

Bridging students' multiple worlds: African American & Latino youth in academic outreach programs

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Abstract

With each advancing cohort of students enrolled in junior high school, high school, college and graduate school, the percentage of students of color shrinks. University academic outreach programs seek to increase numbers of underrepresented minorities in higher education, yet little is known about how they work or about linkages with worlds of families, schools and peers. This study examined these linkages as students moved through "the academic pipeline" from junior high through high school and college. It is based on preliminary findings from an investigation of mentoring and support available to Chicano/Latino and African American youth participating in academic outreach programs. The project was a collaboration among scholars and directors of these programs. In the first phase, we interviewed directors and other personnel as well as students participating in programs in junior high school, high school and college. A key goal was to develop an index of adolescents' relationships in their multiple worlds for analyses of links between such relationships and students' academic achievement and career identity development. Although progress through the academic pipeline to college and work is sometimes portrayed as a ball coursing directly through a sturdy pipe, results differ from this image in three ways. Unlike the ball, which remains unchanged as it moves through the pipe, students change as they progress from junior high through college. Unlike the ball's direct route, students resemble explorers navigating through worlds of families, peers, schools and communities; as they seek academic, career and personal goals, barriers may divert or stop them. Finally, unlike a sturdy pipe, the academic outreach and support programs offering bridges across gaps or barriers in students' pathways are themselves changeable or even fragile, shifting in response to funding opportunities and pressures. We discuss implications of this work for understanding challenges and resources in the recruitment and retention of linguistic minority youth in higher education.

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Introduction

With each advancing cohort of students enrolled in junior high school, high school, college and graduate school, the percentage of students of color in the educational pipeline shrinks (O'Brien 1993). Ironically, parents of minority students often have high educational, professional, and moral aspirations for their children but may not know how to help their children attain them. Students' own challenges in navigating across their multiple worlds of family, school, and peers have been illuminated by Phelan, Davidson and Cao (1991), who use (the term "world" to describe the domains of distinctive cultural knowledge that operate within students' particular families, peer groups, and schools, "with each world containing its own values and beliefs, expectations, actions, and emotional responses familiar to insiders" (p. 224). In their study of high school students varying in ethnicity, gender, achievement level, and immigration history, Phelan and her colleagues found students navigating the borders between worlds in four prototypic patterns. Some students experienced smooth transitions across the worlds of parents, friends, and teachers, but their academic success often came at the cost of so much pressure to succeed that they sought safety in worlds of relaxation and escape.

A second group of students occupied different worlds in terms of culture, socioeconomic status, ethnicity, or religion, yet appeared to find border crossings manageable. Students attempting such bicultural identities risked criticism from those who expected exclusive adherence to the norms in each world. A third group of students seemed able to move across different worlds but found border crossings difficult, and the most vulnerable fourth group tried to move between completely different worlds but found borders between them impenetrable. Thus students' experiences in navigating their worlds may differ from the perceptions of adults around them, and even those who appear to be succeeding in school may be incurring high costs. In the face of these difficulties, students and their families may come to doubt that schooling, particularly higher education, is accessible or even beneficial (Cooper, Azmitia, Garcia, Ittel, Lopez, Rivera & Martinez-Chavez (in press); Ogbu 1989; Solorzano 1992).

For these reasons, minority youth and their families often benefit from the emotional and instrumental support of programs that offer bridges through junior high and high school into college and adult work and family roles. Researchers have begun to map the contributions of both families, and academic outreach programs to students' college admission and retention (Edgert & Taylor 1992; Latino Eligibility Study 1993a; 1993b). We built on this work to trace links across students' multiple worlds of families, schools and peers as students moved through the educational pipeline from junior high through high school and college. In this paper we report preliminary findings from a three-year investigation of the mentoring and supportive relationships available to Chicano/Latino and African American youth participating in academic outreach and support programs associated with UC Berkeley. The project, a collaboration among scholars at UC Santa Cruz and UC Berkeley and the directors of the academic outreach programs, was designed to increase understanding of the mechanisms by which students' recruitment and retention in higher education would be enhanced. In the first phase of the project, described in this report, we interviewed directors and other key personnel of academic outreach programs, as well as Chicano/Latino and African American students participating in junior high school, high school, and college level activities of these programs. A key goal of this phase was to develop an index of adolescents' relationships in their multiple worlds so that we could conduct quantitative analyses of the links between such relationships and students' academic achievement and career identity development. We wish to emphasize that it has not been our purpose to conduct evaluations of any programs; such activities fall within the scope of other projects (cf. Edgert & Taylor 1992).

