

# Academic Resilience Among Undocumented Latino Students

William Perez

*Claremont Graduate University, CA*

Roberta Espinoza

*California State University, Fullerton*

Karina Ramos

*University of Missouri, Columbia*

Heidi M. Coronado

*Claremont Graduate University, CA*

Richard Cortes

*Glendale Community College, CA*

This study examined the academic resilience of undocumented immigrant Latino students. It was hypothesized that due to their legal and social marginalization, students who experienced high risk accompanied by high levels of both personal and environmental protective factors would have higher academic outcomes than students with lower levels of these protective resources. The results from regression and cluster analyses ( $N = 104$ ) indicated that despite specific risk factors (e.g., elevated feelings of societal rejection, low parental education, and high employment hours during school) undocumented students who have high levels of personal and environmental protective factors (e.g., supportive parents, friends, and participation in school activities) report higher levels of academic success than students with similar risk factors and lower levels of personal and environmental resources. The results also suggested variability in risk exposure among undocumented students with some students reporting low levels of risk accompanied by high levels of personal and environmental protective factors.

**Keywords:** *civic engagement; undocumented; immigrant; Latino; minority students*

According to Passel (2006), in 2005 there were 1.8 million undocumented youth under the age of 18 living in the United States. Latinos represent approximately 78% of this undocumented population. Each year,

approximately 80,000 undocumented students reach high school graduation age. Of these high school graduates, approximately 13,000 enroll in public colleges and universities across the country (Passel, 2006). Not only do these students endure the same stressors and risk factors as other Latino and immigrant youth, they also face constant institutional and societal exclusion and rejection due to their undocumented status. They are not eligible for most scholarships, do not qualify for any form of government sponsored financial assistance, are not eligible to apply for a driver's license, are legally barred from formal employment, and may be deported at any time. The social, educational, and psychological experiences of these immigrant youth raise a number of important questions: What specific social and environmental characteristics mediate their school success in the presence of numerous factors that place them at risk for low achievement? And how can the risk and resilience framework help us better understand the academic achievement patterns of undocumented immigrant Latino youth?

## Immigrant Youth

Migration is one of the most radical transitions and life changes an individual or family can endure. For immigrant children, the migration experience fundamentally reshapes their lives as familiar patterns and ways of relating to other people dramatically change. Some potential stressors related to migration include loss of close relationships, housing problems, a sense of isolation, obtaining legal documentation, going through the acculturation process, learning the English language, negotiating their ethnic identity, changing family roles, and adjusting to the schooling experience (Garza, Reyes, & Trueba, 2004; Igoa, 1995; Portes & Rumbaut, 2001; Suarez-Orozco & Suarez-Orozco, 2001; Zhou, 1997).

With respect to Latino immigrant youth, research suggests a host of sociocultural experiences related to the acculturation process are extremely stressful (Cervantes & Castro, 1985). Using the Hispanic Children's Stress Inventory, Padilla and his colleagues (Padilla, 1986; Padilla, Cervantes, Maldonado, & Garcia, 1988) identified several potentially stressful events for Hispanic children and adolescents which included leaving relatives and friends behind when moving, feeling pressured to speak only Spanish at home, living in a home with many people, and feeling that other kids make

fun of the way they speak English. Kurtines and Miranda (1980) also suggest that differences in Hispanic children's self and family role expectations can often lead to intrafamilial tensions and conflicts. Discrepancies in the values and practices of Hispanic children and their parents may create pressure in selecting which set of cultural norms and expectations to adhere to, those of their culture of origin or those of mainstream culture.

## **Undocumented Immigrant Students**

Although literature exists on first and second generation immigrants, there is a lack of research on the undocumented immigrant student population. In one of only a handful of studies, Dozier (1993) found three central emotional concerns for undocumented college students: fear of deportation, loneliness, and depression. Dozier found that students' fear of deportation was so central to undocumented students; it influenced almost every aspect of their lives. Some students reported being afraid of going to hospitals because they worried that their immigration status would be questioned. Because their legal status made it impossible to obtain work authorization, they were sometimes forced to stay in bad work conditions because they feared not being able to find another job. In addition, undocumented students were often reluctant to develop close emotional relationships with others for fear of their undocumented status being discovered. Despite these stressors, the undocumented students in Dozier's study managed to accumulate the necessary academic record to be accepted into college. How did they manage such accomplishments in the face of numerous obstacles?

In a qualitative study of 10 undocumented male Mexican college students, De Leon (2005) described relationships with school counselors and teachers as being particularly important sources of information and guidance. Students also noted teachers who treated them negatively, and similar to Dozier's (1993) study, reported an ongoing sense of isolation and fear. Although they recognize all the obstacles they faced due to their undocumented status, participants still expressed a high level of optimism and perseverance.

In another qualitative study focusing on undocumented female Mexican college students, Munoz (2008) reported that these young women had both positive and negative experiences with teachers and other school agents. Most of the information that students received about applying to college however, did not come from school agents, but rather from adults in the community. Despite high levels of economic hardship, participants reported

high parental involvement and support for school, particularly from mothers. Language brokering (Buriel, Perez, De Ment, Chavez, & Moran, 1998) was described as a positive experience, while ethnic identity formation, stereotypes about Mexicans, and negotiating gender role expectations with their parents were described as stressors. Although they had observed it, participants reported not having personally experienced discrimination. All respondents reported frustration, helplessness, shame, and fear due to their undocumented status, but they also reported being highly involved on campus in extracurricular activities as a way to feel a sense of belonging. In college, support from faculty and staff was a key environmental protective factor.

Gonzalez, Plata, Garcia, Torres, and Urrieta's (2003) ethnographic research also highlights undocumented youths' various environmental risk and protective factors. For example, a young woman who grew up in a household with three other siblings and a single mother recalls the pivotal role played by her 8th grade English teacher who recommended her for the Honors program. She eventually participated in various extracurricular activities and aspired for admission to an Ivy League school. Despite her high level of involvement, her grade point average (GPA) reached a stellar 4.38 until she found out she was undocumented. Afterward, she discontinued most of her activities, dropped her Honors and advanced placement (AP) courses and her GPA fell to 2.5. A third student cites supportive 8th grade teachers on the one hand, and a lack of support from her high school counselor who questioned her academic abilities and refused to place her in academically rigorous courses on the other.

Oliverez's (2006) qualitative research with Latino undocumented high school seniors finds that although families appeared to support students aspirations to attend college, the home environments were not always conducive to college preparation. In addition to caring for younger siblings, the crowded nature of their family's small rented apartment meant that these students often did their homework away from home, secluded themselves in a corner, or waited until everyone was asleep to get their work done. None of the students described having a separate room in their homes where they could find adequate quiet and space to study. In all, 60% lived in crowded homes with 6 or more people, and 90% lived in single or studio apartments where everyone slept in the same room.

Oliverez (2006) also found that despite parents' limited education and familiarity with the U.S. educational system, half of participants reported that their hard work and sacrifices motivated them to pursue higher

education. Whereas some students attributed their lack of academic success to not having enough time or being too busy to complete their schoolwork to the best of their ability, others held jobs that sometimes left them too tired to focus on school. A total of 60% reported working after school or on the weekends between 16 and 40 hours per week, while 60% participated in athletic teams. Length of time in the United States also appeared to play a role in their academic success. Those who had spent 10 years or more in the United States had lower GPAs than those who had been in the United States for 3 to 8 years. All students reported being frustrated by the restrictions they encountered due to their undocumented status. Similar to Munoz (2008), 40% chose to be proactive by engaging in community service or mentoring activities to help undocumented youth.

Finally, Abrego (2006), in her ethnographic study of undocumented Latino adolescents reports various environmental risk factors. Both documented and undocumented students in her study reported various incidents of violence near their homes and schools, and attend poorly funded schools with 4-year college going rates of less than 10%. Unlike their counterparts with legal status, undocumented students feared the same fate as their older siblings who excelled in school but ended up in undesirable jobs with few options due to their undocumented status. Some students reported a drop in their academic performance and found it difficult to remain motivated once they learned about their legal status. They became disillusioned and lowered their aspirations.

The findings from the few studies focusing on undocumented Latino youth suggest that while both documented and undocumented immigrant Latino youth face similar educational and psychological risks, undocumented youth's precarious legal status translates into additional risk factors and sources of stress. However, the psychological and academic effects of legal marginalization have not been fully studied nor addressed by researchers.

## **Psychological Resilience**

Researchers argue that resilience is the process (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003) of overcoming the negative effects of risk exposure, coping successfully with traumatic experiences, and avoiding the negative trajectories associated with those risks (Garmezy, Masten, & Tellegen, 1984; Luthar, Cicchetti, & Becker, 2000; Masten & Powell, 2003; Rutter, 1985; Werner, 1992). A key requirement of resilience is the presence of both risk and protective factors that either help bring about a positive

outcome or reduce and avoid a negative outcome. Resilience theory, though it is concerned with risk exposure among adolescents, is focused more on strengths rather than deficits and understanding healthy development in spite of high risk exposure. Personality characteristics and environmental social resources are thought to moderate the negative effects of stress and promote positive outcomes despite risks (Bernard, 1995; Kirby & Fraser, 1997; Masten, 1994; Werner & Smith, 1992).

