of parents, and the aim of teachers (Fordham & Ogbu, 1986; Steinberg, Dornbusch, & Brown, 1992). This also points towards the need for schools to take into consideration the distrust that many involuntary minorities may have of the system as a whole. If this distrust were dealt with, peer influences might have less of a negative effect, and possibly a positive effect, on students' academic achievement. But in order for this to happen, large-scale institutional changes may have to be made. Further research, particularly research that focuses on the effect of peer influence on academic achievement specifically (not just positive and negative influence in general), as well as research that focuses on the positive aspects of peer influence, would serve to clarify the relationship of peer influence to the academic achievement of Latino adolescents.

Secondly, most of the factors that have been found to have a relationship to academic achievement in other groups did not show significant relationships to academic achievement in this sample of Latino youth. While this may, in part, have been due to measurement issues, it also points toward the need to examine if these factors are culturally universal, if they may not translate to other cultures, or if there are inherent cultural differences that affect these factors, whether it is in how these factors are

operationalized or how they interact with other cultural variables. A sample, that included more urban and low SES Latino youth, could be utilized to more adequately analyze a model of Latino academic achievement. Research expanding on Ogbu's (Gibson & Ogbu, 1991; Ogbu, 1974, 1991; Ogbu & Matute-Bianchi, 1986) cultural ecological model in order to build a predictive model of minority achievement may be particularly useful in the area of research into the academic achievement of Latinos. In addition, in-depth interviews of both high- and low-achieving students could be conducted to investigate if factors other than those included in this study are associated with their academic achievement and with their perceptions of academic success.

Finally, longitudinal research may provide a clearer picture of how both individual and external factors affect Latino students' academic achievement. Academic achievement, particularly as measured by grades, may change extensively over time. This is particularly true when examining differences in grades between middle school and 9th grade. There may also be students who are late bloomers and for whom academic success does not occur until the very end of their high school career. But this would not be visible using cross sectional data.

Given the lack of confirmation for these findings, more research is needed to understand what internal and external factors affect academic achievement among Latino youth. As the disparity between the academic achievement of Latino adolescents and their peers, particularly White adolescents, continues to widen, the negative effects of this disparity will take a larger and larger toll on the nation. Unfortunately, current models and programs have not made significant changes in this gap. Further research is needed to understand this complex issue. A continuing focus on those factors that are amenable

to change as well as on those factors related to success and not failure, are likely to lead to results that will have implications for policy, programs, schools, and communities.

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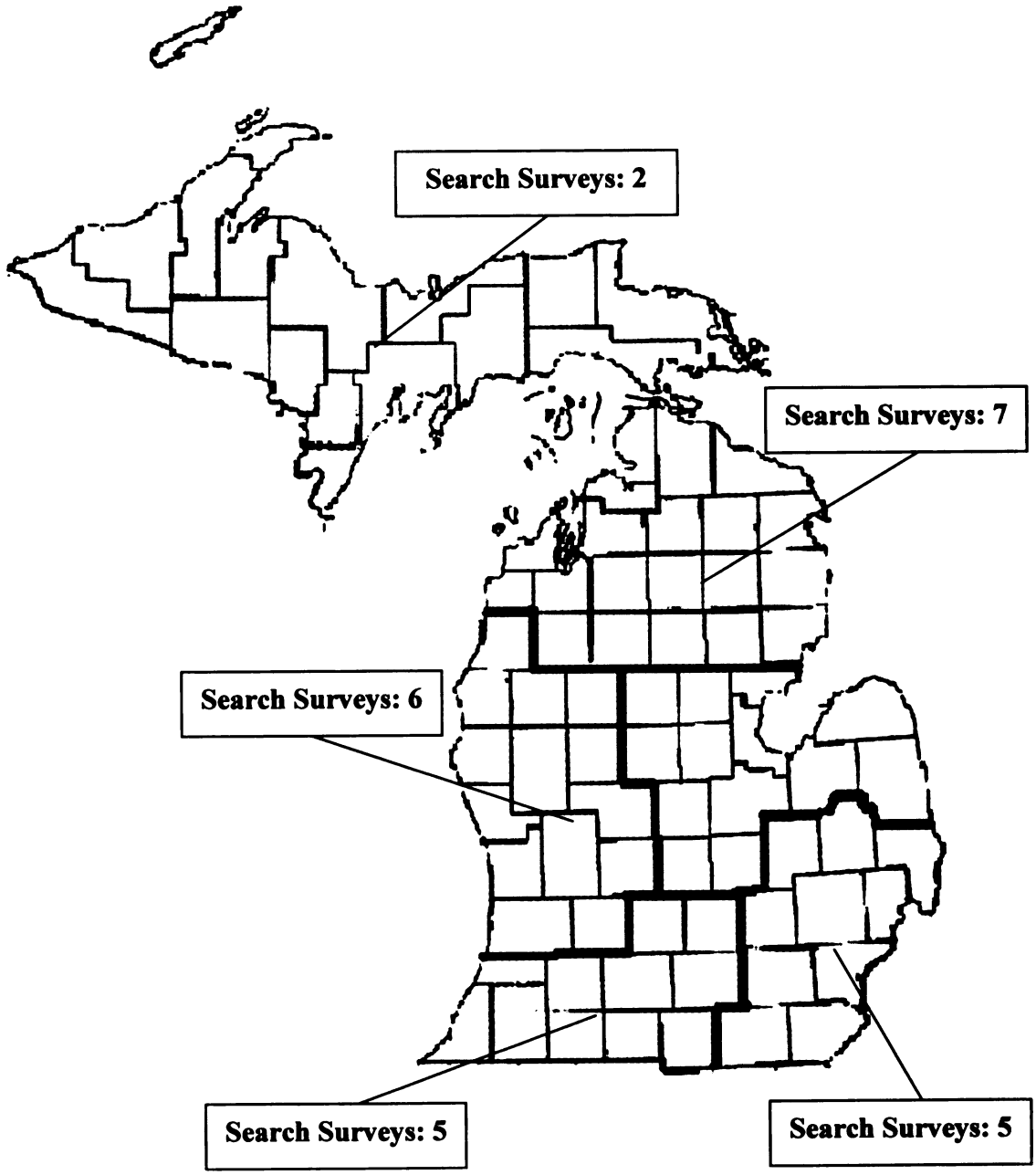
APPENDICES

APPENDIX A

NUMBER OF SCHOOL DISTRICTS CONDUCTING SEARCH SURVEYS IN THE SIX REGIONS OF MICHIGAN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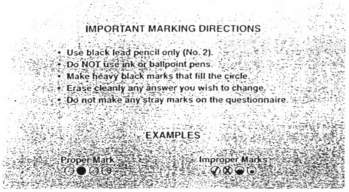
APPENDIX B

SEARCH INSTITUTE PROFILE OF STUDENT LIFE: ATTITUDES AND BEHAVIORS (ABS)

Attitudes and Behaviors

Your answers on this questionnaire will be kept strictly confidential. DO NOT put your name on this form. It has no code numbers, so no one will be able to find out how you or anyone else answered. Your school will receive a report that combines many students' answers together. Therefore, no one will be able to connect your answers with your name.

This is not a test you take for school grades. You are just being asked to tell about yourself, your experiences, and your feelings. Please be as honest as you can.



1. How old are you?

- ○ 11 or younger
- ○ 12
- ○ 13
- ○ 14
- ○ 15
- ○ 16
- ○ 17
- ○ 18
- ○ 19 or older

2. What is your grade in school?

- ○ 5th
- ○ 6th
- ○ 7th
- ○ 8th
- ○ 9th
- ○ 10th
- ○ 11th
- ○ 12th

3. What is your sex?

- ○ Male
- ○ Female

4. How do you describe yourself? If more than one, mark each that applies to you.

- ○ American Indian
- ○ Asian or Pacific Islander (for example, Cambodian, Hmong, Japanese, Korean, Laotian, Vietnamese)
- ○ Black or African American
- ○ Hispanic, Latino or Latina (for example, Cuban American, Mexican American, Puerto Rican, or other Latin American)
- ○ White

Some of the questions in this survey ask about your parents. In this survey, "parents" (and "father" or "mother") refer to the adults who are now most responsible for raising you. They could be foster parents, step-parents, or relatives/guardians. If you live in a one-parent family, answer for that adult.

5. Which one of the following best describes your family?

- ○ I live with two parents.
- ○ I live in a one-parent family with my mother
- ○ I live in a one-parent family with my father.
- ○ Sometimes I live with my mother and sometimes with my father.

How important is each of the following to you in your life? Mark one answer for each.

	Not Important	Somewhat Important	Not Sure	Quite Important	Extremely Important
6. Helping other people	○	○	○	○	○
7. Helping to reduce hunger and poverty in the world	○	○	○	○	○
8. Helping to make the world a better place in which to live	○	○	○	○	○
9. Being religious or spiritual	○	○	○	○	○
10. Helping to make sure that all people are treated fairly	○	○	○	○	○
11. Getting to know people who are of a different race than I am	○	○	○	○	○
12. Speaking up for equality (everyone should have the same rights and opportunities)	○	○	○	○	○
13. Giving time or money to make life better for other people	○	○	○	○	○
14. Doing what I believe is right even if my friends make fun of me	○	○	○	○	○
15. Standing up for what I believe, even when it's unpopular to do so	○	○	○	○	○
16. Telling the truth, even when it's not easy	○	○	○	○	○
17. Accepting responsibility for my actions when I make a mistake or get in trouble	○	○	○	○	○
18. Doing my best even when I have to do a job I don't like	○	○	○	○	○

ABOUT SCHOOL

19. On an average school day, about how much time do you spend doing homework outside of school?

- ○ None
- ○ Half hour or less
- ○ Between half an hour and an hour
- ○ 1 hour
- ○ 2 hours
- ○ 3 hours or more

20. What grades do you earn in school?

- ○ Mostly As
- ○ About half As and half Bs
- ○ Mostly Bs
- ○ About half Bs and half Cs
- ○ Mostly Cs
- ○ About half Cs and half Ds
- ○ Mostly Ds
- ○ Mostly below Ds

For each of the following, mark one response.
How often does one of your parents . . . ?

