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An Agenda for the Future: Closing the Achievement Gap for Underrepresented Groups in Gifted and Talented Education

Anne Turnbaugh Lockwood
Northwest Regional Educational Laboratory
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Synthesis of the Needs Assessment Conference
The National Research Center on the Gifted and Talented
January 20-21, 2005

EXECUTIVE SUMMARY

The National Research Center on the Gifted and Talented (NRC/GT) convened a Needs Assessment Conference in January 2005 to identify a research agenda for the future. This research agenda, the NRC/GT believed, should focus on studies that would narrow the achievement gap between underrepresented groups and their peers in gifted and talented education. To help identify areas for future research, the NRC/GT commissioned 4 papers from leading scholars nationwide—all from different disciplines in an effort to beam broad knowledge onto a persistent problem. A special presentation was made by Edmund W. Gordon, the Richard March Hoe Professor of Psychology and Education, Emeritus (Teachers College, Columbia University).

In this document, we review the key points of the 4 commissioned papers, drawing from them to present a research agenda for the future that was identified by the authors of the papers, the discussants, and the invited audience. Interestingly, although identification of students considered gifted and talented consumes a great deal of debate among scholars within the gifted and talented community, the most pressing needs for research did not touch upon this issues. Instead, the top 5 research needs for the future that emerged from the papers—all of which came from different disciplines—can be identified as follows:

- Using research in multiple forms to inform practice and policy as it relates to narrowing the achievement gap and including more underrepresented students in gifted and talented education
- Understanding the "differences" of students, particularly those who are underrepresented or not represented at all, in gifted and talented programs
- Reaching a deep understanding and awareness of characteristics of underrepresented students that are associated with their success in gifted and talented programs
- Addressing systematically, through research and practice, long-held and pernicious assumptions and stereotypes held about underachievement among underrepresented student groups
- Achieving a sophisticated policy presence within the gifted and talented community that advocates for the needs of all students, but particularly

- Achieving a sophisticated policy presence within the gifted and talented community that advocates for the needs of all students, but particularly those of underrepresented students, so that the achievement gap can most fully be closed.

While these recommendations were not based on a methodology such as a survey, interviews, or a quasi-experimental design, they pulled upon the research done by scholars in other disciplines on the issue of underrepresented students and their particular problems meshing with traditional school cultures and moving on to postsecondary education. In that sense, they were extracted from secondary, rather than primary sources, but were inter-disciplinary to gauge the views of scholars from outside the gifted and talented education field.

While the research itself could be considered specific to a given field, the research recommendations are broad enough that they can be applied to almost any area of education that is dealing with the significant issue of closing the achievement gap by 2013-2014, particularly for student subgroups.

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An Agenda for the Future: Closing the Achievement Gap for Underrepresented Groups in Gifted and Talented Education

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Introduction

The achievement gap that splits students of color and poverty from their more privileged peers (typically upper-middle-class Whites) is well-documented in the research literature across disciplines. Although it has been considerably less documented, scholars also point in expanding numbers to the existence of the achievement gap between *high-achieving* minority youth and *high-achieving* White youth. Closing these achievement gaps has become an urgent national priority, pressed by the 2002 reauthorization of the Elementary and Secondary Education Act (ESEA), known as the No Child Left Behind Act (NCLB).

For the first time in the nation's history, schools and districts are held accountable for the achievement of *all* students, regardless of their race, ethnicity, disabilities, ELL (English Language Learner status), or socioeconomic status. All subgroups of students, whose achievement data must be disaggregated, are required to reach 100% proficiency by 2013-2014. In the march toward this goal, states have set intermediate targets for Adequate Yearly Progress (AYP) for all student subgroups. If they do not reach these targets, schools and districts confront increasingly stiff sanctions. These sanctions range from labels such as "low-performing" to total reconstitution, state takeovers, private management, or conversion to charter status—to name a few options.

The achievement gap presents glaring implications for gifted and talented education. Educators easily can see that those students who have been identified as "gifted and talented"—and those who have not—fall into groups of high achievers and low achievers. This identification is usually based primarily on student scores on standard assessments of ability and IQ. Research bears out the conclusion that the preponderance of students in gifted and talented programs tend to be White and upper-middle class. They score well on standardized tests and receive high grades. They also tend to meet the requirements of Advanced Placement (AP) classes. Minority and high-poverty students, on the other hand, traditionally low achievers, do not score well on the same measures. They do not typically receive high grades, and rarely are seen in AP classes. There are a variety of explanations that have been advanced for this phenomenon.

While educators might debate the point, one conference participant observed that the author and educator Jonathan Kozol's now-classic term, "savage inequalities," adheres. Critics of gifted and talented programs have maintained for years that such programs unwittingly may exclude potentially gifted students (typically students of color

and minority status) due to a variety of reasons: poor identification measures; students' lack of success on conventional assessments; a thin curriculum that fails to boost student achievement to reveal what students can accomplish; and teachers who may be blinded by issues related to cultural, racial, and socioeconomic stereotypes.

Research on gifted and talented education also supports the fact that the vast majority of students in gifted and talented programs are a far too comfortable match for a familiar cultural stereotype that Whites are the recipients of the majority of available social capital. Their parents mesh with the norms of conventional schooling and know how to "work the system" for the advantage of their children.

Most, if not all parents should have this acumen, particularly when the current structure of schools is taken into account—with their pronounced division between rigorous curriculum and pedagogy that helps steer students to college entrance and a far less demanding curriculum and expectations for other students. Parents of high-achieving children (whether or not they are in gifted and talented programs) typically can advocate for their children so that they can be assigned to high-quality teachers and classes. They know how to steer their children through what can be a morass of coursework so that they will be sure to enroll in college. They also provide them with out-of-school experiences that will enrich what is provided in the classroom—even beyond what is available in gifted and talented programs. If their children are poor test-takers, they are skilled at finding them tutoring help or are able to work with them so that they will learn better skills and improve their scores on standardized assessments. All of these advantages help ensure that these students will have brighter futures than their peers from groups typically underrepresented in gifted and talented programs—those students who are not high achievers.

A Research Agenda for the Future

To identify a future research agenda with the goal of narrowing the achievement gap between underrepresented groups and their peers in gifted and talented education, The National Research Center on the Gifted and Talented (NRC/GT) at the University of Connecticut convened a Needs Assessment Conference in January 2005 and commissioned four papers from leading scholars nationwide. These researchers and their work were chosen to reflect a variety of disciplines to ensure that differing perspectives across research agendas would be represented and the resulting research agenda would be informed by a broad range of scholarship.

In this document, we review the key points of these papers and the presentations made by these scholars at the Needs Assessment Conference, drawing from them to identify a research agenda for the future. It is the intent of this monograph that its content will advance the mission of the Jacob K. Javits Gifted and Talented Students Education Act, cited below:

> . . .[T]he major emphasis of the program is on serving students traditionally underrepresented in gifted and talented programs, particularly economically disadvantaged, limited English proficient, and disabled students, to help reduce the serious gap in achievement among certain groups of students at the highest levels of achievement. (U.S. Department of Education, n.d.)

All Students Reaching the Top: Strategies for Closing Academic Achievement Gaps

Special Presentation
Edmund W. Gordon
Teachers College, Columbia University
New York, New York

Prior to the presentations of the 4 commissioned papers, the Needs Assessment Conference was honored by a special presentation made by the eminent scholar, Edmund W. Gordon, the Richard March Hoe Professor of Psychology and Education, Emeritus (Teachers College, Columbia University).

Gordon spoke of the critical points made in the monograph, *All Students Reaching the Top: Strategies for Closing Academic Achievement Gaps,* a report of the National Study Group for the Affirmative Development of Academic Ability.

Among the paper's most compelling points were the following (many of which were echoed in the papers that followed):

- Black and Hispanic students score significantly lower than White students in science, mathematics, and reading at each grade level on National Assessment of Educational Progress (NAEP) assessments.
- On the SAT, high school juniors and seniors are very similar; Black and White average scores show a gap of approximately one standard deviation. These differences increase over time.
- There is evidence that achievement gaps appear *before* disadvantaged African American and Hispanic children enter Kindergarten.
- While some educational opportunities and achievement for ethnic/minority groups appear on the rise, a plateau has now been reached.
- College degrees among African Americans in the sciences and engineering are very low in number; doctoral degrees in these fields are almost miniscule.

These points, Gordon said, lead to the conclusion that there should be a national effort toward what he termed the *affirmative development* of academic ability. Affirmative development is the belief that academic ability is one expression of "intellective competence." In this view, academic ability is not fixed and immutable. It is not a quantifiable "amount" that an individual possesses at birth that does not change. Instead, it develops through a web of supportive structures that nurture its development.

Gordon pointed to three primary *school-level* interventions that boost academic ability:

- High-quality teaching and instruction in the classroom;
- Trusting relationships in school; and
- Supports for pro-academic behavior in the community.

Gordon addressed each of these 3 points in turn in his special presentation. He spoke of dividing high-quality teaching and instruction into (a) teaching for knowledge acquisition, (b) teaching for improved comprehension through consolidation and automaticity, (c) teaching for deep understanding, and (d) teaching for transferability. Below we discuss each of these large points in turn.

Teaching for knowledge acquisition sounds self-explanatory, but in fact, is a complicated construct. Its key point, Gordon emphasized, is building upon the knowledge that children bring with them into the classroom rather than believing that all knowledge stems from what children acquire in the classroom (a constructivist approach rather than a passive, conventional approach).

This approach relies heavily on inquiry-based instructional techniques, and in so doing, relies on revamping preservice teacher education that traditionally has relied on imparting information in a conventional style to students who are the passive recipients of such information. With inquiry-based approaches, students are actively engaged in learning. They seek new information, analyze it, and either accept or dismiss explanations on the basis of whether they seem sensible or not.

The National Study Group's Report advocates using inquiry-based methods of instruction with African American and Hispanic children as a first step toward narrowing the achievement gap.

The next step, Gordon argued, is to assimilate the new knowledge. This involves two key concepts: consolidation and automaticity.

Consolidation is linked to deep understanding of content knowledge and the ability to articulate that understanding beyond the superficial. *Automaticity*, as the term suggests, means that a task can be performed without visible effort.

Teaching for deep understanding involves two main approaches: active learning and problem-based learning. The latter is also known as concept-based learning. These approaches are based on the premise that learning occurs through active participation with the material and content at hand, and not solely in the individual's mind. Problem-based learning means that students must situate what they are learning or have learned within an authentic context, a real-world framework.

While common in gifted and talented programs and in college preparatory courses, there are immediate implications of this type of teaching and learning for minority groups. Youth who are deprived of environments that stimulate this type of thinking are at a clear disadvantage unless schooling can enrich their experience and

knowledge with these lessons and supportive structures, creating a stimulating and provocative environment for learning.

More pointedly, if low-achieving minority youth are consigned to low-level tracks with dull, unimaginative curricula, they stand little likelihood of boosting their achievement, scoring well on tests, or moving out-of-track—let alone placing into gifted and talented programs.

Teaching for transferability, as the term suggests, means that one can transfer skills learned in one context to another context. To enhance the ability to transfer skills, students must master the material that they learn, comprehend it thoroughly, and have teachers who highlight issues related to transferability during instruction.

However, Gordon pointed out that there is often a dismal failure when considering transferability, because of "a wholesale failure of learning from instruction." The National Study Group contended that this is particularly troubling in light of the persistence of the achievement gap between Whites and minorities.

Here, it appears that gifted and talented education could play a special role in developing the ability to transfer information from one area to another. Renzulli and Reis, in their Schoolwide Enrichment Model (2000), advocate an approach to learning that does not conceive of "giftedness" as a narrow construct, but instead seeks to develop and promote the innate abilities and gifts of all students. When one ability or talent is developed, it is reasonable that the skills from that aptitude can be transferred to another, and yet another, as a series of building blocks.

Recommendations to Enhance the Ability to Achieve Transferability

Provide Opportunities for Students to Practice Retrieval. If students do not practice material drawn from long-term memory, they will not achieve proficiency transferring skills from one area to another. Teachers can help through a variety of means: reviewing material with students when practicing for tests or in testing situations, repeatedly; through repeated testing; through aligned classroom discussion, tests, and homework; through cumulative testing; and through test items that search for deep understanding of the material.

Vary Conditions of Learning. When learning occurs in different contexts and under different conditions, understanding broadens and students are better able to retrieve information through multiple means.

Maximize Time for Learning. Gordon emphasized that learning is the result of the opportunity to learn as well as persevere. Teachers control the opportunity to learn. Learner-centered environments would provide students opportunities to learn that are better-matched to what they need, rather than to teachers' needs.

Represent Knowledge Using Alternate Forms. Drawing upon cognitive research, as the National Study Group did throughout their paper, Gordon pointed to the fact that learning is more powerful when information is processed in multiple ways—visually and verbally. When these are integrated, learning and recall can be improved. The implications for teachers are obvious: they should use both methods for instruction.

Build on Students' Prior Knowledge and Experience. Whether students' prior knowledge and experience is "correct," teachers need to work with it, build upon it, and construct a scaffold of support that honors this knowledge and moves it forward. Teachers who do so recognize that prior knowledge determines how students interpret new information; it also determines how they select which aspects of new information are important or irrelevant.

Emphasize Knowledge and Skill Development. Students, understandably, are at a loss if information is presented in a large, incoherent mass that suggests everything is equally important. Teachers need to make explicit those concepts and content that students need to know and understand to build new knowledge and achieve mastery. The National Study Group draws upon research that suggests that peer study groups create opportunities for academic and social support, which in turn appear to contribute to high academic achievement. These groups can also help students experience a sense of community, and provide settings where students must articulate their thoughts to one another.

Infuse Lessons With Strategies for Learning. To mitigate student discouragement when faced with difficult material, teachers can discuss different ways in which students can learn. They also can permeate their lessons with strategies for students that teach them ways in which to learn and bring to the fore students' beliefs about learning.

Provide Systematic Feedback. When teachers do not provide feedback in a systematic way, students suffer. They can believe that incorrect ways of learning suffice, and as a result, their achievement dips. Research has shown that students often cannot judge what they know or do not know. Relatively easy learning situations may beguile students into believing they have learned more than they have, when difficult learning situations actually produce more mastery of content and transferability of skills. When teachers systematically provide feedback on tests, homework assignments, and classroom performance, they can correct student misconceptions about their own learning and performance.

Use Dynamic Classroom Assessment. Especially relevant to the achievement gap, there is a body of emerging research that shows that Black students have more difficulty than White students with items on standardized tests. This occurs even when the two groups are considered equal in ability and have been taught by the same teachers in the same classes.

The remedy for this is to regard tests as dynamic assessments that will inform classroom practices, rather than static gauges. Teachers who "teach to the test" will rob their students of the opportunity to self-assess their learning, monitor and correct their learning strategies, and use feedback to improve the ways in which they learn new material.

Trusting Relationships in School

Unfortunately, Gordon emphasized, there are multiple psychosocial factors that discourage the development of academic ability. These are separate, but related: attributional ambiguity and stereotype threat.

Attributional ambiguity applies to students of color and the challenges they may face when receiving feedback about performance. Is the feedback genuine? Or is it related to the student's race?

Stereotype threat is the student's awareness that performance may be evaluated on the basis of race, rather than the individual's performance. Both are destructive, and both contribute to the achievement gap between students of color and White students.

Such a situation presents students of color with a Catch-22 situation that causes uncertainty. Is the feedback they receive genuine, or distorted? How should they regard their own performance? If they proceed in the belief that the feedback is based on racial bias, are they ignoring genuine input that their performance is substandard? If they believe feedback based on racial bias, are they consigning themselves to a low-achieving future?

Both Hispanic and African American students may suffer from attributional ambiguity which, in turn, can affect their academic performance. Whether the individual believes the stereotype or not, the effects of stereotypes can exist. And, most perniciously, the effects of stereotyping are more pronounced among high achievers, or among those who have the most potential for reaching the top.

Minority students who entered college with prejudice apprehension were more likely to experience dwindling grades, avoid study groups, and have less diverse friendships.

Thus trust assumes a critical role. Institutions and teachers can build trust with minority students that can help bond them to learning and to the institution, so that they can abandon distrust and wariness that impede their learning and stand in the way of their full potential and ability to achieve to their highest potential.