Our approach to mapping the bridges and barriers across students' multiple worlds was enriched and guided by the ecocultural *framework* (Tharp & Gallimore 1988), which focuses on basic dimensions of cultural practices rather than using nominal categories, labels, or stereotypes to represent cultural groups. In this report we highlight findings regarding three ecocultural dimensions:

(1) the goals and *expectations* for students for the present and the future; (2) the *personnel*, or roles of key members of the community, including students, families, peers, and program staff; and (3) the activity *settings* in which students' goals, values, and skills develop. We found this framework particularly useful as we sought to understand the viewpoints of Latino and African American youth and the adults in their lives rather than to treat them as monolithic cultural groups from an outsider's viewpoint with pre-established analytic frameworks.

Asking about these ecocultural dimensions offered a valuable way to identify resources as well as challenges in students' lives. For example, in many cultural traditions, grandparents, aunts, uncles, siblings and non-kin, care for children, thereby developing close relationships with them. This occurs because -of familistic values (Cooper, Baker, Polichar & Welsh 1994) as well as for economic reasons *such* as parents' work schedules. These networks of *relationships* may be especially important as adolescents consider their future occupations, relationships, ethnic identity, and sexuality (Cooper 1994; Grotevant & Cooper 1988). The resources in these broader networks of relationships may be missed by "parent involvement" activities which invalidate or even disallow the involvement of siblings or others who are not parents (Davies 1988). With parent involvement often defined as one-way patterns of parents helping teachers, attending meetings at school, or carrying out school-initiated activities, it is not surprising that parents' involvement in their children's schools declines dramatically across grade levels (Epstein & Becker 1982).

In the first study described in this report, we asked how academic outreach programs have developed their goals, personnel, and activity settings to offer bridges across students multiple worlds, and what continuities and changes have occurred in the nature of these bridging programs. In the second study, we examined how students participating in these programs experienced their multiple worlds. We were particularly interested in what continuities and differences might be evident across age, gender, and cultural groups. The majority of the findings presented in the first study are drawn from inter-views with directors and staff of pre-college and college-level academic outreach and support programs at UC Berkeley, and in the second study, from interviews with junior high, high school, and college students participating in these programs. In addition, we carried out observations of these programs during their Saturday and summer schools and interviewed parents of student participants.

Study 1: Academic outreach and support programs - Continuity and change in bridging institutions

Research participants

During the 1992-1993 academic year in the Bay area, we conducted individual interviews with 17 directors and staff members of several older and current academic outreach and support programs associated with UC Berkeley (their names and titles are listed in the "primary sources" section of the references for this essay). In addition, we conducted observations of the programs during their Saturday and summer schools, including their parent activities.

Results

Preliminary analyses of our interviews and observations show how the original programs have adapted to changing needs of students and to shifting funding pressures. Despite some differences, we also found marked similarities in their goals, personnel, and activity settings.

