

Profiles of Latino Adaptation at Elite Colleges and Universities

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Published online: 2 July 2008
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Abstract Drawing on frameworks of blocked opportunity, social identity, and immigrant adaptation processes, we tested competing hypotheses about Latino achievement, focusing on variation in the ways in which Latino students at elite colleges perceive and navigate minority status. Using data from 916 participants in the National Longitudinal Survey of Freshmen, cluster analyses identify three profiles of perceived opportunity and social exclusion. Students in the *assimilation* profile do not believe minority status impacts opportunity. Those in the *accommodation* profile believe unequal opportunity can be overcome by individual effort. Finally, students in the *resistance* profile are most skeptical about opportunity for minorities, and these students also report more on-campus ethnic prejudice than their peers. As freshmen, perceived prejudice predicted lower grades only for students in the accommodation profile; however, accommodators later report higher academic achievement than resisters as sophomores. We discuss the conceptual utility of examining multiple beliefs about opportunity in concert.

Keywords Latinos · Ethnicity · Race · Opportunity · Education

Introduction

Latinos currently represent the largest ethnic minority group in the United States (U.S. Bureau of the Census 2001) and the fastest-growing ethnic minority in the U.S. public school systems (Driscoll 1999; Suárez-Orozco and Suárez-Orozco 1995; Vernez and Mizell 2001). By 2010, Latinos will constitute one in five youths of high school age (Vernez and Mizell 2001). Not surprisingly, much research has focused on the academic achievement of this rapidly growing minority group. Findings from this work largely show that Latinos are being “left behind” in alarming numbers in U.S. public schools. With a dropout rate of 22.4%, Latino students are disproportionately less likely than all other ethnic minority groups (and Whites) to complete high school (National Center for Education Statistics 2006a). Although more Latinos and Whites are enrolling in college than before, the White-Latino gap in completing college is the largest it has been in the last 30 years and has remained at this plateau since 1990 (Vernez and Mizell 2001; Tornatsky et al. 2003). As of 2005, while 85% of White Americans completed high school and almost 28% obtained Bachelor’s degrees, only 59% and 12% of Latinos had done so, respectively (NCES 2006b).

Despite much concern about Latinos’ lower levels of academic attainment compared to Whites, we know little about the mechanisms associated with high achievement among Latino students, especially those who have reached the top echelon of American education such as the 28 elite colleges and universities that participated in the National Longitudinal Survey of Freshmen (NLSF; see Massey et al. 2003). Using this unique dataset of high-achieving minority students, we test propositions from theories that have been used to examine minority achievement and underachievement, such as blocked opportunity, social identity

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and vulnerability to prejudice and immigrant adaptation. Although only a small fraction of Latinos enroll in selective institutions (i.e., 9% as of 2000), and even though equally qualified Latinos at these kinds of institutions are more likely to graduate than their counterparts at non-selective institutions, they nevertheless earn lower grades and remain less likely to graduate than their White peers at selective institutions (Fry 2004). Therefore, the NLSF study contains a sample of Latino students who can be understood as high-achieving relative to their own ethnic group, yet some of these students still stumble academically relative to Whites.

In the remainder of this article, we first develop competing hypotheses from three frameworks that have been used to understand racial/ethnic minority achievement: (1) blocked opportunity, (2) social identity, and (3) immigrant adaptation processes. Next, by employing a cluster analysis that classifies students into one of three distinct profiles of perceptions of (blocked) opportunity and feelings of social distance from Whites, we identify variation in how Latino students during their freshmen year at elite colleges perceive minority status. We then examine whether these three different sets of beliefs about opportunity and social distance from Whites influence how individuals perceive on-campus prejudice and the grades earned during their first two years in college.

Blocked Opportunity

One challenge faced by researchers who study the manifestations of stratification—such as the White-minority academic achievement gap—is to develop theories that account for both structural and subjective conditions identified by empirical research in fields such as education, sociology, and psychology. One early attempt to develop a theory incorporating both subjective and structural conditions is found in status attainment research. With White male samples, the Wisconsin model of status attainment (Sewell et al. 1969) demonstrated the importance of examining relationships between different levels of socioeconomic status, aspirations, and attainment. While recognizing how socioeconomic position and prior achievement (i.e., ability) limits educational and occupational attainment, this model sought to identify mediating factors that could help explain observed variation in the achievement of people from similar status groups. Sewell and colleagues (1969) found that the negative impact of social class on educational and occupational attainment was most strongly mediated by individuals' aspirations and the expectations of significant others (e.g., parents, peers, and teachers). This line of research highlighted how malleable social psychological variables, such as an individual's aspirations and others' expectations of them

interact with exogenous indicators of social status to influence attainment.

However, even students with high aspirations do not always expect to achieve the goals they set for themselves. In examining ethnic minority adolescents' aspirations and expectations, Hanson (1994) argued that "although everyone may want to succeed, people in different [social] strata have different expectations of their chances for success" resulting from their perceptions of the opportunities afforded their respective social groups (p. 60). Hanson's observation is supported by social and cultural capital theory and research that has sought to explain how a lack of knowledge and information about higher education often limits individuals' sense of opportunities available to them and their capabilities to achieve their goals (e.g., Arellano and Padilla 1996; Cabrera and Padilla 2004; Carter 2005; Coleman 1988; McClelland 1990; Perna 2000).

One theory that emphasizes perceptions of blocked opportunities to explain maladaptive academic outcomes is Ogbu's Cultural Ecological Model (CEM), which asserts that when youths recognize their ethnic group's subordinate social status, they subsequently lower their levels of effort and their expectations for achievement (e.g., Ogbu 1992, 1995). Drawing attention to how perceptions of opportunity influence achievement, this model argues that members of involuntary minority groups (e.g., African Americans, Mexicans and Puerto Ricans) that have become part of American society through slavery and conquest are more likely than members of voluntary immigrant minority groups, such as the descendants of immigrants, to believe that educational attainment will not translate into equal economic rewards for their group relative to the dominant group. Because involuntary minorities are aware of their group's historically subordinate status, they are more likely to view school as an inefficient means for economic success (Ogbu 1991, 1993). Voluntary minorities, such as the majority of participants in the post-1970's Latin American and Asian wave of immigration, have deliberately chosen to become part of U.S. society and, despite experiencing some discrimination and social exclusion, they often remain optimistic about opportunities for mobility and returns to education.

Despite its merits for calling attention to perceptions of opportunity, critics of the CEM point out how this model emphasizes school failure rather than success among ethnic minorities and by extension, the model fails to explain why some ethnic minorities achieve high levels of education despite their subordinate position (Bernal et al. 1991; Conchas 2001; O'Connor 1997). Others have argued that voluntary/involuntary minority status may not be the most important factor influencing the school engagement of all minority and ethnic groups. For example, skin color varies greatly among Latinos and having darker skin appears to be

an important correlate of variation in educational attainment (see Conchas 2004). Furthermore, Ogbu's model overlooks important insights from status attainment research that point to how members of the same ethnic groups (and youth of similar immigrant generational status) hold beliefs and attitudes that are malleable and quite likely influenced by their academic settings. Youth with different beliefs about opportunities available to their group may respond differently to prejudice and stereotypes in their academic environments. Finally, the blocked opportunity approach does little to explain why minorities who are successful in high school and enter into the highest tier of American education nonetheless fare less well academically in those settings.

Social Identity and Vulnerability to Prejudice

One theory that sheds light on why minority students in college might nonetheless falter argues that awareness of one's minority status makes them more vulnerable to the deleterious impacts of prejudice. According to the stereotype threat model, for example, individuals' fear of behaving in a manner consistent with others' negative academic stereotypes creates psychological pressure that leads them to perform poorly in their academic work (Steele and Aronson 1995). Aronson and Inzlicht (2004) have also suggested that differences in individuals' stereotype vulnerability—which they define as “the tendency to expect, perceive, and be influenced by negative stereotypes about one's category”—pose a barrier to the development of a stable and accurate academic self-concept (p. 829). With regards to Black students, Aronson and Inzlicht (2004) suggest that the tendency to interpret events as race-related prevents students from developing a stable assessment of their academic abilities presumably because these interpretations inevitably elicit one's awareness of negative stereotypes. Similarly, status-based rejection sensitivity research suggests that the expectation of rejection based on membership in a marginalized group can undermine one's desire to pursue academic goals (Mendoza-Denton et al. 2002).