Supports for Pro-academic Behavior in the School and Community

Rather than the traditional deficits-based approach, the National Study Group chose a strengths-based approach to the conundrum of solving the achievement gap between minority students and their White peers. In the final section of their paper, they point to environmental supports that they deem critical for the achievement gap to close. These include:

- Access to education-relevant capital;
- Supportive family, community, and academic environments;
- Socialization to the attitudinal and behavioral demands of high academic achievement;
- Academic and social integration;
- Exposure to various forms of supplementary education; and
- Exposure to models of academic excellence and exemplars of scholarly practice.

Minority students experience a critical lack of exposure to social capital. This is brought about by inequality of access; high-achieving students are more likely to access social capital on a regular basis than are their minority peers.

Environments that support students include *families*, *communities*, and *schools*. This can be seen in the research that points to family background and income as strong predictors of academic achievement.

Both school and community norms either encourage or discourage student learning. They create a context for learning—positive or negative—and shape student attitudes toward their own learning.

A sense of professional community encourages teachers to work together for the common good of students and their own professional practice. Teachers who succeed in a professional community of their peers are comfortable with dissenting opinions, problem-solving, and probing their own practice.

Supplementary Education. Gordon advocates supplementary education as another means that helps to bridge the achievement gap, defining it as "the formal and informal learning and developmental enrichment opportunities provided for students outside of school and beyond the regular school day or year." This approach, of course, is directly in line with the requirements of No Child Left Behind Act (NCLB). While parents of high-achieving students provide these activities for their children as a matter of course, parents of minority students frequently do not—inhibited by poverty or the expectation that school alone will educate their children.

Mentors. The National Study Group advocates pairing students with mentors. These mentors should be matched to students' areas of interest and serve as professional role models for them. They can be recruited from a wide variety of settings, ranging

from universities to corporations to government facilities. The mentoring experience can encompass both formal and informal encounters, social and academic experiences, and provide students with a sense of future as they see successful adults in careers that match their own interests.

Sociological Perspective

In his paper and presentation, Samuel R. Lucas from the University of California—Berkeley, highlighted 3 school practices that he finds most critical to the achievement gap: evaluation, placement, and progression. He narrowed his discussion by focusing on Black-White differences, stating that much of the research literature concerns Black-White differences rather than differences between other racial/ethnic minority groups.

Evaluation. Lucas began his discussion of evaluation by pointing out that Blacks lag behind Whites on tests of cognitive performance, citing several studies, but also indicating that some attempts to measure the gap between the groups have been riskier than others.

Potential problems that bedevil measurement and evaluation include test construction of norm-referenced and criterion-referenced tests. Lucas pointed out that most tests for college admission and most intelligence tests are norm-referenced, while the NAEP, used to estimate gaps in achievement, is a criterion-referenced test.

Lucas explained how norm-referenced tests are constructed, taking into account how analysts evaluate how candidates complete answers.

> If test-takers who obtained low scores on the existing test were more likely to answer a candidate question correctly than did test-takers who obtained high scores on the existing test, then the candidate question is rejected because it does not differentiate effectively between high and low scorers. . . . If too many answer the candidate question [CQ] correctly, the CQ is judged to be too easy; similarly, if too few test-takers answered the question correctly, the CQ is judged to be too difficult. (p. 3)

Lucas argues that this practice is potentially discriminatory for racial minorities. If a procedure rejects out-of-hand a question that students at the bottom are more likely to answer correctly than those at the top, it discriminates because it does not focus on the achievement produced, but on who produced the achievement.

This is but one problem associated with the construction of norm-referenced tests, Lucas contended, that ensures that Black students will remain at the bottom of the distribution of achievement—and has obvious implications for educational policy. In particular, its impact on the identification of Black students for placement in gifted and talented programs is severe and negative.

Norm-referenced tests, because of their construction, are inordinately unfair to Black students, Lucas contended. They may enlarge small between-group differences—and in doing so, affect an achievement distribution that skews White-Black differences.

Lucas also spoke of what he termed a *distributional assumption*, meaning the identification of whether too many or too few test-takers answered questions correctly. He emphasized that an assumption remains an assumption, but with consequences for the achievement gap that can be profound.

In a provocative part of his paper, Lucas wrote of a "zero-sum statement of the rankings of individuals and groups" produced by "forcing the measurements of cognitive achievement to match a pre-specified distribution . . . ." (p. 4).

Criterion-referenced Tests

While norm-referenced tests have severe shortcomings, Lucas said, criterion-referenced tests are preferable for measuring achievement, although yet imperfect. He explained the criterion-referenced test-construction process:

- A content area domain is defined by item-writers;
- Candidate items are constructed, based on "experts'" judgments;
- Concepts are ranked in terms of difficulty; and
- Benchmarks are established linking levels of test performance to real-world competencies (p. 5).

While criterion-referenced tests are much more precise than norm-referenced tests in measuring achievement of underrepresented groups (e.g., Black students), Lucas pointed out that one drawback they present is that they specify what is tested. This specificity, he contended, presents difficulties in the face of a lack of consensus on what represents adequate preparation for a host of educational activities: gifted and talented programs, college admission, and entrance into graduate school.

Placement and Tracking

When Lucas moved from evaluation to tracking, the clear line between placement and gifted/talented programs was distinctly drawn. He asked two pivotal questions:

- Are track systems more rigid in racially and/or socioeconomically diverse schools?
- Are Black and Latino students more likely to occupy disadvantageous tracks than are Asians and Whites? (p. 6).

While researchers cited by Lucas (Rosenbaum, 1976) used to contend that there was little track mobility, he stated that this should be reexamined. In his own work, he has found that *downward track mobility* is common (Lucas, 1999), but *upward track mobility* is also common (Lucas, 1999).

While his findings are important, clearly more research needs to be done to further document them, and to determine whether his first question about track rigidity in racially and socioeconomically diverse schools is more pronounced.

Lucas also qualified his findings by speaking of what he termed *meritocratic track placements*, or those track placements made if students' achievement varied across content areas. This raises another research question, he pointed out: Is placement in a subject dependent on achievement in that subject, or on other factors?

And while Lucas (1999) found both downward and upward track mobility, i.e., flexibility between tracks, in later research, he also discovered that Blacks and Latinos experience a different type of tracking. While his research cannot explain this finding in terms of social class, other explanations have yet to be found.

Tracking in Racially and/or Socioeconomically Diverse Schools

Lucas returned to his question about tracking in racially and/or socioeconomically diverse schools, probing to see if tracking is more rigid or common in such settings. He argued that while curriculum differentiation exists in most schools, curriculum differentiation per se does not indicate the presence of tracking.

However, Lucas's arguments are complicated. He contended that curriculum differentiation does not represent tracking, but that students' prior achievement can create a *de facto* tracking system. This, to him, leaves many questions for researchers yet unanswered, including: *Is there a connection between the racial composition of the school and the track structure—after accounting for the degree to which student's prior achievement in disparate domains is correlated?*

Effects of Tracking

Whether tracking is deliberate or not, effects of tracking can be seen, Lucas argued, and pointed to one study that showed that students who achieved at equal levels, placed in different tracks, did not perform at similar levels (Kerckhoff, 1986).

Other research argues that racial differences in achievement can actually be reduced by tracking if minority students are placed in higher tracks and thus receive a better curriculum and teaching (see Gamoran & Mare, 1989).

Progression: The Illustrative Case of Educational Transitions Research

Lucas presented some research findings that are not commonly known, he said, to many scholars: Black students who are equal in achievement to White students stand a better chance of graduating from high school and enrolling in college. Yet

socioeconomic status plays an enormous and tangled role—one that researchers continue to grapple with in a variety of studies.

Lucas explained that the "education transitions" research began as a response to the question of whether social background and its effects on academic achievement varies across cohorts and/or cross-nationally. Primarily through differing statistical approaches, researchers have developed theories that support the hypothesis that the economically advantaged will achieve at higher levels.

To adjust for this, Lucas advanced the need for selected policies to mitigate the effects of socioeconomic status. However, he emphasized that these policies need to be well-grounded in research (which is conflicting and emerging at present), clear and coherent, and based on lessons learned from past reform efforts.

Conclusion

Lucas concluded his presentation and paper by presenting his own research agenda:

- The need for more research on tracking and other issues of placement (including gifted and talented programs);
- Research on testing, particularly criterion-referenced tests and students' cognitive processes when undergoing testing;
- Research on improving students' fluidity into higher tracks; and
- Research on the theory of effectively maintained inequality, translated into race, and its implications for reduction and elimination of racial inequality.

Latino Achievement

In her presentation and paper, Patricia Gándera chose to focus on models that heighten achievement in Latino students—drawing the inference that these models can fit into the gifted and talented research agenda to ensure that Latino students are included in proportionate numbers to their majority peers. But before presenting the promising research on how achievement can be boosted in Latino youth, Gándera chose to focus first on the problem of low Latino achievement. Drawing from a number of researchers, she pointed out the following:

- Latinos comprise the nation's largest ethnic minority;
- Latinos are not well-prepared for leadership roles by American schools;
- Latinos are at higher risk of academic failure than all other ethnic groups;
- Research in Title I schools shows that large achievement gaps between Whites and Latinos remains constant across all 6 elementary grades;
- Gaps in reading achievement at the secondary level remain large between Whites and Latinos; and
- Latinos are seriously underrepresented at the upper end of the achievement continuum and in gifted/talented programs while Whites and Asians are over-represented.

While the last point, of course, has the most direct implications for gifted and talented education, the others play into its research agenda most profoundly. The compilation of all of these facts, Gándera pointed out, reveals a dismal future for many Latino youth—a future in which they are consigned to economic futures that are considerably less advantageous than their White peers. In addition, without higher education, she and other researchers argue that they are less likely to enjoy its advantages: good health, civic participation, enjoyment of the arts, and leadership roles in their communities.

Explaining Latino Underachievement

Why do Latinos achieve at lower levels than their other ethnic peers—and most particularly their White peers? Gándera points to data collected as early as the 1960s, when researchers began to search for answers to this question. Early explanations pointed to external influences, rather than in-school answers. They focused on students' environments, assuming that higher achievers among non-Latino groups did not suffer the same environmental, negative influences.

This model, which based itself on deficits and their remediation, met with only limited success, and researchers continued to seek answers to the conundrum of Latino underachievement. In the 1970s, research emphasis began to shift to a model based on cultural difference.

The cultural difference model, Gándera said, was based on the belief that Latino students were mismatched with U.S. schooling because of their cultural experiences. These differences included, but were not limited to, (a) speech style and (b) language differences. Researchers once again looked to a remediation device to "fix" the cultural differences mismatch between the student and school. This device was bilingual education—which became politicized, criticized, and polemicized. Unfortunately, in the process, it was also taught well and taught poorly.

In presenting the progression of research, Gándera pointed out that the next wave of research demonstrated that language difference was not the most important issue facing Latino students, and certainly not their only thorny issue. Instead, students enter school with one background variable neither they nor the school can remediate: the socioeconomic status of their parents.

Explanations for the Achievement Gap

One difficult issue for Latino students who underachieve in school is the socioeconomic status of their parents. Researchers concur that parental socioeconomic status is one overwhelming reason that Latino students fare poorly in school. This conclusion, Gándara said, is borne out in data on parental income and educational background of students who take the SAT (disaggregated by ethnicity/race).

However, Latino students cannot be clumped together into one massive group, but should be disaggregated. Mexican Americans fall at the bottom of the achievement measures, and Puerto Rican and African Americans are much more likely than White youth to have low-income parents. In addition, their parents are depleted of social capital—the ability to "work the system" for the benefit of their children. White parents know how to advocate for their children, how to move them through the maze of schooling, how to place them in classes with the best teachers, and also provide them with out-of-school enrichment activities.

Inadequate Pre-K Opportunities. Are Latino children likely to participate in pre-school activities? Not likely. Of all other students, Hispanic children are the least likely to enroll in preschool programs and the most likely to attend kindergarten without any preschool experience. This does not stand them in good stead when compared to their more prepared peers.

This plays out in low pre-reading and pre-math scores—the lowest among all ethnic/racial groups—among Latinos. One possible reason for these scores is that young children frequently are tested before they gain fluency in English.

High Rates of Residential Mobility. Families who move around a great deal also affect the academic achievement of their children. The children of parents who are migrants move from one location to another with their families, enrolling in one school and then another. Sometimes these children enter into a steady pattern of a receiving

school and then another receiving school (almost a reciprocal arrangement if the family moves between two places on a consistent basis). These children have difficulty fitting into school; at older ages they are more likely to drop out entirely.

Lack of Peer Support of Academic Achievement. Peer support can work wonders on students who avoid high-risk behaviors, bond to school, and achieve at high levels. But if students have peers who are alienated, who hate school, who have no sense of future, and who feel no sense of connection with the goals of schooling, these sentiments are powerful influences. If they eschew these peers, they run the risk of social alienation and becoming social outcasts in their school—devoid of an appropriate peer group. This is particularly pertinent to Latino students from low-income backgrounds, and it can be a choice wherein the short-term consequences outweigh those that are longer-term.

Racial and Ethnic Stereotyping. Somewhat related to the lack of peer support for academic achievement and bonding to schooling is the vulnerability to stereotyping that minority students experience. Many minority students, including Latino students, do not want to run the risk of confirming the stereotype that they are intellectually inferior. As a result, they avoid academic experiences that might prove this stereotype correct.

As these students choose not to identify with academics, they do not achieve at high levels. It is a Catch-22: as students reject the social norms of the society that might stereotype them, they cooperate in fulfilling that society's discriminatory practices.

Extracurricular Involvement and Support. Extracurricular activities help bond students to school. There is evidence that participation in any of a wide variety of activities outside the school day helps to produce higher grades, higher goals, improved self-esteem, and improved race relations. But there is another vicious circle: while low-income students benefit the most from extra-curricular activities, they are the least likely to participate in them.

Low Expectations From Teachers. When teachers respond to minority students with low expectations for their achievement, these students cannot help but internalize these expectations and not expect much of themselves. Gándara pointed out that teachers are not skilled at concealing their expectations. One example can be seen in shorter "wait time" when asking a minority student a question and waiting for a response; White students, conversely, may experience longer "wait time" since the teacher believes they will be more likely to produce an answer.

Students can be almost exquisitely sensitive to these cues, verbal or non-verbal. Skilled at reading their teachers' body language, they can shift their own attitudes toward their achievement in a downward direction that confirms their teachers' expectations. If not much is expected, little will be produced.

Limited English Proficiency. Not speaking English—either fluently or on a limited basis—severely affects Latino students' school performance when they enter

school. There is little way they can understand the curriculum when it is taught in a language they do not understand. If they cannot understand the curriculum, they cannot participate in what is taught, and if they cannot participate in what is taught, they simply cannot learn. And even if classes are taught in some form of bilingual education, they may not be taught in a high-quality way, but may be structured so that students are the recipients of a lower-level, watered-down curriculum. This, at the outset, puts them at a disadvantage when compared to their White peers.

As they are tested and graded, low scores and grades only confirm low teacher expectations. Once again, if students do not understand what they are taught, and experience language difficulties, they are going to experience difficulties with assessments. An ongoing issue for psychometricians is the nature of testing accommodations for English language learners: what should appear on tests, to what extent, how tests should be scored, and so on. Even with testing accommodations, however, which can be considered still in their development, Latino students stand a high possibility of scoring lower on standardized assessments than their White peers.

The culture of schooling does not insist or persist that students master challenging content. As low-achieving minority students without powerful advocates are passed on, grade to grade, their low achievement passes with them. Year to year, grade to grade, teachers expect less and less. Student performance confirms their expectations, and one of the last places an educator would expect to see a minority low-achieving student is in a gifted and talented program.

Inequalities in K-12 Schooling. Researchers concur that one major source of inequity between minority students and their White peers lies in the quality of instruction that is made available to them. There are various findings that support this claim:

(1) The lowest-income schools offer a lesser number of college preparatory courses;
(2) The more demanding the curriculum, the more predictive it is of long-term academic outcomes, outweighing even socioeconomic status. It appears, then, that although low socioeconomic status can bog down the most ambitious student, a rigorous curriculum can almost inoculate the student against low achievement if administrators and teachers ensure that the student is placed in classes and with teachers that will provide a strong curriculum.