Partnership, the predecessor of the Early Academic Outreach Program, began at UC Berkeley in 1976 as part of a system-wide initiative to increase the numbers of under-represented minority students at the university. The program's main goals were to inform students and their parents of UC entrance requirements and to support students' academic achievement. Its distinction was early intervention with junior high school students and support through high school before the sequence of required college preparatory courses began. The Early Academic Outreach Program (EAOP) carried on this work, serving over 50,000 students statewide between 8th and 12th grades in 1994, about 60% of whom were from low-income families. It involved an active parent advisory council,

after-school tutorials by instructors who were college graduates and tutors who were college or high school students, enrichment programs held at community colleges, and counseling and workshops preparing college preparatory courses, applying to college, SAT test-taking strategies, and financial aid. Building coaching and monitoring relationships between area coordinators assigned to target schools and students in that school became the cornerstone of EAOP outreach services, Area coordinators focussed on students' progress through the prerequisite courses (for UC admission), known as the "A through F requirements" by their listing as courses in: (1) History and government; (2) English composition and literature; (3) Math; (4) Laboratory science; (5) Foreign language; and (6) College preparatory electives (Apodaca, n.d.).

At participating schools, teachers and counselors coordinated recruitment and selection, sponsored program activities, and performed liaison functions with the program.

In 1994, EAOP faced greater demand for its services than it could meet. Budget cuts from state funds, its sole source of funding, eliminated academic enrichment to junior high students in the A-F requirements, reduced academic support at school sites to junior or senior high school students, and restricted the Saturday College program and intensive summer school experience at UC. At the time of this writing, the identification of EAOP as a "protected" program by the UC Office of the President signaled a chance for greater stability in its funding.

Upward Bound was a small, specialized program serving high school students from very low-income families who would be the first in their families to attend college. It resembled EAOP but also provided residential summer school at UC Berkeley. It was the first UC Berkeley academic outreach program, inaugurated in 1964 in response to the Civil Rights movement, Upward Bound originally provided services to augment students' academic preparation for university admission and continuation rather than offering only financial support, and focused on students academically at risk and least likely to know about higher education. The program served relatively small numbers of students (under 200) and became the prototype for a federally sponsored network of programs throughout the country,

Upward Bound retained the intensity and quality of its original year-round program. It had the lowest staff-to-participant ratio of all the programs because its target population comes from the most disadvantaged of prospective college entrants. It concentrated on teaching students active problem solving and resource-seeking as coping strategies for entering and succeeding in college.

Professional Development Program (PDP) began in 1975 as an alternative to Upward Bound for high-achieving students in local parochial and public schools without restrictions on their families' income. It provided rigorous enrichment activities linked to programs for undergraduate and graduate students to create a pipeline of support for minority students' entry into math-based professions and academic careers. Budget cutbacks and needs of other pre-college and university outreach programs for the expertise of PDP staff in math and science curriculum and instruction have led to the transformation of PDP into an advisory role.

Mathematics, Engineering, Science Achievement (MESA) was designed to attract students from historically under-represented groups to careers in engineering, physical science, and other math-based fields. It began in 1970 as a collaboration of faculty in UC engineering and science departments with high schools and their mathematics teachers, with corporate support solicited by its faculty sponsors. It was primarily a school-based extracurricular organization and provided incentives for academic achievement and summer job opportunities in engineering companies. MESA at UC Berkeley became the prototype for a national network of programs sponsored by university engineering and science programs in collaboration with corporations in these fields.

In the mid-1980s MESA expanded to include older elementary school and junior high school students (Edgert & Taylor 1992). In 1994, it served about 9,000 students in California alone in

grades 4 through 12. MESA offered after-school academic enrichment as well as Saturday and summer school on the UC Berkeley campus, and sponsored a large parents' organization at school sites. A parent outreach coordinator developed parent groups to supplement its Saturday school and at individual school sites. MESA continued to foster academic performance to support its participants becoming professional engineers. Because it focused on affirmative action to increase the pool of engineers from under-represented ethnic and racial groups rather than on compensatory intervention, it enrolled a substantial number of middle-class students. MESA drew adequate financing through federal and private industry sources, contributions from the UC College of Engineering, and fees from students in the target population not attending target schools.

The college-level *Minority Engineering Program* (MEP), also in the UC College of Engineering, was designed to provide support for minority engineering students' issues of adjustment to college, including their racial and ethnic identity development, connection to the college environment and feelings of alienation. It operated primarily on a peer instruction and support model, particularly through student organizations such as Black Engineering and Science Association (BESA) and Hispanic Engineers and Scientists (HES), and worked to recruit minority engineering students; to provide support in math, science, and engineering courses as well as a center for individual and group study; and to help students find summer jobs and apply to graduate school.