Although studies of stereotype vulnerability and status-based rejection sensitivity have primarily focused on African Americans in selective academic institutions, these processes are presumed to apply to any group that experiences social exclusion and marginalization (e.g., Brown and Lee 2005; Steele 1997; Mendoza-Denton et al. 2002). Thus, with regards to the present sample of Latino students at elite colleges, we would expect that those Latino students who believe that their minority status confers barriers to their opportunities would fare less well academically. But we should also consider an alternative hypothesis about how perceptions of inequality might influence

academic performance. Rather than finding that expectations of prejudice negatively influence achievement, Ethier and Deaux (1994) uncovered that Latinos who went from primarily integrated backgrounds to highly competitive colleges felt most threatened when they lacked a weak in-group identity with which to counter negative perceptions of their group at this level of education. In their follow-up study, the authors found that, relative to those Latinos with a weak in-group identity, students with a stronger Latino identity formed positive connections with their co-ethnic peers on campus and also enjoyed greater self-esteem over the course of their first year in college. The authors argue that students who enter college already having had greater contact with other Latinos may protect their positive sense of self in contexts such as selective four-year colleges (Ethier and Deaux 1990, 1994). In other words, Latinos who come from largely Latino neighborhoods and high schools and make it into elite settings may have already had to negotiate explicit stereotypes about minorities and therefore they may already know how to respond to prejudice in such a way to protect themselves from the negative effects of stereotype vulnerability. Those Latinos who enter college unaware of such stereotypes or inexperienced in dealing with prejudice may be more likely to suffer its negative consequences.

Perhaps more importantly, not all members of marginalized groups respond to prejudice in similar ways. To illustrate, in a classic study of racial identity and achievement motivation among Black college students, Gurin and Epps (1975) found that students who felt the most academically self-confident and had the greatest sense of personal self-efficacy nonetheless also expressed the greatest consciousness of the impact of discrimination and blamed the system for their group's social status. As the authors explain, these students set “demanding personal objectives without denying the impact of social inequities” for their group as a whole (Gurin and Epps 1975, p. 362). Their classic study offers evidence that, when combined with a strong commitment to high personal goals, a greater awareness of social barriers—such as stereotypes—may promote rather than hinder positive academic experiences (see also Carter 2005).

Immigrant Adaptation Strategies

Although many theories derived from the minority experience of African-Americans have been extended to Latinos, we would expect the two groups to differ significantly in their perceptions of group opportunity. One important demographic difference between them is that most Latinos are of recent immigrant origin. In the Current Population Survey from March 1999, the first year NLSF respondents were sampled, 66% of all Latinos in the United

States aged 18–19 were first- or second-generation immigrants. Similarly, in the NLSF sample, more than two-thirds of the Latinos were from immigrant families.

With regards to schooling, studies of immigrant adaptation have identified three major patterns of adaptation. One line of research describes how children of immigrant families benefit from their parents' optimism and determination to make a better life for their family that led them to go to a new country. This immigrant optimism manifests itself in higher school engagement and performance that conflicts with neither ethnic nor "mainstream" sensibilities (e.g., Fuligni 2004; Fuligni and Witkow 2004; Gibson 1988; Kao and Tienda 1993; Padilla 2006; Suárez-Orozco and Suárez-Orozco 1995). Even when they are aware of social barriers, immigrant parents and their children nonetheless frequently feel optimistic that they can overcome those barriers. Although immigrant children often come into contact with native minorities who may be pessimistic about their educational opportunities, immigrant families attempt to socialize their children not to adopt minority status orientations that de-emphasize academic achievement. Such immigrant parents and children can be said to accommodate to the host society without fully assimilating; in other words, they selectively acculturate to the expected norms of educational and mainstream institutions while maintaining a strong ethnic identity that differentiates them from native minorities (Portes and Rumbaut 2001). The accommodation strategy, in which immigrant-origin students neither fully assimilate to the mainstream nor resist some level of acculturation, has indeed been associated with better academic outcomes than either full assimilation or total resistance (e.g., Gibson 1988, 2005; Kao and Tienda 1995). However, Portes and Rumbaut (2001) qualify their own argument by pointing out that even those immigrant-origin youth who adopt a selective acculturation or accommodation strategy do not always succeed because they still encounter an opportunity structure that is highly stratified by race, ethnicity, phenotype, social class, and gender. Despite being optimistic about their chances of success, the achievement gap between Latinos and Whites has not disappeared because Latinos, who are more likely than Whites to come from lower-income and lower-status families, often lack access to the resources that could transform their hopes into reality.

Despite the powerful influence of optimistic immigrant parents (Kao and Tienda 1995; Suárez-Orozco and Suárez-Orozco 1995), some children of immigrants who experience American racial/ethnic stratification nonetheless adopt a second, resistant, type of disposition toward schooling. As with African-Americans, these orientations are sometimes associated with lower achievement other ethnic minority children (e.g., Gibson et al. 2004; Lee 1996). However, as pointed out by critics of Ogbu's

oppositional culture model, ethnic minority youth may exhibit different motivational responses to perceived blocked opportunity. Although some discriminated students may disengage from school, others demonstrate a positive view of their ethnic identity and develop other motivational buffers to deal with negative psychosocial pressures known to affect educational outcomes (Bernal et al. 1991; Cooper 1999).

The third pattern of immigrant adaptation with regards to schooling is the pattern of linear assimilation, in which youth largely let go of an ethnic or minority identity in favor of a mainstream identity. Historically, among immigrants of European descent, adopting a mainstream identity was considered a step towards later academic and occupational success. Some scholars have argued that due to racial stratification, however, the assimilation experienced by White European immigrants is a less viable strategy among descendants of post-1965 immigrants of Latin American, Asian, and African descent (see Zhou 2001). In fact, the linear assimilation theory seems to be refuted by findings that length of residence in the U.S. is associated with declines in grades and effort in school among immigrant children (Portes and Rumbaut 2001). Although it is possible that many Latinos who have successfully navigated the pre-college academic pipeline into elite colleges are already somewhat oriented to the mainstream, it remains to be seen whether an assimilation orientation facilitates academic adjustment once in college, where they are sure to be a numerical minority and thus may encounter new ethnic challenges.

Adaptation Profiles and Latino Educational Achievement

Our present research tests propositions from these three theoretical frameworks—immigrant adaptation, blocked opportunity and stereotype vulnerability—to examine how Latinos may negotiate ethnic stratification in elite college settings. We first ask: Do Latino college students' beliefs about opportunity and their perceived social distance from the mainstream at the start of college mirror the three theoretical profiles we identified as accommodation, resistance, and assimilation? If so, what demographic and psychological variables predict who accommodates, who resists, and who assimilates? Finally, do students who enter college in these three profiles adjust differently to highly selective academic contexts? The theories we reviewed led us to hypothesize that students with assimilationist dispositions would initially demonstrate better academic outcomes, but that they might be less prepared for experiences of overt and covert prejudice and exclusion and thus demonstrate less positive academic outcomes later on in college. Consistent with Ethier and Deaux (1990, 1994),

we expected that students initially classified in a resistance profile would perceive greater prejudice and demonstrate initially less favorable academic adjustment, but then they would develop more favorable outcomes in later semesters as they potentially begin to form social networks with other Latinos. Finally, we expected that those students who enter college in the accommodation profile would perceive a level of on-campus prejudice higher than students in the assimilation profile but lower than those in the resistance profile. At the same time, their balanced perceptions of inequality with an uncritical orientation toward the achievement ideology suggested that they might have already negotiated conflicts in their multiple social worlds (e.g., Carter 2005; Padilla 2006; Phelan et al. 1998). Thus, we expected that students in the accommodation profile would consistently perform well academically.

Method

Sample

This study employs data from the Hispanic/Latino sample of the Waves 1–3 of the National Longitudinal Survey of Freshmen (see Massey et al. 2003). All study participants were either U.S. citizens or legal permanent residents and first-time college freshmen at the start of the study. Students were sampled at 28 of the most selective colleges and universities in the United States (see Massey et al. 2003 for details of the sampling strategy as well as the list of schools and the demographic characteristics of the overall sample). Baseline data (Wave 1) were originally collected in face-to-face interviews in the Fall of 1999. Subsequent data were collected in telephone interviews during the Spring of 2000 and 2001 (Waves 2 and 3, respectively). The response rate in Wave 1 was 86%. Of the original 3,924 NLSF respondents (916 of whom were identified as Latino on their school records), the response rate was 95% in Wave 2 and 89% in Wave 3.