### **Personal Protective Factors**

Bernard (1995) reports the importance of personal characteristics in resilience such as social competence, problem-solving skills, and autonomy, sense of purpose and future, and high positive expectations. The more resources young people have to draw on during times of stress, the better their chances are of dealing with difficulties more effectively (Luthar & Zelazo, 2003). Werner and Smith (1992) report that resilient children exhibit good communication skills, a sense of responsibility, achievement orientation, caring attitudes, an internal locus of control, a positive self-concept, and a belief in self-help. Gender has been frequently confirmed as a correlate of resilience, assuming a protective role. Longitudinal studies (Werner, 1989) indicate that women are generally more skilled in accessing and using social supports and resources. Feingold (1994) found that women report more extraversion, trust, gregariousness, and nurturance which are hypothesized to be important personal protective factors.

### **Environmental Protective Factors**

Resilience is also an ecological phenomenon (Greene, 2002; Jozefowicz-Simbeni & Allen-Meares, 2002; Richman & Fraser, 2001). Environments may contribute to a person's risk of various problems, but can also provide protection to enhance the likelihood of positive outcomes. Resources are positive factors that are external to the individual and help overcome risk, such as parental support, adult mentoring, or community organizations that promote positive youth development.

## **Academic Resilience**

In addition to social and psychological outcomes, resilience research has also examined academic success and persistence despite stressful events

and conditions during childhood and adolescence (Alva, 1991; Wang, Haertel, & Walberg, 1994). Well-established risk factors include being a minority student attending an inner-city school, or coming from a low-income home where English is not the primary language. Although there are many students who perform poorly and continue the downward trend (Dauber, Alexander, & Entwisle, 1996), there are a significant number of others who manage to do well in school (Jimerson, Egeland, & Teo, 1999). Two types of protective factors have consistently been identified as evident among academically invulnerable children: personal and environmental resources (Garmezy, 1981, 1983; Garmezy & Rutter, 1983; Werner, Bierman, & French, 1971; Werner & Smith, 1982).

### **Personal Protective Resources for Academic Resilience**

Students who do well in the classroom show a positive self-evaluation of their academic status at school (Wylie, 1979) and a sense of control over their academic success and failure (Dweck & Licht, 1980; Dweck & Wortman, 1982; Stipek & Weisz, 1981; Willig, Harnisch, Hill, & Maehr, 1983). Gordon (1996) found that faith in their own cognitive skills was one of the main differences between resilient and nonresilient Latino students in an urban school environment. The high academic achievers excelled because they believed in their own capabilities to achieve.

### **Environmental Protective Resources for Academic Resilience**

Academically successful students appear to have a supportive network of family members, friends, neighbors, and teachers whom they rely on for counsel and advice in difficult or stressful situations. Mexican American parents, in particular, are mentioned by successful students as an important source of support and encouragement (Alva, 1991; Arellano & Padilla, 1996; Gandara, 1982). In Gandara's study of successful Mexican American professionals, she found that 93% of the professionals surveyed reported that the educational support they received from their parents during childhood and adolescence was the single most important factor affecting their high academic goals and expectations.

Family is a very important factor in the development of resiliency in immigrant students (Siantz, 1997). In his study of low-income Mexican adolescents and their families, Stanton-Salazar (2001) found that immigrant parents articulated high aspirations for their children even though many did not have the opportunity to attend school in their own country, and were not

able to help their children with academic material or navigating the educational system in the United States. Supportive relationships, particularly encouragement from teachers, school personnel, and other adults are a key protective factor in the development of resilience among immigrant students (Bernard, 1995). Together, these findings highlight the importance of examining the antecedents and correlates of academic invulnerability in undocumented adolescents.

The purpose of this study was to examine the role of protective resources in mediating the academic achievement of undocumented Latino youth. Our study uses three main indicators of academic success: high GPA, high number of academic awards, and high number of academically rigorous Honors and AP courses. The assumption is that these represent significant accomplishments for undocumented Latino students who must surmount a multitude of obstacles to attain them. The primary hypothesis of this study was that academic resilience is at least partially explained by the extent to which personal and environmental resources are available to them. The study's focus on student personal and environmental resources is based on the premise that these factors are important antecedents of school achievement. Thus, we sought to answer the following questions: What is the relationship between risk, protective factors (personal and environmental), and academic achievement among undocumented immigrant Latino students? And how do undocumented students with different configurations of risk and protective factors differ in their academic performance? It was hypothesized that undocumented students with high levels of risk factors, but also high levels of both personal and environmental protective factors, would have higher academic outcomes than students who have similar levels of risk factors, but lower levels of both personal and environmental protective factors.

## Method

The above questions were explored cross-sectionally and analyzed with the aid of a dual methodological-analytical approach, both variable-focused and person-focused (Masten et al., 1999). The use of the two types of analyses facilitates the formation of conceptual bridges between the main correlates of resilience. It also provides a holistic picture of interrelation patterns among factors promoting resilience, while at the same time helping to uncover some of the connections between psychosocial resources and positive adaptation.

In the context of resilience process models, the various studies have traditionally used one of the two analytical approaches, either variable-focused or person-focused (Achenbach, 1985; Cairns & Magnusson, 1996; Masten & Powell, 2003). Variable-focused approaches aim at determining specific interconnections between stress indices and adaptation; they employ regression analysis tools in an effort to account for covariance among the variables (Conrad & Hammen, 1993; Gest, Neemann, Hubbard, Masten, & Tellegen, 1993; Luthar, 1991). Person-focused approaches, on the other hand, aim at identifying young people who are resilient, adapted, vulnerable or maladapted, according to a predetermined set of theoretically and empirically informed criteria. In this study, we used cluster analyses to determine the role of the personal and environmental protective factors available to undocumented youth and their effect on academic outcomes.

## Participants

One hundred and 10 undocumented Latino high school, community college, and university students from across the United States participated in this study. The average age of participants was 19.97 years ( $SD = 2.15$ ). A total of 62% of subjects were female. The male to female ratio in this study is similar to college enrollment rates for Latinos. Hurtado, Saenz, Santos, & Cabrera, (2008), for example, reported that of all Latinos enrolled in college in 2006, 61% were female, and more specifically, Mexican students had a female ratio of 63%. The high school group in this study was gender balanced with 50% female. The average number of years living in the United States was 13.03 ( $SD = 4.80$ ) for males and 13.90 ( $SD = 4.15$ ) for females. Male participants came to the United States when they were 7.25 ( $SD = 5.25$ ) years old while female participants had an average arrival age of 6.79 ( $SD = 3.89$ ) years old. A total of 18% participants were high school seniors, 34% were community college students, and 48% were students at a B.A.-granting university.

## Procedures

Participants were selected from a convenience sample recruited using e-mail and flyer advertisements to various Latino student organizations at colleges and high schools in Southern California. Information flyers were also passed out in several high school and college classrooms. We also asked participants to forward our information to other students that met our criteria of being undocumented. The recruitment flyers and emails

invited students to participate in a research study that focused on “the educational experiences of undocumented students.” This is the only detail that participants received regarding the purpose of the study. e-mail and printed flyer announcements contained a link to an online survey hosted by SurveyMonkey.com. The online survey did not collect names, emails, school names, or any other type of identifying information to protect the confidentiality of participants.

The first part of the online survey consisted of open-ended questions that asked participants to list their academic achievements, civic engagement experiences, extracurricular activities, leadership positions, and enrollment in advanced level academic courses. The second part of the survey consisted of school background and demographic information. The third and final part of the online questionnaire consisted of various Likert-type style, self-reported questions designed to assess distress levels, perceived societal rejection due to undocumented status, bilingualism, student valuing of school, parental valuing of school, and friends valuing of school. The survey took approximately 45 minutes to complete. Following is a description of the independent and dependent variables used in this study.

## Measures

For the purpose of this study, we operationalized four key theoretical concepts: risk, environmental protective factors, personal protective factors, and academic outcomes. A detailed description of all key variables used in the analyses follows.

*Risk factors.* As Table 1 indicates, we used four measures of risk factors: employment during high school, sense of rejection related to undocumented status, low parental educational attainment, and large family size.

*High school employment.* Students were asked, “How many hours per week did you work in high school?” High school employment was considered a risk if students worked more than 20 hours per week. Several studies have reported negative effects on school performance and engagement when students work past 20 hours a week during the school year (Steinberg & Cauffman, 1995; Steinberg & Dornbusch, 1991; Steinberg, Fegley, & Dornbusch, 1993).

*Parental education.* Students were asked how many years of schooling their mother and father had completed. We took the average of the mother’s and father’s years of education to create a parental education index.

**Table 1**  
**Risk and Protective Concepts, Measures, and Academic**  
**Outcome/Adaptation Variables**

Concept	Measure
Risk factor	Work more than 20 hours/week during high school Sense of rejection due to undocumented status Low parental educational attainment Large family
Personal protective factors	Participation in GATE Valuing of school High Bilingualism Distress
Environmental protective factors	Parental valuing of school Friends valuing of school Participation in extracurricular activities Participation in volunteer/community service Grew up with both parents
Outcomes	Academic awards GPA AP/Honors courses

Parental education was considered a risk factor if the parental education index was less than a high school education.

*Family size.* Students were asked to report their total number of brothers and sisters. Family size was considered a risk factor if participants reported having three or more siblings as previous studies have identified three or more siblings as a risk factor (Grissmer, Kirby, Berends, & Williamson, 1994; Luthar, 1991; Sameroff, Seifer, Baldwin, & Baldwin, 1993; Seifer, Sameroff, Baldwin, & Baldwin, 1992).