In 1994, MEP provided a multi-component program of academic support and career development to up to 200 students per year. Its director participated in selecting incoming minority students to the College of Engineering. Each fall MEP provides a freshman "academic boot camp" designed to prevent complacency among the most prepared students and dejection among the less prepared. Through the year, MEP provides workshops to supplement the lower-division courses in which most students enroll. Based on a collaborative learning approach introduced in boot camp, the workshops are led by upper-division students with the help of sophomores, who have completed the course, thus providing role models of two levels of expertise that participants can expect to attain. MEP also provides summer internships and arranges learning assignments in companies that provide mentoring and opportunities to apply academic learning and bolster interest in engineering as a profession.

Similarities across programs

Although it was evident from both interviews and observations that programs differed in the socioeconomic background of participating students and families, our analyses of programs' goals and values, personnel, and activities also revealed important similarities.

Goals and values

The primary goal of the academic outreach and support programs has become fostering students' resilience in demanding academic work rather than remediating deficiencies. Even if students have skill deficiencies, staff reported that they responded better to academic challenges and expectations of high performance than to remediation efforts. Staff increasingly emphasize early preparation through academic enrichment as the key to college admission and retention, along with providing information on requirements, application procedures, and financial aid. Staff reported that junior high and high school students' sensitivity to issues of ethnic and racial status, as well as their personal motivation and study habits, affected their willingness to participate in outreach programs for under-represented minorities. They also reported that college students were also sensitive to the potential stigma of participating in affirmative action programs in the competitive university environment. For these reasons, building a "community of scholars" or "extended family" to support college achievement became the cornerstone of each program's philosophy. Within these settings, program staff saw combining high individual expectations and collaborative problem-solving as the most effective motivators for students.

Personnel

We observed that pre-college programs built on links across students' family, school, and community relationships to nurture their motivation to attend college. All programs engaged a multi-aged staff to supplement family guidance: professional math and writing teachers, counselors as sources of information for students and parents, community mentors as contacts with professional work settings, and older sibling-like adolescents and young adults as tutors. Along with academic instruction, programs provided peers from students' ethnic backgrounds who sought to attend college or improve their own college performance as well as older, academically skilled tutors, also from participants' ethnic backgrounds, who served as role models and helped students learn about and interact with peers from other ethnic backgrounds.

Although budget cuts at all levels of public education in California have increased demand for outreach program services, cutbacks in the programs have sometimes reduced staff or constrained the numbers and types of students served. Declining counseling services and college preparatory courses in predominantly minority schools have also triggered demand from students who do not attend targeted schools,

Staff from all programs viewed parents and families as overriding determinants of students' engagement and continued participation as well as their ultimate success in higher education. Consequently, all programs more actively promoted parent involvement, organized parent groups, and helped all family members become involved advocates for students. The shift was seen in a greater number and variety of parent workshops, availability of materials for *non-English-speaking* parents, and in the high quality of technical information given to families. Efforts to organize parent volunteers and incorporate parents' suggestions also increased in recent years and resulted in organizational and program changes.

Across programs, directors and staff saw family vulnerabilities as affecting student participation and success. In particular, they have seen the declining economy triggering family crises, including employment instability, unemployment, moves, and dissolution, which, in turn, have interfered with students' participation or with communication between programs and parents. In addition, directors of college programs reported that family responsibilities and strong and exclusive ties to home communities have sometimes interfered with commitment to the demands of college student life. Students from low-income communities, especially African American males and Latino females from immigrant families, were seen as particularly vulnerable to these home-based pressures. To counteract this problem programs sometimes counseled vulnerable students to consider attending college away from home.