	Very Often	Often	Some-times	Seldom	Never
21. Help you with your school work	O	O	O	O	O
22. Talk to you about what you are doing in school	O	O	O	O	O
23. Ask you about homework	O	O	O	O	O
24. Go to meetings or events at your school	O	O	O	O	O

How much do you agree or disagree with the following?
Mark one answer for each.

	Strongly Agree	Agree	Not Sure	Dis-agree	Strongly Disagree
25. At school I try as hard as I can to do my best work	O	O	O	O	O
26. My teachers really care about me	O	O	O	O	O
27. It bothers me when I don't do something well	O	O	O	O	O
28. I get a lot of encouragement at my school	O	O	O	O	O
29. Teachers at school push me to be the best I can be	O	O	O	O	O
30. My parents push me to be the best I can be	O	O	O	O	O

31. During the last four weeks, how many days of school have you missed because you skipped or "ditched?"

- O None
- O 1 day
- O 2 days
- O 3 days
- O 4 - 5 days
- O 6 - 10 days
- O 11 or more days

For each of the following, mark one answer.
How often do you . . . ?

	Usually	Sometimes	Never
32. Feel bored at school	O	O	O
33. Come to classes without bringing paper or something to write with	O	O	O
34. Come to classes without your homework finished	O	O	O
35. Come to classes without your books	O	O	O

Reminder: In this survey, "parents" (and "father" or "mother") refer to the adults who are now most responsible for raising you.

ABOUT ME

How much do you agree or disagree with the following?
Choose one answer for each.

	Strongly Agree	Agree	Not Sure	Dis-agree	Strongly Disagree
36. On the whole, I like myself.	O	O	O	O	O
37. It is against my values to drink alcohol while I am a teenager.	O	O	O	O	O
38. I like to do exciting things even if they are dangerous.	O	O	O	O	O
39. At times, I think I am no good at all.	O	O	O	O	O
40. I get along well with my parents.	O	O	O	O	O
41. All in all, I am glad I am me.	O	O	O	O	O
42. I feel I do not have much to be proud of.	O	O	O	O	O
43. If I break one of my parents' rules, I usually get punished.	O	O	O	O	O
44. My parents give me help and support when I need it.	O	O	O	O	O
45. It is against my values to have sex while I am a teenager.	O	O	O	O	O
46. In my school there are clear rules about what students can and cannot do.	O	O	O	O	O
47. I care about the school I go to.	O	O	O	O	O
48. My parents often tell me they love me.	O	O	O	O	O
49. In my family, I feel useful and important.	O	O	O	O	O
50. Students in my school care about me.	O	O	O	O	O
51. In my family, there are clear rules about what I can and cannot do.	O	O	O	O	O
52. In my neighborhood, there are a lot of people who care about me.	O	O	O	O	O
53. At my school, everyone knows that you'll get in trouble for using alcohol or other drugs.	O	O	O	O	O
54. If one of my neighbors saw me do something wrong, he or she would tell one of my parents.	O	O	O	O	O

During the last 12 months, how many times have you . . . ?

	Never	Once	Twice	3 - 4 Times	5 or More Times
55. Been a leader in a group or organization	O	O	O	O	O
56. Stolen something from a store	O	O	O	O	O
57. Gotten into trouble with the police	O	O	O	O	O
58. Hit or beat up someone	O	O	O	O	O
59. Damaged property just for fun (such as breaking windows, scratching a car, putting paint on walls, etc.)	O	O	O	O	O

During an average week, how many hours do you spend . . . ?

	Number of Hours					
	0	1	2	3 - 5	6 - 10	11 or More
60. Playing on or helping with sports teams at school or in the community	O	O	O	O	O	O
61. In clubs or organizations (other than sports) at school (for example, school newspaper, student government, school plays, language clubs, hobby clubs, drama club, debate, etc.)	O	O	O	O	O	O
62. In clubs or organizations (other than sports) outside of school (such as 4-H, Scouts, Boys and Girls Clubs, YWCA, YMCA)	O	O	O	O	O	O
63. Reading just for fun (not part of your school work)	O	O	O	O	O	O
64. Going to programs, groups, or services at a church, synagogue, mosque, or other religious or spiritual place	O	O	O	O	O	O
65. Helping other people without getting paid (such as helping out at a hospital, daycare center, food shelf, youth program, community service agency, or doing other things) to make your city a better place for people to live	O	O	O	O	O	O
66. Helping friends or neighbors	O	O	O	O	O	O
67. Practicing or taking lessons in music, art, drama, or dance, after school or on weekends	O	O	O	O	O	O

Think about the people who know you well. How do you think they would rate you on each of these?

People who know me would say that this is . . .

	Not at all Like Me	A Little Like Me	Some-what Like Me	Quite Like Me	Very Much Like Me
68. Knowing how to say "no" when someone wants me to do things I know are wrong or dangerous	O	O	O	O	O
69. Caring about other people's feelings	O	O	O	O	O
70. Thinking through the possible good and bad results of different choices before I make decisions	O	O	O	O	O
71. Saving my money for something special rather than spending it all right away	O	O	O	O	O
72. Respecting the values and beliefs of people who are of a different race or culture than I am	O	O	O	O	O
73. Giving up when things get hard for me	O	O	O	O	O
74. Staying away from people who might get me in trouble	O	O	O	O	O
75. Feeling really sad when one of my friends is unhappy	O	O	O	O	O
76. Being good at making and keeping friends	O	O	O	O	O
77. Knowing a lot about people of other races	O	O	O	O	O
78. Enjoying being with people who are of a different race than I am	O	O	O	O	O
79. Being good at planning ahead	O	O	O	O	O
80. Taking good care of my body (such as, eating foods that are good for me, exercising regularly, and eating three good meals a day)	O	O	O	O	O

In this section we ask you about alcohol and other drugs. Please answer honestly. Remember, you are not asked to put your name on this form, so no one will ever be able to tell how you answered.

How many times, if any, have you had alcohol to drink . . . ?

	Number of Times							
	0	1	2	3-5	6-9	10-19	20-39	40+
81. In your lifetime	O	O	O	O	O	O	O	O
82. During the last 12 months	O	O	O	O	O	O	O	O
83. During the last 30 days	O	O	O	O	O	O	O	O

84. Think back over the last two weeks. How many times have you had five or more drinks in a row? (A "drink" is a glass of wine, a bottle or can of beer, a shot glass of liquor, or a mixed drink.)

- O None
- O Once
- O Twice
- O 3 to 5 times
- O 6 to 9 times
- O 10 or more times

85. If you came home from a party and your parents found out that you had been drinking, how upset do you think they would be?

- O Not at all upset
- O A little upset
- O Somewhat upset
- O Very upset
- O Extremely upset

How many times, if any, have you smoked cigarettes . . . ?

	Number of Times							
	0	1	2	3-5	6-9	10-19	20-39	40+
86. In your lifetime	O	O	O	O	O	O	O	O
87. During the last 12 months	O	O	O	O	O	O	O	O
88. During the last 30 days	O	O	O	O	O	O	O	O

89. During the last two weeks, about how many cigarettes have you smoked?

- O None
- O Less than 1 cigarette per day
- O 1 to 5 cigarettes per day
- O About 1/2 pack per day
- O About 1 pack per day
- O About 1-1/2 packs per day
- O 2 or more packs per day

How many times, if any, have you used marijuana (grass, pot) or hashish (hash, hash oil) . . . ?

	Number of Times							
	0	1	2	3-5	6-9	10-19	20-39	40+
90. In your lifetime	O	O	O	O	O	O	O	O
91. During the last 12 months	O	O	O	O	O	O	O	O

How many times, if any, have you used cocaine (crack, coke, snow, rock) . . . ?

	Number of Times							
	0	1	2	3-5	6-9	10-19	20-39	40+
92. In your lifetime	O	O	O	O	O	O	O	O
93. During the last 12 months	O	O	O	O	O	O	O	O

During the last 12 months, how many times have you . . . ?

	Never	Once	Twice	3 - 4 Times	5 or More Times
94. Been to a party where other kids your age were drinking	O	O	O	O	O
95. Driven a car after you had been drinking	O	O	O	O	O
96. Ridden in a car whose driver had been drinking	O	O	O	O	O

How many times, if any, have you sniffed glue, breathed the contents of aerosol spray cans or inhaled other fumes in order to get high . . . ?