*Rejection due to undocumented status.* This scale was developed specifically for this study and was composed of three statements such as “Because of my undocumented background I feel that I am not wanted in this country.” Respondents indicated their responses on a 7-point Likert-type scale ranging from 7 (*strongly agree*) to 1 (*strongly disagree*). Higher scores indicated higher feelings of alienation. The scale had high Cronbach’s alpha internal reliability value of .89.

*Personal protective factors.* Table 1 indicates the four measures of personal protective factors: having been identified as gifted or talented

during their early education, valuing of schooling, bilingualism, and coping with distress.

*Gifted.* If the participant had been designated as gifted or talented during her or his elementary or middle school education, it was considered a personal protective factor.

*Distress scale.* The distress scale was composed of 12 statements such as “Lately do you feel sad?” and “Lately do you feel that you don’t have much energy?” Respondents indicated their responses on a 7-point Likert-type scale ranging from 7 (*always*) to 1 (*never*). Low distress was considered a protective factor as those reporting lower distress scores demonstrate more adaptive coping with the high levels of stress that undocumented students contend with on a daily basis. This measure has been successfully used in previous studies to measure emotional distress among immigrant youth (Suárez-Orozco & Doucet, 2006; Suarez-Orozco, Todor, & Louie, 2002). The scale had high Cronbach’s alpha internal reliability value of .89.

*Bilingualism.* The bilingualism scale was composed of eight statements such as “How well do you understand Spanish?” and “How well do you read English?” Respondents indicated their responses on a 4-point Likert-type scale ranging from 4 (*very well*) to 1 (*not at all*). Students who reported understanding, speaking, reading, and writing both English and Spanish “very well” were considered having the protective factor of being highly bilingual. The scale had high Cronbach’s alpha internal reliability value of .82.

*Valuing of schooling.* The valuing of schooling scale was composed of five statements such as “How important is it for you to do well in school?” and “How important is it to earn good grades?” The scale was adapted from Midgley, Maehr, and Urdan’s (1993) measures of academic engagement. Respondents indicated their responses on a 7-point Likert-type scale ranging from 7 (*very important*) to 1 (*not important at all*). Higher scores on the valuing of school scale was the second personal protective factor. The scale had a high Cronbach’s alpha internal reliability value of .76.

*Environmental protective factors.* Five environmental protective factor measures were used: parental valuing of school, friends valuing of schooling, participation in extracurricular activities, participation in volunteer activities, and growing up with both parents (see Table 2).

**Table 2**  
**Background and Psychosocial Variables**

	Male ( <i>n</i> = 42)			Female ( <i>n</i> = 68)			Total ( <i>N</i> = 110)		
	<i>M</i>	( <i>SD</i> )	%	<i>M</i>	( <i>SD</i> )	%	<i>M</i>	( <i>SD</i> )	%
<b>Background variables</b>									
Years in the United States	13.03 <sub>a</sub>	(4.80)		13.90 <sub>a</sub>	(4.15)		13.55	(4.41)	
Age when immigrated to the United States	7.25 <sub>a</sub>	(5.25)		6.79 <sub>a</sub>	(3.89)		6.97	(4.43)	
Gender			38			62			100
<b>Risk factors</b>									
Mother's years of schooling	8.30	(4.40)		8.39	(4.41)		8.35	(4.38)	
Father's years of schooling	9.21 <sub>a</sub>	(4.49)		10.05 <sub>a</sub>	(4.68)		9.71	(4.60)	
Hours worked per week	13.64 <sub>a</sub>	(12.49)		11.15 <sub>a</sub>	(12.88)		12.10	(12.73)	
Number of siblings	2.37 <sub>a</sub>	(1.32)		2.83 <sub>a</sub>	(1.86)		2.66	(1.69)	
Rejection due to undocumented status	4.28 <sub>a</sub>	(1.64)		4.18 <sub>a</sub>	(1.49)		4.22	(1.54)	
<b>Personal protective factors</b>									
Participation in GATE			39			34			36
Valuing of schooling	6.07 <sub>a</sub>	(1.22)		6.51 <sub>b</sub>	(.57)		6.34	.90	
Distress Scale	1.92 <sub>a</sub>	(0.56)		2.18 <sub>b</sub>	(0.56)		2.09	(0.57)	
Bilingualism	2.29 <sub>a</sub>	(.61)		2.28 <sub>a</sub>	(.70)		2.28	.67	
<b>Environmental Protective Factors</b>									
Parental valuing of schooling	3.60 <sub>a</sub>	(.61)		3.50 <sub>a</sub>	(.76)		3.54	.71	
Grew up with both parents			68			63			65
Friends valuing of school	2.93 <sub>a</sub>	(.74)		3.16 <sub>a</sub>	(.71)		3.07	.72	
High school extracurricular activities	1.74 <sub>a</sub>	(1.21)		2.06 <sub>a</sub>	(1.17)		1.94	(1.19)	
High school volunteer service	1.17 <sub>a</sub>	(1.08)		1.57 <sub>b</sub>	(1.04)		1.42	(1.07)	
<b>Academic outcomes</b>									
Honors and AP courses	4.79	(5.01)		4.16 <sub>a</sub>	(4.11)		4.40	4.46	
High school Awards	1.64 <sub>a</sub>	(1.28)		1.90 <sub>a</sub>	(1.35)		1.80	1.33	
High school GPA	3.43 <sub>a</sub>	(.66)		3.51 <sub>a</sub>	(.50)		3.48	(.56)	

Note: Means in the gender columns are significantly different from each other if they do not share a subscript.

*Extracurricular activities.* Students were asked to list all the extracurricular activities they participated in during high school. *Extracurricular participation* was defined as participation in the following activities: Student council, sports, band/music/choir, drama/theater, Newspaper/magazine/yearbook, cultural dance, clubs, YMCA/YWCA, Boys/Girls Club. After the extracurricular activities were coded, they were counted and summed to create an extracurricular participation score. Since extracurricular participation provides multiple opportunities for developing relationships with other academically engaged peers and school agents, higher counts of extracurricular activities was considered an environmental protective factor.

*Volunteer activities.* Students were asked in an open-ended format to list all volunteer activities they participated in during high school. *Volunteerism* was defined as participation in any one of the following activities: providing a social service, working for a cause and political activism, tutoring, and functionary work. Performing social service entailed interaction with people in need such as visiting, feeding, or caring for the homeless, poor, sick, elderly, or handicapped. Working for a cause and *political activism* was defined as having engaged in activities focused on a particular social issue or cause such as the environment, a political party, human rights, or other causes that did not entail direct interaction with the needy. *Tutoring* was defined as coaching, child care, and academic tutoring. *Functionary work* was defined as having participated in volunteer activities that entailed cleaning and maintenance work or organizing and administrative work such as beach cleanup. After the volunteer activities were coded, they were counted and summed to create a volunteer score. Higher scores were considered an environmental protective factor.

*Family composition.* Students were asked to indicate which parents or guardians they lived with growing up. Students were asked to select from the following 10 choices: "Both my mother and my father in the same house," "Only my mother," "My mother and stepfather," "Only my father," "My father and stepmother," "Some of the time in my mother's home and some in my father's," "Other relative (aunt, uncle, grandparents, etc.)," "Guardian or foster parent who is not a relative," "No parents or guardians (I lived alone or with friends)," and "Other." Student responses were then coded into one of two categories: (1) lived with both parents growing up, or (2) other. Growing up with both parents was considered an environmental protective factor.

*Parent valuing of schooling.* The parental valuing of school scale was composed of 2 statements: “For my parents, me getting good grades in school is?” and “For my parents, me going to college after high school is?” Respondents indicated their responses on a 4-point Likert-type scale ranging from 4 (*very important*) to 1 (*not important*). High scores on the parental valuing of school was considered an environmental protective factor. This scale was developed for the Harvard longitudinal immigrant student adaptation study and has been validated in previous studies (Suarez-Orozco & Suarez-Orozco, 2001; Suarez-Orozco, Suarez-Orozco, & Todorova, 2008). The scale had high Cronbach’s alpha internal reliability value of .85.

*Friends valuing of schooling.* The friends valuing of school scale was composed of three statements: “For my friends, getting good grades in school is?” and “For my friends, going to college after high school is?” Respondents indicated their responses on a 4-point Likert-type scale ranging from 4 (*very important*) to 1 (*not important*). High scores on the friends valuing of school was considered an environmental protective factor. This scale was developed for the Harvard longitudinal immigrant student adaptation study and has been validated in previous studies (Suarez-Orozco & Suarez-Orozco, 2001; Suarez-Orozco et al., 2008). The scale had high Cronbach’s alpha internal reliability value of .87.

*Academic outcomes.* The risk and protective factors described above were the independent variables used to understand the academic performance patterns of undocumented Latino students. The four academic outcomes used were high school GPA, number of school awards received during high school, and number of academically rigorous Honors and AP courses taken (see Table 1).

*GPA.* The GPA variable was calculated by asking students to report their overall high school GPA on a standard 4.0 scale. Previous research that included Latino high school students (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987) has found a strong correlation, .76, between self-reported grades and official grades.