Quality of Teachers. More affluent schools, of course, have better-prepared teachers. This common-sense finding further illustrates the plight of lower-income minority students trapped in high-poverty schools. These are the schools that are overwhelmingly likely to be considered "hard-to-staff," with inexperienced teachers not likely to stay once they can obtain a more desirable school in the suburbs with higher salaries and less stressful working conditions. The quality and length of teacher preparation also has been found by some researchers to have a direct correlation with students' academic performance.

Segregation of Minority Students Within and Between Schools. Segregated schools continue to exist, de facto. Black and Latino students now attend schools that are becoming increasingly segregated as the day of court-ordered busing has drawn to a close. In one study, the researchers found that 35.4% of Latino students attended schools that were 90 to 100% minority.

Explaining Latino High Achievement

While the research literature is replete with explanations for the persistence of Latino underachievement and discouragingly low achievement, there is less attention paid to Latino students from similar backgrounds who have emerged to become high achievers. What accounts for a pattern of high achievement among students who escape their backgrounds and patterns of negative schooling? The research centers on 4 perspectives that approach this question from different foci: psychological, sociological, anthropological, and educational. We will briefly discuss each in turn.

Psychological Perspectives. Psychological theories that address Latino high achievement do so from an intrapersonal perspective. They examine the cognitive and psychological processes of the individual. These processes divide into 3 major strands: resilience, entity, and motivational theories.

Resilience theory. Resilience theory grew out of work on high-risk children who thrived despite extremely unfavorable circumstances. A major finding was that children who fared well had one psychologically healthy adult in their lives; they also possessed some basic social and intellectual competence. This appeared to decrease their vulnerability to unfavorable circumstances that otherwise could have engulfed them.

As work on resilience grew, it began to focus on normal development and "protective factors," including a "self-righting" process that some individuals seemed to have as part of their innate dispositions. Rather than viewing the individual as impervious to the difficulties around him or her, this work saw the individual as able to survive and thrive in the face of considerable challenges. In short, they demonstrated resilience.

A further finding was that individuals might show resilience in some settings but not in others. One protective factor that helped high-risk students go on to college was the degree of parental involvement in their lives.

Resilience theory holds that all children develop according to the same principles. Because of this universalist notion, adherents of the theory believe that all interventions should be equally effective for all children—race, background, gender, and ethnicity should not matter.

But the evidence does not always confirm this view. Programs designed to increase college attendance for all students do not always succeed in their intent. Some

are more effective with one racial or ethnic group than with another. This appears to be related to the cultural backgrounds, knowledge, or experience of the staff working in the program.

Entity Theory. Entity theorists are most frequently found in the field of gifted and talented education—among the traditionalists. Researchers such as Renzulli and Reis, with their Schoolwide Enrichment Model (SEM, 1997), lie outside this domain with their more enlightened and progressive view of intelligence as a construct that is flexible, not immutable. In their view, intelligence can be developed and is not fixed.

Entity theorists believe that high achievement results from high ability. This causal relationship means that high achievement can be found in any circumstances. Entity theorists emphasize *identification* of high ability. They believe identification is especially important in children who may not demonstrate it via conventional means due to linguistic or cultural differences. They view Latino underachievement as a problem that is rooted in a failure to *identify* high ability in this population.

Entity theorists also seek to develop "culture fair" and "culture free" assessments, although these do not enjoy a warm reception from the field. In part, this lukewarm response can be traced to the fact that they frequently do not produce improved results from students of color than do traditional measurements.

The emphasis on identification is a familiar issue within the field of gifted and talented education, one that has yet to be resolved. Some advance the reason that the construct of giftedness is poorly defined. They believe that entity theory has the potential to explain Latino high achievement, but due to the limitations of measurement, the field has not developed to the point where it can do so.

Achievement Motivation Theory. Motivation fascinates psychologists. But little research has been conducted on cultural and ethnic differences that shape achievement motivation.

Yet some research can be applied to Latino populations and an examination of achievement motivation. Some researchers contend that parenting practices are related to a high need to achieve.

Researchers such as Steinberg (1996), Gándara pointed out, looked at different parenting styles and found that "authoritative" parenting consistently correlated with high academic achievement. This approach to parenting—while perhaps more inflexible due to the consequences of a single poor choice—can be seen in high-achievers who come from low-income African American or Mexican American households (Clark, 1983; Gándara, 1995).

Other, earlier researchers argued that motivation is dependent upon context, including culture. Later work proposed that motivation to achieve could also be a

function of social goals—one could want to achieve not only for the self, but for the group.

A sense of *aspirations*, Gándara said, is linked in the motivation literature to goals. She pointed to studies that show that Latino youth as a group tend to have lower goals than other ethnic groups and less ambition to go to college (Kao & Tienda, 1998; Steinberg, 1996).

Consonant with Gordon's earlier point about the importance of mentors, Gándara looked at research that showed that some Latinos from low socioeconomic backgrounds either were spurred to high academic achievement by their mothers or by a mentor (Arellano & Padilla, 1996; Gándara, 1995).

Cultural opinions of ability as fixed or flexible also vary. Americans, Gándara reported, typically see ability as relatively fixed, but Asians see achievement as a product of effort rather than inborn ability. Asian mothers also tend to have higher expectations of their children, and American mothers are more easily satisfied, even when achievement or accomplishments are relatively modest.

Sociological Perspectives

Gándara looked at the sociological literature to find two prominent strands that explain high Latino achievement. *Status attainment theory*, which holds that privileged groups pass their status on to their children through controlling their access to power and opportunity, is divided into (a) "soft" social networks and (b) "hard" social structures.

Gándara defined "soft" social networks as the social relations that differ according to social and economic status, while "hard" social structures are the rigid policies and practices that include and exclude groups from privileges and opportunities present in society.

Soft social networks can be provided, somewhat surprisingly, by Latino youth themselves, who can serve as support systems for each other in school (Mehan, Villaneueva, Hubbard, & Lintz, 1996). These youth, usually low-income high school students, share common goals and aspirations. They are motivated to enter college and support each other's motivation. Even when not receiving support from school staff, they provide information and support for each other (Gándara, 1995).

Hard social structures are much more resistant to change and difficult to permeate. Gándara indicated that affirmative action is one example of a powerful policy that has challenged the hard social structures that have excluded underrepresented groups—although she stated that relatively few minority students have benefited directly from it.

Studies have been conducted that show that if minority youth gain access to "elite" schools, they are more likely to experience success. This is probably due in part to the arduous admissions process as a predictor of receiving a college degree. In addition, elite colleges and universities are more likely to offer support to students throughout their academic careers to ensure their success than are less elite institutions.

Bilingual education is another example of both an educational innovation and a policy that was adopted to permeate hard social structures. However, it has become so politicized that it is viewed as preferential to one group (English language learners). Nevertheless, in addition to its policy position, different uses of bilingual education, such as dual immersion (simultaneous instruction in literacy in two languages) show the greatest achievement gains (Gándara, 1999).

Anthropological Perspectives

Another perspective on the achievement of Latino students is offered by anthropology, in particular, ethnography. Gándara defines ethnography as the study of socio-cultural context as a key variable in shaping attitudes, beliefs, and behaviors, and states that it "helps to explain Latino high achievement by unearthing the processes by which some Latino students are able to adapt, accommodate, bridge multiple cultures, and not only survive in 'alien' environments, but excel in them" (p. 28).

Gándara pointed to a growing body of research that is focused on "bridging multiple worlds." This research contends that those minority students who can cross from one setting to another and back again stand the best chance of success in school. Gándara (1995) found fluidity in her study of Latino high-achievers as they maintained good relations with both low- and high-achieving peers, as they moved across peer groups and avoided the stigma of "acting White" as defined by Fordham and Ogbu (1986).

Gándara's conclusions from that study pointed to the importance of the "border-crossing" ability. Latino students who could maintain positive peer relationships with both low- and high-achievers and move across peer groups could achieve at high levels, support their peers, and maintain their identities as Latinos.

Educational/Bureaucratic Systems Perspectives

Gándara presented what she termed the "educational/bureaucratic systems perspective," calling it a hybrid model based on school reform and the social organization of schooling. It has, she emphasized, two key strands: the student-centered approach, and the school-centered approach. If Latino high achievement is viewed through the student-centered lens, it can result from intervention in the lives of individual students, but the intervention must be very specific. If Latino high achievement is focused through the school-centered approach, it is seen as the result of reformed schooling *conditions* in

which Latino students are viewed positively, rather than negatively, within a systemic approach.

Student-centered Educational Interventions. Student-centered interventions can run the gamut from counseling to college preparatory programs to dropout prevention programs. Some of the programs have little to do with raising achievement, but instead focus on a type of inoculation against failing school completely or choosing to drop out. The majority of interventions focus on students at risk of failing in school.

However, a few programs, usually referred to as college access programs, may want to stimulate higher achievement. These programs share a common strategy: remove students from low or dead-end tracks or failing schools and place them in new settings with increased academic demands. This strategy neatly avoids the pitfall that many minority students in low-quality schools confront: they may receive "A" grades for their work that would net a "C" in a better school. As a result, this grade inflation pumps up their notion of their own achievement, and sets them up for eventual failure.

While these college access programs do show evidence that they can raise both aspirations and educational outcomes of students who would not have completed high school or enrolled in college (Gándara & Bial, 2001; Horn & Chen, 1998), there is little data that "proves" that they improve achievement. There is documentation that these programs can succeed in their goal of getting Latino students to matriculate in college, but little documentation that they improve their achievement (when assessed on SAT scores, grades, or rigorous career choices).

School-centered Interventions. School-centered interventions began with the publication of *A Nation at Risk*, which spawned the reform movement of the mid-1980s and saw the development of the "effective schools" movement. Unfortunately, there was no substantive effort made to evaluate the effective schools reform, and most evidence of improvement was anecdotal, according to Gándara and other scholars (Carter & Chatfield, 1986; Lucas, 1997).

By the 1990s, other reforms, centered on the entire school, which began to be known as either whole-school reform or comprehensive school reform, were characterized by specific programs such as Robert Slavin's Success for All. Slavin, of all the comprehensive school reform programs, made a concerted effort to evaluate the success of the program, but long-term effects are not yet known.

James Comer's School Development Program, in use primarily in inner cities with high rates of student academic failure, seemed to have the potential to boost academic achievement, but has not shown data that its strategies for doing so are indeed effective.

Renzulli and Reis (2000) advocated their Schoolwide Enrichment Model, which recommends a strong curricular approach for students at all achievement levels. Gándara argued that while there has been no shortage of schoolwide reforms since the 1990s, few

have been rigorously evaluated, and even fewer have focused on Latino students and how their achievement and aspirations could be heightened.

Gifted Education: Nurturing High Achievement in Latino Youth

After laying a careful foundation of models that could lead to success for Latino youth, Gándara built upon it to discuss the role of gifted and talented programs and how they could boost achievement among this population. She spoke of problems inherent in the field: definition, nomination, and assessment and identification.

In line with other scholars, Gándara pointed to the narrow definition of "giftedness" that has plagued gifted and talented education—a definition that relies predominantly on measures of IQ. She argued that most districts filter Latino students out of gifted and talented programs, not using the U.S. Department of Education's definition of giftedness, which refers to "high performance *capability*" (italics mine).

Nomination, Gándara said, is another difficult issue that confronts an approach to gifted and talented education that will include underrepresented groups. Based on teacher observations of student behaviors deemed appropriate for gifted and talented programs, she stated that many minority students do not qualify for these programs due to cultural deficits. Furthermore, teachers are at a loss when they try to identify gifted minority students because they have not received training in doing so (Archambault et al., 1993).

Another study Gándara cited (Forsbach & Pierce, 1999) found that when teachers were trained to identify "gifted and talented behaviors" in minority youth, this training only benefited African American and Asian youth, not Latinos. The researchers hypothesized that teachers had limited understanding of the effects of language on classroom performance.

A narrow range of assessments, Gándara added, also leads to exclusion of minority youth, particularly Latino students. Traditional measures may not take into account abilities or aptitudes specific to the environments of Latino students; the lack of testing accommodations also may contribute to this problem.

An additional problem that Gándara identified in gifted and talented programs is the mismatch between the enriched curriculum they offer and the strengths of Latino youth. She praised Renzulli and Reis's Schoolwide Enrichment Model for addressing this issue, and suggested that linking assessment outcomes more closely to programming could overcome this problem.

Gándara also presented evidence that gifted and talented programs tend to offer a more rigorous curriculum, thus better preparing students for college entrance and academic success. If minority students are denied this curriculum, they stand little

chance of ratcheting up their achievement and thus narrowing the achievement gap between themselves and their more privileged peers.

Gándara's recommendations for a future agenda of research revolved around the following:

- Reaching consensus on the terms "high ability," "high achievement," and "gifted";
- Discovering alternative approaches to developing talent outside gifted and talented programs for minority youth;
- Improving the quality of early intervention programs in terms of their depth, timing, length, and a broader curriculum;
- Coordinate gifted education, early intervention, and school reform to avoid compartmentalization; and
- Adopt a developmental approach to talent, rather than relying on identification and discovery.

Among Special Populations

Consonant with the authors of the other papers presented at the Needs Assessment Conference, L. Scott Miller began by presenting alarming data about the extent of the achievement gap between high achieving groups and severely underrepresented minority groups (African Americans, Latinos, and Native Americans). While the achievement gap is dramatic, Miller also pointed to the fact that it has not diminished, and in fact, may have increased since the late 1980s.

Again sounding a consonant theme, Miller pointed to low socioeconomic status (SES) as a key reason for the chronic low achievement of minority group members—a situation true not only in the United States but also in other industrialized nations. Miller presented research findings that conclude that students from *all* social class strata achieve at lower levels than White and Asian American students.

Even when minority students are high achievers, Miller said, they still perform at lower levels than high-performing White and Asian students, calling this the "within-the-top" part of the "high achievement challenge."

Another dismal finding, Miller suggested, is that there are a woeful lack of educational strategies, from preschool to higher education, that help increase the percentage of high-achieving students from underrepresented groups (when considered with strong empirical evidence such as randomized trials with control groups).

The lack of educational strategies to help increase numbers of high-achieving minority students is due, Miller argued, to the fact that this has never been a priority among educators. It also is related to a lack of interest in closing the achievement gap between middle and high student SES segments.

Since these issues are not a top national priority, few organizations are devoting attention to them systematically or empirically, Miller added, both in terms of research and funding. This, he said, may be the single greatest obstacle to both boosting the achievement of low-achieving minority students and increasing the number of underrepresented students in gifted and talented programs.

The Extent of the High Achievement Challenge

Focusing on the undergraduate years, Miller discussed unpublished grade point average (GPA) data from selective colleges and universities that point to larger achievement gaps between high achievers than elsewhere in higher education. He explained that these GPA differences are heightened because African Americans and Latinos are severely underrepresented at selective colleges and universities.

This underrepresentation, Miller pointed out, relates directly to the paucity of top high school graduates who are African American, Latino, or Native American. In a presentation of SAT data, Miller showed 23 times as many White and Asian seniors who scored 700+ on the math section than there were underrepresented minority seniors.

After a detailed discussion of Advanced Placement (AP) data, Miller pointed to a similar conclusion on the results of AP biology scores: Nearly 22 times more Asians and Whites received a score of 5 on the AP biology exam than underrepresented minorities—11,537 compared to 534. These scores, he stated, were consistent not only with SAT scoring patterns, but also with NAEP subject tests for twelfth graders.

Within-class Achievement Differences

Miller examined within-class differences at the secondary level, using the 1988 and 2000 SAT scores. He found that some within-class differences were substantial. Gaps between students with at least one parent with a graduate degree were higher than between students who had no parent who had gone beyond high school—a surprising finding. And White and Asian students with no parent who had gone beyond high school had higher average combined math and verbal SAT scores in both 1988 and 2000 than Black students who had at least one parent with a graduate degree.

This evidence, Miller said, can be found in minority students prior to the first grade—with some of the largest within-class racial/ethnic differences present among children in the highest SES quintile.

Conditions of Fewness

Miller's term, *conditions of fewness,* guides his conception of the high achievement agenda that needs to occur over a long period of time before the achievement gap can be narrowed. He defined *conditions of fewness* as "circumstances in which only small percentages of students . . . will be high achievers as measured by grades and test scores from kindergarten and the first grade onward" (p. 21).