Activity settings

In recent years, programs have held their regular activities at local community colleges or the university campus as well as students' regular schools. For example, EAOP staff valued community college locations for reducing families' transportation problems across the long distances to the university, along with unanticipated benefits of both students and parents signing up for courses at the community colleges. Settings common to programs included classrooms for group academic instruction, small group or individual tutoring at the community college or university, social and athletic events in which students participated with adult and older sibling-like staff members, informational and ceremonial meetings that included parents as well as students, and field trips for career exposure and motivational purposes. Besides academic topics, students also participated in presentations, workshops, and discussions of cultural values, racism and discrimination, and health and nutrition.

Common to instructional settings across programs was the use of collaborative learning and problem-solving. These activities brought students together to confront taxing academic workloads with role models of more senior students as well as faculty scholars. Academic components of programs were structured to offer excitement and fun to counter the image of learning and

achievement as boring or appropriate only for socially and athletically incompetent "nerds," Staff and directors acknowledged that their emphasis on fun and inclusion of athletic activities as part of the regular program reflected their realization that they compete for students' limited discretionary time.

We also found that program staff were alert to potential opportunities to strengthen continuities and bridges with students' school and family worlds. For example, high school area coordinators' struggled to schedule program activities at times compatible with sports practices, revealing their sympathies with students' difficulties in coordinating these worlds. We also observed the respectful welcoming by program staff, in English and Spanish, of parents during program events when staff conveyed the message "you can trust us with your children" and "we share the goal of helping our community."

Summary

Our interviews and observations indicated that the common goals *and values* of these programs included institutional goals to increase the numbers of successful under- represented minority students in the general university student body as well as in academically demanding -math-based majors. A notable similarity across programs was the goal to challenge students to undertake work beyond their expectations of their capabilities. High expectations were conveyed for accelerated student learning and stellar performance, the antithesis of remediation. Students were challenged to stretch themselves cognitively and intellectually, while undertaking demanding work in a setting structured to promote success. To do so, each program sought to create effective bridges to the rigorous demands of the university by providing thorough academic, informational, and motivational supplements to junior high and high school experiences, affirming students' abilities to succeed at the academic and social demands of university life, and assuring parents that the university was genuinely committed to their children's success. We also saw similarities in how the programs used *personnel* and *activity settings* to strengthen the continuity between the adults, older peers, and same-age peers in the programs and students' relationships with their parents, kin, siblings and friends (Azmitia, Cooper, Garcia, Ittel, Johanson, Lopez, Martinez-Chavez & Rivera 1994).

Study 2: Junior high, high school & college students' multiple worlds

Research participants

Six focus group discussions were held with junior high school, senior high school, and college students attending academic outreach programs, with separate groups held for male and female students at each age level (Stewart & Shamdasani 1990). Groups ranged in size from four to eight, with about equal numbers of African American and Latino students in each. Students were drawn from the pre-college Early Academic Outreach Program (EAOP), Upward Bound, Mathematics Engineering and Science Association (MESA) programs, and the university-level Minority Engineering Program (MEP), particularly their student organizations, the Black Engineering Students' Association and the Hispanic Engineering Students.

Procedure

Students were invited by phone call and letter to participate in the project by coming on a Saturday morning or afternoon to a conference room on the UC Berkeley campus. Seated around a conference table and generously supplied with snacks, students first discussed each question, then wrote their responses on paper providing their individual reflections. In addition, we held supplementary focus groups in English and Spanish for parents of participating students.

Measures

Questions regarding students' multiple worlds were adapted from the interview of Phelan, Davidson, and Cao, (1991) to focus on the four ecocultural dimensions of personnel, goals, activity settings, and scripts, as well as on the linkages across their worlds of families, school, and academic outreach program. Questions included: What are your main worlds? What things do you usually do in

each world? Who are the main people in each world? Who in each world makes you feel like a special person? What kind of person do the special people in each world expect you to be? How do these people help you become what they want you to be? What kind of person do you want to be? How do these worlds fit together for you? Which feel separate? Which feel like they overlap? How does being African American, Latino, male or female affect your answers for these questions?