*School awards.* Students were asked in an open-ended format to list all awards they received in high school. An *academic award* was defined by student of the month award, honor roll, attendance award, spelling bee/writing/poetry contest award, subject award (i.e., science award), school

sports award, band/music/choir award, community service award, citizenship award for good behavior, or student of the year award. After the awards were coded, they were counted and summed to create a total awards score.

*Honors and AP courses.* Students were asked to list all Honors and AP courses they took during high school. Examples of Honors courses included Honors English or Honors biology, while examples of AP courses included AP calculus or AP chemistry. After all courses were coded, they were counted and summed to create a total number of academically rigorous courses score.

## Results

The results are presented in two distinct sections. The first section describes associations among all variables used in the regression analyses. The second section identifies subgroups of students based on risk and protective factor configurations from the cluster analyses results.

### Descriptive Statistics

*Risk factors.* Table 1 indicates that undocumented immigrant Latino students have parents with low levels of education. Participant mothers had an 8th grade education ( $M = 8.35$ ,  $SD = 4.41$ ) and fathers had a 10th grade education ( $M = 9.71$ ,  $SD = 4.60$ ). A total of 83% of mothers and 73% of fathers had less than 12 years of education with only 4% of mothers and 10% of fathers having 16 years of education or the equivalent of a university degree. Male and female students did not differ in mother's level of education,  $t(97) = .10$ ,  $p > .05$ , or father's level of education,  $t(92) = .87$ ,  $p > .05$ . On average, participants had 2.66 ( $SD = 1.69$ ) siblings with almost half (47%) having three or more siblings. There were no gender differences in sibling size,  $t(100) = 1.33$ ,  $p > .05$ . Another academic risk factor for students was the high number of hours worked at a job per week during high school. On average, students worked 12 hours per week ( $M = 12.10$ ,  $SD = 12.73$ ). Forty percent of participants reported working 20 hours or more per week, including 11% who reported working 30 hours or more per week. The fourth measure of academic risk was students feeling of societal rejection due to their undocumented status. On a 7-point Likert-type scale, students reported a moderately high mean rejection score of 4.22 ( $SD = 1.54$ ). There were no gender differences in hours worked per week,  $t(106) = 1.05$ ,  $p < .05$  or feelings of rejection,  $t(100) = .32$ ,  $p > .05$ .

*Personal protective factors.* Thirty-six percent of undocumented students had been identified as gifted during their early schooling. Male students had a higher percentage of gifted designation (39%) than female students (34%). A chi-square analysis revealed that the difference was not statistically significant,  $\chi^2(1) = .23, p > .05$ . Undocumented students also reported high valuing of schooling ( $M = 6.34, SD = .90$ , scale range = 1-7). *T*-test comparisons revealed that female students had significantly higher valuing of school than males,  $t(101) = 2.47, p < .05$ . Students also reported high levels of bilingualism with no significant differences between males and females,  $t(100) = .06, p > .05$ . Finally, female students reported significantly higher distress levels ( $M = 2.18, SD = .56$ ) than males ( $M = 1.92, SD = .56$ ),  $t(101) = 2.26, p < .05$ . It should be noted, however, that the scale range was 1 to 4, thus the distress scores were moderately low overall.

*Environmental protective factors.* Undocumented students report high levels of parental valuing of schooling ( $M = 3.54, SD = .71$ , scale range=1-4), and friends valuing of schooling, ( $M = 3.07, SD = .72$ , scale range=1-4). On average, undocumented students participated in 1.94 ( $SD = 1.19$ ) extracurricular activities and 1.42 ( $SD = 1.07$ ) volunteer service activities. Female students reported higher volunteering rates than males,  $t(108) = 1.96, p < .05$ . Overall, 65% of participants grew up in a two-parent household.

*Achievement.* The average high school GPA was 3.48 ( $SD = .56$ , scale range = 0-4). The mean number of academically rigorous Honors and AP courses students took in high school was 4.40 ( $SD = 4.46$ ). On average, students received 1.80 ( $SD = 1.33$ ) academic awards. There were no gender differences in GPA,  $t(97) = .70, p > .05$ , Honors/AP coursework,  $t(108) = .71, p > .05$ , or academic awards,  $t(108) = .98, p > .05$ .

## **Incremental Regression Analyses**

The first set of analyses examined whether risk and protective factors were associated with academic outcomes. Four regression analyses, one for each academic outcome variable, were conducted to test the proportion of variance incrementally explained by risk factors, personal protective factors, and environmental protective factors. Academic outcomes were regressed on the predictor variables which were blocked and entered in the regression equation in the following order: (a) risk factors, (b) personal protective factors, and (c) environmental protective factors. After each

block was entered into the regression equation, the proportion of variance incrementally explained was calculated. Table 3 presents the correlations between the risk and protective factor variables and the academic outcome variables.

*GPA.* As summarized in Table 3, in step 1 risk factors accounted for 5% of the variance in high school GPA. At step 2, the personal protective factors added 7% to the variance accounted for in GPA. Lastly, the proportion of variance on GPA that was accounted for by environmental protective factors was 12%, over and above the risk and personal protective factors. In total, 24% of the variance on GPA was accounted for by a combination of risk factors, personal protective factors, and environmental protective factors. A closer examination of the individual predictor variables indicated the positive association between several personal and environmental protective factors and GPA. More specifically, valuing of schooling was positively associated with GPA. The environmental protective factors of extracurricular participation and volunteerism were also positively associated with GPA.

*School awards.* Following the same procedure for high school awards, the proportion of variance attributed to the risk factors, personal protective factors, and environmental protective factors were 0%, 7%, and 17% respectively. Both the personal and environmental protective factors each significantly increased the variance proportion for academic awards. The total explained variance of high school awards was 22%. Similar to GPA, risk factors and personal and environmental protective factors were significantly correlated with awards received. Students with lower hours worked at a job, higher valuing of school, and greater participation in extracurricular and volunteer activities reported higher number of school awards.

*Honors/AP courses.* The next outcome variable examined was number of Honors/AP courses taken. Risk factors, personal protective factors, and environmental protective factors accounted for 5%, 13%, and 15% of the variance respectively. In all, these three sets of variables accounted for 33% of the variance in number of Honors/AP courses taken. Key risk and personal and environmental protective factors associated with higher Honors/AP course-taking included having a lower sense of societal rejection, having been designated as gifted, higher valuing of school, and higher levels of extracurricular and volunteer activities.

To summarize the results of the incremental regression analyses, among the three academic outcome variables, risk factors and personal and environmental protective factors were consistently significant in predicting academic success. Valuing of school, extracurricular participation, and volunteer involvement were all important personal protective factors.

## Cluster Analyses

A different approach involving multiple comparisons was subsequently used to better understand the relationship between risk, protective factors, and academic outcomes of undocumented students based on similar psychosocial risk and protective factor profiles. Cluster analyses were carried out with all the variables associated with risk and resilience: risk factors (i.e., low levels of parental education, large family size, high employment work hours during high school, and a high sense of societal rejection due to undocumented status), personal protective factors (i.e., having been identified as gifted, valuing of schooling, bilingualism, low distress/high coping), and environmental protective factors (i.e., growing up with both parents, parental valuing of school, peer valuing of school, participation in high school extracurricular and volunteer activities). The analyses were conducted using standardized scores and the *k*-means method (Aldenderfer & Blashfield, 1984; Hartigan, 1975). Since this method is sensitive to decisions of preferred number of clusters and the values for the initial cluster centers, we first conducted several exploratory analyses with 20% of the data selected at random. Based on the fit, with the risk and resilience theoretical framework guiding the study and on the interpretability of the resulting clusters, we decided to use three clusters. We then replicated this three cluster solution using all the data. Based on their risk and protective factors profiles, we labeled the resulting clusters as *high risk*, *protected*, and *resilient*. All participants fit one of the three profiles. Figure 1 provides a graphic representation based on standardized *z*-scores of the three clusters that emerged. The high risk cluster ( $n = 37$ , 36%) is characterized by high levels of psychosocial risk accompanied by low levels of personal and environmental protective factors. The protected cluster ( $n = 44$ , 42%) is characterized by low levels of psychosocial risk, and high levels of personal and environmental protective factors. The third cluster, ( $n = 23$ , 22%) is characterized by high levels of psychosocial risk accompanied by high levels of personal and environmental protective factors. Post hoc Chi-square analyses of the cluster groups reveal no significant differences for distribution of cluster membership by gender  $\chi^2(2) = 1.81$ ,  $p > .05$ .