The dimensions of *fewness* are several. One has to do with the fear of *stereotype threat*. This concept echoes the work of Ogbu, but was posited by Steele (1997), who describes it as a fear of doing something that would confirm a negative stereotype. Of particular importance to the achievement gap is the fact that the students most likely to suffer stereotype threat are those students who are high-achieving and who want to be good students (Steele, 2003).

When experiencing stereotype threat, Miller pointed out that the research of Steele reveals that Black students experience a lack of trust that erodes their confidence, and thus, their performance. They also are well aware of their underrepresentation in

colleges and universities, of the presence of the achievement gap, and of public perceptions of inferiority.

Other problems involve curricular and pedagogical strategies that have developed in response to the achievement gap, Miller argued, that have only succeeded in perpetuating it, not remedying it. These strategies include targeting programs to students at risk of academic failure, but using a remedial approach. This approach, however, can make it difficult for high-achieving students to remain high achievers, Miller contended, because monies are drained from the supplemental services they require to remain on their own high-achieving course.

Group study has been shown to be beneficial, but mostly for White and Asian students who are high achievers. There are too few high-achieving disadvantaged youth to receive similar benefits of group study.

Fewness, Miller said, leads to some salient questions relevant to underrepresented groups:

- Do underrepresented minority students have much less opportunity to study with high-achieving peers than Whites at various levels of the educational system?
- If so, what can be done to mitigate this problem at each level?
- What curricular and instructional approaches are most effective at meeting the needs of high, middle, and low-achieving students in elementary school in which a high percentage of the students are low achievers?
- What are the most effective and cost-efficient approaches for providing after-school programs for high-achieving students in school serving mostly disadvantaged students? (p. 26)

Learning From the Most Successful Groups

Top students from each group, Miller stated, establish themselves early, and the pool of top students does not expand as the years of schooling continue. To increase the number of high achievers, he recommended studying what the most successful groups do to support high achievement, with particular emphasis on efforts from infancy to the primary grades.

Group study, he added, has been shown to be effective at raising underrepresented students' achievement, at least in some courses (Fullilove & Treisman, 1990; Treisman, 1992). He called for more research on group study patterns at all levels of the education system to learn how they develop over time, how opportunities to learn with and from high-achieving peers vary, and what circumstances seem to support integrated groups, among other research questions.

Recommendations for Action

One of Miller's key and particular points was his prediction that although the achievement gap between minority students and White students is dire, it remains a long-term challenge. He went so far as to argue that it will take several more generations of students to reach parity with White students among top achievers (and longer for African Americans), when measured on traditional assessments of achievement.

However, his recommendations included the following:

- The need for substantial and sustained funding from foundations and other sources to address the problem in a coordinated and systemic way;
- The establishment of a high achievement trend monitoring unit;
- The establishment of model preschool and parent education programs through an early children and parent-education working group;
- A research unit on academically successful groups;
- A high achievement education strategy evaluation unit for higher education should be created; and
- A communications entity should be established that will disseminate information about the ongoing research findings pertaining to the extent and nature of the high achievement and within-class issues, and the development of effective strategies to address them.

Miller concluded his presentation and paper by saying that the definition of scademic success for underrepresented groups will be seen when much larger percentages of minority group students graduate, *summa cum laude, magna cum laude, cum laude,* from selective colleges and universities.

Identification and Education of Gifted Students From Underrepresented Groups

In his presentation and paper, James H. Borland first sketched an historical perspective to focus the issue of the underrepresentation of minority groups in gifted and talented education. Reaching back to the work of Sir Francis Galton (1869), Borland pointed out that Galton's view of "eminence in mental work" was 400 times more likely to be found among children of upper-class parents than of laborers—an interesting socioeconomic issue that has persisted to the contemporary condition of gifted and talented education.

Much more influential than Galton was the work of Lewis M. Terman, who examined giftedness in a genetic context. Borland pointed out the severe limitations of Terman's sample, yet the lingering effects of his conclusions, all positive about "gifted" children. Borland asked whether these positive descriptors of gifted children were due to their ability or due to the socioeconomic status—and stated that this is a critical question if the knowledge base of gifted education rests on a study of high-SES, mostly White children with high IQs. This will definitely influence the current way in which gifted and talented education chooses to operate, Borland posited, as well as its research agenda.

The Post-Sputnik Years

Progressing historically, Borland looked at the post-Sputnik years as the time when gifted and talented programs flourished as a response to the nation's competitive response to the Soviet Union's scientific and technological advances. However, Borland pointed to the persistence of race and class as ongoing issues in gifted and talented education, and the role they played as predictors of which students would be selected for gifted and talented programs. In this era, giftedness, Borland said, "usually equaled a high IQ."

But in 1960, Horace Mann Bond, the famous African American researcher, studied the relationship between socioeconomic status and the receipt of National Merit Scholarships. He found that socioeconomic status skewed toward receipt of the Scholarships, and asked if the nation had developed an immutable class system (1960).

Despite Bond's early work, and the work of Martin D. Jenkins, who looked at the mean differences in the IQs of Caucasians and African Americans, gifted and talented education did not change.

Contemporary Underrepresentation in Gifted Programs

Borland concluded his historical progression by pointing to the attention the field is receiving under the Jacob K. Javits Gifted and Talented Students Education Act, which

focuses on funding projects designed to develop ways to identify and educate traditionally underrepresented gifted or potentially gifted students. Although the Javits program has focused on underrepresented groups, Borland pointed to the persistence of the problem in gifted and talented education.

Family socioeconomic status continues to be a strong predictor of placement in gifted and talented programs, Borland said, pointing out that almost 50% of eighth grade students identified as gifted came from families in the top SES quartile, as compared to approximately 9% from the bottom quartile, based on a 1991 analysis of the NELS '88 (1988) data conducted by the U.S. Department of Education.

Borland emphasized the importance of underrepresentation by presenting 2 strong premises:

- Students benefit from gifted programs—benefits that continue through their lives;
- White and upper-middle class students are served disproportionally in gifted and talented programs.

Why the Problem Exists

The field of gifted and talented education, Borland said, can control some of the problem of underrepresentation of minority and low SES youth—but it cannot control all of the problem. This statement stood in contrast to other papers and presentations at the Needs Assessment Conference which looked to gifted and talented education to solve the problem of the underrepresentation of minority and low-SES youth enrolled in its programs.

Powerful societal forces play into the underrepresentation of minority groups in gifted and talented education, Borland pointed out, as well as the stubborn pattern of underachievement. First, many members of minority groups are subject to poverty, racism, and class bias. These data, however, are what Borland termed "correlational rather than explanatory."

He turned to other sources for explanations of the underrepresentation of minority groups in gifted and talented education programs. One such perspective, he said, is offered by the work of John Ogbu and Signithia Fordham (e.g., 1988, 1991), who posited a theoretical framework around the educational disadvantage that surrounds children of color.

This framework falls into the following categories:

- Voluntary and involuntary minorities;
- Primary and secondary cultural differences;
- Cultural inversion;

- Socialization and caste;
- The burden of "acting White;" and
- Assimilation without accommodation.

Borland pointed out that Ogbu and Fordham differentiate between voluntary involuntary minorities—voluntary minorities defined as those individuals or groups who came to the United States by choice, and involuntary minorities such as African Americans who were forced into the United States through slavery.

Involuntary minority children, Ogbu and Fordham argue, fail generation after generation in school, while voluntary minority children may fail initially but not persistently. This part of Ogbu and Fordham's theory stands in opposition to other research that indicates persistent low achievement, high dropout rates, and underrepresentation of Latino groups in gifted and talented education—or in classes that offer demanding curricula.

Ogbu also argues that all minorities experience primary cultural differences that keep them outside the mainstream for a period of time. These primary cultural differences can cause problems with academic achievement and overall difficulties in school.

But involuntary minorities also experience what Ogbu terms *secondary cultural differences*, which are a reaction to the dominant culture after negative experiences. These differences can be perpetuated through generations.

Cultural inversion is a term of Ogbu's (1992) that refers to the minority students' avoidance of certain behaviors because they are seen as typical of White Americans. These can include high achievement and positive interactions with the school community. Instead, minority students may choose negative behaviors to avoid linking themselves to White culture.

While African American children, according to Ogbu's central argument, occupy the lowest level of the nation's caste system, this is due to the deliberate ways in which their parents socialize them so that they will survive in the American caste system (1985). Cultural inversion and position in the caste system all lead to the *burden of "acting White"*—a dilemma for potentially gifted involuntary minority students.

Borland pointed to research by Ford (1992, 1993, 1996) that indicates that while some involuntary minority students may place into gifted and talented programs, they may underachieve in school, although they believe in high achievement.

These factors, along with structural inequities that have emerged from political forces, cannot be changed by the field of gifted and talented education, Borland asserted. However, the field needs to shed itself of practices that contribute to inequity and thus to the underrepresentation of minority children and children of poverty.

Possible Causes of Underrepresentation in Gifted Education

Along with the other researchers who presented papers at the Needs Assessment Conference, Borland indicted common identification practices within gifted and talented education because they rely heavily on standardized assessments and measures of IQ. He also criticized the traditional notion within the field of separating students identified as gifted from students in the mainstream curriculum.

The research agenda that Borland recommended hinged on these main points:

- Radically rethink giftedness as a concept to discover how it, as a concept, might lead to inequities in practice;
- Consider whether the goals of gifted education can be applied to conventional schooling without the identification of a population of "gifted" students;
- Reconceptualize identification procedures of gifted students to make them more open-ended and inclusive;
- Undertake ambitious curriculum reform and restructuring arrangements to help dismantle large-scale equity problems;
- Broaden the implementation of transitional services to underrepresented youth to nurture them so that their academic achievement can be boosted.

Conclusion: A Research Agenda for the Future

The authors of the 4 commissioned papers, although from different disciplines with only one representing the field of gifted and talented education—drew many similar recommendations for future research. They agreed that the achievement gap between students of color and their White peers is a serious issue that needs to be addressed systemically, over the long-term, and based on an emerging research agenda.

They concurred that studying models of success, and particularly high-achieving students to discern patterns that lead to high achievement, is key to unraveling the persistence of the achievement gap, particularly strategies that will help overcome the serious dilemma posed by students' socioeconomic status.

What follows are the main points that emerged from their papers, the key ideas for a research agenda for the future:

- Use research in multiple forms to inform practice and policy as it relates to narrowing the achievement gap and including more underrepresented students in gifted and talented education
- Understand the "differences" of students, particularly those who are underrepresented or not represented at all, in gifted and talented programs
- Reach a deep understanding and awareness of characteristics of underrepresented students that are associated with their success in gifted and talented programs
- Address systematically, through research and practice, long-held and pernicious assumptions and stereotypes held about underachievement among underrepresented student groups
- Achieve a sophisticated policy presence within the gifted and talented community that advocates for the needs of all students, but particularly those of underrepresented students, so that the achievement gap can most fully be closed.

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PART I
Evaluation, Placement, and Progression: Three Sites of Concern for Student Achievement

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Schools are complex organizations that serve as the primary official location for the socialization of children in the United States. As such, there are many theoretical frameworks one may usefully apply when studying schools. Regardless of the framework, however, three focal features of schools stand out—evaluation, placement, and progression. Students are evaluated, they are placed in curricular locations, and they progress through a system of such placements on their march to adult status (e.g., grades, institutions, classes).

Any single one of these features has many manifestations in schools, and many of those manifestations have large research literatures devoted to understanding their operation. Hence, herein I seek only to illustrate these three features, and the complex challenges that surround them, by discussing three examples in some depth—testing, tracking, and education transitions. Afterwards it will be possible to make some general observations about these features and their implications for the effort to nurture students' potential.

To further focus the discussion, I will highlight Black-White differences for attention. Although more and more research is beginning to look beyond the Black-White dichotomy, the majority of the research literature still primarily concerns Black-White differences. Thus, at times I will be able to mention other racial-ethnic groups, but the emphasis will be on Black-White differences.

Evaluation: The Illustrative Case of Standardized Test Construction

It is well known that Blacks lag behind Whites on tests of cognitive performance (e.g., Berends, Lucas, & Sullivan, 2001; Hedges & Nowell, 1999; Jencks & Phillips, 1998). Some efforts to assess the gap, however, are more perilous than others. For example, it is well known that efforts to use SAT-I scores to estimate the gap between Blacks and Whites are problematic (e.g., Grissmer, 2000).[1]

[1]The SAT-I is purely voluntary, and many factors, including regional differences in colleges' willingness to accept particular standardized tests, the known higher aspirations of Blacks compared with Whites (e.g., Mickelson, 1990), and more, render any sample of students taking the SAT-I too selective to allow generalization.

Other problems that might bedevil the estimation of racial differences in test performance are a bit more subtle. In this section, I will analyze one of those subtle issues, namely, a potential problem that appears to flow from basic principles of test construction. The activation of the principles I discuss below may produce tests that both mis-estimate levels of achievement and hinder communication about standards for attainment, with negative consequences for many students, especially minority students.

To see how these limitations might be produced, one must look loosely at how tests are constructed, ideally from an outsider perspective vis-á-vis the test construction industry. An outsider perspective is important because the insider understanding of critiques of testing too frequently translates any criticism into the language of statistical bias. This response truncates the critique of testing by defining bias, correctly, as deviation from some unknown true value, while, at the same time, asserting that *prior* tests constructed using the *same* processes of test construction opponents criticize *actually* effectively estimate a true value. This "true" value is often then compared with items or tests being criticized. When the results are similar, insiders then regard the results as refuting the critique of testing. Thus, the insider understanding subtly misses the full force of many criticisms of testing, for these criticisms tend to imply that existing testing procedures may be unable to estimate the true value with sufficient accuracy to allow a fair analysis of bias whenever one attempts to do so.

Yet the issue being raised here is not one of bias, *per se*, but one of whether the assumptions inherent in some test construction strategies pre-ordain that test results will mirror the past, ultimately limiting educators' opportunities to teach students in ways that increase achievement and failing to provide placement officials with useful information that would aid their efforts to nurture student promise. If test construction pre-ordains that test results mirror the past, then our understanding of an individual student's performance, the size of racial test score gaps, and the pace of change for individuals and for groups is likely to be wrong. And if test construction strategies limit educators' opportunity to teach students in ways that both increase achievement and test scores while masking important information from placement officials, then the institutions whose job it is to increase individuals' achievement are not well-served by standardized testing. I submit that these implications are real, and rely on a largely theoretical (as opposed to empirical) analysis to make the point. Note that this particular discussion serves as an illustration of the complexities of evaluation, complexities that, though different, can be found and may have the same effect in non-standardized evaluations (e.g., teacher grading) as well.

It can be useful to distinguish two different types of standardized tests—*norm-referenced tests* and *criterion-referenced tests* (e.g., Anastasi, 1988; Heubert & Hauser, 1998). Tests for college admission, as well as most intelligence tests, are norm-referenced tests. In contrast, the National Assessment of Educational Progress (NAEP) trend assessment tests used to great effect to estimate gaps in measured achievement are criterion-referenced tests. For our purposes I am interested in common differences between the procedures, and the emphases given different procedures, in constructing the two different types of tests. For the sake of brevity, then, I will set aside the many

adjustments test-makers may make in producing a given kind of test, adjustments that may blur the useful but easy to overstate, distinction between norm- and criterion-referenced tests during the test construction phase.

Norm-referenced Tests

Many tests commonly used for admissions decisions, such as the SAT-I, the Graduate Record Exam (GRE) General Test, and other tests for placement in gifted and talented programs, are norm-referenced tests. To construct such a test, item-writers draft a set of candidate questions (CQs) and administer them to a test-taking population. For the SAT-I the administration of candidate questions is typically done as part of the testing process, such that every SAT-I test-taker answers some candidate questions that will be evaluated for future use. Test-takers' performance on candidate questions are not used in the calculation of their scores.

After the testing has been completed, analysts evaluate how the candidate questions performed. There are two key aspects to this evaluation. The first key aspect of the evaluation concerns which students answered the candidate questions correctly. If test-takers who obtained low scores on the existing test were more likely to answer a candidate question correctly than did test-takers who obtained high scores on the existing test, then the candidate question is rejected because it does not differentiate effectively between high and low scorers.