The present study sample includes 916 NLSF participants (58% female) whose school records indicate that they self-identified as Hispanic or Latino when entering college. From baseline data we know that 19% ($n = 174$) of students were born outside the U.S. (first-generation immigrants), an additional 49% ($n = 449$) were U.S.-born children with at least one foreign-born parent (second-generation) and 32% ($n = 293$) were US-born children of US-born parents (third-generation or higher). Quite unlike Latinos nationally, many of these students tended to have economically advantaged backgrounds. Over 50% of participants' mothers and almost 60% of fathers had a college degree or higher; 41% of both mothers and fathers were employed in professional or managerial positions. Perhaps not surprisingly, 42% of

students reported family incomes that exceeded \$75,000 per year. However, these students did demonstrate some socioeconomic heterogeneity, as 14% of students reported that they had received public assistance at some point since age six and 31% reported that neither parent had a college degree.

Measures

Demographic and Institutional Characteristics

Dummy codes were used to indicate student immigrant status (student is foreign-born), parent immigrant status (either mother or father is foreign-born), to indicate whether students had ever received public assistance, and whether participants' parents owned their home. In addition, a dummy code was created to represent those who were first-generation college students, a status that is particularly important in predicting long-term college engagement (Pike and Kuh 2005). Although all of the colleges and universities in the sample are highly selective, we nonetheless found significant differences in students' self-reported academic preparation and performance by institution type. Specifically, relative to liberal arts colleges and public research universities, students attending private research universities reported perceiving less school disorder in high school, feeling more academically prepared, taking more AP coursework, and earning higher GPAs in high school and in freshman and sophomore years ($p < .05$, $p < .01$, $p < .001$, $p < .01$, $p < .001$, and $p < .01$, respectively). Students at private research universities also reported taking more APs and higher average high school grades ($p < .001$ and $p < .05$) than those at liberal arts colleges and public research universities. Therefore, we controlled for the type of institution in all multivariate analyses, with private research institutions as the comparison group. We included the percentage of Latinos on campus at year of college entry (1998–1999) as a control for the representation of ingroup members at each institution. Finally, as a control for prior intergroup contact and as a measure of segregation we included a dummy code for whether the student had attended schools with predominantly minority students between the ages of 6 and 18.

Ethnic Identification

All ethnic identification variables were collected at Time 1. Participants provided their ethnic self-identification in response to the question: "Which term best describes your racial and ethnic origins?" Students were asked to choose either a particular national origin (Mexican, Puerto Rican, Cuban, Dominican, Central American, South American) under the broader headings of "Hispanic White" and "Hispanic Black" or, alternatively, they could choose

“Mixed Race” or “Other” and write in a response. This self-identified ethnic category question allows us to go beyond much prior research on Latinos by breaking down the pan-ethnic category into several sub-categories. First, as mentioned earlier, skin color and phenotype likely influences Latinos’ self-identity and perception of opportunity, so all respondents who chose any nationality under the broader heading of “Hispanic Black” were grouped together. To further create meaningful sub-categories, we separated the White Latinos into two groups according to the history and overall socioeconomic status of each national origin group in the United States. Whereas Mexicans, Puerto Ricans, Central Americans and Dominicans generally represent low-skilled migrants who have faced major hurdles to their integration in the United States, Cubans and South Americans are more likely to come from the educated class of their home country and are more likely to work as professionals in the United States (Portes and Rumbaut 2006). Finally, of those students who wrote in their self identity, the majority said they had one Latino and one white American parent whereas the rest identified simply as Hispanic, Spanish or other. Thus, our analysis includes five sub-groups of Latinos: (1) Mexican, Puerto Rican, Central American, and Dominican White ($n = 299$); (2) Cuban and South American White ($n = 154$); (3) Hispanic Black (all nationalities; $n = 120$). For those students who wrote their own ethnic labels, we recoded their responses into two more groups: (4) Hispanic and White Biracial ($n = 245$); and (5) Hispanic Other ($n = 93$). Ethnic self-identification information for 5 participants was missing (see Table 1).

In addition to asking about ethnic self-identification, interviewers rated participants’ skin color from light (0) to dark (10). Previous research shows that skin color is associated with variation in achievement and life outcomes among Black Americans (e.g., Keith and Herring 1991) and more recently there is increasing evidence that this may be the case for Hispanics/Latinos in the U.S. (e.g., Espino and Franz 2002). Skin color rating differed significantly across ethnic self-identification categories, $F(4, 906) = 18.78$, $p < .001$, $\eta^2 = .08$; Tukey’s honestly significant difference (HSD) values in posthoc analyses revealed that students self-identified as Hispanic Black received a significantly darker average skin color rating from their interviewers than those in all other categories ($ps < .01$ for all comparisons). Finally, the baseline survey (Time 1) contained eleven items that tapped into Hispanic ingroup ideology. Using a 5-point Likert scale, participants were asked to indicate their agreement with sentiments such as, Hispanics “should vote for Hispanics,” “should give children Hispanic names,” and “should have Hispanic friends.” These were coded so that higher scores indicate stronger agreement. On average, participants endorsed these beliefs favorably and reliably ($M = 3.89$, $SD = .64$; Cronbach’s alpha = .89; $n = 904$).

Table 1 Summary of ethnic self-identification

Label	<i>n</i>
<i>Hispanic White</i>	
Mexican	188
Puerto Rican	68
Central American	30
Dominican	13
Cuban	35
South American	119
<i>Hispanic Black</i>	
Mexican	48
Puerto Rican	21
Central American	12
Dominican	14
Cuban	6
South American	19
<i>Mixed/Multiracial</i>	
Hispanic and White	245
Hispanic and/or Other	93
Don’t Know	5
Total	916

Beliefs about Opportunity

In the baseline survey (Time 1), fifteen items assessed students’ beliefs about racial/ethnic inequality in opportunity (Massey et al. 2003). These questions were developed by the principal investigators (Massey et al. 2003) based on previous research on racial inequality attitudes (e.g., Schuman et al. 1985). Respondents were asked to indicate the extent they agreed on a scale of 0 to 10 with each statement. A sample statement is, “When two qualified people, one Hispanic and one White, are considered for the same job, the Hispanic won’t get the job no matter how hard he or she tries.” In the present study, these items were used to construct a scale of perceived opportunity. Principal components analysis with varimax rotation resulted in four distinct factors that accounted for 77% of the variance in beliefs about opportunity (see Table 2). The first dimension, termed Equal Opportunity, reflects a belief that educated minorities will experience social mobility equitably. The second and third dimensions regard the extent to which Qualifications and Effort, respectively, are necessary in order to improve social status among Blacks, Latinos, and Asians. A fourth dimension consists of perceptions of the extent to which minorities are subject to Job Discrimination, as illustrated by the sample item above. Subsequent analyses revealed that these subscales are reliable, with Cronbach’s alpha coefficients ranging from .86 to .94 (see Table 2).

Table 2 Factor and reliability analyses for beliefs about opportunity

Item	Equal Opp.	Effort	Qualifications	Discrimination
Educated Blacks get ahead	.79			
Future is promising for educated Blacks	.78			
Educated Hispanic/Latinos get ahead	.83			
Future is promising for educated Hispanic/Latinos	.77			
Educated Asians get ahead	.81			
Future is promising for educated Asians	.75			
Blacks need to try harder		.90		
Hispanic/Latinos need to try harder		.93		
Asians need to try harder		.91		
Blacks have to be more qualified			.90	
Hispanic/Latinos have to be more qualified			.90	
Asians have to be more qualified			.97	
Equally qualified Black loses job				.88
Equally qualified Hispanic/Latino loses job				.90
Equally qualified Asian loses job				.80
Possible sum score range	0–60	0–30	0–30	0–30
Mean	41.74	12.19	12.88	10.59
(SD)	(10.77)	(7.79)	(8.11)	(6.22)
Reliability ^a $\alpha =$.89	.91	.94	.86

^a Note: Equal Opportunity $n = 896$; Qualifications $n = 894$; Effort $n = 901$; Discrimination $n = 898$

Social Exclusion

At Time 1, a three-item measure of perceived social distance from Whites was employed (Massey et al. 2003). Specifically, participants were asked to indicate their closeness to Whites using a scale of 0 to 10; these scores were reverse coded and summed such that a higher number reflects greater social distance.