**Figure 1**  
**Clusters Profiles**

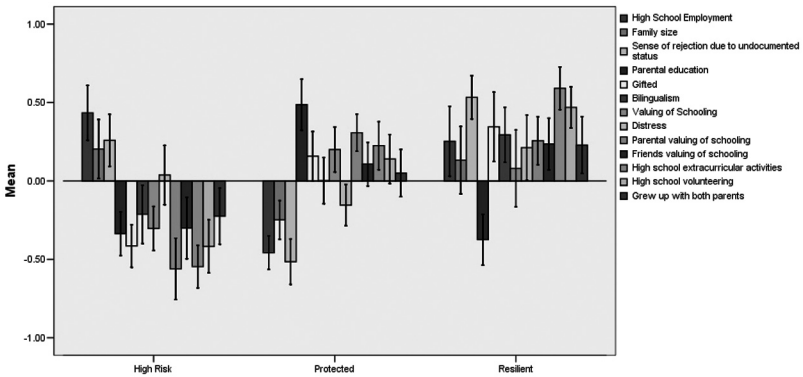


Table 4 shows the mean scores for the three cluster groups on risks, protective factor variables, and academic outcomes. The one-way ANOVA results confirm the cluster category groupings. High risk ( $M = 17.63, SD = 13.19$ ) and resilient ( $M = 15.32, SD = 14.20$ ) students report working significantly longer hours per week than protected ( $M = 6.27, SD = 9.06$ ) students,  $F(2, 101) = 9.98, p < .05$ . Protected students reported significantly lower levels of rejection due to undocumented status ( $M = 3.43, SD = 1.46$ ) than resilient ( $M = 5.04, SD = 1.06$ ) and high risk ( $M = 4.62, SD = 1.49$ ) students  $F(2, 99) = 12.83, p < .05$ . Protected students also came from families with significantly higher parental education levels ( $M = 10.99, SD = 4.37$ ) than resilient ( $M = 7.42, SD = 3.30$ ) or high risk ( $M = 7.57, SD = 3.37$ ) students,  $F(2, 97) = 10.17, p < .05$ . The three clusters did not differ in family size,  $F(2, 99) = 2.30, p > .05$ , but there was a statistically nonsignificant trend for resilient and high risk students having larger family sizes than protected students. Overall, the ANOVA results indicate a higher number of risk factors among resilient and high risk students compared to protected students.

*Personal protective factors by cluster group.* The ANOVA results also confirm different patterns of personal protective factors among the three

**Table 3**  
**Standardized Regression Coefficients for the Prediction of Academic Achievement**

Step	Predictor	Scale Items	$\alpha$	HS GPA			HS Awards			Honors/AP courses								
				1	2	3	1	2	3	1	2	3						
	Risk Factors																	
	Work																	
	Rejection	3	.89	-.28*	-.20*	-.12	-.28*	-.11	-.01	-.00	-.11	-.26*	-.16	-.08	-.26*			
	Parent education			.05	.07	.05	-.04	-.07	-.19	-.15	-.07	-.06	-.18	-.22*	-.10			
	Family size			.03	.05	.03	.01	-.05	-.02	-.06	-.04	.03	.05	.02	.07			
	Personal protective factors																	
	Gifted			.10	.06	.12	.06	.12	.05	-.04	.06	.26*	.23*	.28				
	Valuing of school	5	.76	.29*	.27*	.33*	.33*	.22*	.22*	.22*	.22*	.20*	.19*	.25				
	Bilingualism	8	.82	-.05	-.01	-.04	-.04	-.11	-.09	-.12	-.12	-.04	-.02	-.05				
	Distress	12	.89	.08	.06	.09	.09	.23*	.09	.18	.18	.25*	.24*	.17				
	Environmental protective factors																	
	Parental valuing of school	2	.85	.17	.28*	.17	.28*	.01	.10	.10	.10	.15	.24*					
	Friends valuing of school	3	.87	-.08	.03	.03	.03	.04	.10	.10	.10	-.13	.02					
	Extracurricular participation			.21*	.21*	.36*	.36*	.31*	.38*	.31*	.38*	.23*	.40*					
	Volunteering			.22*	.27*	.27*	.27*	.25*	.38*	.38*	.38*	.22*	.32*					
	Family environment			.06	.09	.09	.09	-.09	-.09	-.09	-.09	-.10	-.05					
	Step 3 <i>F</i>			$F(13, 96) = 3.58^*$			$F(13, 96) = 3.33^*$			$F(13, 96) = 5.06^*$								
	Total adjusted $R^2$		.05	.12	.24	.24	.24	-.02	.05	.22	.22	.05	.18	.33				
	Adjusted $R^2\Delta$			.07*	.12*	.12*	.12*	.07*	.17*	.17*	.17*	.13*	.15*					

Note: Gender is coded on a 2-point scale (1 = *male*, 2 = *female*); Family environment is coded on a 2-point scale (1 = *lived with both parents*, 0 = *did not live with both parents*);  $r$  = bivariate correlation between predictor and outcome.  
 \* $p < .05$ . \*\* $p < .01$ .

**Table 4**  
**Mean Standardized Scores on Variables Used to Identify Risk and Resilience Clusters**

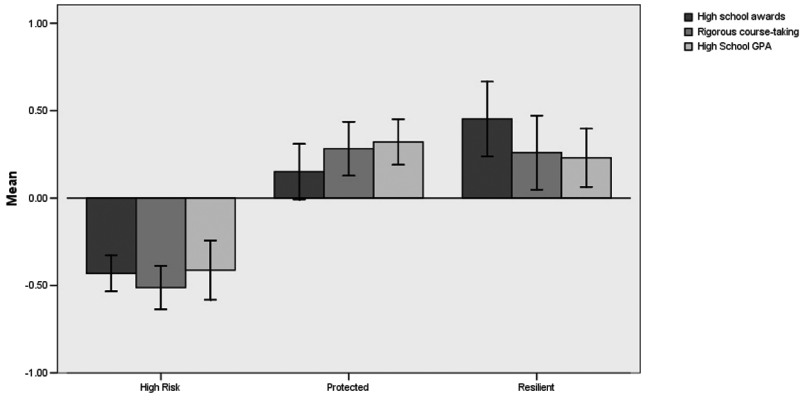
	Resilient ( <i>n</i> = 25)		Protected ( <i>n</i> = 44)		High Risk ( <i>n</i> = 35)		<i>df</i>	<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Risk factors								
Work	15.32 <sub>a</sub>	14.20	6.27 <sub>b</sub>	9.06	17.63 <sub>a</sub>	13.19	2, 101	9.98*
Rejection	5.04 <sub>a</sub>	1.06	3.43 <sub>b</sub>	1.46	4.62 <sub>a</sub>	1.49	2, 99	12.83*
Parent education	7.42 <sub>a</sub>	3.30	10.99 <sub>b</sub>	4.37	7.57 <sub>a</sub>	3.37	2, 97	10.17*
Family size	2.88 <sub>a</sub>	1.81	2.24 <sub>a</sub>	1.36	3.00 <sub>a</sub>	1.88	2, 99	2.30
Personal protective factors								
Gifted	0.52 <sub>a</sub>	0.51	0.43 <sub>ab</sub>	0.50	0.16 <sub>b</sub>	0.37	2, 96	4.99*
Valuing of school	6.42 <sub>a</sub>	1.10	6.52 <sub>a</sub>	0.84	6.07 <sub>a</sub>	0.75	2, 100	2.63
Bilingualism	2.48 <sub>a</sub>	0.59	2.29 <sub>a</sub>	0.64	2.14 <sub>a</sub>	0.73	2, 99	1.90
Distress	2.21 <sub>a</sub>	0.60	2.00 <sub>a</sub>	0.49	2.11 <sub>a</sub>	0.64	2, 100	1.10
Environmental protective factors								
Parental valuing of school	3.72 <sub>a</sub>	0.54	3.76 <sub>a</sub>	0.55	3.14 <sub>b</sub>	0.82	2, 100	9.80*
Friends valuing of school	3.24 <sub>a</sub>	0.60	3.15 <sub>a</sub>	0.66	2.85 <sub>a</sub>	0.84	2, 100	2.60
Extracurricular participation	2.64 <sub>a</sub>	0.81	2.20 <sub>a</sub>	1.21	1.29 <sub>b</sub>	0.96	2, 101	13.74*
Volunteerism	1.92 <sub>a</sub>	0.70	1.57 <sub>a</sub>	1.11	0.97 <sub>b</sub>	1.07	2, 101	6.90*
Grew up in dual-parent household	0.76 <sub>a</sub>	0.44	0.67 <sub>a</sub>	0.47	0.54 <sub>a</sub>	0.51	2, 100	1.61
Outcomes								
GPA	3.61 <sub>a</sub>	0.47	3.66 <sub>a</sub>	0.45	3.25 <sub>b</sub>	0.53	2, 91	6.93*
Awards	2.40 <sub>a</sub>	1.41	2.00 <sub>a</sub>	1.40	1.23 <sub>b</sub>	0.81	2, 101	7.22*
Honors/AP courses	5.56 <sub>a</sub>	4.73	5.66 <sub>a</sub>	4.57	2.11 <sub>b</sub>	3.28	2, 101	8.03*

Note: Column means are significantly different from each other if they do not share a subscript.

\**p* < .05.

clusters. Resilient (*M* = .55, *SD* = .51) and protected (*M* = .43, *SD* = .50) students had higher rates of being identified as gifted early in their schooling compared to high risk students (*M* = .15, *SD* = .36), *F*(2, 96) = 5.66, *p* < .05. Although the Resilient and Protected students higher valuing of school *F*(2, 100) = 2.63, *p* > .05 and bilingualism *F*(2, 99) = 1.90, *p* > .05 scores compared to high risk students, these differences were not statistically

**Figure 2**  
**Standardized Z-scores of Academic Outcomes by Clusters**



significant. Resilient students had higher distress levels than protected and high risk students, but the difference was not statistically significant,  $F(2, 100) = 1.10, p > .05$ .