Results

Preliminary findings from the student focus groups illuminated students' experiences of continuities and discontinuities across their multiple worlds of family, peers, school, and academic outreach programs. Also striking were the differences among junior high school, high school, college students, and the role of gender and ethnicity in their experiences.

Goals and expectations

A key finding was that students experienced both positive and negative expectations of them in *each* of their worlds of family, school, and neighborhood, as heard in the following quotations from junior high school students:

When I'm in school, there's no worry. I don't know... you just feel more free. So like your parents are at work and you don't have to worry about them watching you do something wrong or some. thing like that, but when I'm at home you have to watch out for that. You have to watch what you say, watch what you do.

I've got two places: my mother's house and my uncle's house, My uncle treats me like an older person and my mom still treats me like a baby, so I've got to still act like a kid and show her that I'm not a kid. But my uncle treats me like I'm older, like a more mature person than I am. He lets me stay up and lets me go places when I'm with him. My mother makes me stay in the house sometimes, If I go over to a friend's house, I have to call her every 5 minutes, She doesn't trust me ... same with my father too.

My brother is real good in sports and he thinks he can rap, and his teachers expect him to be ignorant. One day he was absent because they had a field trip that day. When we came back, my teacher saw him walking down the hallway. She thought he was cutting class, and she got mad at him and sent him to the principal's office. And he just got back from the field trip!

Down the hill from our house is a store, and every time you go in there they will follow you around the whole store like you want to take their bag of chips or something. But then when I come in there with my parents, they just treat me oh so nice,

Similar to the findings of Phelan and her colleagues, students also talked about their private worlds of escape from pressure or worry:

I like to read a lot. It's kind of like I said "library" (as a world) because when I read it's like you are in a whole different world altogether. So you can be like in a space mission or something, and I like reading about animals and just human stuff, science fiction.

I want to be a fun and carefree person, because... we have to worry too much about school and I don't like that. I have to worry about my grades and about my homework. I do get good grades. I want to get like real good grades so that I might not have to worry that much in the future... all I want is to live comfortable and have a pretty good car. Not that far into the future, I want to have a car and want to be able to stay out real late at parties, like my brother.

I just want to be a 13-year-old who people don't expect to be perfect, and I also want to have lots of clothes and in the future I want to go to Harvard, I want to be a biomedical engineer.

Personnel

Many students reported more than one family world, as well as mixed-ethnicity families. Brothers and sisters were particularly important for Latino students, with older siblings at the university who mentored them or were attempting to convince parents to allow younger siblings, especially sisters, to join them at college. African American students evidenced wider variations in family structure. Many came from single-parent families, and consistently acknowledged the role of parents and especially mothers and grandmothers in (their academic lives).

Peers were prominent in the worlds important to students at all levels. For junior high school students, important worlds included friends' houses, *church youth* groups, outreach programs, shopping malls, video arcades, and school math clubs. The presence of peers made worlds appealing; as one junior high school boy explained

You have friends that go to church; it's to keep the church from being boring, because other churches just have older people and adults and stuff, but (our church), they have (the youth group).

College students also saw peers and siblings as key sources of emotional and practical support. As mentioned by program directors, (hey sometimes found it difficult to maintain ties to both hometown and college friends, since hometown friends often did not understand their college experiences and accused them of pretentiousness.

Just as the academic outreach program staff had reported, students saw their close relationships with parents, siblings, coaches, friends, and academic outreach program staff as key resources in linking family to school. African American and Latino adolescents also described adult mentors and peers in their academic outreach programs as sources of both emotional and instrumental support. Junior high and high school students concurred in their assessment of the importance of parents as advocates against gatekeeping by school personnel and as general sources of encouragement and support. College students reporting growing self reliance from parents and peers and increasing tendencies to make their own decisions and search for their own goals for maturity, yet family and peer relationships remained important sources of emotional support. In our interviews and observations in programs, we saw program staff supporting students' increasing self-governance while still providing adult guidance and peers with similar interests.

More junior high students than older students considered church a source of support, whereas high school and college students emphasized affiliation with more loosely defined organizations or more individual relationships with religious leaders. College students were also less likely to make reference to the outreach program as a formal setting than their student organizations.