Perceptions of Prejudice

In the spring semester of freshman and sophomore years, Time 2 and 3, respectively, participants were asked about their perceptions of prejudicial treatment by others on campus and in their classrooms. For example, they were asked to indicate the frequency with which they encountered covert (e.g., feeling uncomfortable in certain places on campus) and overt discrimination (e.g., hearing derogatory remarks) from 1 (Never) to 5 (Very Often). On average, students reported they almost never encountered these forms of prejudice as freshmen ($M = 1.29$, $SD = .34$) and sophomores ($M = 1.28$, $SD = .34$). However, as expected, in both freshman and sophomore years significant mean differences emerged in perceived prejudice by ethnic self-identification. In both years, students who identified as Hispanic Black reported significantly greater perceptions of prejudice than those who identified as Cuban and South American White and Hispanic and

White biracial (using Tukey HSD tests, both $ps < .05$ for freshman year and both $ps < .01$ for sophomore year). In addition, Mexican, Puerto Rican, Central American, and Dominican White students perceived more prejudice than Hispanic and White biracials in both years as well (in Tukey HSD tests, both $ps < .05$). Therefore, we explored potential demographic and psychological covariates of perceived prejudice in subsequent analyses.

Academic Preparation and Performance

Perceived academic preparation for college ($M = 6.02$, $SD = 3.04$), number of Advanced Placement courses taken in high school ($M = 2.89$, $SD = 1.94$), a variable describing the quality of the participants' high school infrastructure ($M = 9.91$, $SD = 3.23$; Massey et al. 2003), and a composite variable of items measuring school disorder (i.e., having witnessed verbal abuse of teacher, property theft or vandalism at school, or students use of drugs or alcohol at school) weighted according to the Wolfgang-Sellin Severity Index (Massey et al. 2003; possible response range = 7 to 35; $\alpha = .90$; $M = 16.04$, $SD = 5.30$) served as proxies for academic preparation in the present study. Self-reported high school, freshman, and sophomore grade point averages (all on 4-point scales, where 4 = A) were used as indicators of academic performance. In multivariate analyses, prior GPAs were used to control for prior achievement in predicting GPA for each

year. The high school disorder variable was coded such that higher values indicate greater barriers to learning. Otherwise, academic variables are coded such that higher scores indicate greater preparation and performance.

Additional Control Variables

We include sum scores of respondents’ self-esteem and self-efficacy (see Massey et al. 2003) as a control in GPA analyses. For self-esteem ($M = 32.27, SD = 5.63$), respondents were asked to indicate their agreement with items such as “I am a person of worth equal to others” and “I am able to do things as well as most people,” using a scale of 0 (Strongly Disagree) to 4 (Strongly Agree). Using the same response range, for self-efficacy ($M = 18.99, SD = 2.98$), respondents were asked to indicate the extent to which they agreed with statements such as “I don’t have control over my life” and “I am certain I can make my plans work.” In previous research with NLSF, these have been important self-level predictors of academic achievement (see Massey et al. 2003).

Attrition Analyses

Of the initial NLSF sample, 82% had complete data at Time 2 and 73% also had complete data at Time 3. Exploratory chi-square analyses and *t*-tests were performed to identify differences in Time 1 demographic and academic variables between those with complete and incomplete data at Time 2 and Time 3. There were two significant differences in the demographic characteristics of participants with complete and incomplete Time 2 and Time 3 data. First, men were overrepresented, and women underrepresented, among those with missing data at Time 3, $\chi^2 = 4.40, df = 1, p < .05$. Second, students whose parents did not own their own homes were more likely to have incomplete data at Time 2, $\chi^2 = 5.28, df = 1, p < .05$, and at Time 3, $\chi^2 = 4.12, df = 1, p < .05$. With regard to Time 1 academic variables, a *t*-test revealed that those with missing data at Time 3 reported significantly lower high school GPAs than those with complete data ($p < .05$). Otherwise, there were no significant differences in background between those with complete and missing data.

Results

Descriptive Analyses

Table 3 presents descriptive mean differences in academic adjustment by demographic background. Men reported experiencing significantly more disorder in their high school than women ($p < .05, \eta^2 = .01$). Women reported

Table 3 Means and standard deviations of academic variables by selected demographic background factors

Measure ^{a,b}	Gender		Student nativity		Parent nativity		Ever public assistance		First-generation college	
	Men	Women	US	Immigrant	US	Immigrant	No	Yes	No	Yes
Academic preparation	6.07 (2.89)	6.22 (3.14)	6.13 (3.03)	6.23 (3.09)	5.93 (3.04)	6.26 (3.04)	6.28** (3.02)	5.45** (3.06)	6.50*** (2.94)	5.40*** (3.13)
AP Courses	3.03 (2.04)	2.79 (1.86)	2.91 (1.95)	2.82 (1.90)	2.66* (1.91)	3.00* (1.95)	2.93 (1.93)	2.61 (2.03)	2.96 (1.98)	2.75 (1.86)
HS Disorder	16.56* (5.47)	15.67* (5.14)	15.99 (5.39)	16.30 (4.90)	15.85 (5.10)	16.14 (5.40)	15.99 (5.31)	16.45 (5.29)	15.57*** (5.04)	17.02*** (5.67)
HS GPA	3.69 (.35)	3.71 (.31)	3.70 (.33)	3.70 (.31)	3.72 (.34)	3.69 (.32)	3.71 (.32)	3.66 (.37)	3.70 (.48)	3.70 (.31)
Freshman GPA	3.05* (.55)	3.14* (.47)	3.10 (.51)	3.12 (.50)	3.10 (.52)	3.10 (.50)	3.12*** (.49)	2.93*** (.56)	3.17*** (.48)	2.96*** (.53)
Sophomore GPA	3.14* (.54)	3.18* (.49)	3.17 (.50)	3.22 (.43)	3.22 (.52)	3.17 (.40)	3.20** (.47)	3.06** (.56)	3.23*** (.46)	3.08*** (.52)

^a Standard deviations are provided in parentheses. ^bShared asterisks denote significant mean differences: * $p < .05$, ** $p < .01$, *** $p < .001$

significantly higher freshman and sophomore grade point averages than men ($ps < .05$, both $\eta^2 = .01$). On average, students who reported ever receiving public assistance felt less academically prepared for college and received lower grades in freshman and sophomore years than those who did not (all $ps < .01$, $\eta^2 = .01$, $.02$, and $.01$, respectively). First-generation college students reported greater social problems in their high schools, feeling less academically prepared for college, and lower freshman and sophomore grades (all $ps < .001$, $\eta^2 = .02$, $.03$, $.04$, and $.02$, respectively).

In addition, mean differences in preparation resulted between the five ethnic self-identification groups in MANOVA, $F(4, 748) = 3.79$, $p < .01$, $\eta^2 = .02$. Posthoc univariate analyses revealed that Cuban and South American White students felt more academically prepared for college than Mexican, Puerto Rican, Dominican, Central American White and Hispanic Black students (using Tukey HSD tests, $p < .05$ and $p < .01$, respectively). In addition, ethnic self-identification categories differed in mean levels of high school disorder, $F(4, 748) = 3.79$, $p < .01$, $\eta^2 = .02$. Hispanic Black students reported greater disorder in their high schools than Cuban and South American White, Mexican, Puerto Rican, Central American, and Dominican White and Hispanic and White biracial students (both all $ps \leq .05$). Finally, college grades varied by identification category, $F(4, 742) = 4.77$, $p < .001$, $\eta^2 = .03$. In freshman year, students in the Hispanic Other category reported significantly lower GPAs than Cuban and South American Whites and Hispanic Whites (both $ps < .01$). By sophomore year, these gaps in grades were not significant. These analyses demonstrate that Latino students come from a variety of backgrounds, and those Latino students who self-identify as black report the lowest levels of preparation for college, but only students in the Hispanic Other category reported significantly lower grades in freshmen year.