The second key aspect concerns whether a candidate question was answered correctly by too many or too few test-takers. If too many answer the candidate question correctly, the CQ is judged to be too easy; similarly, if too few test-takers answered the question correctly, the CQ is judged to be too difficult.

Important assumptions are embedded in and activated through these procedures, assumptions that undercut the value of using norm-referenced tests in comparisons between individuals, groups, and cohorts. The main advantage of these assumptions is that they allow analysts to avoid having to specify exactly what the tests measure. This was deemed to be an advantage for intelligence testing because early researchers could not agree on a definition of intelligence (Herrnstein & Murray, 1994). However, researchers continue to disagree, and this disagreement has preserved support in some quarters for norm-referenced construction of intelligence tests. More important, these same techniques have been applied to construct high stakes tests for postsecondary school admission and other admissions decisions (e.g., gifted and talented programs). Because these techniques have been used to construct a key indicator used in college, graduate school, and special program admission, it is important to assess the advantages and disadvantages of using these tests as indicators of readiness for college preparatory, college-level, or graduate-level work.

The first key aspect in the test evaluation process requires that candidate questions differentiate between test-takers such that low-scorers on the previous test are less likely

to correctly answer the question than are high-scorers on the previous test. This requirement makes it likely that test-takers who master material in an order different from that either expected by the test-makers or common in the population will be penalized. Such test-takers may correctly answer a question that, by their performance on the rest of the test, they should not be able to answer. If there are many such test-takers, the item will be rejected. That test-makers who use norm-referenced approaches reject candidate questions every year on this basis suggests that the procedure may very well penalize many students inappropriately.

This procedure is problematic for many policy questions, but with specific reference to identifying promising racial minorities the problems are many, subtle, and potentially important. Any procedure that rejects a question that students on the bottom of the prior test score distribution are more likely to answer correctly than those on the top simply *because* those on the bottom of the prior test score distribution were more likely to answer the question correctly than those on the top is, by definition, discriminatory. The procedure is discriminatory because it trumpets or disregards achievement simply by virtue of who accomplished the achievement, rather than focusing on the content of the achievement produced.

Note also that this procedure has not been deemed a classic case of *racial* discrimination. However, given that on prior tests Black students have scored lower on average than have White students, the procedure of not counting a question when students on the bottom of the previous tests' distribution outperform students on the top of the previous tests' distribution will likely have a disparate and negative impact on Black students' scores.

Finally, because this test construction criterion heightens the spread of student scores, it may magnify small differences between students. Subtle systematic differences in student performance may be transformed into large gaps in student scores. This may make it difficult to identify promising students of under-represented groups, because the scores will seem to indicate large differences in performance between minority and non-minority students. In this way norm-referenced approaches may, perhaps inadvertently, legitimate differences in treatment of students, differences in treatment that may, over time, magnify the original small difference in student achievement.

The second key aspect of the evaluation process requires that analysts identify whether too many or too few test-takers answered the question correctly. To evaluate whether too many or too few persons answer the question correctly, analysts operationalize the terms "too many" and "too few" by imposing a distributional assumption, i.e., by making some assumption of how many persons *should* obtain particular scores. Often analysts assume that the scores will form a normal distribution, but it should be noted that any distributional assumption remains an *assumption*. Two observations need be made in this connection.

First, norm-referenced approaches essentially require each new version of the test to produce the same aggregate patterns as previous versions provided. The new test is

legitimated as an appropriate indicator of capacity or achievement by highlighting the similarity between the results obtained with the new test and the results obtained with the previous test. However, the previous test was legitimated by highlighting the similarity between its results and those of even *older* tests. It is obvious that a process of infinite regress is underway. Note, however, that if tests are legitimated with reference to the similarity of scores when matched with earlier tests, and test producers are able to select items for tests with that aim in mind, it is quite possible that tests so produced will mask changes that might be occurring in the actual (as opposed to assumed) distribution of achievement in the population.

Second, it is important to note that the assumption that cognitive achievement forms a normal distribution is an *assumption*. Even if the assumption is articulated with reference to the ease with which normal distributions can be statistically manipulated, there may be costs to the assumption. For example, given the widespread availability of schooling, one might actually expect the distribution of test scores to be skewed upward rather than symmetric. If so, it would be clear that the *a priori* distributional assumption may lead to a distorted picture of the cognitive achievements of students. Moreover, if an *a priori* distributional assumption is maintained, one may argue that key assumptions embedded in norm-referenced test construction procedures are actually at variance with the theoretically expected distribution of achievement, given the availability of schooling that should raise the lower levels of achievement and thus render the distribution of achievement asymmetric. The implication of this observation is that the lack of evidence in favor of a normal distribution assumption (or, indeed, any particular distributional assumption) means that common observations of normal and near-normal distributions are probably an artifact of test construction procedures.

This is potentially important because forcing the measurements of cognitive achievement to match a pre-specified distribution necessarily transforms the effort to measure a population characteristic—students' academic performance—into a zero-sum statement of the rankings of individuals and groups. This implication is potentially very important for groups that have been at the bottom of the test score distribution. Such approaches likely slow any increase in the test scores of disadvantaged groups regardless of how much better they may actually be performing.

Criterion-referenced Tests

The tests used as part of NAEP, the test used in the National Adult Literacy Survey (NALS), and the ACT are all more criterion-referenced than the tests discussed above. To construct criterion-referenced tests, item-writers define the domain of the content area. They then construct candidate items, draw on the judgments of experts, and in this manner determine which concepts and questions are likely to be more or less difficult. Judgments of difficulty are made to increase the chance that the test will sample from the full range of the content or skill area.

In addition, analysts often establish benchmarks that link different levels of test performance to explicit, real-world, competencies. Although analysts may use student performance on pre-tests in the construction of these benchmarks, ideally the benchmarks serve as anchors that do not shift just because student performance changes over time. An example of such benchmarking is provided in the NAEP trend assessment for mathematics, which identifies 5 levels of mathematics competence: (a) Simple Arithmetic Facts, (b) Beginning Skills and Understandings, (c) Numerical Operations and Beginning Problem Solving, (d) Moderately Complex Procedures and Reasoning, and (e) Multi-step Problem Solving and Algebra (Educational Testing Service, 1997).

A potential disadvantage of criterion-referenced tests is that they require test-makers to state explicitly just what is being tested. Given that there is no clear consensus on what constitutes proper preparation for gifted and talented programs, college admission, or graduate school entry, it might be difficult to quickly construct a criterion-referenced test to measure preparation for such placements. However, over time one might be able to develop a consensus, although that consensus might define sufficient preparation quite broadly. Regardless of the content, such a consensus might greatly facilitate students' successful preparation for doing advanced work, by communicating to them and their caretakers (e.g., parents, teachers, and other school personnel) in an explicit manner what skills are required for successful performance.

Possible Implications

Again, I have painted the above distinction with a broad brush. Certainly, test-makers can use procedures associated with norm-referenced test construction in producing criterion-referenced tests, and vice versa. Despite these complexities, however, the norm-referenced/criterion-referenced distinction is an empirically valid one, in that procedures used to create norm-referenced tests proceed with some very particular assumptions that differ from many assumptions commonly invoked in creating criterion-referenced tests.

The implication of the foregoing observations is that norm-referenced tests are anchored in several very problematic bases for those interested in nurturing the achievement of all students and especially students from under-represented groups. There are, of course, some advantages of these assumptions. The idea that achievements will fall into an *a priori* distribution allows candidate questions or even whole tests to be accepted or rejected on the basis of whether they produce the *a priori* distribution. Further, if one is interested primarily in legitimating a rank order of students, a process that reproduces the same rank order over time has certain possibly political advantages. Yet, if the aim is to identify promising students and nurture their success, approaches constructed with explicit attention to the domain of inquiry, *regardless of the implications for the distribution of scores*, have much to offer.

One feature such approaches often offer is benchmarks linked to real-world competencies. Benchmarks are potentially very useful for educators, for benchmarks

may facilitate teachers' efforts to convey to students and parents just what skills students need develop. It is important to note that no such benchmarks are widely available for the SAT-I and the GRE. Hence, criterion-referenced approaches are more likely to provide information about the skills tested than are norm-referenced approaches.

The decision to rely on norm-referenced tests may, therefore, inadvertently reduce the information available to students most in need of receiving an indication of what they must do and how they must orient to achieve. In contrast, criterion-referenced tests can provide information that teachers and other school personnel may use to construct and explain their pedagogy. If the criterion-referenced test is sound, then when students learn to succeed with respect to the test they will also likely learn important skills. In contrast, norm-referenced tests need not be based on a theory of what is important to learn. Thus, their use in schools may do much harm, possibly mystifying rather than clarifying what counts as achievement.

Finally, when it comes time to identify students for placement in gifted and talented programs, college admission, or graduate school, tests that allow placement officials to identify students meeting *a priori* benchmarks that reflect explicit understandings of what is required for acceptable performance have real advantages. Such tests may allow officials to make decisions more consistent with nurturing the capacity of every student who shows promise of benefiting from a demanding educational experience and of reaching levels of competence that would be sufficient for the task under consideration. It is not necessary to argue that criterion-referenced tests are a panacea; the devil *is* in the details for all test construction. But, well-designed criterion-referenced tests with benchmarks to acceptable levels of performance do have the advantage of conveying to key constituencies (e.g., teachers, parents, students, and placement officials) what children need to be taught and need to learn to reach heights of academic accomplishment. And, as schools are a focal site primed to convey what it means to be academically accomplished, any mechanism that might facilitate such communication is worthy of serious consideration.

Placement: The Illustrative Case of High School Tracking

High school tracking provides an illustrative case of the second feature of schools, placement. Tracking is one of several placement issues in schools, and, with respect to racial inequality, the issue of tracking may be divided into two distinct sets of questions. First, are track systems more common, rigid, or pronounced in racially and/or socioeconomically diverse schools? Second, are Black and Latino/a students more likely to occupy disadvantageous tracks than are Asians and Whites?

Consideration of these questions occurs at a potentially pivotal moment, as understandings of tracking are changing to reflect a more complex and changing in-school reality. As I have elsewhere described (Lucas, 1999; Lucas & Berends, 2002a), prior to the mid-1960's, a small set of over-arching programs existed at the high school level (e.g., Cicourel & Kitsuse, 1963; Conant, 1967; Hollingshead, 1949). Upon entering

high school, students were assigned to one of these mutually exclusive programs that determined their course-taking for the three or four years of high school.

Under this regime, schools seemed to allow little track mobility (Rosenbaum, 1976). Further, the institutionalization of track assignment should have constrained students' course-taking across subjects based on their track assignment. It appears that in this environment, many analysts came to regard a school with curriculum differentiation as a school that tracked students.

Yet research now suggests that this traditional system of tracking was dramatically transformed in the late 1960s and early 1970s, a period during which many urban school systems appear to have retreated from assigning students to mutually exclusive, all-determinative, over-arching programs. Instead, students enrolled in courses in different subjects, and the courses were vertically differentiated (Moore & Davenport, 1988). This transformation has been termed the unremarked revolution in school practice, in that "its occurrence has been noted but its implications . . . have been incompletely recognized" (Lucas, 1999, p. 1).

General Unrealized Implications

There are several unrealized implications of this change. One implication is that analysts need to study the patterns of track mobility anew. With respect to track mobility, formerly analysts believed that track mobility was rare and followed a pattern of tournament mobility under which one fall from the top tracks was sufficient to foreclose future high track work (Rosenbaum, 1976). Yet research suggests that track mobility is fairly common, and although downward mobility predominates, upward mobility is too common to accommodate a tournament mobility vision (e.g., Lucas, 1999).

A second implication is that student course-taking may be structured in complex ways given the decline of formal programs. Recall that the development of formal or classical tracking was in part an effort to differentiate the social psychology of two different groups of students. Students in the high track were being taught to lead, whereas those in the low tracks were, the thinking went, being taught to follow (e.g., Finney, 1928). Such divergent socialization would be facilitated by systems in which students did not mix across tracks. However, with the decline of formal programs, such mixing is possible in principle. Research suggests that such mixing does occur (e.g., Lucas, 1999), but more research on whether different types of schools have different kinds of mixing remains important.

A third implication bears on the issue of meritocratic placements. When students were assigned to different over-arching tracks, it would be difficult to fine tune placements if students' achievement varied across subjects. However, now that formal programs are far less common, it is possible to fine tune placements to some degree. This raises the question of whether placement in a subject is dependent on achievement in that

subject primarily, or whether other factors predominate. Some evidence indicates that both mathematics and English achievement matter for both mathematics and English placements. However, although mathematics matters more than English for placement in math, mathematics achievement is also more important for English placements than is English achievement (Lucas, 1999). Given that the English test was more reliable than the mathematics test, and that the English and math tests had similar variance, the finding seems secure. Yet further research is needed to probe this issue, especially research focusing on whether other subjects show similar patterns.

Each of these issues is important in itself, but also is a potential issue with respect to the performance of minority students. Some research suggests that Blacks and Latino/as navigate a different track mobility regime than do Whites (Lucas & Good, 2001). This research shows that the patterns are different, and the difference cannot be explained by social class. Yet, exploration of other individual-level and school-level factors that might underlie the difference has yet to occur. Lucas and Good (2001) speculated that the upward track mobility of Whites might depend on the presence of Blacks and Latino/as in the school, but further work to assess this speculation has not been done.

At the same time, analysis of the role of complex course-taking patterns on student self-efficacy, and whether the impact varies by race, class, and/or gender, has also not occurred. This would seem a ripe area for further inquiry. Although we know some factors that determine student expectations (e.g., Hauser, Tsai, & Sewell, 1983), much of that research occurred prior to the change in school practice. Now that students may take courses of different levels across subjects, further research is needed to ascertain whether and how the determinants of student expectations may have changed in the new environment.

Finally, the issue of whether achievement in different domains has the same impact for students of different races would seem a straightforward extension of the question concerning whether placement is based on achievement in the particular domain within which placement is occurring. Again, this issue has yet to be fully explored.

All three of these implications of the change in school practice are general, possibly touching every student in schools. Yet, each may also produce useful knowledge if issues of minority achievement are raised in the context of these general implications. It is apparent that much work remains to be done both with respect to all students and with respect to the experience of minority students.

Track Structure

More specific to the issue of race and tracking, however, is the first question raised at the outset of this section on placement, namely, are track systems more common, rigid, or pronounced in racially and/or socioeconomically diverse schools? One unrecognized implication of the change is that a school with curriculum

differentiation may have neither *de facto* nor *de jure* tracking. *De jure* tracking exists when schools have registration procedures that assign students to over-arching programs that determine their course-taking in academic subjects. And, *de facto* tracking exists when, absent such institutional procedures, students' levels of study in disparate subjects remains associated. Thus, after the unremarked revolution, curriculum differentiation may or may not eventuate in *de facto* tracking.

In most schools, the differentiated curriculum continues to exist. But a differentiated curriculum no longer implies tracking, given changes in school practice. In these circumstances, it is imperative to distinguish between curriculum differentiation and tracking, and to devise methods to study the issue of whether tracking systems differ according to the race and class composition of the school.

Limited research has been conducted on this question, but analysts have articulated different perspectives on the issue. Oakes (1994a, 1994b) has suggested that a race-coded hierarchy reinforces stereotypes and perpetuates disadvantage, and that this occurs by virtue of middle-class Whites' championing tracking as a pedagogical strategy, a strategy that also serves to forestall within-classroom race and class integration. Oakes suggests that the real motivation behind White middle class support for tracking may be to maintain race and class segregation.

In contrast, consider that in order for curriculum differentiation to result in advantages in efficiency and pedagogy, assignments of students to courses must be made on the basis of prior achievement in the relevant subject. Ostensibly this is possible, for secondary school curriculum differentiation in the absence of formal programs allows students to be sorted for math according to their prior achievement in math, to be sorted for English according to their prior achievement in English, and so on.

Note, however, that students' achievement in different subjects is correlated. Thus, if students enroll in levels of coursework owing to their levels of achievement in each subject, it is quite possible that students will find themselves in similar levels of courses for different subjects, because their achievements in different subjects are associated. Thus, even where subject-specific achievement is the only determinant of placements, the association between students' prior achievement in different subjects can create a *de facto* tracking system. The big question, therefore, is whether one can discern a connection between the racial composition of the school and the track structure after accounting for the degree to which students' prior achievement in disparate domains is correlated.