	Number of Times							
	0	1	2	3-5	6-9	10-19	20-39	40+
97. During the last 12 months	O	O	O	O	O	O	O	O
98. During the last 30 days	O	O	O	O	O	O	O	O

99. In an average week, how many times do all of the people in your family who live with you eat dinner together?

- O None
- O Once a week
- O Twice a week
- O Three times a week
- O 4 times a week
- O 5 times a week
- O 6 times a week
- O 7 times a week

100. How often did you feel sad or depressed during the last month?

- ○ All of the time
- ○ Most of the time
- ○ Some of the time
- ○ Once in a while
- ○ Not at all

101. Have you ever tried to kill yourself?

- ○ No
- ○ Yes, once
- ○ Yes, twice
- ○ Yes, more than two times

102. Have you ever had sexual intercourse ("gone all the way," "made love")?

- ○ No – SKIP TO QUESTION 104
- ○ Once
- ○ Twice
- ○ 3 times
- ○ 4 or more times

103. When you have sex, how often do you and/or your partner use a birth control method such as birth control pills, a condom (rubber), foam, diaphragm, or IUD?

- ○ Never
- ○ Seldom
- ○ Sometimes
- ○ Often
- ○ Always

How many times, if any, in the last 12 months have you used . . . ?

	Number of Times							
	0	1	2	3-5	6-9	10-19	20-39	40+
104. Chewing tobacco or snuff	○	○	○	○	○	○	○	○
105. Heroin (smack, horse, skag) or other narcotics like opium or morphine	○	○	○	○	○	○	○	○
106. Alawan	○	○	○	○	○	○	○	○
107. PCP or Angel Dust	○	○	○	○	○	○	○	○
108. LSD ("acid")	○	○	○	○	○	○	○	○
109. Amphetamines (for example, uppers, ups, speed, bennies, dexies) without a prescription from a doctor	○	○	○	○	○	○	○	○

How much do you agree or disagree with the following? Mark one answer for each.

	Strongly Agree	Agree	Not Sure	Dis-agree	Strongly Disagree
110. Sometimes I feel like my life has no purpose.	○	○	○	○	○
111. Adults in my town or city make me feel important.	○	○	○	○	○
112. Adults in my town or city listen to what I have to say.	○	○	○	○	○
113. I'm given lots of chances to help make my town or city a better place in which to live.	○	○	○	○	○
114. Adults in my town or city don't care about people my age.	○	○	○	○	○
115. In my town or city, I feel like I matter to people.	○	○	○	○	○
116. When things don't go well for me, I am good at finding a way to make things better.	○	○	○	○	○
117. When I am an adult, I'm sure I will have a good life.	○	○	○	○	○

Reminder: In this survey, "parents" (and "father" or "mother") refer to the adults who are now most responsible for raising you.

During the last 12 months, how many times have you . . . ?

	Never	Once	Twice	3-4 Times	5 or More Times
118. Taken part in a fight where a group of your friends fought another group	○	○	○	○	○
119. Hurt someone badly enough to need bandages or a doctor	○	○	○	○	○
120. Used a knife, gun or other weapon to get something from a person	○	○	○	○	○

121. If you had an important concern about drugs, alcohol, sex, or some other serious issue, would you talk to your parent(s) about it?

- ○ Yes
- ○ Probably
- ○ I'm not sure
- ○ Probably not
- ○ No

122. How much of the time do your parents ask you where you are going or with whom you will be?

- ○ Never
- ○ Seldom
- ○ Some of the time
- ○ Most of the time
- ○ All of the time

Among the people you consider to be your closest friends, how many would you say . . . ?

	None	A Few	Some	Most	All
123. Drink alcohol once a week or more	○	○	○	○	○
124. Have used drugs such as marijuana or cocaine	○	○	○	○	○
125. Do well in school	○	○	○	○	○
126. Get into trouble at school	○	○	○	○	○

How often do you feel afraid of . . .

	Never	Once in a While	Some-times	Often	Always
127. Walking around your neighborhood?	○	○	○	○	○
128. Getting hurt by someone at your school?	○	○	○	○	○
129. Getting hurt by someone in your home?	○	○	○	○	○

130. **On the average, how many evenings per week do you go out to activities at a school, youth group, congregation, or other organization?**

○ 0 ○ 3 ○ 6
○ 1 ○ 4 ○ 7
○ 2 ○ 5

131. **On the average, how many evenings per week do you go out just to be with your friends without anything special to do?**

○ 0 ○ 3 ○ 6
○ 1 ○ 4 ○ 7
○ 2 ○ 5

132. **Imagine that someone at your school hit you or pushed you for no reason. What would you do? Mark one answer.**

○ I'd hit or push them right back.
○ I'd try to hurt them worse than they hurt me.
○ I'd try to talk to this person and work out our differences.
○ I'd talk to a teacher or other adult.
○ I'd just ignore it and do nothing.

How much do you agree or disagree with the following? Mark one answer for each.

	Strongly Agree	Agree	Not Sure	Dis-agree	Strongly Disagree
133. Students help decide what goes on in my school.	○	○	○	○	○
134. I don't care how I do in school.	○	○	○	○	○
135. I have lots of good conversations with my parents.	○	○	○	○	○
136. If I break a rule at school, I'm sure to get in trouble.	○	○	○	○	○
137. My parents spend a lot of time helping other people.	○	○	○	○	○
138. I have little control over the things that will happen in my life.	○	○	○	○	○

During the last 12 months, how many times have you . . . ?

	Never	Once	Twice	3-4 Times	5 or More Times
139. Carried a knife or gun to protect yourself.	○	○	○	○	○
140. Threatened to physically hurt someone.	○	○	○	○	○
141. Gambled (for example, bought lottery tickets or tabs, bet money on sports teams or card games, etc.)	○	○	○	○	○

The following questions ask about the adults you know. When answering these questions, don't count your parents or relatives.

How many adults have you known for two or more years who . . . ?

	0	1	2	3 or 4	5 or more
142. Give you lots of encouragement whenever they see you	○	○	○	○	○
143. You look forward to spending time with	○	○	○	○	○
144. Spend a lot of time helping other people	○	○	○	○	○
145. Do things that are wrong or dangerous	○	○	○	○	○
146. Talk with you at least once a month	○	○	○	○	○

On an average school day, how many hours do you spend . . . ?

	None	Less Than 1 Hour	1 Hour	2 Hours	3 Hours	4 or More Hours
147. Watching TV or videos . . .	○	○	○	○	○	○
148. At home with no adult there with you	○	○	○	○	○	○

149. **Have you ever been physically harmed (that is, where someone caused you to have a scar, black and blue marks, welts, bleeding, or a broken bone) by someone in your family or someone living with you?**
- ○ Never
- ○ Once
- ○ 2 - 3 times
- ○ 4 - 10 times
- ○ More than 10 times

150. **How many times in the last 2 years have you been the victim of physical violence where someone caused you physical pain or injury?**
- ○ Never
- ○ Once
- ○ Twice
- ○ 3 times
- ○ 4 or more times

151. **Where does your family now live?**
- ○ On a farm
- ○ In the country, not on a farm
- ○ On an American Indian reservation
- ○ In a small town (under 2,500 in population)
- ○ In a town of 2,500 to 9,999
- ○ In a small city (10,000 to 49,999)
- ○ In a medium size city (50,000 to 250,000)
- ○ In a large city (over 250,000)

152. **How many years have you lived in the city where you now live?**
- ○ All my life
- ○ 10 years or more, but I've lived in at least one other place
- ○ 5 - 9 years
- ○ 3 - 4 years
- ○ 1 - 2 years
- ○ Less than 1 year

153. **How often do you binge eat (eat a lot of food in a short period of time) and then make yourself throw up or use laxatives to get rid of the food you have eaten?**
- ○ Never
- ○ Once in a while
- ○ Sometimes
- ○ Often

154. **Have you ever gone several months where you cut down on how much you ate and lost so much weight or became so thin that other people became worried about you?**
- ○ Yes
- ○ No

155. **What is the highest level of schooling your father (or step-father or male foster parent/guardian) completed?**
- ○ Completed grade school or less
- ○ Some high school
- ○ Completed high school
- ○ Some college
- ○ Completed college
- ○ Graduate or professional school after college
- ○ Don't know, or does not apply

156. **What is the highest level of schooling your mother (or step-mother or female foster parent/guardian) completed?**
- ○ Completed grade school or less
- ○ Some high school
- ○ Completed high school
- ○ Some college
- ○ Completed college
- ○ Graduate or professional school after college
- ○ Don't know, or does not apply

APPENDIX C

FACTOR ANALYSES

Table C-1
Factor loadings of peer influence items

Items Included (Among the people you consider to be your closest friends, how many would you say...?)	Factor Loading Factor 1
Drink alcohol once a week or more	.80
Have used drugs such as marijuana or cocaine	.93
Do well in school	.27
Get into trouble at school	.57

Table C-2
Factor loadings of school affiliation items

Items Included	Factor Loading Factor 1
How often do you feel bored at school?	.47
How often do you come to classes without bringing paper or something to write with?	.58
How often do you come to classes without your homework finished?	.50
How often do you come to classes without your books?	.63
During the last four weeks, how many days of school have you missed because you skipped or "ditched"?	.40
I care about the school I go to?	.51

Table C-3
Factor loadings of achievement motivation items

Items Included	Factor Loading Factor 1
I don't care how I do in school	.68
Have used drugs such as marijuana or cocaine	.68
Do well in school	.57

Table C-4
Factor loadings of parent involvement in schooling items

Items Included (How often does one of your parents...?)	Factor Loading Factor 1
Help you with school work	.35
Talk to you about what you are doing in school	.62
Ask you about homework	.36
Go to meetings or events at your school	.15