Variable-centered Analyses

Before conducting profile analysis, we replicate earlier work with NLSF by conducting multiple regression analyses (not shown here; Massey et al. 2003) to examine the linear relationships of institutional and demographic characteristics, ethnic identification variables, and beliefs about opportunity to academic performance for the combined sample, adjusting for clustering effects by college, the primary sampling unit. In each series of regressions, institutional characteristics and high school segregation were entered in the first step, followed by individual demographics, self-esteem and self-efficacy controls in step 2, and all ethnic variables (i.e., ethnic self-identification, social exclusion, beliefs about opportunity and perceived prejudice) in step 3. The final

models for grade point average at Time 2 and Time 3 were significant, $F(29, 699) = 7.47$, $p < .001$ and $F(28, 606) = 12.17$, $p < .001$, respectively. In the models for freshman GPA, after accounting for the significant influences of academic preparation and prior achievement, significant relationships were found for gender ($b = .09$, $se = .04$, $p < .05$), public assistance ($b = -.11$, $se = .06$, $p < .05$), first-generation college student status ($b = -.11$, $se = .04$, $p < .01$), parent home ownership ($b = .09$, $se = .05$, $p < .05$), and the Hispanic Other ethnic self-identification category ($b = -.28$, $se = .07$, $p < .001$). In the final sophomore GPA model with the combined sample, after partialing out the significant impacts of prior academic preparation and achievement, significant relationships resulted for gender ($b = .08$, $se = .03$, $p < .01$), immigrant student ($b = .09$, $se = .05$, $p < .05$), self-esteem ($b = .008$, $se = .004$, $p < .05$), self-efficacy ($b = -.02$, $se = .01$, $p < .05$), and equal opportunity beliefs ($b = .003$, $se = .002$, $p \leq .05$). The final models explained approximately 24% and 36% of the variance in GPA at Time 2 and 3, respectively.

Adaptation Profiles

Next, we examined patterns among students' perceptions of opportunity and feelings of mainstream inclusion among Latino students in the fall of their freshman year. To this end, we employed *k*-means iterative cluster analysis to create profiles that reflected distinct combinations of beliefs about opportunity (Equal Opportunity, Effort, Qualifications, and Discrimination) as well as perceived social distance from Whites at Time 1, using standardized values for all five variables. Cluster analysis involves classifying and combining cases based on a matrix of distances between pairs of cases. Here, cluster analysis is an appropriate method for because its major functions or recommended uses are: 1) to build classifications (e.g., "profiles") and 2) to explore classification schemes (Aldenderfer and Blashfield 1984).

In cluster analysis there are often several cluster solutions, depending on what is of interest. Therefore, our approach to delineating a solution was to outline a theoretical argument for the number and nature of the clusters and to use this framework in conjunction with statistical indicators (Magnusson 1987). We expected at least the three distinct profiles to emerge based on our review of previous literature: *accommodation*, *resistance*, and *assimilation*. Although cluster analysis is sample-specific or sample-bound, this procedure takes advantage of NLSF's sample size and diversity among Latino students. Therefore, we began by splitting the sample into two random subsamples of approximately equal sizes (Sample A $n = 486$, Sample B $n = 430$). Using Sample A, we

identified three clusters that corresponded to those theoretical profiles we hypothesized (Breckenridge 2000). Next, we replicated these three clusters in Sample B using *k*-means independently of Sample A, then by using the cluster centers derived from Sample A. The agreement between the 3-cluster solution for Sample A and Sample B replication clusters using cluster centers derived from Sample A was high (*Kappa* = .91). Similarly, in Sample B, an initial 3-cluster *k*-means solution also reflected the hypothesized profiles. The agreement between this 3-cluster solution for Sample B and the Sample A replication clusters using cluster centers derived from Sample B was very good (*Kappa* = .72).

Upon this cross-validation, we performed *k*-means cluster analysis with a 3-cluster solution on the combined sample, which resulted in the same three profiles. We examined the reliability of the final cluster solutions, that is, the level of agreement between each of the subsample classifications and that of the combined sample. The agreement between the cluster assignment in the whole sample and the 3-cluster solutions independently identified in each subsample were high (*Kappa* = .82 for Sample A and *Kappa* = .83 for Sample B). We then used ANOVA to confirm significant differences between the clusters on all cluster variables in the entire sample. Tukey’s HSD posthoc comparisons indicate that all clusters differed significantly from each other on mean scores for Equal Opportunity, Effort, Qualifications, Discrimination, and social distance from Whites (see Table 4). The final solution, then, resulted in clusters that best fit the conceptual importance of inter-cluster variation based on prior theory and research, that have been identified then replicated

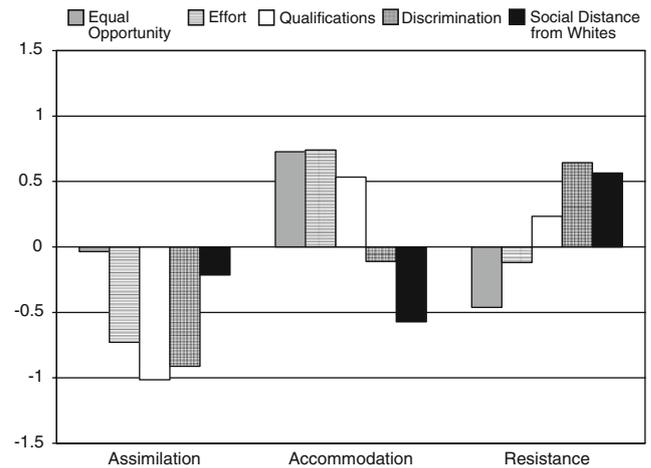


Fig. 1 Profiles of adaptation to ethnic stratification

reliably in two distinct random subsamples of our data, and that retained statistically sound inter- and intra-cluster variability.

Profiles, discussed in turn, are presented in Fig. 1. The *assimilation* cluster (*n* = 228) is characterized by having the significantly lowest levels of Effort, Qualifications, and Discrimination beliefs as well as comparatively average Equal Opportunity beliefs and engagement with Whites. Students in this group believed that lack of effort was not an obstacle to the social mobility of ethnic minorities, and that ethnic minorities do not face a stratified occupational climate in which they would need to be overqualified or overcome discrimination. Students in the second cluster, *accommodation* (*n* = 282), reported the least social distance from Whites and the strongest Equal Opportunity beliefs.

Table 4 Summary of cluster variables, perceived prejudice, and GPA by profile

Measure ^{a,b,c,d}	Profile		
	Assimilation	Accommodation	Resistance
Equal opportunity***	41.36 (11.64)	49.58 (7.22)	36.77 (8.18)
Effort***	6.52 (6.08)	17.96 (7.08)	11.27 (6.02)
Qualifications***	4.65 (5.43)	17.21 (7.56)	14.78 (6.02)
Discrimination***	4.92 (4.78)	9.90 (5.81)	14.59 (3.99)
Social distance from Whites***	9.62 (5.38)	7.54 (4.69)	14.15 (5.10)
Time 2 Prejudice**	1.22 (.30)	1.28 (.32)	1.33 (.34)
Time 3 Prejudice***	1.21 (.24)	1.25 (.29)	1.34 (.39)
Freshman GPA	3.13 (.52)	3.10 (.51)	3.08 (.50)
Sophomore GPA	3.24 (.50)	3.21 (.45)	3.13 (.50)

^a Standard deviations are provided in parentheses

^b All profiles’ mean differences in equal opportunity, effort, qualifications, discrimination, social distance from Whites are significantly different from each other in Tukey’s honestly significant difference posthoc comparisons

^c Time 2 Prejudice significant differences: Resistance > accommodation and assimilation; Accommodation > assimilation

^d Time 3 Prejudice significant differences: Resistance > accommodation and assimilation

* *P* < .05, ** *P* < .01, *** *P* < .001

They simultaneously believed the most strongly that individual effort and qualifications are needed to secure social mobility among ethnic minorities. Finally, the third cluster reflects a *resistance*-type of orientation toward ethnic stratification ($n = 380$). These students perceived the greatest level of occupational discrimination and social distance from Whites, while also expressing skepticism about equal opportunity for educated ethnic minorities in the U.S.