Two early efforts to study the role of race and class in track structure documented a potentially important role for school diversity. Braddock (1990) found that the mix of Black and White students was associated with the track structure of the school, and Lucas (1999) found that the more socioeconomically diverse the school, the more pronounced the tracking system. However, neither study controlled for the key competing explanation—the distribution of student achievement.

Lucas and Berends (2002a) studied 1980 sophomores and 1981 juniors and found that once the profile of student achievement is controlled, there is an association between social class diversity and racial diversity on the one hand, and the degree to which the tracking system is pronounced on the other. In other words, public school systems with more racial diversity or socioeconomic diversity have more pronounced tracking systems, even after the profile of student achievement is controlled. Interestingly, Lucas and Berends found no effect of social class or racial diversity for private schools.

One caveat to the study is that they used High School and Beyond (HS&B) data, which is over two decades old. Unfortunately, the more recent National Education Longitudinal Study (NELS) design does not allow researchers to generalize to the high school (Ingels, Scott, Taylor, Owings, & Quinn, 1998), so that it was impossible to update the analysis with a more recent cohort. Hence, we will have to await better, more recent, data to re-assess the role of racial diversity and socioeconomic diversity in tracking.

Track Placement and Effects

Still, it appears that track systems may be partially a result of school diversity. If so, how do students of different races fare under tracking, and what are the implications of their navigation of tracking systems for the achievement levels of students of different races? To answer these questions one must first note that simply comparing students of different tracks may fail to accurately estimate the effect of tracking. Students are not randomly allocated to track positions. Therefore, one must account somehow for the process by which students are allocated to tracks, before estimating the effect of track location on outcomes.

One such study that effectively estimated the effect of tracking indicated that placing students of equal achievement in different tracks leads to a divergence of performance, with those in more demanding tracks outpacing their lower-track peers (e.g., Kerckhoff, 1986). Kerckhoff had data that allowed him to observe students before their assignment to different streams in Britain. This result has been replicated using data in the United States and using methods, such as endogenous switching regression, that statistically account for students' assignment to different track locations (e.g., Gamoran & Mare, 1989; Lucas & Gamoran, 2002).

These analyses suggest that placement in lower tracks may stifle cognitive growth, while placement in higher tracks may nurture cognitive growth. These results are consistent with ethnographic evidence on the pedagogical strategies common in the different track locations (e.g., Gamoran, 1993; Page, 1990). Given the evidence of divergence, we may presume, at least provisionally, that differential placement may be implicated in racial differences in achievement. Thus, we may ask first whether placement differs by race, and then re-visit the question of whether placement seems implicated in race-linked differences in achievement.

Oakes' (1985) analysis of a small nationally-representative sample of schools shows Black and Latino/a disadvantage in track placement. Mickelson (2001) analyzed schools in the Charlotte-Mecklenberg school system in the late 1990s and revealed Black disadvantage in assignment to college preparatory tracks and advanced classes. Therefore, if performance divergence does occur, the disadvantage in placement could lead to lower levels of performance for Black students compared to Whites.

Other research, however, shows that tracking may *reduce* racial differences in measured achievement owing to minorities' advantageous placements in track systems (e.g., Gamoran & Mare, 1989). Garet and DeLany (1988) show that Blacks and Asians in four California districts were *more* likely to enter college preparatory courses than were Whites. And Gamoran and Mare (1989) and Jones, Vanfossen, and Ensminger (1995), using nationally representative data from the early 1980s, show that Blacks were *more* likely to enter college preparatory placements and courses than were Whites. If this occurs in the context of diverging performance owing to track placement, tracking might serve to *decrease* racial differences in achievement, as, conditional on other factors in the model such as prior achievement and social class, more Blacks than Whites enter the college preparatory track.

More recent research, however, suggests the relation between race and track assignment is changing in complicated ways over time. Lucas and Gamoran (2002) studied 1980 and 1990 sophomores and found consistent Black-White parity in prospects for high track placement, net of social background and prior achievement. However, Lucas and Gamoran also found a Latino/a disadvantage in 1980, Latino/a, Black, and White parity in 1990, and a 1990 Asian advantage in track assignment. These results led to the conclusion that race continues to matter in track placement. What changed between 1980 and 1990 appears to be the dominant racial/ethnic group, but race remains a predictor of track location throughout the period.

Lucas and Gamoran (2002) also simultaneously studied mathematics achievement to estimate the effect of track location after accounting for students' non-random assignment to tracks. Lucas and Gamoran found that there was net Black-White parity in track assignment. Yet Whites in the lower track outpaced their Black peers in the lower track more than Whites in the higher track outpaced Black peers in the higher track. Hence, the placement of students into tracks exacerbated the Black-White achievement gap, compared to a system in which all students would have been placed in the college preparatory track. Although making inferences about such a drastic regime change on the basis of such models is not ideal compared to an experimental test, the results are consistent with smaller Black-White gaps in achievement were every student placed in college preparatory courses. This result suggests that the issue of tracking and achievement is quite complex, such that even if there is *no* racial gap in assignment probabilities, tracking can still serve to increase racial differences in achievement owing to differences in performance in the different tracks. This result implicates tracking as one mechanism likely to increase racial differences in achievement.

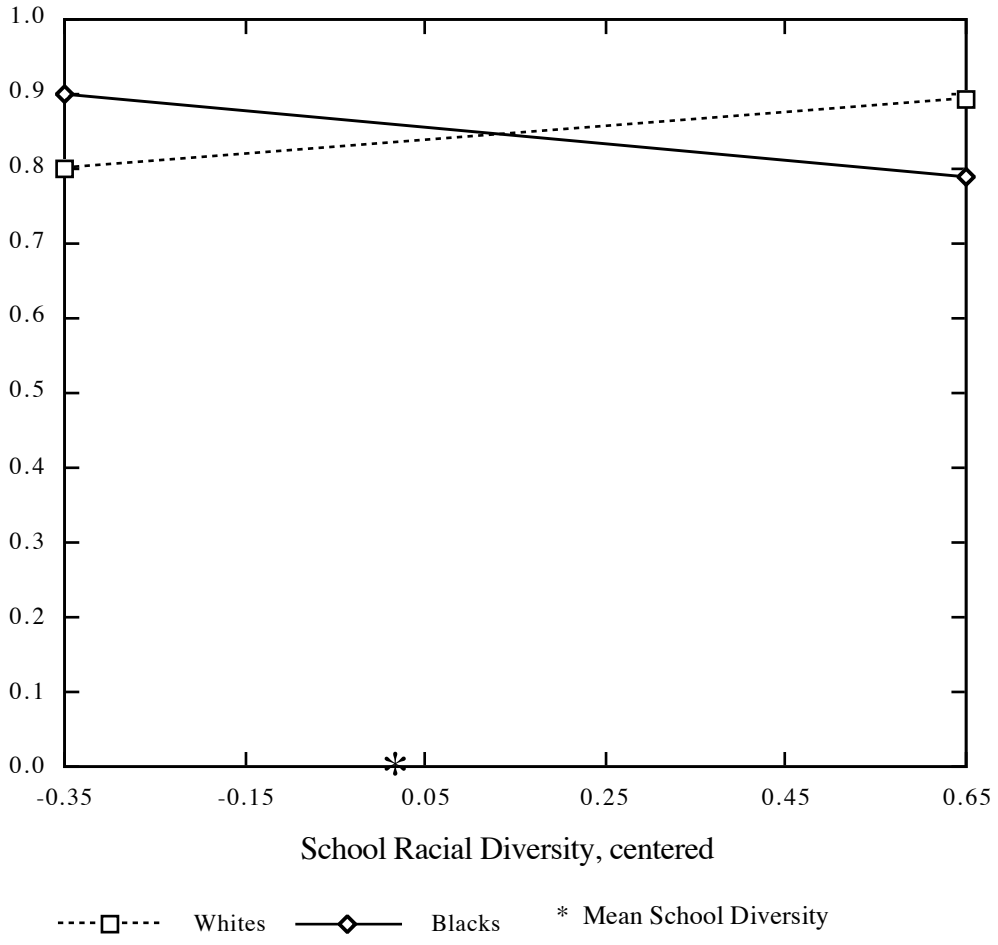
Institutional Variation in Placement Patterns

One limitation of the Lucas and Gamoran (2002) study, however, is that it did not fully explore school-to-school variation that might further elucidate the role of race in tracking. Exploring cross-school variation is important. Different analysts have obtained a wide variety of findings with respect to race and track assignment. One explanation for the varied findings is that schools differ. If so, obtaining a national point estimate of the racial gap in track placement may obscure important social determinants of track placement. It might be useful to search for school-to-school variation in track assignment by race, and to explore any systematic differences that might explain such school-level differences.

Lucas and Berends (2002b) investigated whether there is school-to-school variation in the racial gaps in track placement. They found evidence of school-to-school variation in the Black-White gap, and then proceeded to investigate several possible explanations for the cross-school variation, including school poverty, school governance, faculty racial diversity, a legacy of racial conflict, and student racial/ethnic diversity. Of these, little support for school poverty, faculty racial diversity, or a legacy of racial conflict emerged. However, the most powerful predictor of student track placement was school diversity.

Lucas and Berends (2002b) presented a figure showing how the prospects for college prep track assignment varied according to the amount of racial/ethnic diversity in the school for Black and White students with mean achievement and of mean socioeconomic status. In Figure 1, I adapt the Lucas and Berends figure to show the probabilities of college prep track assignment for White and Black students with mean socioeconomic status, but two standard deviations above the mean on measured achievement in mathematics, science, social studies, reading, writing, and vocabulary. By re-drafting the figure for students with higher achievement test scores, I aim to focus attention on some of the most promising Black and White students.

As Figure 1 indicates, Black students in mono-racial schools have a 90% chance of being in the college preparatory courses. In contrast, White students in mono-racial schools have an 80% chance of being in the college preparatory courses. However, as schools become more racially diverse, the prospects for Black students decline, while the prospects for White students increase. Once students are in schools with the maximum amount of racial diversity (which would be a school with two or more groups of equal size), Black students have about a 79% chance of college prep placement, whereas White students have about an 89% chance of college prep placement.



*Adapted from Lucas and Berends 2002b, *Race and Track Assignment in Public School*.

Figure 1. Predicted probability of college prep track assignment, for Blacks and Whites, by high school diversity.*

Lucas and Berends (2002b) note that their analysis cannot identify the mechanisms behind this pattern of results, but emphasize that the pattern is consistent with a process wherein White students crowd equally deserving Black students out of more demanding courses in more diverse schools. They write:

> Perhaps anti-intellectualism among Black students in diverse schools, owing to the ostensible connection between acting White and academic achievement, leads Blacks in such schools to avoid challenging classes (e.g., Fordham & Ogbu, 1986). Although researchers have begun to intensely examine the "acting White" thesis and in doing so have considerably weakened its persuasiveness (e.g., Tyson, 2002; Ainsworth-Darnell & Downey 1998; Cook & Ludwig, 1998), it may still provide a viable explanation for track location differences by race. This remains an empirical question of some import.

> Alternatively, perhaps school personnel are pressured by parents in-the-know and, in response, place White students ahead of Black students in the queue for advantageous curricular positions. This is an obvious possibility, and one consistent with how we know schools often operate (e.g., Useem, 1992). Further research will be needed to discover whether discriminatory allocational processes explain disparate track locations for comparable Black and White students. (Lucas & Berends, 2002b, pp. 31-32)

This pattern of results suggests most immediately that students' prospects for demanding instruction vary in part according to the racial/ethnic composition of the school. At the same time, the evidence also suggests that some schools treat Black and White students equivalently, whereas others treat them very differently. This news suggests a national point estimate does obscure some important information analysts and policymakers might need to design effective pedagogical structures for all students. It may be advisable to study schools with different patterns of race and track assignment, including some schools where Blacks are advantaged in comparison to Whites, some where Blacks are disadvantaged compared to Whites, and some schools where there is parity. Studying such schools directly may aid analysts in identifying whether and how these schools operate differently, and speed determination of what practices might encourage promising students of whatever race to enter and excel in demanding curricular locations.

Progression: The Illustrative Case of Educational Transitions Research

A final illustration addresses the issue of progression. Research on high school dropouts, grade retention, track mobility, and graduate school entry are all concerned with the issue of student progression (e.g., Kominski, 1990; Lucas & Good, 2001; Mullen, Goyette, & Soares, 2003; Roderick, 1994). These research efforts focus usefully on parts of the educational attainment process, while other research, such as that of educational attainment, considers several stages of students' educational progression simultaneously.

Unbeknownst to many, research suggests that Black students are more likely to graduate from high school, and more likely to enter college, than their socioeconomically and cognitively similar White peers (e.g., Lucas, 1996), although there are small gross differentials between Blacks and Whites and larger ones between Whites and non-White Latino/as (e.g., Kominski, 1990). In contrast to this complexity, wherein the gross differentials disadvantage Blacks, but the net differentials advantage Blacks, effects of socioeconomic background often seem far more clear. Socioeconomic differentials remain of great interest to researchers. Further, research on social background effects often has implications for improving the lot of minority children. To convey those implications it will be useful to relate a stream of research on educational attainment that is concerned with the accumulation of years of schooling year-by-year.

This "education transitions" line of research began as a response to one of the major questions analysts have considered, namely, whether the effect of social background on educational attainment varies across cohorts and/or cross-nationally. Answering this question has proven more difficult than it first appeared. A major difficulty arose because if one regressed years of school completed on social background variables, and compared the coefficients, one might mis-estimate cross-national or cross-cohort differences in the relationship between social background and educational attainment. This problem arose because ordinary least squares (OLS) coefficients reflect not only the level of association between independent and dependent variables, but also the variance of the variables. Because the expansion of education altered the variance of educational attainment over time (and thus cohorts) and possibly exacerbated cross-national differences, analysts could not compare OLS coefficients across different cohorts or countries to investigate possible differences in the social background/educational attainment relationship. To obtain parameter estimates that might be compared across cohorts, Mare (1980), drawing on the work of Fienberg and Mason (1978), proposed that analysts treat education as a series of transitions or school continuation decisions. Mare reasoned that total years of school completed is the result of a series of decisions to stop or continue schooling. Each decision can be viewed as a binary variable scored 1 for students who continue and 0 for students who stop. Equations 1 through 17 reflect this view of the attainment process:

$$1)\quad Pr(y_1 = 1) = \frac{e^{(X'\beta_1)}}{(1+e^{(X'\beta_1)})} + \varepsilon_1$$

$$2)\quad Pr(y_2 = 1 \mid y_1 = 1) = \frac{e^{(X'\beta_2)}}{(1+e^{(X'\beta_2)})} + \varepsilon_2$$

$$\vdots$$

$$16)\quad Pr(y_{16} = 1 \mid y_{15} = 1) = \frac{e^{(X'\beta_{16})}}{(1+e^{(X'\beta_{16})})} + \varepsilon_{16}$$

$$17)\quad Pr(y_{17} = 1 \mid y_{16} = 1) = \frac{e^{(X'\beta_{17})}}{(1+e^{(X'\beta_{17})})} + \varepsilon_{17}$$

Mare's solution not only made comparisons of coefficients across cohorts and nations meaningful, but also facilitated investigation of possibly changing effects across *transitions*. Analysts have compared logit coefficients across transitions to discern whether social factors have different effects at different points in the educational system in over a dozen nations, and they have obtained a nearly universal finding—logit coefficients for social background decline across transitions, suggesting that the direct effect of social background wanes (e.g., Buchmann, Charles, & Sacchi, 1993; De Graaf & Ganzeboom, 1993; Garnier & Raffalovich, 1984; Müller & Karle, 1993).

This line of inquiry connects to the issue of minority achievement primarily through the theories developed to explain the findings researchers have obtained. One such theory argues that the findings are merely a statistical artifact owing to a technical failure to identify the model (Cameron & Heckman, 1998). These analysts re-estimate models for native-born White males in the United States, and conclude that there is no waning effects pattern, and, further, that credit constraints—i.e., the limited access to financial markets for youngsters lacking collateral—play a minor or perhaps even no role whatsoever in constraining college opportunities.