*Environmental protective factors by cluster group.* Compared to high risk students, resilient and protected students had significantly higher parental valuing of school,  $F(2, 100) = 9.80, p < .05$ , extracurricular participation,  $F(2, 101) = 13.74, p < .05$ , and volunteerism,  $F(2, 101) = 6.90, p < .05$ . The three groups did not differ in friends valuing of school,  $F(2, 100) = 2.60, p > .05$ , or in the percentage of cluster members that grew up with both parents,  $F(2, 100) = 1.61, p > .05$  although the mean scores for these two variables were higher for the resilient and protected students.

*Academic outcomes.* As hypothesized, resilient undocumented students fare better academically than students facing high levels of psychosocial risks but lacking personal and environmental protective resources. Resilient and protected students had significantly higher GPAs,  $F(2, 91) = 6.93, p < .05$ , number of academic awards,  $F(2, 101) = 7.22, p < .05$ , and number of academically rigorous Honors and AP courses,  $F(2, 101) = 8.03, p < .05$  than high risk students. Academic invulnerability was clearly higher for

undocumented students that have lower levels of psychosocial risk accompanied by high levels of personal and environmental resources. More important, undocumented students who exhibit high levels of psychosocial risk, but who enjoy high levels of personal and environmental resources, are able to maintain high levels of academic performance. Figure 2 demonstrates the two distinct patterns of academic success among the three cluster groups.

## Discussion

The results of this study support the premise that a constellation of protective resources can serve to buffer or protect students from the detrimental effects of psychosocial conditions that place them at-risk of academic failure. Overall, three main conclusions can be drawn from the results: (a) academic success (resilience) was related to both personal and environmental resources, (b) when various resources were present, academic performance was generally positive, even in the presence of multiple sources of psychosocial risk, and (c) compared to the protected group, the high risk and resilient groups suffered significantly higher levels of adversity. Resilient youth, however, had greater levels of environmental and personal resources than high risk students who in turn exhibited lower levels of academic success. These findings add to the growing evidence suggesting that personal and environmental resources facilitate academic success among youth growing up in environments where they are exposed to elevated psychosocial risks.

The psychosocial stressors examined in this study, such as undocumented status, socioeconomic hardship, and low parental education represent significant challenges for Latino immigrant adolescents (Eccles, Lord, & Buchanan, 1996; Zautra, Guarnaccia, Reich, & Dohrenwend, 1988). Thirty-six percent of participants we surveyed were found to be highly vulnerable, that is, reporting various risk factors, but lacking in personal and environmental resources. The results from this study suggest that when faced with the challenges of living in poverty, working long hours at a job during school, low levels of parental education, feeling a high sense of rejection due to their legal status, resilient undocumented Latino youth draw on available personal and environmental resources. Results also suggest that not all undocumented Latino youth face high levels of risk factors. The cluster analysis suggests that some undocumented students have lower levels of risk exposure accompanied by a host of protective factors. In this

study, 42% of participants reported low levels of risk accompanied by high levels of protective factors. The remaining 58% reported high levels of risk exposure. It should be noted that only 22% of participants met criteria for resilience, that is, high levels of personal and environmental resources to cope with high levels of risk.

The results of the incremental regression analyses indicate that protective factors cannot be ignored as important mediators of achievement, beyond the potentially detrimental effects that psychosocial risk factors have on academic performance. Using cluster analyses to identify groups of students with similar levels of risk and both personal and protective factors, the results of this study revealed three distinct profiles: high risk students with low levels of protective factors (*high risk*), low risk students with high levels of protective factors (*protected*), and high risk students with high levels of protective factors (*resilient*). Compared to protected students, resilient and high risk students worked longer hours at a job during high school, reported higher levels of feelings of societal rejection due to their undocumented status, and had parents with lower levels of schooling. The comparisons of academic outcomes indicate that resilient and protected students had significantly higher academic achievement levels than high risk students. Whereas all three groups had similar levels of personal protective factors, protected and resilient students had much higher levels of environmental protective factors. Both resilient and protected students reported higher levels of parental valuing of school, extracurricular participation, and volunteering.

Findings from both the regression and cluster analyses consistently indicated that giftedness, valuing of school, extracurricular participation, and volunteerism were significant predictors of academic achievement among undocumented youth. Giftedness was assigned a protective role, especially in high adversity situations. This result is consistent with other research findings emphasizing the significance of cognitive resources such as IQ, and general intellectual functioning on the development and maintenance of good adaptation in adversity (Luthar, 1991; Masten et al., 1999; Ripple & Luthar, 2000). In a study with academically resilient Latino students at a highly selective university, Arellano and Padilla (1996) found that a significant percentage of them had been identified as gifted early in their schooling. In our study, bilingualism and distress did not seem to play an important role as a resource in the interplay between adversity and academic success. This finding may be the result of the measurement methods used in this study. A more comprehensive way to measure bilingualism and distress might yield more valid results.

Resilient and protected youth possessed a wider repertoire of environmental resources than their high risk peers. They seemed to enjoy higher levels of parental valuing of school as well as greater integration in school communities through their extracurricular and volunteer activities. This combination of resources seemed to allow them to maintain a higher level of academic functioning even though they shared the same high levels of psychosocial risks as the high risk students. Another important finding is the similarity in academic outcomes between the protected and resilient students. Given their lower levels of psychosocial risks and high levels of protective resources, resilience theory predicts higher academic outcomes than resilient youth. This finding from our study possibly reflects the fact that not being particularly tried by adversity, the protected individuals' subjective sense of well-being remained unchallenged and largely left intact by external environmental threats. On the whole, the resilient group seemed to adapt well under adversity as indicated by their high academic achievement levels. The high risk group in this study appeared to lack the necessary resources to maintain the same high levels of academic achievement as protected and resilient students.

The primacy of extracurricular participation and volunteerism as environmental resources available to resilient and protected students underscores the importance of environmental opportunities to develop relationships with supportive adults and peers engaged in prosocial activities. The results suggest that school opportunities to develop social support plays a critical role in encouraging students to succeed in high school. Overall, extracurricular participation and volunteerism were the strongest predictors of academic achievement among undocumented Latino students with the resilient students reporting the highest levels of these two environmental protective resources.

If environmental factors can contribute to academic resilience within individuals, then those factors can be modified to increase the protection or assets in undocumented students' lives. Increasingly, schools are being explored for their potential to strengthen the resilience of children and youth (Benson, 2002; Doll & Lyon, 1998; Durlak, 1995; Henderson & Milstein, 2003; Minnard, 2002). The number of children served by schools, and the amount of time in which students are influenced by their school environments from kindergarten through 12th grade, are primary reasons for such efforts. The role of the school in child development (Minnard, 2002), the capacity of school personnel to develop competence in students (Doll & Lyon, 1998), and the ability of the school to serve as an organizational base for mobilizing linkages with parents and community resources

are other reasons for using schools to enhance resilience. Building developmental assets supports the academic mission of schools because higher levels of assets are associated with greater academic achievement and lower rates of school dropouts (Benson, 2002).

## **Design and Sampling Considerations**

This research is limited in several respects. Most important, it does not provide detailed information about frequency and duration of risk factors such as employment, and protective factors such as extracurricular and volunteer levels. We did not have information on the intensity, type of activity, quality of this involvement, and factors that moderate the relation between activity participation and development (Holland & Andre, 1987; Mahoney, Larson, & Eccles, 2005). In addition, our analyses did not consider what was happening inside these activity contexts. These issues add variability and error to the analyses that may suppress effect sizes.

Another methodological consideration is the correlational nature of the study. Students chose whether to participate in volunteer and extracurricular activities, and as such, selection effects not considered in this study may influence the findings. For example, support from parents appears to influence the decision to participate and stay involved in afterschool activities (Csikszentmihalyi, Rathunde, Whalen, 1993; Fletcher, Elder, & Mekos, 2000). The peer group also plays an important role (e.g., Coleman, 1961; Eder, Evans, & Parker, 1995; Hultzman, 1995). In addition, the correlational nature of the study prevents us from drawing causal conclusions regarding developmental antecedents and academic outcomes.

Our study is also subject to selection biases. It is not possible to rule out that our findings are due to some self-selection characteristics that were not controlled for in our analyses. For example, we do not have any information on high school graduates who did not continue on to college, thus our findings may not generalize to all Latino undocumented adolescents. Furthermore, even though high risk students in our study reported lower academic outcomes than the resilient or protected students, they still report high GPAs. This may be due to the self-reported nature of the GPA, or it may also be due to high achievement levels in the sample overall given that most students had been admitted to college or were college track seniors. Future studies should include a sample with a broader academic range. Nevertheless, the results help to better understand how undocumented youth attain high levels of achievement in the context of poverty, low parental education, and legal exclusion.

Another methodological question concerns the ordering of the relations among personal and environmental factors and academic outcomes. Development is a fluid, bidirectional, and complex process. In our analyses, we assume that those personal and protective factors predict academic functioning. However, an alternative explanation is that academic success predicts personal and protective factor configurations. It is not possible to entirely rule out this explanation with our analytic design. Similarly, these aspects of functioning influence each other in a reciprocal fashion over time (Elder & Shanahan, 2006). Future research should use structural equation modeling to explore these bidirectional links.