In order to examine factors associated with cluster membership, as outlined in our initial research questions, we conducted chi-square analyses of various demographic variables. There were no significant differences between clusters in demographic composition by gender, student and parent nativity, or public assistance. However, first-generation college students were overrepresented in the resistance profile and underrepresented in the assimilation profile, $\chi^2 = 6.26$, $df = 2$, $p < .05$. Chi-square analyses further revealed that the distribution across clusters according to ethnic self-identification was not random, $\chi^2 = 28.53$, $df = 8$, $p < .001$. Self-identified Hispanic Black students were underrepresented, and Cuban and South American Whites overrepresented, in the assimilation cluster. Self-identified Hispanic Black students were underrepresented in the accommodation cluster, while Mexican, Puerto Rican, Central American, and Dominican White students were overrepresented. Finally, Hispanic Blacks were disproportionately represented in the resistance cluster. Although some members of each self-identified Latino ethnic group fell into each of the three clusters, cluster membership largely maps onto these various groups' experiences of discrimination in the United States.

Similarly, we reasoned that previous experiences with school segregation and intergroup contact would likely play a role in Latino students' beliefs about opportunity and social distance from Whites as incoming freshmen. Therefore, we examined differences in the level of prior school segregation (less than 30% minority, between 30% and 70% minority, and over 70% minority) across clusters. Chi-square analyses resulted in a significant association between cluster membership and prior segregation in schools ($\chi^2 = 23.07$, $df = 4$, $p < .001$). Students who had attended schools that were more than 70% White were disproportionately found in the assimilation cluster and underrepresented in the resistance cluster. Students who had attended schools that were between 30% to 70% minority and over 70% minority were disproportionately represented in the resistance cluster and underrepresented in the assimilation cluster.

Perceived Prejudice and Academic Performance by Profile

As expected, we found differences in perceived prejudice between clusters. Table 4 shows results of multivariate

analyses of covariance adjusted for sampling effects with demographic background factors as covariates. Although demographic variables may influence cluster membership, these analyses show that even when controlling for demographic factors, members of the three clusters differ in their perceptions of prejudice. In other words, profile membership cannot be reduced to simply a demographic phenomenon, but must take account of malleable social-psychological variables such as perceptions of equal opportunity or experiences of discrimination. We found significant differences between clusters in perceived prejudice at Time 2 and 3, $F(2, 735) = 3.34$, $p < .05$, $\eta^2 = .02$, and $F(2, 650) = 4.73$, $p < .01$, $\eta^2 = .03$. In subsequent univariate analyses, Tukey's HSD comparisons revealed that, as hypothesized, students in the resistance profile reported greater perceptions of prejudice at Time 2 than those in the assimilation profile ($p < .001$), and at Time 3 than those in both the assimilation and accommodation profiles ($p < .001$ and $p < .01$, respectively). Grade point averages and standard deviations by cluster are also presented in Table 4.

To address our research question regarding differential academic adjustment by cluster membership, we replicated the previous regression analyses conducted earlier with the combined (unclustered) sample but included dummy variables for each profile to examine the relationship of cluster membership to GPA at each timepoint, after accounting for background and predictor variables (see Table 5). No significant relationship of cluster membership and freshman GPA was found. However, by sophomore year, consistent with our hypothesis, a significant relationship of accommodation cluster membership ($b = .07$, $se = .04$, $p < .05$) was found for GPA, accounting for all demographic, institutional, academic and social psychological variables in a ordinary least squares regression analysis also adjusted for college sampling effects.

Based on the logic of our initial hypotheses, we expected that the relationship of perceived prejudice to GPA would vary between individuals with different profiles, as they might be differentially prepared to negotiate these experiences. To test this hypothesis, our final set of regression analyses replicated the model in Table 4 separately for each cluster (not presented in table form). This strategy is useful and has been employed previously in research on racial identity profiles and academic attainment among African American adolescents (see, e.g., Chavous et al. 2003). The models predicting GPA were significant for each profile. Of particular interest is that perceived prejudice at Time 2 was unrelated to freshman GPA for the assimilation and resistance clusters, yet was significantly and negatively associated with grades among those in the accommodation cluster ($b = -.30$, $se = .11$, $p < .01$), after accounting for institutional, demographic, ethnic self-identification, academic preparation, and self-protective

Table 5 Summary of OLS models regressing sophomore GPA on study variables and profiles

	Step 1		Step 2		Step 3	
	<i>b</i>	(<i>SE</i>)	<i>b</i>	(<i>SE</i>)	<i>b</i>	(<i>SE</i>)
Intercept	0.98	(0.23)***	0.99	(0.26)***	1.06	(0.28)***
Liberal arts college	0.02	(0.06)	0.02	(0.06)	0.02	(0.06)
Public university	−0.05	(0.04)	−0.06	(0.04) ⁺	−0.07	(0.04) ⁺
% Hispanic 98–99	0.00	(0.01)	0.00	(0.01)	0.00	(0.01)
Attended segregated schools	0.04	(0.04)	0.01	(0.04)	0.02	(0.04)
HS infrastructure	0.00	(0.01)	0.00	(0.01)	0.00	(0.01)
HS disorder	−0.01	(0.00)*	−0.01	(0.00)*	−0.01	(0.00) ⁺
Self-rated academic preparation	0.00	(0.01)	0.00	(0.01)	0.00	(0.01)
AP courses	0.00	(0.01)	0.00	(0.01)	0.00	(0.01)
HS GPA	0.20	(0.06)***	0.20	(0.06)***	0.20	(0.06)***
Freshman GPA	0.50	(0.04)***	0.49	(0.04)***	0.49	(0.04)***
Female			0.09	(0.03)**	0.09	(0.03)**
Immigrant parent			−0.01	(0.04)	−0.02	(0.04)
Immigrant student			0.10	(0.04)*	0.09	(0.05)*
Public assistance			−0.05	(0.05)	−0.03	(0.05)
Family owns home			0.02	(0.04)	0.01	(0.04)
First-generation college			−0.01	(0.04)	−0.02	(0.04)
Self-esteem			0.01	(0.00)*	0.01	(0.00)*
Self-efficacy			−0.02	(0.01)*	−0.02	(0.01)*
Mex/PR/CA/D White ^a					−0.02	(0.05)
Hispanic Black					0.03	(0.06)
Hispanic and White Biracial					−0.04	(0.05)
Hispanic other					0.01	(0.07)
Skin color					−0.01	(0.01)
Hispanic Ingroup Ideology					0.01	(0.03)
Accommodation profile					0.07	(0.04)*
Assimilation profile					0.04	(0.04)
Perceived prejudice					−0.04	(0.05)
Time 3						
	$R^2 = .33$		$\Delta R^2 = .02$		$\Delta R^2 = .01$	
	$F(10,624) = 30.74, p < .001$		$F(18, 616) = 18.40, p < .001$		$F(27, 607) = 12.52, p < .001$	

^a Mexican, Puerto Rican, Central American, or Dominican White

⁺ $p < .10$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$

factors. Counter to our predictions, no relationship was found for perceived prejudice and sophomore GPA across the profiles.

Discussion

Drawing from the Latino sample of the National Longitudinal Survey of Freshmen, we show that Latino college students' beliefs about opportunity and social distance from Whites at Wave 1 relate to perceptions of overt and covert prejudice on campus (at Waves 2 and 3) as well as academic performance (at Wave 2). Although relatively short-term, different patterns of relationships emerged between spring

of freshman and sophomore years, indicating that, in addition to the attitudes students bring with them to campus, college socialization may affect perceptions of and responses to prejudice among Latino students. Importantly, we were able to explicitly examine several hypotheses suggested by previous models of underperformance among ethnic minorities as well as by critiques of such models. For example, we explored how perceived prejudice related to academic performance among those with profiles that reflect different types of adaptation to ethnic stratification. The socioeconomic background of the sample also allowed us to understand potentially positive and negative ethnic processes associated with educational outcomes beyond those typically conflated with poverty or low SES.

Perhaps the greatest contribution of this present work is that we empirical support and extend theories from the literature on immigrant adaptation by demonstrating types of variation in high-achieving Latinos' observed beliefs about opportunity and social exclusion. Specifically, the first profile, assimilation, consists of beliefs that reflect average-level agreement with the belief that "educated minorities get ahead" and also the least agreement that ethnic minorities must be overqualified or overcome discrimination in the workplace. We refer to this group as assimilators because they exhibit a combination of beliefs that seems to suggest a lack of perceived inequality; that is, they believe that educated minorities will get ahead and they see neither individual nor societal barriers to mobility. Despite these beliefs in equal opportunity, the students in this profile also felt they were somewhat distant from Whites upon entering college. Because we reasoned that those in the assimilation cluster might be more likely than those in the accommodation or resistance cluster to abandon ties to their minority status in favor of assimilating, we expected them to be unprepared to combat prejudice in college. Contrary to this hypothesis, on-campus experiences of prejudice were not related to achievement for those in the assimilation profile. One interpretation of this finding is that, in ways similar to what Aronson and Inzlicht (2004) suggest in their work with African Americans, those Latino students who adopt a stance in which they fail to recognize society-wide inequalities are less vulnerable to negative consequences of minority status. Within the variety of Latino experiences in America, therefore, linear assimilation appears to still be one path some Latinos might choose as they become upwardly mobile.