Table C-5
Factor loadings of family support items

Items Included	Factor Loading
	Factor 1
My parents push me to be the best I can be	.51
I get along well with my parents	.79
My parents give me help and support when I need it	.80
My parents often tell me they love me	.76
In my family, I feel useful and important	.72
I have lots of good conversations with my parents	.75

Table C-6
Factor loadings of school support items

Items included	Factor Loading
	Factor 1
My teachers really care about me	.74
I get a lot of encouragement at my school	.79
Teachers at school push me to be the best I can be	.61
Students in my school care about me	.45

Table C-7
Rotated factor loadings of other adult support items

Items Included	Factor Loading	
	Factor 1	Factor 2
In my neighborhood, there are a lot of people who care about me	.56	
Adults in my town or city make me feel important	.90	
Adults in my town or city listen to what I have to say	.81	
In my town or city I feel like I matter to people	.65	
Adults in my town or city don't care about people my age	.42	
How many adults have you known for two or more years who give you lots of encouragement whenever they see you (don't count parents or relatives)?		.79
How many adults have you known for two or more years who you look forward to spending time with (don't count parents or relatives)?		.84
How many adults have you known for two or more years who talk with you at least once a month (don't count parents or relatives)?		.70

Table C-8
Rotated factor loadings of time allocation items

Items Included	Factor Loading		
	Factor 1	Factor 2	Factor 3
On an average school day, about how much time do you spend doing homework outside of school?	.13	.17	.11
During an average week, how many hours do you spend playing on or helping with sports teams at school or in the community?	.10	.12	.45
During an average week, how many hours do you spending clubs or organizations (other than sports) at school?	.21	.30	.40
During an average week, how many hours do you spend, in clubs or organizations (other than sports) outside of school?	.58	.21	.09
During an average week, how many hours do you spend reading just for fun (not part of your school work)?	.44	.10	.05
During an average week, how many hours do you spend going to programs, groups, or services at a church, synagogue, mosque, or other religious or spiritual place?	.56	.37	.00
During an average week, how many hours do you spend helping other people without getting paid to make your city a better place for people to live?	.29	.66	.18
During an average week, how many hours do you spend helping friends or neighbors?	.13	.55	.13
During an average week, how many hours do you spend practicing or taking lessons in music, art, drama, or dance, after school or on the weekends?	.44	.21	.28
On the average how many evenings per week do you go out to activities at a school, youth group, congregation, or other organization?	.21	.05	.59
On an average school day, how many hours do you spend watching TV or videos?		.05	.19

APPENDIX D

ADMINISTRATION MANUAL FOR ABS

Administration Manual

Search Institute Profiles of Student Life: Attitudes and Behaviors

Search INSTITUTE
The Banks Building
615 First Avenue N.E.
Suite 125
Minneapolis, MN
55413

1-800-888-7828

Revised 1/2003

TABLE OF CONTENTS

I. GENERAL INFORMATION

This manual gives you a complete view of the procedures involved in administering the survey *Search Institute Profiles of Student Life: Attitudes and Behaviors* (A&B). **The quality of the results depends on the quality of the administration.** Therefore, the information that follows is a valuable foundation for a careful and successful survey administration.

Not all of the information in this manual may be relevant to your particular setting. The manual intends to guide your efforts and answer questions as you proceed.

SEARCH INSTITUTE

Founded in 1958, Search Institute is an independent, nonprofit, nonsectarian organization whose mission is to advance the well being of children and adolescents by generating knowledge and promoting its application.

To accomplish this mission, the Institute generates, synthesizes, and communicates new knowledge, convenes organizational and community leaders, and works with state and national organizations to support the healthy development of children and adolescents.

THE FRAMEWORK OF 40 DEVELOPMENTAL ASSETS

Developmental assets represent the positive relationships, opportunities, skills and values that promote the positive development of all children and adolescents.

The developmental assets framework grew out of Search Institute's research over the past decade. The theoretical underpinnings of the framework reside in the research pertaining to risk and resiliency, prevention, and health promotion.

THE SURVEY OF SEARCH INSTITUTE *PROFILES OF STUDENT LIFE: ATTITUDES AND BEHAVIORS (A&B)*

Search Institute Profiles of Student Life: Attitudes Behaviors (A&B) *was* developed in 1989, with major revisions made in 1996. It is a 156-item survey that measures eight principal asset domains: support, empowerment, boundaries and expectations, constructive use of time, commitment to learning, positive values, social competencies, and positive identity.

In addition to measuring developmental assets, the survey also measures eight thriving indicators (succeeds in school, helps others, values diversity, maintains good health, exhibits leadership, resists danger, delays gratification, overcomes adversity), five developmental deficits (alone at home, TV overexposure, physical abuse, victim of violence, drinking parties), and 24 risk-taking behaviors (such as chemical use, sexual involvement, antisocial behavior).

SURVEY PURPOSE

The survey is intended to provide baseline aggregate data on which to base development of asset-building strategies and the creation of positive new visions and actions for the youth in your community. The A&B survey provides communities with a portrait

of the developmental assets, deficits, risk behaviors, and thriving indicators of their 6th- to 12th-grade youth. The survey has become a catalyst for hundreds of communities participating in Search Institute's Healthy Communities • Healthy Youth initiative. This national effort seeks to motivate and equip individuals, organizations, and their leaders to join together in nurturing caring and responsible children and adolescents.

In addition to its use as a community mobilization tool for building developmental assets, the survey also has been used to:

- Assist state and local educators in monitoring indicators related to student well-being;
- Set priorities and strategies for programs and services;
- Provide a common framework for cross-sector collaboration;
- Provide data for grant writing;
- Provide data for reports to funding agencies; and
- Provide a "youth voice" in organizational and community planning.

GRADE LEVELS

The survey is designed for students in grades 6 through 12. Any combination of these grades may be surveyed. The size of your student population in these grades will help determine how many students you survey and whether you survey all students in participating grades or a random sample of students. For more information, see "Selecting Survey Participants", page 8.

Note: Although grade 5 is listed on the survey for those occasions when 5th-grade students are in a combined class with 6th-graders, the survey is not intended to be used with students in 5th grade. Search Institute has not conducted any field tests to determine the survey's age-appropriateness for this grade level. In addition, the A&B survey report is designed to report data for grades 6 through 12 only. Surveys marked as grade 5 are eliminated from the dataset and not included in the A&B report.

SURVEY CONTENT

The content of the survey is supported by an extensive literature review of over 800 scientific articles and reports on adolescent development, risk and resiliency factors, and prevention. The items contained in the survey (including risk behavior items) represent a wide range of experiences facing our nation's 6th through 12th grade youth.

On occasion a community or school has requested permission to eliminate certain items from the survey. Because both the survey scanning and report processing methods use automated procedures, requests to modify the survey or report cannot be accommodated. Search Institute cannot process any surveys in which items have been covered in any way. In addition, students may not be instructed to skip specific questions as this interferes with the scoring processes for the report. If survey items are eliminated or if students are instructed to skip specific items, the organization contracting the survey study will still be responsible for paying for the surveys, even though no reports will be processed.

TIME REQUIRED

Enlisting Support. *The amount of time needed to gain broad-based support and/or consensus for administering the survey varies by community.* Enabling community members to hear the experiences of a significant number of youth is a key contribution the school district can make toward creating a supportive environment in which youth can thrive. In order to play that role well, school districts will find it helpful to engage several community representatives—including parents and youth—to help plan the administration process.

Ordering Materials. Search Institute will send the surveys and administration materials within two weeks of receiving your written order.

Survey Administration. The survey contains 156 questions and takes approximately 50 minutes to administer. Students in the upper grade levels may complete the survey in less time; students in lower grades may need more than 50 minutes. Consider the reading level of your students and allow more time for those who may need it, e.g., students for whom English is a second language.

When more than one school building is involved in a study, Search Institute recommends that data be collected across all sites within a two-week time period.

Report Processing. Completed surveys are returned to Search Institute for processing. Reports are mailed approximately 10 weeks from the time Search Institute receives all surveys for your study. If your study involves use of the survey across multiple sites, Search Institute needs to receive data from all sites before survey processing can begin. If subreports are to be provided for each site, surveys must be separated and identified by each site. See "Shipping Instructions" on page 13.

WHAT'S INCLUDED IN THE A&B SURVEY REPORT

The A&B survey report (titled *Developmental Assets: A Profile of Your Youth*) is 80 pages in length and includes the following:

An overview of the developmental assets framework, a description of how your study was conducted, and suggestions for using the report findings.

- Analysis of the levels of external assets, internal assets, and deficits as reported by your students. Data are presented by total sample, gender, and grade. (See additional related information on page 5, third paragraph under Confidentiality Issues.)

- Analysis of the levels of 24 risk-taking behaviors, 10 high-risk behavior patterns, and 8 thriving indicators as reported by your students. Data are presented by total sample, gender, and grade. (See additional related information on page 5, third paragraph under Confidentiality Issues.)

- Analysis of the relationship of 24 risk-taking behaviors, 10 high-risk behavior patterns, and 8 thriving indicators by four categories of asset levels: 0-10 assets, 11-20 assets, 21-30 assets, and 31-40 assets. Also included are the average

number of 24 risk-taking behaviors and the average number of eight thriving indicators by each of these four asset levels.

- Concluding remarks about the opportunities communities have for enhancing the positive development of youth, the importance of fostering developmental assets, and steps for taking action.