Future studies should also compare the academic functioning of undocumented Latino students with those that have legal status and/or with 2nd and 3rd generation. These generational and legal status comparisons can help us to better understand the magnitude, frequency, and occurrence of risk and protective factors that impact academic, psychological, and social functioning in the Latino adolescent population. The present study is not a comparison of stressors between different generations of immigrant youth nor is it a comparison of stressor levels between legal and undocumented Latino youth. Rather, it sought to examine the relationship between academic outcomes and the constellation of personal and environmental resources associated with those outcomes. Despite the absence of generational or legal status comparisons, this study contributes to the research literature an initial understanding of the specific factors that are associated with academic success with high risk undocumented Latino students. Despite its limitations, results of this study add to the small but growing knowledge about undocumented Latino youth. A deeper understanding of developmental pathways to academic resilience has the potential to illuminate long-held conceptual models about the development of academic competence among immigrant youth.

## **Conclusions and Implications**

The results of this study offer new insights into how resilient undocumented Latino youth draw on specific personal, family, and school resources to circumvent the effects of various stressors as well as social and institutional barriers to become academically successful. Although the research on undocumented resilient immigrant youth is only now beginning to emerge, it is important to continue studying this growing population. We need more quantitative and qualitative studies that help us better understand

the psychosocial impact of immigration and immigration policies of receiving countries on immigrant children and adolescents.

## References

- Abrego, L. (2006). "I can't go to college because I don't have papers": Incorporation patterns of Latino undocumented youth. *Latino Studies, 4*, 212-231.
- Achenbach, T. M. (1985). *Assessment and taxonomy of child and adolescent psychopathology*. Beverly Hills, CA: Sage.
- Aldenderfer, M. S., & Blashfield, R. K. (1984). *Cluster analysis*. (Sage University Paper series on Quantitative Applications in the Social Sciences, No. 07-044). Newbury Park, NJ: Sage.
- Alva, S. A. (1991). Academic invulnerability among Mexican American students: The importance of protective resources and appraisals. *Hispanic Journal of Behavioral Sciences, 13*, 18-34.
- Arellano A. R., & Padilla, A. M. (1996). Academic invulnerability among a select group of Latino students. *Hispanic Journal of Behavioral Sciences, 18*, 485-507.
- Benson, P. L. (2002). Adolescent development in social and community context: A program of research. *New Directions for Youth Development, 95*, 123-147.
- Bernard, B. (1995). *Fostering resiliency in kids: Protective factors in the family school and community*. San Francisco: West Ed Regional Educational Laboratory.
- Buriel, R., Perez, W., De Ment, T., Chavez, D., & Moran, V. (1998). The relationship of language brokering to academic performance, biculturalism, and self-efficacy among Latino adolescents. *Hispanic Journal of Behavioral Sciences, 20*, 283-297.
- Cairns, R. B., & Magnusson, D. (1996). Developmental science: Toward a unified framework. In R. B. Cairns, G. H. Elder & E. J. Costello (Eds.), *Developmental science* (pp. 151-174). Mahwah, NJ: Lawrence Erlbaum.
- Cervantes, R. C., & Castro, F. G. (1985). Stress, coping, and Mexican American mental health: A systematic review. *Hispanic Journal of Behavioral Sciences, 1*, 1-73.
- Coleman, J. S. (1961). *The adolescent society*. New York: Free Press.
- Conrad, M., & Hammen, C. (1993). Protective and resource factors in high- and low-risk children: A comparison of children with unipolar, bipolar, medically ill, and normal mothers. *Development and Psychopathology, 5*, 593-607.
- Csikszentmihalyi, M., Rathunde, K., & Whalen, S. (1993). *Talented teenagers: The roots of success & failure*. Cambridge, UK: Cambridge University Press.
- Dauber, S. L., Alexander, K. L., & Entwisle, D. R. (1996). Tracking and transitions through the middle grades: Channeling educational trajectories. *Sociology of Education, 69*, 290-307.
- De Leon, S. (2005). *Assimilation and ambiguous experience of the resilient male Mexican immigrants that successfully navigate American higher education*. Unpublished doctoral dissertation, University of Texas, Austin.
- Doll, B., & Lyon, M. A. (1998). Risk and resilience: Implications for the delivery of educational and mental health services in schools. *School Psychology Review, 27*, 348-363.
- Dornbusch, S. M., Ritter, P. L., Leiderman, P. H., Roberts, D. F., & Fraleigh, M. J. (1987). The relation of parenting style to adolescent school performance. *Child Development, 58*, 1244-1257.

- Dozier, S. B. (1993). Emotional concerns of undocumented and out-of-status foreign students. *Community Review, 13*, 33-29.
- Durlak, J. A. (1995). *School-based prevention programs for children and adolescents*. Thousand Oaks, CA: Sage.
- Dweck, C. S., & Licht, B. G. (1980). Learned helplessness and intellectual development. In J. Garber & M. E. P. Seligman (Eds.), *Human helplessness: Theory and application* (pp. 197-221). New York: Academic Press.
- Dweck, C. S., Wortman, C. B. (1982). Learned helplessness, anxiety, and achievement motivation: Neglected parallels in cognitive, affective, and coping responses. In H. W. Krohne & L. Laux (Eds.), *Achievement, stress, and anxiety* (pp. 93-125). Washington, DC: Hemisphere.
- Eccles, J. S., Lord, S., & Buchanan, C. M. (1996). School transitions in early adolescence: What are we doing to our young people? In J. A. Graber, J. Brooks-Gunn, & A. C. Petersen (Eds.), *Transitions through adolescence: Interpersonal domains and context* (pp. 251-284). Mahwah, NJ: Lawrence Erlbaum.
- Eder, D., Evans, C., & Parker, S. (1995). *School talk: Gender and adolescent culture*. New Brunswick, NJ: Rutgers University Press.
- Elder, G. H., & Shanahan, M. J. (2006). The life course and human development. In W. Damon (Series Ed.) & R. Lerner (Vol. Ed.), *Handbook of child psychology* (Vol. 1, pp. 665-715). New York: John Wiley.
- Feingold, A. (1994). Gender differences in personality: A meta-analysis. *Psychological Bulletin, 116*, 429-456.
- Fletcher, A. C., Elder, G. H., Jr., & Mekos, D. (2000). Parental influences on adolescent involvement in community activities. *Journal of Research on Adolescence, 10*, 29-48.
- Gandara, P. (1982). Passing through the eye of the needle: High achieving Chicanos. *Hispanic Journal of Behavioral Sciences, 4*, 167-180.
- Garmezy, N. (1981). Children under stress: Perspectives on antecedents and correlates of vulnerability and resistance to psychopathology. In A. I. Rabin, J. Aroncy, A. M. Baverlay, & R. A. Zucker (Eds.), *Future explorations in personality*. New York: John Wiley.
- Garmezy, N. (1983). Stressors in childhood. In N. Garmezy & M. Rutter (Eds.), *Stress, coping and development in childhood*. New York: McGraw-Hill.
- Garmezy, N., Masten, A. S., & Tellegen, A. (1984). The study of stress and competence in children: A building block for developmental psychopathology. *Child Development, 55*, 97-111.
- Garmezy, N., & Rutter, M. (Eds.). (1983). *Stress, coping, and development in children*. New York: McGraw-Hill.
- Garza, E., Reyes, P., & Trueba, E. (2004). *Resiliency and success: Migrant children in the United States*. Boulder, CO: Paradigm.
- Gest, S. D., Neemann, J., Hubbard, J. J., Masten, A. S., & Tellegen, A. (1993). Parenting quality, adversity, and conduct problems in adolescence: Testing process-oriented models of resilience. *Development and Psychopathology, 5*, 663-682.
- Gonzalez, M. S., Plata, O., Garcia, E., Torres, M., & Urrieta, L. (2003). Testimonios de inmigrantes: Students educating future teachers. *Journal of Latinos and Education, 2*, 233-243.
- Gordon, K. (1996). Resilient Hispanic youths' self-concept and motivational patterns. *Hispanic Journal of Behavioral Sciences, 18*, 63-73.
- Greene, R. R. (2002). Human behavior theory: A resilience orientation. In R. R. Greene (Ed.), *Resiliency: An integrated approach to practice, policy, and research* (pp. 1-27). Washington, DC: NASW.