We call the students in the second cluster accommodators because they gave the strongest endorsement of the dominant ideology, namely the belief that there is equal opportunity for social mobility and that it is a matter of individual effort and preparation (Kluegel and Smith 1981). Unlike members of the assimilation cluster, students in the accommodation profile believed that ethnic minorities should try harder and need to earn greater qualifications than Whites others in order to obtain jobs. Importantly, they also said that if they were well-qualified, minorities would not experience job discrimination. Thus, members of the accommodation cluster emphasize individual effort rather than structural barriers and expressed optimism that their efforts would pay off (Hunt 1996). Students with this profile also felt least socially distant to Whites compared to the other profiles, but given the negative effect of perceived prejudice on freshman GPA, these feelings of inclusion and tempered optimism about opportunity upon entering college were not affirmed in their academic and social experiences during their first year. Yet our results suggest that students with tempered

optimism appear to be resilient to these initial effects since, by sophomore year, students from the accommodation profile had significantly higher GPAs than those in the resistance profile. Moreover, students in the accommodation profile report less ethnic prejudice as sophomores. Together, these findings suggest that tempered optimism may serve in a protective manner. We consider those who follow the path of tempered optimism and individual effort "adaptive achievers" because, despite having their optimism challenged by perceived prejudice in their freshman year, they recovered in their sophomore year to eradicate the negative effect of this prejudice on their grades.

Finally, in the resistance profile, we found individuals who were more skeptical than the rest of the sample about the "promising futures" and equality of opportunity for educated minorities. They asserted that individual effort and qualifications were somewhat important but strongly believed that ethnic minorities must contend with discrimination in the workforce as well (Hunt 1996). Despite already having overcome barriers to enter into the top tier of American higher education, compared to students with other profiles, resisters were most clearly distinguished by their skepticism about equal opportunity, perceptions of job discrimination and perceived social distance from Whites. By looking only at point estimates across the clusters on GPA and perceived prejudice, we might have concluded that these students are most susceptible to perceived prejudice on campus. However, although resisters and accommodators perceived similar levels of prejudice as freshmen, contrary to our expectations, there was no negative association between perceived prejudice and GPA among resisters. One conclusion is that having a skeptical-but-aware view of potentially blocked opportunities at the outset of college may have protected these individuals from internalizing prejudice when they did encounter it in their first two years in college. Although these students reported the lowest GPAs of all three groups during the first two years of college, it is apparently not in response to perceived prejudice.

By their second year of college, students in the assimilation and accommodation profiles reported lower perceived prejudice, on average, than those in the resistance profile. Although these differences were very small, students in the resistance profile are personally experiencing more discomfort, harassment, or unfair treatment on campus because of their race or ethnicity. It is possible that those in the assimilation and accommodation profiles are less aware of or deny personal discrimination when they encounter it (e.g., Crosby 1984). An important issue to follow up is the extent to which differences in perceived prejudice among the profiles persist chronically through later years, and if so, what psychological and academic costs they may incur over time. Such analyses would further contribute to our understanding of not only the impacts

of prejudice on the achievement of Latinos but also what types of responses and conditions might produce adaptive achievers—those who encounter prejudice but achieve nonetheless. Such an approach would remedy a weakness of much of the literature on Latinos and education that seeks to explain failure rather than success.

Limitations and Future Directions

We sought to examine this Latino-White achievement gap in the top tier of American education by testing both sociological and psychological factors that have been theorized to influence educational motivations, aspirations and achievement. The cluster analysis presents empirical evidence that, as theorized in the literature on immigrant adaptation, Latino students perceive differing levels of inequality and blocked opportunity in American society. Although cluster analytic methods such as those employed here are sample-specific, the findings and interpretations can be considered plausible in other samples and this type of analysis could be replicated on nationally representative samples. The selectivity of the colleges included in the present study limit the generalizability of the results to Latinos at other, particularly non-selective colleges. The Pew Hispanic Center, for example, recently reported that Latino students with similar levels of academic preparation are more likely to complete their degrees at selective rather than non-selective institutions (Fry 2004). Despite the limited generalizability of the present study, we have shown that cluster analysis thus represents a promising technique to look for distinct patterns in how Latinos' experiences and negotiate their minority status in college.

By looking at how psychological profiles at the start of college later influence on-campus experiences, our present work also emphasizes the importance of further research into how academic contexts influence students' responses to ethnic stratification. Understanding Latino students' perceptions of inequality not just when they begin their college but also as they progress through their college years could inform our understanding of the kinds of interpersonal, occupational, institutional, and political choices made by members of the United States' fastest growing minority group. There may be single critical events as well as chronically-occurring events (e.g., personal discrimination), for example, in which the meanings of blocked opportunity and social inclusion are embedded. For some Latinos, experiencing prejudice at college may reinforce earlier experiences of inequality, but for others, college may provide them with greater optimism about the future of minorities in the United States.

In sum, given the multidimensional nature of individuals' beliefs about opportunity and social exclusion, we employed a cluster analysis to identify three profiles of

adaptation to ethnic stratification, which we call assimilation, accommodation, and resistance, and then examined differential experiences and achievements at college among the profiles. Much remains to be done to understand more about Latino students who capably, albeit within certain constraints, exert agency in navigating pathways to and through higher education such as those members of our present sample (Gándara 1994, 1995). We have shown how students' beliefs around the self and opportunity may be informative for understanding differences in how they negotiate economic, social, and cultural barriers in higher education. In future studies, we hope to contribute further knowledge about the stable and dynamic factors that facilitate how Latinos more effectually participate, rather than get left behind, in pipelines to educational and occupational mobility.

Acknowledgments This research was conducted with the support of a National Science Foundation Postdoctoral Fellowship to the first author.

References

- Aldenderfer, M. S., & Blashfield, R. K. (1984). *Cluster analysis*. Sage University Paper Series on Quantitative Applications in the Social Sciences, series no. 07-001. Beverly Hills, CA: Sage.
- Arellano, A. R., & Padilla, A. M. (1996). Academic invulnerability among a select group of Latino university students. *Hispanic Journal of Behavioral Sciences*, 18(4), 485–507.
- Aronson, J., & Inzlicht, M. (2004). The ups and downs of attributional ambiguity: Stereotype vulnerability and the academic self-knowledge of African American college students. *Psychological Science*, 15(12), 829–836.
- Bernal, M. E., Saenz, D. S., & Knight, G. P. (1991). Ethnic identity and adaptation of Mexican American youths in school settings. *Hispanic Journal of Behavioral Sciences*, 13(2), 135–154.
- Breckenridge, J. N. (2000). Validating cluster analysis: Consistent replication and symmetry. *Multivariate Behavioral Research*, 35(2), 261–285.
- Brown, R. P., & Lee, M. N. (2005). Stigma consciousness and the race gap in college academic achievement. *Self and Identity*, 4(2), 149–157.
- Cabrera, N. L., & Padilla, A. M. (2004). Entering and succeeding in the “culture of college”: The story of two Mexican heritage students. *Hispanic Journal of Behavioral Sciences*, 26(2), 152–170.
- Carter, P. (2005). *Keepin' it real: School success beyond Black and White*. New York, NY: Oxford University Press.
- Chavous, T. M., Bernat, D. H., Schmeelk-Cone, K. H., Caldwell, C. H., Kohn-Wood, L., & Zimmerman, M. A. (2003). Racial identity and academic attainment among African American adolescents. *Child Development*, 74(4), 1076–1090.
- Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94(supplement), S95–S120.
- Conchas, G. Q. (2001). Structuring failure and success: Understanding the variability in Latino school engagement. *Harvard Educational Review*, 71(3), 475–504.
- Conchas, G. Q. (2004). *The color of success: Race and high-achieving urban youth*. New York, NY: Teachers College Press.
- Cooper, C. R. (1999). Multiple selves, multiple worlds: Cultural perspectives on individuality and connectedness in adolescent