- Four Appendices: Individual item frequencies; item mapping to assets, deficits, thriving, and risk behaviors; a bibliography of the research undergirding the developmental assets framework; and a partial listing of Search Institute's print and video resources

- Nine-page Executive Summary

The Role of Youth in the Survey Process

The value of youth involvement in your survey process and information sharing cannot be overstated. Youth involvement at all levels of the process can shift the tone from youth as "sources of data" to "knowledge generators" and provides a means for giving them a stronger voice in their school and community. Students can be involved through the entire survey process including planning, administration, dissemination, and action implementation. For example, youth can:

- Present or co-present the reasons for using the survey to the school board or other relevant decision makers
- Convey the assets message as well as the intent and purpose of the survey to their fellow students
- Assist the classroom survey administrators
- Present or co-present survey results at a town meeting, school assembly, local service groups, etc.
- Serve on an ongoing planning and implementation task force

Several factors are involved in determining the scientific quality of a survey instrument. The issues most often raised by communities considering use of the *A&B* survey are listed below.

CONFIDENTIALITY ISSUES

Student anonymity. Search Institute takes great care to ensure that no individual student's answers will be traced back to her or him. Students do not put their names on the survey, and there are no hidden identification numbers on the form itself. Thus, the survey is done anonymously. (An exception to this rule occurs if the survey is used in a longitudinal study that requires tracking participants over time. Special arrangements must be made in advance with Search Institute.)

To additionally maintain student anonymity, all completed surveys are put into one envelope per classroom. Each classroom survey envelope is sealed at the end of the class period. Envelopes are returned to Search Institute, where the surveys are prepared for scanning.

All findings are reported in aggregate form by total group, gender, and grade. No individual student data are presented. If the number of students in a particular grade is fewer than 30, the data from that grade are either suppressed or merged with data from the nearest grade. Gender data will not be reported if there are fewer than 30 students in either gender category. When it is necessary to suppress data for a grade or gender, responses from those students are included in the "total group" percentages.

Because of the minimum requirements for reporting data by grade and gender, final sample sizes of fewer than 100 students means there will be missing data throughout the report. Search Institute recommends that the full report be purchased when the final aggregate sample size is greater than 100 students. For subgroup reports of 50-100 students, an Executive Summary may be purchased instead of the 80-page subreport. (Note: An Executive Summary may not be ordered in place of the initial aggregate report.) **No report will be prepared on groups of fewer than 50 students.**

To ensure data quality a computerized check is made on each survey to look for inconsistency in survey responses, number of survey items not answered, etc. Surveys that do not meet the quality checks are eliminated from the dataset. Your report is based on the surveys that remain in the dataset after these quality checks have been made. The percentage of surveys eliminated from a dataset is typically about 5 to 8 percent of the total number of surveys received. This percentage tends to be somewhat higher in larger urban school districts.

Note: If the total sample size for the aggregate report is fewer than 50 students, Search Institute will not run the report. The contracting organization will be responsible for the cost of the surveys even though no report is run. To protect the

confidentiality of students, completed survey forms will not be returned to the school or contracting agency.

RELIABILITY AND VALIDITY

Reliability refers to the degree to which something is measured consistently over time.

Validity is the degree to which a procedure measures what it is intending to measure.

Many of the items used in this survey have an extensive history through Search Institute's work. Other items have been developed in other studies. For example, many of the items regarding alcohol and other drug use are from the study entitled *Monitoring the Future* (conducted by the Survey Research Center, Institute for Social Research, The University of Michigan, Ann Arbor, Michigan). Some items were developed through a process of pilot testing, pre-testing, and question revision.

As with most instruments dealing with anonymous self-reported data, there is no direct, objective validation of the items used. However, a considerable amount of evidence strongly indicates that self-report questions produce largely valid data.

A Technical Overview for the A&B survey is available from Search Institute. The Overview includes information on scale definitions, validity, and reliability.

DATA QUALITY

Schools often ask how they can know that the data are accurate or, in other words, how they can know that students answered truthfully. Might students have lied or greatly exaggerated their responses?

Over its 40 years of doing survey work, Search Institute has built into its computer programs ways of eliminating surveys that seem invalid. A&B surveys are eliminated from a dataset when (1) 40 or more questions are not answered, (2) the surveys contain disparate information on similar items, (3) there are excessively unrealistic responses to key items, (4) there are inconsistencies within time frames, and (5) a grade level other than those intended to be surveyed has been marked. Also, one item is included as an intentional way of assessing student honesty. The percentage of surveys eliminated from a dataset is typically about 5 to 8 percent of the total number of surveys received. This percentage tends to be somewhat higher in large urban school districts.

In very rare cases, it may be the judgment of Search Institute that the quality of the data is such that a report should not be released. Search Institute will discuss the implications of data quality with the contracting agency before a final decision is made.

COMPARING DATA ACROSS TIME

Very often a school or community wants to administer the *A&B* survey at more than one point in time to assess the effectiveness of a particular program or initiative. In assessing change over time, several things must be kept in mind.

- The *A&B* survey was not designed as a program evaluation tool, and therefore it is limited in its effectiveness as an

evaluation instrument. It is intended to provide a community with baseline and trend data on groups of students.

- When the *A&B* survey is administered at more than one point in time, it is appropriate to make comparisons in percentages for the same grade at two different points in time (e.g., 10th-graders in spring 2002 to 10th-graders in spring 2004). However, comparing the same student class over time (e.g., 10th-graders in spring 2002 to 12th-graders in spring 2004) is problematic. Results for a class may change in unpredictable ways due to factors such as an influx of new students, students moving away, and/or students dropping out. These changes affect the comparability of the data. (See also Use of the Survey as a Pre-Post Measure or Program Evaluation Tool below.)
- The statistical significance of a difference in percentages is influenced by a number of factors such as the size of the group being surveyed and the response options being considered for comparison. Therefore, although differences between percentages may seem significant (such as 5% or 10%), they may not be statistically significant.

Use of the Survey as a Pre-Post Measure or Program Evaluation Tool

The A&B survey was designed to provide aggregate-level data for individual communities. It was not designed as an individual assessment instrument or as a program evaluation tool. Some of the difficulties that would be encountered in using the survey as a pre-post measure or as a program evaluation tool follow.

Student anonymity. Because of the sensitive nature of the questions, students complete the survey anonymously; therefore, it is not possible to follow individual student responses across survey administrations. This makes pre-post measures or evaluation of program effectiveness difficult as student populations probably change between the two (or more) survey administrations due to the addition of new students, absenteeism, school dropouts, or mobility of students.

Measurement issues. For simplicity of communication with communities, developmental assets are measured dichotomously (that is, students either "have" or "do not have" the asset). While it is possible for changes to occur in the level of assets between the two (or more) survey administrations, the changes likely will not be at a level that can easily be measured by the survey or that will affect the overall percentage of youth reporting a particular asset.

Evaluating specific programs. When measuring the effectiveness of a program, questions about the specific program elements need to be asked. It is unlikely that the items contained in the A&B survey are sufficient for that purpose. In addition, because the survey scanning and report processes are automated, program-specific items cannot be added to the A&B survey.

III. Preparation for Survey Administration

The following steps are critical for conducting a quality study using the *A&B* survey.

Selecting Your On-Site Survey Coordinator

It is important for the organization contracting the survey study to select one on-site survey coordinator who will be the contact person for Search Institute's survey staff. Your community's on-site coordinator (in collaboration with your survey task force and/or school district) will:

- Select the grade levels to be surveyed
- Determine appropriate parental consent procedures on the basis of relevant federal or state laws and school district policies (e.g., use of passive vs. active parental consent)
- Schedule the survey administration date
- Ensure appropriate communication to staff, students, parents, and community members
- Notify survey administrators of date and procedures
- Ensure delivery of blank surveys to appropriate school buildings and/or classrooms, and clarify instructions
- Collect completed surveys, complete the survey administration form, and ship them to Search Institute
- Distribute copies of the report(s)

The survey coordinator may be someone from a school, an organization sponsoring the survey, or a community volunteer. In those cases where the survey is being conducted as part of a large community effort, the survey coordinator will need to have good communication skills with the school district and other sectors of the community. Note that this person may be guided by others involved in the survey planning process.

Selecting Survey Participants

The A&B survey may be administered to students in grades 6 through 12. For smaller schools or school districts, you will want to survey all students in each participating grade. For studies involving large school districts, counties, or states, you may want to consider drawing a sample.

You may use one of the following methods for selecting participants:

- Survey all students in grades 6 through 12
- Survey all students in selected grades (e.g., 6, 8, 10, 12)
- Draw a random sample of classrooms
- Draw a random sample of students using an enrollment roster

If all students are to be surveyed, you may select a certain class period (e.g., 2nd hour) at which time all students are given the

survey regardless of the subject area they are generally taught during that period. Another method is to select a subject that all students in particular grade levels must take and administer the survey during that particular subject, regardless of class period. Choose the method that allows for as close to 100 percent of the students being surveyed as possible. Avoid class periods during which students are more apt to be absent, such as first period or at the end of the day (when some students are dismissed for jobs or off-campus classes).

For larger school systems, a random sample may be used. In the random sample process, the most critical task of the coordinator is to ensure that the students selected to participate are **representative** of all students in the grade levels involved. The quality of the study hinges on this process, so great care needs to be taken. There are two basic approaches to random sampling:

(1) *Sampling Students.* In this method, you randomly select as many names as you need for the study from the roster of all students at a designated grade level. Search Institute can help you determine the number of students to survey and the method for selecting students. Using this method means that the selected students will need to be released from their regular class activity and gathered in one location for the survey administration.