In response, Lucas (2001) re-investigated the issue of education transitions and found it possible to statistically identify the coefficients of interest by making the innocuous assumption that grades matter. Further, the findings supported a theory of Effectively Maintained Inequality (EMI), which claimed that:

> socioeconomically advantaged actors secure for themselves and their children some degree of advantage wherever advantages are commonly possible. On the one hand, if quantitative differences are common, the socioeconomically advantaged will obtain quantitative advantage; on the other hand, if qualitative differences are common the socioeconomically advantaged will obtain qualitative advantage. (Lucas, 2001, p. 1652)

In essence, with respect to educational attainment, the theory implied that wherever there are common differences in the amount of schooling (e.g., more years of school versus fewer) the socioeconomically advantaged will obtain more. But, whenever the common differences approach zero (e.g., the vast majority of students graduate from high school) the socioeconomically advantaged will secure qualitatively better schooling at that level (e.g., higher track placements), which will provide higher quality schooling *and* which can also effectively open doors for later placements. Hence, the theory focused on the ability of socioeconomic background to move students over qualitative thresholds at one level, thresholds whose navigation might have implications for placements in later years (e.g., college entry). Socioeconomic background effectively maintains inequality because it can move students over thresholds, even though the parameter estimate (e.g., regression coefficient or logistic regression coefficient) may appear small.

EMI theory found more support in the analysis than did the theory of Maximally Maintained Inequality (MMI) or a Life-Course Perspective (LCP) proposed by Raftery and Hout (1993), and Müller and Karle (1993), respectively. Although EMI was not articulated with respect to racial inequality, because EMI was described as a general theory of inequality in society, it may be applicable to the phenomenon of racial inequality.

The application to racial inequality appears relatively straightforward in its implications. If race operates in a manner similar to socioeconomic background, at least with respect to some goods, than we would expect that dominant racial/ethnic groups secure for themselves and their children advantage wherever advantages are commonly possible. If differences in the quantity of a good are commonly possible, dominant

racial/ethnic groups will secure the advantageous amount of the good. If qualitative differences are common, the dominant racial/ethnic groups will obtain the better types of goods.

This suggests, for example, that studies of progression (e.g., high school graduation and college entry) may misunderstand the role of race in success by treating graduation and college entry as binary outcomes. Were analysts to include in the dependent variable some indicator of the quality of the institutions from which students graduated and to which students matriculated for college (e.g, Mullen et al., 2003), we might no longer find that Black students are more likely to graduate from high school and enter college than equivalent Whites. More important, sensitizing the discussion of (socioeconomic and) racial inequality to the more systemic aspects of (socioeconomic and) racial inequality—aspects that normalize the efforts of members of dominant groups to secure goods for their children often outside the processes applied to others—could go a long way to transforming a system that research suggests has some clearly non-meritocratic aspects.

Effectively maintained inequality was articulated as almost a foregone conclusion. Yet, it is clear that culturally accepted practices, such as, for example, parents playing a role in students' education to the point of selecting teachers for their child, are pathways through which socioeconomic background works to maintain inequality. If so, a range of clear policy responses that might reduce the power of socioeconomic background and race is available. Such policies could be effective were they conscientiously applied, and if the likely development of counter-vailing responses was the subject of monitoring in an effort to make such responses themselves the focus of policy action in a timely manner.

Cross-cutting Issues for Research and Policy in the Areas of Evaluation, Placement, and Progression

Students are evaluated, either in a standardized or non-standardized manner. Those evaluations lead to placements. The process of evaluation and placement continues throughout the educational attainment process. Further, during that process, socioeconomically advantaged actors (and perhaps members of dominant racial groups as well) episodically act to secure advantages for their children. All this occurs in ways that imperil the academic success of socioeconomically disadvantaged students of whatever race, and minority students as well.

The odds against interrupting this process are large, but it can be done. Realization of the role of information in determining student success, and adjusting systems to provide more consistent and accurate information to students and other key actors, is a promising approach.

To that end, my work endeavors to both motivate and construct a more nuanced theory of how schools work in society. An over-arching frame for thinking about schools is provided by EMI theory. This frame encourages us to think about evaluation,

placement, and progress as interconnected pieces of a larger process of educational attainment. Further, at every point in that process social advantages, whether based on race or social class, allow some to agitate for resources and attention in ways that may crowd out other deserving students.

An implication of the theory is that, it is usually not overriding power that allows those with socioeconomic advantages, or members of racially dominant groups, to obtain attention for their concerns and their children. Indeed, why would one expect overriding power to be exerted in school regularly, and to be the common mechanism of student disenfranchisement in schools? Evidence suggests teachers are, for example, less likely to be racially prejudiced than members of other professional occupations (Lacy & Middleton, 1981). Further, few parents, even middle class parents, have sufficient resources as individuals to really force school actors to act in accordance with their wishes.

Designing policies to prevent the exercise of overriding power, while useful, can also become a distraction. Certainly overriding power *is* used in some situations, but the far more common scenario is that subtle taken-for-granted practices, coupled with greater knowledge about when and how to navigate the system, account for the way socioeconomically (and racially) advantaged members translate their out-of-school advantages into advantageous in-school placements and post-school outcomes for their children. Researchers and policy-makers need to focus attention on these practices, as well as on procedures that convey information, if they hope to interrupt the process whereby societal advantages become translated into unfair in-school advantages.

Key to that work would be in-depth knowledge about the way information can be transmitted and might be received. We already know a great deal about information flow. For example, we know that middle class parents in certain networks share information about teachers and classes, as well as strategies for advocating for placement of their children (e.g., Useem, 1992). Hence, a clear policy response would be to close the door to parent intervention in student assignment. But there are other possible responses, and these may be more promising. Rather than attempt to lower the ability of middle class parents to act, it may be more effective to raise the ability of non-middle class parents and their advocates to act for poor and minority children. Doing so, again, will require knowledge about information flow. Lacking important pieces of that in-depth knowledge, some realizations are clear.

It is clear that dominant evaluation approaches provide little information to students as to the basis of their performance and how to improve. It is clear that dominant evaluation approaches provide little more than a ranking to placement officials and often fail to provide more nuanced information that would aid in nurturing students' capabilities. Further, it is clear that dominant evaluation approaches may understate the performance of students from groups that have historically performed poorly and may slow group convergence of test scores over time. With respect to this last point, placement officials who know the general distribution of scores by student race as provided by dominant evaluation approaches may, over time, come to regard lower Black

achievement as normal and perhaps even to expect lower Black achievement. If school site actors behave in ways consistent with such lowered expectations, it can become very difficult to raise student performance as well.

Consistent with this observation, it is clear that even if students score at equivalent levels on tests of achievement, most schools fail to place Black and White students in equivalent curricular locations. Further, the pattern of placement is consistent with equally able Black students being crowded out of demanding instruction by White students as schools become more racially diverse. This pattern may be the ultimate result of hardened lowered expectations for Black students among school officials and students alike. If we believe that high track placements lead to higher levels of academic achievement, and the evidence suggests this is true, then a pattern consistent with Black students being crowded out of demanding classes as schools become more racially diverse is a possible explanation for lower Black achievement in the post-desegregation era.

It is clear that socioeconomically advantaged (and perhaps racially dominant) parents act to secure effective advantages for their children. It is clear that these actions occur throughout the educational attainment process. It should also be clear that once reform efforts begin, socioeconomically advantaged (and perhaps also racially dominant) actors adjust, attempting to re-create the advantaged positions threatened by the reform (e.g., Wells & Serna, 1996).

Before rushing forth to alter or increase information flow, therefore, it is important to learn from past reform efforts, so as not to inadvertently create new problems. The possibility of increasing the difficulties students have, or of failing to decrease them, is real. As an example, I have argued that changes in tracking between 1965 and 1975 reduced the information available to students about the implications of course-taking decisions (Lucas, 1999). Poor students were more vulnerable to this change than were middle class students. Middle class students of college educated parents did not need to rely on the school to advise them on course selection, because their parents, who went to college, were able to provide the necessary guidance. In contrast, poor students whose parents did not attend college were unable to turn to their parents for guidance in the course selection process, and thus needed the resources of the school, in the form of explicit information as well as counselors to provide it, to make up for their disadvantage. Research suggests, however, that school personnel have not acted in ways that would make up for poor students' disadvantage, as counselors appear to have retreated from this role (Rosenbaum, Miller, & Krei, 1996).

One response to this situation is to work to de-track schools or, more accurately, to end curriculum differentiation (e.g., Wheelock, 1992). But, if one believes information flow is vital to students' ability to allocate themselves to the most demanding instruction they are prepared to receive, "de-tracking" would be a step in the wrong direction. "De-tracking" would further obfuscate what occurs in classrooms, making it difficult for many students and their guardians to know how to navigate the curricular system. The only students likely to escape "de-tracking" unscathed would be students with middle class

parents tied into existing networks. Such networks would continue to work to channel information to middle class parents as to which teachers and classes would be best for their children (e.g., Useem, 1992), allowing these parents to position their children for the most demanding instruction possible. Other students might be left to take the leftovers.

A lesson from the 1965-1975 reforms and the discussion of de-tracking, is that an explicit, nuanced theory of schools and society is needed to focus reform efforts, else reform efforts may do more harm than good. And only an explicit theory that realizes both the ability of those threatened by reform to alter their practices in ways that will vitiate the reform, as well as the daunting array of locations from which such action can be undertaken, has any chance of increasing the academic achievement of disadvantaged students.

Concluding Remarks

Existing research suggests promising Black students face a series of difficult challenges. Evaluated with tools designed to sort and rank rather than recognize sufficient achievement, they encounter school personnel who may know only their percentile score at key moments in their education. Those school personnel, operating with the best of intentions, are also bombarded with information indicating that the vast majority of Black students cannot achieve, information constructed out of a process that aims primarily to rank rather than convey the profile of students' strengths and weaknesses. Should a particular Black student do well, they face the possibility of being crowded out of demanding courses the more racially diverse their school. Further, the more racially diverse the school, the more likely the tracking system will be pronounced, reducing the chance that students will be able to tailor their course-taking to their particular profile of strengths and weaknesses. Finally, all this occurs in a context that accepts the episodic acts of socioeconomically advantaged actors to secure advantages for their children.

Research to deepen our understanding about these issues is definitely needed. We need to learn more about how students think when they answer test questions. It is imperative that before we rush to embrace criterion-referenced tests, we conduct additional highly-detailed work to better determine the difficulty of items and the cognitive processes test-takers use (e.g., Hamilton, 1997). Only with such work will we build an edifice of standardized student evaluation that is designed to further our collective interests in nurturing the talents of every student. Criterion-referenced tests are a step in the right direction, but the journey has barely begun. There are many pitfalls that may undo an effort to move to criterion-referenced tests. Most notably, we should be wary of using criterion-referenced tests defended on the grounds that they produced the same distribution as norm-referenced tests produced. Still, at the very least, the example of criterion-referenced tests shows that it *is* possible to greatly reduce the use of what should be an obviously discriminatory procedure for test construction, namely, the use of an item's ability to preserve the prior distribution of test-takers in evaluations of item validity.

Further, we need learn more about tracking, as well as other issues of placement (e.g., special education, gifted and talented). A key set of questions requires the use of cross-school comparative methods. Unfortunately, with respect to tracking, the design for the more recent national data collection (NELS) makes comparing high schools inappropriate. As the amount of diversity in the nation has only increased, a pressing issue is whether this increasing diversity has had any impact on the patterns of student placement in schools. It is possible that the more recent Education Longitudinal Study (ELS), which fielded base year data collection in 2002, will allow a more contemporary investigation of these questions.

But other research is also needed. What individual-level factors improve students' chances of upward track mobility? How much school-to-school variation is there in students' course-taking patterns, and can it be explained (and perhaps manipulated) by school policy? What are the social-psychological implications of different tracking arrangements? How well is achievement within a domain connected to placement within that domain? These questions are all general, but each may also be pursued by attending to racial differences as well. I believe such questions constitute a promising agenda for research.

Although there are many additional research questions analysts need pursue, one final query stands out. Can the theory of effectively maintained inequality, articulated with respect to socioeconomic advantages, be translated into the area of race? And, if so, what are the implications of this theory for attempts to reduce and perhaps eventually eliminate racial inequality?

All these research efforts are useful, and concerted research effort may indeed help generate the momentum needed to change practices as well as the knowledge needed to change practice wisely. But the knowledge base to date also suggests that while more knowledge can be helpful, the essential ingredient for effective reform is the political will to propose it, enact it, sustain it, and then extend it in the face of rising oppositional efforts to sidestep, overturn, or overwhelm the reform. If that political will is present or can be generated, it will become possible to identify promising students of whatever race and nurture their achievement in ways that will ultimately eradicate race-linked differences in performance while perhaps raising the level of achievement of all students. Without that will, however, no amount of knowledge of how schools work in society will be sufficient to nurture this precious national resource—our children.

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PART II
Latino[2] Achievement: Identifying Models That Foster Success

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Introduction: Why Does Latino Achievement Matter?

Shortly after the turn of the new millennium, Latinos became the nation's largest ethnic minority (Tienda, 2001). The rapidity with which this occurred and the accelerating pace at which the Latino population in the United States is growing give us all pause for concern about how Latino children are faring in American schools. Increasingly, the economic competitiveness and the social well-being of the country depend on the degree to which this population of students can assume positions of leadership in the nation's social and economic structure. As a group, how well are we preparing them to assume such leadership roles? The answer is a sobering, *not well at all*.

Latinos score only slightly better than African Americans on most indicators of academic achievement, but they are at higher risk than all other ethnic groups for failing to complete high school and go on to college (Harvey, 2002). In a study of the impact of specific programmatic interventions on the academic achievement of low income and minority students, Stringfield et al. (1997) and his colleagues found that large achievement gaps between Whites and Latinos in Title 1 (poverty) schools remain relatively constant across the six elementary grades. Based on the Comprehensive Test of Basic Skills (CTBS/4) scores, Latino students lagged about one-half standard deviation behind White students throughout the primary grades in reading. The 2003 National Assessment of Educational Progress (NAEP) showed similar discrepancies. While 41% of White students in the fourth grade scored at or above Proficient, only a little more than a third as many (15%) Latinos reached this level (Donahue, Daane, & Grigg, 2004). At the secondary level, gaps in reading achievement between these groups continue to be very large. For example, in 1998, while 41% of White eighth graders scored at the level of Proficient or higher on the NAEP reading test, only 15% of Latinos scored this highly[3].

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2 Throughout this monograph the terms "Hispanic" and "Latino" are used interchangeably, as "Hispanic" is the preferred term for national data collection efforts, but Latino is often preferred in the literature and by members of the group. In some cases, data are presented separately for Mexican Americans, the largest subset of the Latino groups, and nationally the most at risk group. The reason for the focus on a particular group, for example, Mexican Americans or Puerto Ricans, is to reduce variation where possible, with respect to the educational experiences of the group in question. For example, some Latino groups, notably Cuban Americans and foreign nationals who enter the U.S. to attend college are not particularly at risk academically, while Mexican Americans or Puerto Rican students consistently fare very poorly in U.S. schools and colleges.

3 It should be noted that some percentage of Latino students are eliminated from the NAEP testing at the discretion of teachers if they are judged to be too weak in English, thus there is some bias in this sample in favor of higher performing students. Also, the Latino sample in the Prospects Study is likely to be a more advantaged group than is typical in the U.S., since Latino students for whom English was a second language were excluded from this sample.

By the 12th grade, a point at which a significant portion of the lower scoring students have dropped out of school, 47% of White students scored at or above Proficient, and 26% of Latinos were able to reach this level of reading competence (Donahue, Voelkl, Campbell, & Mazzeo, 1999). Twelfth grade NAEP mathematics scores for 2000 reveal an even more troubling picture. While 20% of White students and 34% of Asians scored at or above Proficient, only 4% of Latinos scored this highly (Braswell et al., 2001).

Latino students as a group are also seriously underrepresented at the upper end of the achievement continuum and in programs for the gifted and talented, while White and Asian students are over-represented. Table 1 shows the percentage of each ethnic group participating in K-12 gifted and talented programs in the 1997 school year, the last year for which these data are reported.