- development. In A. Masten (Ed.), *Minnesota symposium on child Psychology: Cultural processes in child development*. Hillsdale, NJ: Erlbaum.
- Crosby, F. (1984). The denial of personal discrimination. *American Behavioral Scientist*, 27, 371–386.
- Driscoll, A. K. (1999). Risk of high school dropout among immigrant and native Hispanic youth. *International Migration Review*, 33(4), 857–875.
- Espino, R., & Franz, M. (2002). Latino phenotypic discrimination revisited: The impact of skin color on occupational status. *Social Science Quarterly*, 83(2), 612–623.
- Ethier, K. A., & Deaux, K. (1990). Hispanics in ivy: Assessing identity and perceived threat. *Sex Roles*, 22(7–8), 427–440.
- Ethier, K. A., & Deaux, K. (1994). Negotiating social identity when contexts change: Maintaining identification and responding to threat. *Journal of Personality and Social Psychology*, 67(2), 243–251.
- Fry, R. (2004). *Latino youth finishing college: The role of selective pathways*. Pew Hispanic center report. Retrieved April 18, 2007. <http://pewhispanic.org/topics/index.php?TopicID=4>.
- Fuligni, A. J. (2004). The adaptation and acculturation of children from immigrant families. In U. P. Gielen & J. Roopnarine (Eds.), *Childhood and adolescence: Cross cultural perspectives and applications. Advances in applied developmental psychology*. Westport, CT: Praeger Publishers/Greenwood Publishing Group.
- Fuligni, A. J., & Witkow, M. (2004). The postsecondary educational progress of youth from immigrant families. *Journal of Research on Adolescence*, 14(2), 159–183.
- Gándara, P. (1994). Choosing higher education: Educationally ambitious Chicanos and the path to social mobility. *Education Policy Analysis Archives*, 2(8). Retrieved February 22, 2003. <http://epaa.asu.edu/epaa/v2n8.html>.
- Gándara, P. (1995). *Over the ivy walls: The educational mobility of low-income Chicanos*. Albany, NY: SUNY Press.
- Gibson, M. A. (1988). *Accommodation without assimilation: Sikh immigrants in an American high school*. Ithaca, NY: Cornell University Press.
- Gibson, M. A. (2005). Promoting academic engagement among minority youth: Implications from John Ogbu's Shaker Heights ethnography. *International Journal of Qualitative Studies in Education*, 18(5), 581–603.
- Gibson, M. A., Gándara, P., & Koyama, J. P. (2004). *School connections: U.S. Mexican youth, peers, and school achievement*. New York, NY: Teachers College Press.
- Gurin, P., & Epps, E. (1975). *Black consciousness, identity, and achievement*. New York, NY: John Wiley & Sons, Inc.
- Hanson, S. L. (1994). Lost talent: Unrealized educational aspirations and expectations among U.S. Youths. *Sociology of Education*, 67(3), 159–183.
- Hunt, M. O. (1996). The individual, society, or both? A comparison of Black, Latino, and White beliefs about poverty. *Social Forces*, 75(1), 293–322.
- Kao, G., & Tienda, M. (1995). Optimism and achievement: The educational performance of immigrant youth. *Social Science Quarterly*, 76(1), 1–19.
- Kao, G., & Tienda, M. (1998). Educational aspirations of minority youth. *American Journal of Education*, 106(3), 349–384.
- Keith, V. M., & Herring, C. (1991). Skin tone and stratification in the Black community. *The American Journal of Sociology*, 97(3), 760–778.
- Kluegel, J. R., & Smith, E. (1981). Beliefs about stratification. *Annual Review of Sociology*, 7, 29–56.
- Lee, S. J. (1996). *Unraveling the "model minority" stereotype: Listening to Asian American youth*. New York, NY: Teachers College Press.
- Magnusson, D. (1987). Individual development in an interactional perspective. In D. Magnusson (Ed.), *Paths through life: Vol. 1. A Longitudinal research program*. Hillsdale, NJ: Erlbaum.
- Massey, D., Charles, C. Z., Lundy, G. F., & Fischer, M. J. (2003). *The source of the river: The social origins of freshmen at America's selective colleges and universities*. Princeton, NJ: Princeton University Press.
- McClelland, K. (1990). Cumulative disadvantage among the highly ambitious. *Sociology of Education*, 63(2), 102–121.
- Mendoza-Denton, R., Downey, G., Purdie, V. J., Davis, A., & Pietrzak, J. (2002). Sensitivity to status-based rejection: Implications for African American students' college experience. *Journal of Personality and Social Psychology*, 83(4), 896–918.
- National Center for Education Statistics. (2006a). *The condition of education 2006*. Retrieved April 18, 2007 from National Center for Education Statistics Web site <http://nces.ed.gov/programs/coe/2006/section3/indicator26.asp>
- National Center for Education Statistics. (2006b). *Digest of education statistics: 2005*. Retrieved April 18, 2007. http://nces.ed.gov/programs/digest/d05/tables/dt05_008.asp.
- O'Connor, C. (1997). Dispositions toward (collective) struggle and educational resilience in the inner city: A case analysis of six African-American high school students. *American Educational Research Journal*, 34(4), 593–629.
- Ogbu, J. (1991). Minority coping responses and school experience. *Journal of Psychohistory*, 18(4), 433–456.
- Ogbu, J. (1992). Understanding cultural diversity and learning. *Educational Researcher*, 21(8), 5–14.
- Ogbu, J. (1993). Differences in cultural frame of reference. *International Journal of Behavioral Development*, 16(3), 483–506.
- Ogbu, J. (1995). Cultural problems in minority education: Their interpretations and consequences—part one: Theoretical background. *The Urban Review*, 27(3), 189–205.
- Padilla, A. M. (2006). Bicultural social development. *Hispanic Journal of Behavioral Sciences*, 28(4), 467–497.
- Perna, L. W. (2000). Differences in the decision to attend college among African Americans, Hispanics, and Whites. *Journal of Higher Education*, 71(2), 117–141.
- Phelan, P., Davidson, A. L., & Yu, H. C. (1998). *Adolescents' worlds: Negotiating family, peers, and schools*. New York, NY: Teachers College Press.
- Pike, G. R., & Kuh, G. D. (2005). First- and second-generation college students: A comparison of their engagement and intellectual development. *The Journal of Higher Education*, 76(3), 276–300.
- Portes, A., & Rumbaut, R. G. (2001). *Legacies: The story of the immigrant second generation*. Berkeley, CA: University of California Press.
- Portes, A., & Rumbaut, R. G. (2006). *Immigrant America: A portrait*. Berkeley, CA: University of California Press.
- Schuman, H., Steeh, C., & Bobo, L. (1985). *Racial attitudes in America: Trends and interpretations*. Cambridge, MA: Harvard Press.
- Sewell, W. H., Haller, A. O., & Portes, A. (1969). The educational and early occupational attainment process. *American Sociological Review*, 34(1), 83–92.
- Steele, C. (1997). A threat in the air: How stereotypes shape the intellectual identities and performance of women and African Americans. *American Psychologist*, 52(6), 613–629.
- Steele, C., & Aronson, J. A. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality & Social Psychology*, 69(5), 797–811.
- Suárez-Orozco, C., & Suárez-Orozco, M. (1995). *Transformations: Immigration, family life, and achievement motivation among Latino adolescents*. Stanford, CA: Stanford University Press.

- Tornatsky, L. G., Pachon, H., & Torres, C. (2003). *Closing achievement gaps: Improving educational outcomes for Hispanic children*. Retrieved October 15, 2003. <http://www.trpi.org/pages/educationPubs.html>.
- U. S. Bureau of the Census. (2001). *The Hispanic population*. Retrieved June 1, 2004. <http://www.census.gov/prod/2001pubs/c2kbr01-3.pdf>.
- Vernez, G. & Mizell, L. (2001). *Goal: To double the rate of hispanics earning a bachelor's degree*. Retrieved October 15, 2003. <http://www.rand.org/publications/DB/DB350>.
- Zhou, M. (2001). Contemporary immigration and the dynamics of race and ethnicity. In N. Smelser, W. J. Wilson, & F. Mitchell (Eds.), *America becoming: Racial trends and their consequences* (Vol. I). Commission on Behavioral and Social Sciences and Education, National Research Council. Washington, D. C.: National Academy Press.