(2) *Sampling by Classroom.* To determine the number of classrooms needed, first consult with Search Institute regarding an adequate sample size. If, for example, it is determined that 250 8th-grade students should be surveyed, determine the number of classrooms this number represents. If there are approximately 25 students per classroom, you will need about 10 classrooms of 8th-grade students. Select a class subject that <u>all</u> 8th-grade students must take, regardless of achievement level (e.g., English, Social Studies). To randomly select these ten classes, assign numbers to all of the classes in that subject area, write each number on a separate piece of paper, mix up the numbers, and select ten numbers. **It is very important to select classes randomly and equally important not to select a subject designed for specific achievement levels.**

Search Institute will work with you to design a sampling frame for your study. This is particularly important when, in large studies, individual school reports may be requested in addition to an overall aggregate report. The number of students surveyed will depend upon the type of report(s) to be generated.

ADMINISTERING TO STUDENTS WITH SPECIAL NEEDS

Special administration procedures may be necessary in some cases, such as students with learning or physical disabilities or for whom English is a second language.

Because of the sensitive nature of the A&B survey and the potential self-report of illegal behavior, the primary concern in survey administration must be to maintain the anonymity of each student's responses. In some cases, a disability (such as blindness) may prevent a student from participating, since it would not be possible for her or his responses to be anonymous with a paper-pencil survey format and since other formats (such as computer or Braille versions) are not available. In other cases,

special arrangements may be made to facilitate participation. Some examples follow.

Students with learning disabilities (LD). The survey administrator may read the survey aloud to a group of students or to an individual. To protect the students' answers from being seen, a screen may be used to separate the survey administrator from the students. It is important that students with learning disabilities take the survey in a room with minimal distractions.

In addition to reading the survey aloud, the survey administrator may define words or concepts not understood by the student(s).

It may be that the students will need assistance only through the first few questions, until they are comfortable with the survey format. In this case, the survey administrator may read aloud the first few questions and response options, and after that, be available to answer questions of individual students. For larger groups of students with special needs, perhaps more than one person could be available in the room to respond to individual student questions.

Students for whom English is a second language (ESL). Currently the A&B survey is available in English only. While a school may want to verbally translate the instructions as well as the questions and response options, Search Institute cannot guarantee the scientific quality of data collected through this process. Search Institute does not allow translated versions of the survey to be provided to students in print and subsequently transferred to the English form. This method jeopardizes student anonymity, data quality, and copyright.

In all cases, consult with your school district's ESL or LD program coordinator.

PARENT CONSENT

Under newly enacted federal law known as the No Child Left Behind Act of 2001 (NCLB), the type of consent required for a study in the public school setting depends on whether the study is funded in whole or in part by any program administered by the U.S. Department of Education. Note that the consent requirements below apply only to public schools and educational institutions that receive funding from the U.S. Department of Education. These requirements do not apply to schools which do not receive federal funding.In general, one of the following two methods for obtaining parental consent must be used.

- *Passive consent (opt out)* is requested when parents are asked to fill out a form or call the school if they do not want their child to participate in the study. Consent is assumed if no such request is made.

- *Positive (or active) consent* is requested when parents are informed that they must return a signed permission slip for their child to participate in the study. Consent cannot be assumed if no form is returned.

If the study is funded in whole or in part by any program administered by the U.S. Department of Education, the school must obtain "the prior written consent of the parent"—i.e., the "positive consent" of the parent as defined above.

PARENT CONSENT (cont.)

If the study is not funded in whole or in part by any program administered by the U.S. Department of Education, the school must give parents the opportunity to "opt out" of the study—i.e., obtain "passive consent" as defined above. In addition, NCLB requires that schools establish, in consultation with parents, written policies which require that:

1. parents are ***notified*** and have an ***opportunity to inspect*** related materials, whenever a survey will be given that has been created by a third party or may touch on protected categories of sensitive information;

2. parents receive ***annual notice of procedures***, at the beginning of the school year, for exercising their rights under these notification and inspection policies;

3. parents may ***"opt out"*** of participation in third-party surveys (non-Dept. of Ed. funded) containing any of the sensitive subject areas outlined in NCLB.

Regardless of the method required, Search Institute recommends that parents be as fully informed as possible about the survey. Information that is shared with parents should include:

- Why the survey is being done;
- How and when it will be administered;
- In what format the findings are reported (i.e., in aggregate form only, not by individual students);
- Whether (or how) the findings will be shared with the community at large;
- That a student's grades will <u>not</u> be affected by her or his participation or nonparticipation; and
- How nonparticipating students will be handled (e.g., removed from the classroom to a study hall).

When positive consent is required, additional pre-survey lead time is needed for receiving signed consent forms. Initial response rates tend to be low, so follow-up procedures are generally needed. The quality of the data is dependent on a high response rate.

As noted above, under federal law, students have the right to refuse participation. Encourage participation by noting the importance of the study, how the information will be used, and methods for ensuring anonymity. Do not mandate participating. (See Administration Instructions, Appendix B.)

The survey coordinator should provide survey administrators with the names of students for whom parental consent has not been received. Special arrangements may be made to remove students to another setting or nonparticipating students may be instructed to study at their desks.

Sample positive and passive consent letters for parents (which are intended to be adapted to fit your study) are found in

Appendix C. A one-page fact sheet (Appendix D) about Search Institute and the survey may be duplicated and sent to parents.

Please note that local regulations and state law may also govern the administration of student surveys. School administrators are strongly encouraged to review these laws and regulations before proceeding with the study.

For more information regarding federal legislation on parental consent, see the resources listed in Appendix E.

STUDENT CONSENT

As part of the survey administration procedures, students are informed that the survey is voluntary. In addition students are informed that they may skip items if they so choose. Encourage participation by noting the importance of the study, how the information will be used, and methods for ensuring anonymity, but do not mandate participation. Students are also told that this is not a survey they take for school grades. (See Administration Instructions, Appendix B.) Note, however, that students cannot be instructed to skip specific items on the survey as this interferes with the scoring and analysis of the report. Search Institute will not process surveys for students who have been given such instructions.

For more information regarding federal legislation on parent and student consent, see Appendix E.

CHOOSING THE SURVEY DATE

Several factors will influence when the survey administration should take place, including the length of time required for approval by key decision makers, amount of time needed for parental consent, and the school calendar.

Choose a time (1) that is not immediately following summer vacation or a major holiday period, (2) when the greatest percentage of students will be in school (not on a field trip or involved in a special program), (3) when it is most convenient for teachers to have the survey done in their classrooms, and (4) when it does not interfere with or conflict with other surveys being conducted with the same population.

Let all people potentially affected know the date well in advance. If several schools are involved in a study, coordinate times so that administration dates are within the same general time period (within two weeks, if possible).

SURVEY ADMINISTRATORS

For each classroom chosen to participate in the survey, the survey coordinator needs to designate a survey administrator. Most often survey administrators are classroom teachers or school counselors. You may also use volunteers or other school personnel, but they should be comfortable in a classroom setting and able to maintain a serious atmosphere during survey administration.

If at all possible, the survey coordinator should provide an opportunity for survey administrators to get together and discuss both the administration procedures and the survey. If a meeting of this type is not possible, a copy of the survey and administration instructions should be distributed to survey administrators in advance of the survey date. An important

element in the success of the survey process is helping survey administrators understand the importance of the survey itself, as well as the importance of following the survey administration procedure.

If the survey administrator is someone other than the classroom teacher, the coordinator may determine whether the teacher should also stay in the classroom.

MATERIALS NEEDED

For each survey session/classroom, the survey coordinator provides to the survey administrator the following materials:

- Survey forms (1 per student);
- Pencils (#2 or softer; 1 per student);
- A large envelope (1 per classroom); and
- Administration instructions (1 per classroom, Appendix B).

In order to protect the anonymity of students, all survey forms are placed in the envelope at the end of the survey administration session. The envelope is sealed in front of the students and ultimately returned to Search Institute for processing.

If it is helpful to your check-in process, the survey coordinator may request that each survey administrator write the following information on the envelope:

- School name (if more than one is participating in the study);
- Survey administrator's name;
- Date;
- Subject and class period; and
- Grade level(s) in classroom.

This is particularly helpful and may be essential if more than one school is participating in the study. If more than one school participates and individual school reports are to be prepared, each envelope must be clearly marked with the school name. Also enclose a cover letter detailing the specific reports being requested.

IV. MAILING THE COMPLETED SURVEYS

The final task is to collect all the envelopes from the survey administrators and ship them to Search Institute.

SHIPPING INSTRUCTIONS

After all survey envelopes have been returned to the survey coordinator, he or she then needs to complete the two-sided Survey Administration Form. (Use the one enclosed in your original shipment from Search Institute or copy the form found in Appendix F.)

- Processing of your report will be delayed if the Survey Administration Form(s) is not included with your shipment.
- If individual school reports are to be generated, surveys must be separated and labeled. Also, enclose a cover letter detailing the specific reports being requested.

Place survey envelopes in one or more boxes and ship to Search Institute using a carrier that allows you to track your packages should they be lost in transit (e.g., UPS, certified mail, the carrier used by your school district).

Ship to Search Institute at the following address:

Search Institute
The Banks Building
Attn: Survey Services Department
615 First Street N.E., Suite 125
Minneapolis, MN 55413

Your report(s) will be mailed to the survey coordinator approximately 10 weeks after all completed surveys are received at Search Institute.