Programs also provided students key resources in planning the future and coordinating what sometimes were experienced as bewildering arrays of expectations across their multiple worlds. One high school senior said that her mother and grandmother wanted her to be a doctor, her principal and teachers wanted her to be a mathematician and a scientist, the people at her church wanted her to devote all her time to church, the student leadership program that she was in wanted her to be a politician, and the academic outreach program wanted her to be what she wanted to be and do it well: attend a four-year institution, go on to graduate or law school, become a congresswoman, and educate her people.

It is notable that students spontaneously referred to the programs as like their families, including regarding peers as siblings. Of special salience were challenges of ethnic and gender discrimination in junior high, high school and college experiences for which these close relationships were seen as crucial resources. For junior high and high school students, a recurring challenge was in counteracting the barriers of academic "gatekeeping" (Erickson & Schultz 1992), in which teachers and counselors discouraged them from taking the advanced math and science classes required for university admission and attempt to enroll them in vocational, non-college tracks. Junior high and high school students also drew strength from their family and academically involved friends. Although some students also reported that their families' support was instrumental for helping them succeed, they also were more likely to indicate that their success was their own responsibility or that because their families had not attended college, they could not really understand their experiences. In these cases, families provided general support and encouragement but could not intercede for their children or provide suggestions of specific strategies for achieving success (Azmitia, et al. 1994).

College students experienced the classroom as a setting of continuing racism (such as when non-minority students refused to work with them as lab partners or help with homework), the campus as ethnically polarized (Duster 1992), and professors as disparaging (one professor told a student, I can read your accent"). Particularly in technical classes in math, science, and engineering, minority college students felt alienated because they were often the only student of color in their class. They also anticipated being tokens in their future work environments,

Students saw their families and the outreach programs or their peer organizations as providing a refuge from the stress of such experiences. For example, students of one organization described a restorative ritual, a reversal of "doing the dozens," in which they sang one another's praises in their office after discouraging encounters on the campus. For some students, the academic outreach programs provided these skills and acted as advocates in school for enrolling students in the required courses when students' parents were unable to persuade school officials. Others saw gatekeeping experiences as challenges, reporting that their primary motivation for studying hard was to prove the gatekeeper wrong. College students more often saw themselves as their own advocates and reported feeling pressure of succeeding to make it easier for future students of color. One young man remarked that he felt that he carried the burden of representing his race on his shoulders by having to be smarter, speak with perfect English, and be more polite and more responsible than non-minority students to prove that he belonged in his college class. This sentiment was echoed by many students, who remarked that the stresses of carrying (his burden made it difficult to go to class. For them, the campus outreach programs or associations provided a safe escape where no one questioned their qualifications and they could be themselves. Students also felt support in meeting the challenge of integrating their multiple worlds, retaining their sense of legitimacy in outreach programs with their goals for academic and career success while retaining ties to friends who might not be in school or were in gangs,

The challenges of succeeding at junior high, high school and college also showed gender-related patterns. Junior high and high school girls appeared to experience more gatekeeping in math and science, but boys reported difficulties due to disruptive behavior, and commented that teachers were harder on them than on girls (Jackson, in press). In contrast, college women reported difficulties with their gender and ethnicity. As one young African American woman majoring in engineering explained, "I have a double burden because I'm not only Black, I'm also a woman". African American girls experienced strong support from their families. Although some Latinas reported that their parents and brothers did not value their academic success and questioned their choice of college and career, others experienced support from their families, particularly from older siblings in convincing parents to let them go to college. This goal was echoed by a Latino male college student -that he was committed to making sure his younger sisters got a college education.

Students at all three age levels cited the importance of religion, either their church or their personal spiritual beliefs. African American students in particular saw their relationships to God or

their church as key sources of strength and motivation. Both African American and Latino high school and college students reported the need to do something good for one's people. Many felt it important to take jobs that would make an impact on their community, such as becoming a politician, counselor, or helping build low-income housing, even if these were lower-paying jobs than those of their peers. As one student said, "Money is important, but it is not the issue, We have the burden-and it's a good burden-of helping our people."