- Grissmer, D. W., Kirby, S. N., Berends, M., & Williamson, S. (1994). *Student achievement and the changing American family*. Santa Monica, CA: RAND.
- Hartigan, J. (1975). *Clustering algorithms*. New York: John Wiley.
- Henderson, N., & Milstein, M. (2003). *Resiliency in schools*. Thousand Oaks, CA: Corwin.
- Holland, A., & Andre, T. (1987). Participation in extracurricular activities in secondary school: What is known, what needs to be known? *Review of Educational Research, 57*, 437-466.
- Hultzman, W. Z. (1995). The influence of others as a barrier to recreation participation among early adolescents. *Journal of Leisure Research, 25*, 150-164.
- Hurtado, S. H., Saenz, V. B., Santos, J. L., & Cabrera, N. L. (2008). Advancing in higher education: A portrait of Latina/o college freshmen at four year institutions, 1975-2006. Los Angeles: UCLA.
- Igoa, C. (1995). *The inner world of the immigrant child*. Mahwah, NJ: Lawrence Erlbaum.
- Jimerson, S., Egeland, B., & Teo, A. (1999). A longitudinal study of achievement trajectories: Factors associated with change. *Journal of Educational Psychology, 91*, 116-126.
- Jozefowicz-Simbeni, D. M. H., & Allen-Meares, P. (2002). Poverty and schools: Intervention and resource building through school-linked services. *Children & Schools, 24*, 123-136.
- Kirby, L. D., & Fraser, M. W. (1997). Risk and resilience in childhood. In M. W. Fraser (Ed.), *Risk and resilience in childhood: An ecological perspective* (pp. 10-33). Washington, DC: NASW.
- Kurtines, W., & Miranda, M. (1980). Differences in self and family role perceptions among acculturating Cuban American college students. *International Journal of Intercultural Relations, 4*, 167-184.
- Luthar, S. S. (1991). Vulnerability and resilience: A study of high-risk adolescents. *Child Development, 62*, 600-616.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: a critical evaluation and guidelines for future work. *Child Development, 71*, 543-562.
- Luthar, S. S., & Zelazo, L. B. (2003). Research on resilience: An integrative view. In S. S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the context of childhood adversities* (pp. 510-549). New York: Cambridge University Press.
- Mahoney, J. L., Larson, R. W., & Eccles, J. S. (Eds.). (2005). *Organized activities as contexts of development: Extracurricular activities, after-school and community programs*. Mahwah, NJ: Lawrence Erlbaum.
- Masten, A. S. (1994). Resilience in individual development: Successful adaptation despite risk and adversity. In M. C. Wang & E.W. Gordon (Eds.), *Educational resilience in inner-city America: Challenges and prospects* (pp. 3-25). Hillsdale, NJ: Lawrence Erlbaum.
- Masten, A. S., Hubbard, J. J., Gest, S. D., Tellegen, A., Garmezy, N., & Ramirez, M. (1999). Competence in the context of adversity: Pathways to resilience and maladaptation from childhood to late adolescence. *Development and Psychopathology, 11*, 143-169.
- Masten, A. S., & Powell, J. L. (2003). A resilience framework for research, policy, and practice. In S. S. Luthar (Ed.), *Resilience and vulnerability: Adaptation in the context of childhood adversities* (pp. 1-28). New York: Cambridge University Press.
- Midgley, C., Maehr, M. L., & Urdan, T. (1993). *Patterns of adaptive learning survey (PALS) manual*. Ann Arbor: University of Michigan.
- Minnard, C. V. (2002). A strong building: Foundation of protective factors in schools. *Children & Schools, 24*, 233-246.
- Munoz, S. M. (2008). Understanding issues of college persistence for undocumented Mexican immigrant women from the new Latino Diaspora: A case study. Unpublished doctoral dissertation, Iowa State University.

- Oliverrez, P. M. (2006). Ready but restricted: An examination of the challenges of college access and financial aid for college-ready undocumented students in the U.S. Unpublished doctoral dissertation, University of Southern California.
- Olsson, C. A., Bond, L., Burns, J. M., Vella-Brodrick, D. A., & Sawyer, S. M. (2003). Adolescent resilience: A concept analysis. *Journal of Adolescence*, 26, 1-11.
- Padilla, A. M. (1986). Acculturation and stress among immigrants and later generation individuals. In D. Frick, H. Hoefert, H. Legewie, R. Mackensen, & R. K. Silbereisen (Eds.), *The quality of urban life: Social, psychological, and physical conditions* (pp. 100-120). Berlin, Germany: de Gruyter.
- Padilla, A. M., Cervantes, R. C., Maldonado, M., & Garcia R. E. (1988). Coping responses to psychosocial stressors in Mexican and Central American immigrants. *Journal of Community Psychology*, 16, 418-427.
- Passel, J. S. (2006). *The size and characteristics of the unauthorized migration population in the U.S.: Estimates based on the March 2005 current population survey*. Washington, DC: Pew Hispanic Center.
- Portes, A., & Rumbaut, R. G. (2001). *Legacies: The story of the immigrant second generation*. Berkeley: University of California Press.
- Richman, J. M., & Fraser, M. W. (2001). Resilience in childhood: The role of risk and protection. In J. M. Richman & M.W. Fraser (Eds.), *The context of youth violence: Resilience, risk, and protection* (pp. 1-12). Westport, CT: Praeger.
- Ripple, C. H., & Luthar, S. S. (2000). Academic risk among inner-city adolescents: The role of personal attributes. *Journal of School Psychology*, 8, 277-298.
- Rutter, M. (1985). Resilience in the face of adversity. Protective factors and resistance to psychiatric disorder. *British Journal of Psychiatry*, 147, 598-611.
- Sameroff, A. J., Seifer, R., Baldwin, A., & Baldwin, C. P. (1993). Stability of intelligence from preschool to adolescence: The influence of social and family risk factors. *Child Development*, 64, 80-97.
- Seifer, R., Sameroff, A. J., Baldwin, C. P., & Baldwin, A. (1992). Child and family factors that ameliorate risk between 4 and 13 years of age. *Journal of American Academy of Child and Adolescent Psychiatry*, 31, 893-903.
- Siantz, M. (1997). Factors that impact developmental outcomes of immigrant children. In A. Booth, A. C. Crouter, & N. Landale, (Eds.), *Immigration and the family: Research and policy on U.S. immigrants* (pp. 149-161). Hillsdale, NJ: Lawrence Erlbaum.
- Stanton-Salazar, R. (2001). *Manufacturing hope and despair: The school and kin support networks of U.S.-Mexican youth*. New York: Teachers College Press.
- Steinberg, L., & Cauffman, E. (1995). The impact of employment on adolescent development. In R. Vasta (Ed.), *Annals of Child Development*, 11, 131-166.
- Steinberg, L., & Dornbusch, S. (1991). Negative correlates of part-time employment during adolescence: Replication and elaboration. *Developmental Psychology*, 27, 304-313.
- Steinberg, L. D., Fegley, S., & Dornbusch, S. M. (1993). Negative impact of part-time work on adolescent adjustment: Evidence from a longitudinal study. *Developmental Psychology*, 29, 171-180.
- Stipek, D., & Weisz, J. (1981). Perceived personal control and academic achievement. *Review of Educational Research*, 51, 101-137.
- Suárez-Orozco, C., & Doucet, F. (2006). Migration and ethnic minorities. In L. Romanucci-Ross, G. A. De Vos, & T. Tsuda (Eds.), *Problems and prospects for the twenty-first century* (4th ed.). Lanham, MD: Altamira.
- Suarez-Orozco, C., & Suarez-Orozco, M., (2001). *Children of immigration*. Cambridge, MA: Harvard University Press.

- Suarez-Orozco, C., Suarez-Orozco, M., & Todorova, I. (2008). *Learning a New Land: Immigrant students in American Society*. Cambridge, MA: Harvard University Press.
- Suarez-Orozco, C., Todorova, I., & Louie, J. (2002). Making up for lost time: The experience of separation and reunification among immigrant families. *Family Process, 41*, 625-643.
- Wang, M. C., Haertal, G. D., & Walberg, H. J. (1994). Educational resilience in inner cities. In M. C. Wang & E. W. Gordon (Eds.), *Educational resilience in inner-city America: Challenges and prospects* (pp. 45-72). Hillsdale, NJ: Lawrence Erlbaum.
- Werner, E. E., Bierman, J. M., & French, F. E. (1971). *The children of Kauai: A longitudinal study from the prenatal period to age ten*. Honolulu: University of Hawaii Press.
- Werner, E. E., & Smith, R. S. (1982). *Vulnerable but invincible: A longitudinal study of resilient children and youth*. New York: McGraw-Hill.
- Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High-risk children from birth to adulthood*. New York: Cornell University Press.
- Willig, A. C., Harnisch, D. L., Hill, K. J., & Maehr, M. L. (1983). Sociocultural and educational correlates of success-failure attributions and evaluation anxiety in the school setting for Black, Hispanic, and Anglo children. *American Educational Research Journal, 20*, 385-410.
- Wylie, R. (1979). *The self-concept: Theory and research on selected topics (Vol. 2)*. Lincoln: University of Nebraska.
- Zautra, A. J., Guarnaccia, C. A., Reich, J. W., & Dohrenwend, B. P. (1988). The contribution of small events to stress and distress. In L. H. Cohen (Ed.), *Life events and psychological functioning: Theoretical and methodological issues* (pp. 123-148). Newbury Park, CA: Sage.
- Zhou, M. (1997). Growing up American: The challenge of immigrant children and children of immigrants. *Annual review of Sociology, 23*, 63-95.

**William Perez**, PhD, is an assistant professor of education at Claremont Graduate University. His program of research focuses on immigrant adolescent social development (e.g., ethnic identity development, self-esteem, acculturation), academic achievement, Hispanic education, and child and adolescent well-being.

**Roberta Espinoza**, PhD, is an assistant professor of sociology at California State University, Fullerton. Her research interests include minority student access to higher education, social and cultural capital, social networks, and Latinas/os in higher education.

**Karina Ramos** is a graduate student in counseling psychology at the University of Missouri–Columbia. Having worked with organizations such as MALDEF and SALEF, her research interests focus on the educational experiences and attainment levels among Latinos, particularly undocumented youth.

**Heidi M. Coronado**, MA, is a doctoral student in education at Claremont Graduate University. Her research interests include immigrant and minority student achievement and educational access, youth in activism, ethnic identity development, narrative research, and critical pedagogy.

**Richard Cortes**, PhD, is a counselor at Glendale Community College. His primary research interests are focused on social justice counseling issues and the psychological factors of low-income minority and immigrant college students.