Note: As indicated on the classroom survey administration instructions, in order to maintain the confidentiality of student responses, survey forms are destroyed 90 days after they have been scanned. Requests to return completed survey forms to the school or other agency/individual will not be accommodated.

V. Dissemination of Survey Data and Report Findings

Dissemination of survey data and report findings is at the discretion of the contracting party. The following information outlines Search Institute's commitment to maintaining confidentiality and the contractor's authority regarding dissemination of survey findings.

CONFIDENTIALITY OF SURVEY CLIENTS DATA, AND REPORTS

Search Institute will treat all survey reports as confidential. The Institute will not release the names of organizations/schools that use the survey, raw data or copies of report(s) without prior written permission to do so. Because the data upon which the report is based can be used to advance the understanding of adolescent development, Search Institute reserves the right to add the data from your study to its larger developmental assets database.

DISSEMINATION OF SURVEY FINDINGS AND COPYRIGHT INFORMATION

Your survey report (titled *Developmental Assets: A Profile of Your Youth*) is copyrighted by Search Institute. You may photocopy and distribute your report in its entirety for informational and educational purposes. In addition, figures 1 through 19 may be reproduced or adapted to other formats (such as brochures, web sites, PowerPoint presentations) provided that Search Institute is cited as the source of the information and the developer of the framework of developmental assets.

The text and appendices contained in the full report may **not** be reproduced as part of any adaptations, mechanical or electronic.

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APPENDICES

APPENDIX A

CHECKLIST FOR SURVEY COORDINATORS

Search Institute Profiles Institute of Student Life; Attitudes and Behaviors

Checklist for Survey Coordinators

The following checklist is intended to be used as a guide to assist survey coordinators in implementing the *Search Institute Profiles of Student Life: Attitudes and Behaviors* survey. The numbers in parentheses refer to page numbers in the administration manual. While there are some basic and very important steps to follow when administering the survey, you may find that not all of these steps apply to your situation, or you may need to add additional steps. Extra space has been provided at the end of each section for that purpose. While there is an implied order in these steps, each community study will vary to some extent. Remember that it is very important to refer back to the administration manual for a more thorough explanation of the survey process.

Checklist for Implementation of the Attitudes and Behaviors Survey				
Steps for Implementation	**School**	**School**	**School**	**Notes**
Discussion/Buy-in/Approval for Survey Administration ***(These groups are suggestions. Some may not apply to your study, and/or you may need to add others.)***				
Parent groups (PTA/PTO)				
Youth				
Accountability committees				
Local coalitions/task forces				
Faith institutions				
Law enforcement/government				
Business sector				
School board				
Superintendent(s)				
Principals				
Teachers				
Other:				
Parent Consent ***(Please refer to pages 10-11 and Appendix E in the administration manual. It will be important to determine whether or not parental consent is mandated at a federal, state or local level.)***				
Decisions re: parent notification or consent				
Methods for notifying parents (letter, newsletter, consent form)				
Survey available for parent review				
Contact person assigned to answer questions from parents				
If needed: follow-up procedures determined				
Other:				
Sampling of Students ***(Although surveying the total population is preferable, sampling may be a more feasible option in some circumstances. Refer to pages 8-9 in the administration manual for further information. Search Institute will provide assistance in determining an adequate sample size.)***				
Obtain student count by grade for each participating school				
Discuss options with Search Institute re: sampling by school, grade, classroom, roster				
Determine method for survey administration (e.g., by class subject, class period, etc.)				
Other:				

Logistics of Administration ***(Refer to the noted pages in the administration manual for further information.)***				
Parent notification/permission performed *(pg. 10-11 and Appendix C)*				
Survey coordinator(s) recruited *(pg. 8)*				
Classroom teachers recruited/briefed *(pg. 12 and Appendix B)*				
Accommodations made for special needs students (ESL, LD) *(pg. 9-10)*				
Date(s) selected for administration *(pg. 11)*				
Pencils, envelopes, surveys provided to classroom administrators *(pg. 12)*				
Decisions made re: types of reports needed (e.g., by county, district, school building)				
Preparation made for shipping completed surveys to Search Institute *(pg. 13)*				
Other:				
Sharing survey results with others (Determine the audiences and methods for disseminating survey results. See Section V, page 14, Dissemination of Survey Data and Report Findings.)				
Audiences:				
Educators/administrators				
Parents				
Youth				
Committees				
Community leaders				
Faith institutions				
Media				
Community-at-large				
Other				
Methods:				
Town meeting(s)				
News media				
School newsletter/letter to parents				
School assembly				
Other:				

ADDITIONAL NOTES:

APPENDIX B

CLASSROOM ADMINISTRATION INSTRUCTIONS

Search Institute Profiles of Student Life:
Attitudes and Behaviors

Classroom Administration Instructions

Note: In a study of this kind, it is important to have a standardized administration format so that procedures are consistent across the study. Therefore, where verbal instructions are given below, try to give them as written. You may simplify language when appropriate.

Introductory Procedure

1) As quickly as possible after the class period begins, bring the class to attention. Students should be given about 50 minutes to complete the survey. Although many students may finish in less time, it is particularly important to allow students in lower grade levels adequate time for completing the survey.

2) If you are not the students' regular classroom teacher, introduce yourself (or be introduced by the teacher) and begin by saying:

   - *Our school is involved in a very important study of student attitudes and behaviors. The purpose of this study is to help our school and town better understand the needs of our young people. By taking this survey seriously and by answering honestly, you play an important role in this effort.*

   - *There are a couple of important things you need to know. The survey is filled out anonymously. This means there are no identification numbers on the survey and you should not put your name on the survey booklet. No one will know which survey booklet you filled out, and therefore no one can know how you answer these questions. Also the survey is voluntary which means you do not have to take it, and you may skip an item if you choose. This is not a test you take for school grades.*

   - *I will now give each of you a survey form. Please dó not open it until I tell you to do so. Remember: The survey is not a test, and it is important that you answer the questions honestly.*

3) Then, ask the students to follow along as you read the two paragraphs on the front page of the survey.

   - *Your answers on this questionnaire will be kept strictly confidential. DO NOT put your name on this form. It has no code numbers, so no one will be able to find out how you or anyone else answered. Your school will receive a report that combines many students' answers together. Therefore, no one will be able to connect your answers with your name.*

   - *This is not a test you take for school grades. You are just being asked to tell about yourself, your experiences, and your feelings. Please be as honest as you can.*

4) When done reading the paragraphs, continue by saying:

   - *At the end of the class period, I will ask you to place your survey in this envelope* **[hold up the envelope]**. *Then I will seal the envelope. Neither I nor anyone else in this school will look at the surveys. They will be sent to Search Institute in Minneapolis. All of the surveys will be scored together to give an overall picture of our school. Then the surveys will be destroyed.*

   - *Look, now, at the section called "Important Marking Directions."*

5) Read these instructions aloud.

- *Use black lead pencil only.*
- *Do NOT use ink or ballpoint pens.*
- *Make heavy black marks that fill the circle.*
- *Erase cleanly any answer you wish to change.*
- *Do not make any stray marks on the questionnaire.*

6) Then say:

If you have any questions during the survey, raise your hand, and I will try to answer them. You have [# of] minutes to do the survey. If you finish early, remain in your seat and use your time to study. If you do not finish the survey, I will collect it anyway at the end of the period. You may begin.

Concluding Procedure

1) During the survey period, announce when there are 10 minutes remaining and when there are 5 minutes remaining.

2) Collect all surveys by the end of the period. When the bell rings, all survey forms should be in the envelope. Seal the envelope in front of the students. Do not make special arrangements for students to finish later or on their own. The hard and fast rule is to collect all forms by the end of the period.

3) After you seal the envelope, thank the class for its help.

Final Instructions

1) If requested by the survey coordinator, label the envelopes in the upper left-hand corner with the following information:
   - School name
   - Your name
   - Date
   - Class period and subject
   - Grade level(s) in classroom

2) **Return the envelope to the location designated by the survey coordinator.**

Additional Directions

1) If a student comes in late, you may let her or him take the survey if at least 20 minutes remain.

2) If a student does not want to take the survey, that is her or his right. Do not mandate participation. Your survey coordinator may have a designated room or location for nonparticipating students. If not, ask the student to study quietly at her or his desk.

APPENDIX C

SAMPLE ACTIVE PARENTAL CONSENT LETTER
AND
SAMPLE PASSIVE PARENTAL CONSENT LETTER

Sample Active Parental Consent Letter

Note: This letter is intended to be placed on school letterhead. Information in [ ] is to be provided by the school.

Dear Parent or Guardian:

On [date], our school [district] will conduct a very important study on the needs, attitudes and behaviors of our students in grades [_____].

The survey is titled *Search Institute Profiles of Student Life: Attitudes and Behaviors.* It will provide our school and community with a wide range of information, such as how students spend their time, their perceptions of school and community life, and their participation in a wide range of risky behaviors. Most important, the survey will tell us the extent to which our students are experiencing developmental assets. Developmental assets are the "building blocks" of positive relationships, opportunities, skills and values that young people need to grow into healthy caring, and responsible adults. The survey results will help all of us as we seek to address the developmental needs of our youth. [*Give specifics about how the information will be used, how it will be shared with others, and/or information on your local Healthy Community • Healthy Youth initiative, if applicable.]*

Additional information

- Students will be given one full class period in which to complete the survey. The surveys are completed anonymously. No one will know how individual students respond to the questions.
- All students within each classroom place their completed surveys into one envelope. The envelope is then sealed. All envelopes from our school are sent directly to Search Institute (Minneapolis) for processing. No one at our school will review any of the completed surveys.
- The final report will present findings by the total group, by grade, and by gender. No individual student data are reported.
- Students are told that their participation is voluntary and that they can skip items if they so choose.
- The survey is not a test they take for school grades, and their grades will not be affected if they choose not to participate. Nonparticipating students will be [*e.g., asked to go to a study hall; asked to study quietly at their desk].*

In order for your child to participate in the study, we must receive your signed consent. The form at the bottom of this page allows you to say yes or no to your child's participation. Please give serious consideration to this request. The value of a study of this kind depends upon the participation of every student. If no consent form is received from you, your child cannot participate in the study.