Discussion

Students' progress through the academic pipeline to college and work is sometimes portrayed as a ball coursing directly through a sturdy pipe. This paper traced three differences between this image and reality. Unlike the ball, which remains unchanged as it moves through the pipe, students change as they progress through junior high and high school towards college. Unlike the ball's direct route, students' developmental pathways look more like those of explorers navigating through worlds of families, peers, schools, and co- communities; as they seek their academic, career, and personal goals, they encounter barriers that may divert or stop their progress. Finally, unlike a sturdy pipe, the academic outreach and support programs which offer bridges across the gap or barriers in students' pathways are themselves changeable or even fragile, shifting in response to funding opportunities and pressures.

Developmental shifts can be seen in the quality of students' experiences with their goals, challenges, and resources, shifting from concrete preoccupations with autonomy and restrictions from adult authority to a greater sense of translating difficulties into a personal sense of identity involving educational goals and career aspirations as well as relationships to family and community. We saw students working to differentiate their relationships with peers who shared these goals from those who did not, yet struggling to retain loyalties to both. Thus, issues of academic skills and aspirations were joined with personal meanings of students' close relationships and sense of community with family, peers, schools, churches, and mosques.

Our interviews have revealed indications of difficulties and resources at each point along their developmental pathway. Particularly notable were the ways that students and programs worked to create interpretations of challenges that transformed difficulties into motivation to succeed, Programs appeared to foster continuity for adolescents between family life and school in key domains; included academic expertise crucial to success in university work; safety from prejudice, gatekeeping and from having to maintain racial and gender boundaries; leisure activities such as parties and sports events which successfully competed with other activities in adolescents' lives; and contexts of moral values to do "something good for your people."

We have also found variability within each age, ethnic, and gender group "in the pipeline," Our study extends the work on high school students of Phelan, Davidson, and Cao (1991) by tracing differences in junior high, high school, and college students' experiences of their multiple worlds. Students' thinking about their goals, challenges, and resources shifted from concrete preoccupations with autonomy and restrictions from adult authority, including parents, to a sense of translating difficulties into a personal understanding of identity-linking educational goals, career aspirations, and relationships to family and community, Our findings also extend Phinney's (in press) descriptions of the development of ethnic identity from concrete, dualistic thinking about multiple group identities with minimal conflict, through a period of discomfort due to awareness of conflict, towards a more abstract, integrated conception, Our work revealed a comparable trend but highlights the complexities of adolescents' worries about both discrimination and their sense of pressure to succeed, Like Phinney and Chavira (in press), we found that proactive coping with stereotypes and discrimination appear associated with students' feeling greater confidence in their future. These findings were also consistent with Laosa's (1990) discussion of proactive coping strategies, including cognitive appraisal, as well as the difficulties of the "pile up" of life changes for immigrant families and their children.

In the next phase of our work, we are assessing the contributions of these experiences of challenges and resources to adolescents' academic and career competence. Also, because large differences occur in the competence of siblings in the same family, we are also examining sources of similarities and differences among siblings in academic achievement and career aspirations. We are interested in siblings' potential roles as: culture brokers, convincing parents of the value of education and the safety of the institution and providing students with information about how to succeed in school (which may be specially needed for Latino girls); as financial resources to the family as a whole so the student does not have to work, or providing financial support directly to the student, or being the one who sacrifices so younger siblings can stay in school; and as either positive role models of how to be academically successful while retaining cultural and family ties or negative role models of what students may not want to be.

Our analyses of worlds of academic outreach program students in junior high, high school, and college have identified both continuities and discontinuities in linkages across their worlds of family, peers, academic outreach programs, and school that can help us understand issues regarding the pipeline problem. Given statewide data that African American, Latino, and Native American students are less likely to graduate from high school and take college preparatory courses without programs like those we have described, we stand to benefit by learning more about the bases of their effectiveness.

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