A copy of the survey is available for your review in the [location] between [days and time]. [A stamped envelope is provided for your convenience in returning this consent form.] Consent forms must be returned by [date]. If you have any questions, please contact [person and title] at [phone, days, times].

Thank you.

Sincerely,

Name
Title

❑ Yes, I give permission for my child to participate in the *Attitudes and Behaviors* survey.

❑ No, I do not give permission for my child to participate in the *Attitudes and Behaviors* survey.

Child's name (please print) _____ Grade level _____

School _____

Parent's signature _____ Date _____

Sample Passive Consent Letter For Parents

Note: This letter is intended to be placed on school letterhead. Information in [ ] is to be provided by the school.

Dear Parent or Guardian:

On [date], our school [district] will conduct a very important study on the needs, attitudes, and behaviors of our students in grades [_____].

The survey is titled *Search Institute Profiles of Student Life: Attitudes and Behaviors.* It will provide our school and community with a wide range of information, such as how students spend their time, their perceptions of school and community life, and their participation in a wide range of risky behaviors. Most important, the survey will tell us the extent to which our students are experiencing developmental assets. Developmental assets are the "building blocks" of positive relationships, opportunities, skills and values that young people need to grow into healthy caring, and responsible adults. The survey results will help all of us as we seek to address the developmental needs of our youth. [*Give specifics about how the information will be used, how it will be shared with others, and/or information on your local Healthy Community • Healthy Youth initiative, if applicable.]*

Additional information

- Students will be given one full class period in which to complete the survey. The surveys are completed anonymously. No one will know how individual students respond to the questions.
- All students within each classroom place their completed surveys into one envelope. The envelope is then sealed. All envelopes from our school are sent directly to Search Institute (Minneapolis) for processing. No one at our school will review any of the completed surveys.
- The final report will present findings by the total group, by grade, and by gender. No individual student data are reported.
- Students are told that their participation is voluntary and that they may skip items if they so choose.
- The survey is not a test they take for school grades, and their grades will not be affected if they choose not to participate. Nonparticipating students will be [*e.g., asked to go to a study hall; asked to study quietly at their desk].*

Please give serious consideration for your child to participate in this study. A copy of the survey is available for your review in the [location] between [days and time]. The value of a study of this kind depends upon the participation of every student.

If you do not want your child to participate, you **must** return the form at the bottom of this letter by [date]. If no form is received, your child will be asked to participate in the study.

If you have any questions, please contact [person] at [phone, days, times].

Thank you.

Sincerely,

Name
Title

Please withdraw my child from participation in the *Attitudes and Behaviors* survey.

Child's name (please print) _____ Grade level _____

School _____

Parent's signature _____ Date _____

APPENDIX D

FACT SHEET FOR PARENTS

Fact Sheet for Parents Regarding *Search Institute Profiles of Student Life: Attitudes and Behaviors*

Search Institute

Founded in 1958, Search Institute is an independent nonprofit, nonsectarian organization whose mission is to advance the well being of children and adolescents by generating knowledge and promoting its application. To accomplish this mission, the Institute generates, synthesizes, and communicates new knowledge, convenes organizational and community leaders, and works with state and national organizations to support the healthy development of children and adolescents.

Search Institute Profiles of Student Life: Attitudes and Behaviors Survey (A&B)

The A&B survey provides schools and communities with a portrait of the attitudes, behaviors, and needs of its youth. The survey has been administered in over 1000 communities and to well over 1 million students in urban, suburban, and rural settings. The survey contains 156 questions about school climate, parent and school boundaries and expectations, and structured time use, and a wide range of risky behaviors.

Common Concerns

Some of the questions parents may ask are these:

By taking the survey, will my child be encouraged to try some of the risk behaviors it addresses?

There is no evidence to indicate that asking questions about risk behaviors encourages young people to become involved in those behaviors. Also, there are many federal regulations specifically addressing the protection of people involved in research of all types, including survey research conducted in public school settings. Protection of parent and student rights is very important to Search Institute and we comply with all appropriate federal regulations. We also take great care to provide information about applicable federal regulations to any organization using our survey service.

How do you know whether students are answering truthfully?

Search Institute uses several methods for looking at each survey to determine whether students are answering truthfully. For example, the computer looks for inconsistencies in the way students respond to similar questions, unrealistically high substance use, and too many unanswered items. Surveys with these kinds of problems are not used in the report findings. The percentage of surveys removed from individual school or community studies has remained consistent over time and generally falls into the 5 to 8 percent range. When too many surveys are being eliminated, the resulting data may not be of good quality; and Search Institute may make the decision that a report cannot be generated.

Will anyone know how my child answers the questions?

Anonymity is a very important issue for surveys like this. In its 40 years of work in this area, Search Institute has created careful procedures to ensure that no student's results can be traced back to an individual student. Students do not put their names on the surveys and there are no hidden identification marks on the surveys. Thus, the surveys are completed anonymously.

As students complete their surveys, they place them in one envelope that is sealed at the end of the class period. The survey coordinator collects the envelopes from each class and ships them to Search Institute for analysis.

All findings are reported in aggregate form only by combining student responses by grade and by gender. No individual student responses are reported.

APPENDIX E

INFORMATIONAL RESOURCES REGARDING PARENT CONSENT

Informational Resources Regarding Parent Consent

- Family Policy Compliance Office
  U.S. Department of Education
  400 Maryland Avenue, SW
  Washington, D.C. 20202-4605
  http://www.ed.gov/offices/OM/fpco/

- State Departments of Education, for example:
  - www.isbe.state.il.us/nclb/default.htm
  - www.cde.ca.gov/pr/nclb/
  - www.emsc.nysed.gov/deputy/nclb/
  - www.state.nj.us/njded/grants/nclb
  - www.pde.state.pa.us/nclb/site/default.asp

APPENDIX F

SURVEY ADMINISTRATION FORM

Search Institute Profiles of Student Life: Attitudes and Behaviors
Survey Administration Form

(This form must be returned with your completed surveys.)

Survey Coordinator Information

Name _____ Title _____

Org _____ Address _____

City _____ State _____ ZIP _____

Phone _____ Fax _____

School Representative Information (if different from above)

Name _____ Title _____

School _____ Address _____

City _____ State _____ ZIP _____

Phone _____ Fax _____

Please provide the following information for each school participating in the survey.

School or Agency Name	City/Town	Zip	County	Grades in Building	Date Admin	Agency Type* (circle one)
						Pu Pr R N
						Pu Pr R N
						Pu Pr R N
						Pu Pr R N
						Pu Pr R N
						Pu Pr R N
						Pu Pr R N
						Pu Pr R N
						Pu Pr R N

What grade levels were surveyed?

(Check all that apply and provide estimated numbers.)

- ❑ Grade 6 Estimated # of students in grade _____ Estimated # surveyed _____
- ❑ Grade 7 Estimated # of students in grade _____ Estimated # surveyed _____
- ❑ Grade 8 Estimated # of students in grade _____ Estimated # surveyed _____
- ❑ Grade 9 Estimated # of students in grade _____ Estimated # surveyed _____
- ❑ Grade 10 Estimated # of students in grade _____ Estimated # surveyed _____
- ❑ Grade 11 Estimated # of students in grade _____ Estimated # surveyed _____
- ❑ Grade 12 Estimated # of students in grade _____ Estimated # surveyed _____

*Agency type:

Pu = Public school Pr = Private, nonreligious school R = Private, religious school N = Nonschool agency

(over)

Which of the following methods did you use to select participants?

- ❑ All students surveyed in specified grades.
- ❑ Random sample of students
  Describe method of randomly selecting students:_____
  _____
- ❑ Random sample of classrooms
  Course(s) selected for survey administration: _____
  _____
  Average number of classrooms selected oer grade: _____
  Describe method of randomly selecting classrooms: _____
  _____

Did you experience any difficulties in conducting the survey? (Check all that apply and fill in the blanks.)

- ❑ No
- ❑ High absenteeism in grade(s)_____ due to: _____
  _____
- ❑ Lack of student cooperation due to: _____
- ❑ Lack of teacher cooperation due to: _____
- ❑ Other: _____
  _____

Did you inform parents of the study and/or request signed consent forms?

- ❑ No notification/consent process was used.
- ❑ Yes, parents were informed of the survey administration.
  Describe method used (e.g., newsletter, take-home letter):_____
  _____
- ❑ Yes, passive consent was used, in which parents were given the option of withdrawing their child from the study.
  Grade level(s) for which passive consent was used: _____
  Number of consent letters mailed: _____
  Number of students withdrawn from the survey: _____
- ❑ Yes, active consent was required for students to participate.
  Grade level(s) for which permission was required: _____
  Number of consent letters mailed: _____
  Number of students granted permission to participate: _____

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Administration Manual
Search Institute Profiles of Student Life: Attitudes and Behaviors