Table 1

Percent of Participation in Gifted and Talented Classes by Ethnic Group and Percent K-12 Population, 1997*

Ethnic Group	Percent Gifted	Percent K-12 Population
White	76.61	64.0
Black	6.63	17.0
Hispanic	8.56	14.3
Asian	6.63	3.1
Native American	.90	1.1

Note. From *U.S. Department of Education, Office for Civil Rights, 2000.*
* 1997 is the most recent year for which these data have been reported by the Office for Civil Rights as of the writing of this monograph.

Table 2 shows the grade point averages (GPAs) for students who took the SAT exam in 1998. This is admittedly a select pool of the nation's students, generally those who envision themselves going on to a 4-year college, but the data make an important point: Even among the most academically ambitious students, there are large discrepancies in achievement by race and ethnicity. Table 2 includes GPAs for Mexican American students, as opposed to all Latinos, as these students are the most numerous of the Latino sub-groups (approximately 58% of all Hispanics) and the most at risk for dropping out of high school (Rumberger & Rodriguez, 2002). It is notable that females outperform males across all ethnic groups, but both Mexican American males and females intending to go to college achieve lower grades than their White and Asian counterparts. The increasing educational gender gap is worthy of special consideration, but to date researchers are only beginning to focus on the reasons why males appear to be underperforming with respect to females, especially in communities of color (Kindlon & Thompson, 2000; Mortenson, 1999). Much work remains to be done in this area.

Table 2

Grade Point Averages for U.S. College-bound Students by Ethnicity and Gender, 1998

Ethnicity	Male	Female
White	3.21	3.37
Mexican American	3.12	3.22
Black	2.75	2.95
Asian	3.29	3.42
Native American	3.01	3.16

Note. From *The College Board, 1998 SAT administration data, 1999a.*

Data on high school completion for Latinos as compared to others provide a picture of Mexican origin Latino students in the college-going pool. Bureau of the Census figures for 2000 show that among all 18-24 year olds, 84.4% of Whites had completed high school, compared to only 59.6% of Hispanics. Further, only about 53% of Hispanics in this age group had enrolled in any type of college for 1 year or more, while just over two-thirds (66.9%) of Whites had gone on to college (Harvey, 2002). The types of colleges that students attend differ substantially by ethnicity as well. Almost two-thirds (64%) of White students attend 4-year colleges where their likelihood of earning a college degree is enhanced considerably over that of Hispanics, who are much more likely to attend 2-year community colleges (56%) where degree completion is the exception rather than the rule (Gándara & Chávez, 2003; Grubb, 1991; Harvey, 2002). As a result, White students are two and one half times more likely to complete 4 or more years of college than are Latino students in the U.S. (Harvey, 2002). Sorensen, Brewer, Carroll, and Bryton (1995) computed the economic benefits that would accrue with increasing the education level of Latinos. They concluded that:

> Hispanics with a bachelor's degree will pay more than twice as much in taxes as those with only a high school diploma, and Hispanics with a professional degree will pay an estimated three times as much as those with a bachelor's degree. (p. 4)

Of course there are many non-pecuniary reasons for increasing the educational level of Latino students. People with higher education enjoy better health and lead longer and more productive lives (Perna & Swail, 1998). They are also more likely to attend arts activities, to vote, and to provide leadership in their communities (Mortenson, 1997). In sum, higher education enriches both the individual and the society. When higher education is curtailed for a population group because of systematic impediments to their intellectual advancement, then both the individual and the society are impoverished. It thus is critical to understand the mechanisms whereby Latino high achievement is both thwarted and fostered.

How Latino *Under*achievement Is Explained

Before beginning a discussion of nurturing high achievement among Latino students, it is important to understand the factors that have impeded it. No doubt because Latino students have fared so poorly in our schools for as long as data have been collected on their achievement, researchers have sought to explain this phenomenon. Since the 1960s, when data began to be collected on Latino school performance, a host of studies have focused on the causes of school failure for these students. The logic that drove many of these studies was that if we could identify the problems in these students' environments, then schools could remediate the problems and raise their achievement. The operating assumption was usually that *something outside of school,* and not the schools themselves, was the source of academic failure. Otherwise, how could we explain the fact that many non-Latino students fared just fine in school? Ethnic minorities, and Latinos in particular, were viewed as having fundamental deficits that schools and other government programs could overcome through special interventions such as Head Start (Hess & Shipman, 1965; Valentine, 1968). However, as these efforts appeared to meet with only limited success, researchers cast about for more powerful explanations of Latino school failure. The focus began to shift in the 1970s from a deficit explanation to a cultural difference one.

The cultural difference model was predicated on a notion that these students were not so much "deprived" of important cultural experiences, leaving them incapable of participating meaningfully in school, but that they had a different set of cultural experiences that were inconsistent with the demands of U.S. schooling (Buenning & Tollefson, 1987; Carter & Segura, 1979). One of the chief cultural differences identified by researchers between lower income and middle class students of all ethnicities was speech style (Heath, 1983; Hymes, 1974). This focus on speech and language differences was especially salient for Latino students, as the difference between language of the home and that of the school was an obvious discontinuity in home and school experience. Thus, for many, the "problem" of language difference became the chief explanation for school failure, and bilingual education became the primary means by which to remedy this problem. Later research would demonstrate clearly that language difference was not the only, and perhaps not even the most important, issue facing these students (Mitchell & Mitchell, 1999; Portes & Zhou, 1993; Rumbaut, 1995). As Nieto (1993) pointed out:

> even with a bilingual education, many children are likely to face educational failure . . . . No approach or program can cure all problems, educational and otherwise, facing our young people if it does not also address the fundamental issues of discrimination and stratification in schools and society . . . . Simply substituting one language for another, or books in Spanish with Dick and Jane in brownface, will not guarantee success for language minority students. Expecting too much of even good programs is counterproductive because in the absence of quick results, the children are again blamed for their failures. (p. 205)

Failure of the "easy" unidimensional explanations of Latino underachievement has led to more complex explanations that recognize the multiple social, political, and

educational forces at work in school success and failure. This research is rich with explanations, all of which, for some students, under some conditions, almost certainly explain some portion of the variance in achievement.

Parent Income and Educational Background

Table 3 shows data on income and education for all students taking the SAT4 examinations in 1999. Even though these students tend to be among the most advantaged young people in our society, differences in income and education by ethnicity are dramatic.

Table 3

Parent Education and Income by Ethnicity College-bound Students, 1999

Group	% Parents w/ less than H.S. Diploma	% Parents w/ some college	% Parents w/ income < $20K	% Parents w/ income > $100K
Black (114,912)	5	45	27	3
Mexican American (41,028)	27	30	27	4
Puerto Rican (13,635)	9	47	26	5
Native American (10,159)	4	53	15	9
Asian (94,066)	11	59	21	10
White (704,462)	1	66	5	16

Note. From *The College Board, 1999 SAT administration data, 1999b*.

Table 3 reveals a picture of stark differences among ethnic groups with respect to socio-economic background. Mexican Americans are much more likely than all other groups to have parents without a high school diploma, and much less likely to have parents with *any* college experience. Both Puerto Rican and Mexican origin Latinos (as well as African Americans) are much more likely than White youth to have very low income parents, as they are much less likely to have parents with high incomes. Notably, the combined risks of low educational background and low income are greatest for Mexican origin students, with Puerto Rican students trailing just behind them. Even among this most-advantaged slice of American youth, these Latino students stand out with respect to the relatively low level of resources they bring with them to school.

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4 The SAT was formerly known as the Scholastic Aptitude Test, however over time The College Entrance Examination Board has moved away from this title and prefers that the test be known simply as the "SAT." In none of its literature does it provide an explanation for the acronym. As Cloud (2003) notes in a *Time* magazine article on the revisions of the test, "The name of the test will be, simply, the SAT. The letters stand for nothing" (p. 51). This is consistent with The College Board's general policy.

Given that parental socio-economic status is the variable that consistently explains the most variance in academic achievement, it is not surprising that Latino students would fare worse than most other students. However, socio-economic status also correlates with background characteristics and opportunities, such as likelihood of attending preschool.

Human and economic capital also frequently convert into *social capital*—knowledge of how "the system" works and access to social networks that help one to navigate that system. Numerous studies have shown how middle class parents, with their knowledge of public institutions and their personal access to persons in authority, can "work the system" for their children. They know how to structure opportunities for their children in school (Lareau, 1989), know how to gain access to the best classes, teachers, and curriculum (Margolin,1994; Useem, 1992), and have the ability to provide cultural opportunities that provide them with advantages in the classroom (DiMaggio, 1982). Some have argued that such social capital may even trump economic capital (Delgado-Gaitán, 1990; Mehan, Villanueva, Hubbard, & Lintz, 1996).

Inadequate Pre-kindergarten Opportunities

Two-thirds of all 4-year-olds nationwide attend some kind of preschool, and slightly more than half attend full-time (National Center for Education Statistics [NCES], 1999). For middle class children, this includes a wide variety of private preschools as well as publicly supported programs in the community. Moreover, for those middle class children who stay at home, many will receive enriched educational opportunities in more informal contexts. Considerable research evidence exists for the short term effects on cognitive functioning, health status, and socio-emotional adjustment of children who attend high-quality preschool programs (Karoly et al., 1998; Zigler & Styfco, 1993). However, for low income children, both the opportunity to attend preschool and the quality of the experiences they will have there are much more limited, and the likelihood that Latino children will attend preschool is lower than for all other groups.

Table 4, taken from the Early Childhood Longitudinal Study, a U.S. Department of Education funded national study that is following children from preschool through elementary school and which began in 1998, displays a somewhat complex picture. Hispanic children are much *less likely* to be in a preschool program than all other students, and they are also much *more likely* to attend kindergarten at a young age without the benefit of having attended preschool. (African American children are the most likely to be in center-based programs, largely due to their high enrollments in Head Start.) Importantly, early enrollment in kindergarten is also associated with higher risk for less positive educational outcomes, especially when kindergarten has not been preceded by preschool attendance (NCES, 1995). Table 5 completes the picture.

Table 4

Percent of Center-based Preschool and Kindergarten Students (3-5 Years Old) in U.S. by Ethnicity, 1999

Ethnicity	Preschool Age 3	Preschool Age 4	Kindergarten Age 4	Total Age 4	Preschool Age 5	Kindergarten Age 5	Total Age 5
White	46.0	66.2	1.8	69.3	23.1	54.7	92.9
Black	59.2	79.4	1.3	81.4	20.2	55.2	98.5
Hispanic	25.0	56.8	5.8	63.6	13.4	66.2	88.6
Other	56.3	65.0	4.5	70.0	23.4	61.1	97.8

Note. From *U.S. Department of Education, NCES, Digest of Education Statistics, 2000a.*

Table 5

Percent of Kindergartners in Lowest and Highest Quartile of Reading Skills, by Ethnicity, Fall 1998

Group	Lowest Quartile/ Reading	Highest Quartile/ Reading	Lowest Quartile/ Math	Highest Quartile/Math
Black	34	15	39	10
Latino	42	15	40	14
Asian	13	39	13	38
White	18	30	18	32

Note. From *America's Kindergartners, U.S. Department of Education, NCES, 2000b.*

Of all major ethnic groups, Latinos are the most likely to fall into the lowest quartile on pre-reading and pre-math skills, and the least likely to fall into the highest quartile. One probable reason for their exceptionally low performance on these measures is that significant numbers of Hispanic kindergartners are tested in English when they are not yet proficient in the language. Nonetheless, when these children are also younger than their peers, have not had the benefit of preschool, and are not yet proficient in English, the result is often failure even at the very beginning of their school careers.

High Rates of Residential Mobility

Family residential mobility can also play a large role in the educational achievement of children. Entwisle, Alexander, and Olsen (1997) report that in a study of low income, urban elementary students, those who changed schools within the first five grades were also more likely to have behavioral problems, be retained in grade, and have poorer attendance. Latino youth are especially affected by this mobility, as a significant portion are migrants and many move back and forth across the border following work opportunities and family commitments in Mexico (Olsen, 1997). Both young and adolescent Latinos can be negatively affected by moves that result in school changes; young children are more likely to have school adjustment problems and older Latinos are more likely to drop out of school altogether (Rumberger & Larson, 1998). Of course, not all school changes are the result of family mobility, nor are they always bad. Sometimes children change schools to find a better fit, but this appears to be more common with middle class children than low income Latinos (Rumberger & Larson, 1998). In schools with high proportions of low-income and minority youth in particular, multiple school changes, especially at the secondary level, can also be the result of school practices that transfer students who are perceived to be problems. Fine (1991) describes how such "trouble makers," as perceived by school personnel, are often among the brightest in their classes, but have difficulty "fitting in" at school.

Lack of Peer Support for Academic Achievement

Adolescent peer groups are commonly portrayed as having a negative influence on the values and behavior of youth. Drug and alcohol use, gang membership, and a culture of underachievement are popularly viewed as risks associated with peer influence, and with good reason, since such risky behaviors have been shown to occur in peer clusters (Henderson, 1997). Peers can, however, also have a positive influence on each other. They can support academic goals and serve as important sources of information for upward mobility (Stanton-Salazar, 1997; Steinberg, 1996). But Latino students are more likely to have peers who feel marginalized by school and do not support schooling goals (Gándara, O'Hara, & Gutiérrez, 2004; Hurd, 2004; Steinberg, 1996). Of course, students who hang out with low performing friends tend to perform at lower levels as well (Epstein & Karweit, 1983; Steinberg, 1996) and those whose friends are drop outs are at higher risk for dropping out themselves (Rumberger, 1991). Many Latino students who aspire to high achievement report the problem of being accused of being a "school boy" or "school girl" and thus being shunned by their lower performing peers who may be the arbiters of social acceptability in their schools (Rodriguez, 1982; Steinberg, 1996). Finding a supportive peer group that values high achievement can be exceptionally difficult for Latino students from low income backgrounds and they must thus make the choice between being "popular," and being "smart" (Gándara et al., 2004). Given the importance of peer relations for the development of a healthy identity (Erikson, 1968), it is not particularly surprising that so many Latino students opt for popular over smart.

Racial and Ethnic Stereotyping

Societal beliefs about the intellectual or cultural inferiority of Latinos can result in both constrained opportunities and choices. Claude Steele (1997) has theorized that stereotype vulnerability can explain why many minority students may perform poorly or choose not to participate at all in academic endeavors in which they run the risk of confirming the stereotype that they are intellectually inferior. Through a series of novel experiments in which he manipulated subjects' perceptions of testing conditions and consequences, Steele demonstrated that minority students may *disidentify* (that is, plead lack of interest) with academic goals because of the performance anxiety that is produced by having to compete academically in settings where any mistake can be interpreted as an affirmation of their intellectual inferiority. Steele argues that such *disidentification* can lead to disengagement with academics, as well as to poor testing outcomes. Support for this theory is also found in the ethnographic work of Willis (1977) and McLeod (1987). In these studies, the researchers found that disaffected low income and minority youth rejected the social norms of the society that they perceived had rejected them. However, in assuming the very stereotypes that the society had imposed on them, they inadvertently cooperated in fulfilling the discriminatory prophecies of those who disparaged them.

Extracurricular Involvement and Support

We know that high school students who get involved in extracurricular school activities are more likely to remain in school (Davalos, Chavez, & Guardiola, 1999; Mahoney & Cains, 1997), develop bonds with their teachers (Fletcher & Brown, 1998), identify with school (Marsh & Kleitman, 2002), and experience positive educational trajectories (Brown & Theobald, 1998; Eccles & Barber, 1999). In addition, participation in sports and clubs is correlated positively with higher grades, higher aspirations, higher levels of self-esteem, and improved race relations (Brown & Theobald, 1998; Holland & Andre, 1987; O'Brien & Rollefson, 1995). We know too that participation in these extracurricular activities leads students to acquire "comparatively greater human and social capital" (Flores-Gonzalez, 2002; Quiroz, Flores-Gonzalez & Frank, 1996), and that low income students appear to benefit from these activities even more than their middle class peers (Marsh & Kleitman, 2002). But there is also evidence that low income students are less likely to participate in such activities (Eckert, 1989; McNeal, 1998), as are Latino students (Gibson, Bejínez, Hidalgo, & Rolón, 2004). Thus, the social relationships that help integrate Latino students into the fabric of schooling and provide both social and academic support for schooling are less likely to occur for these students.

Low Expectations From Teachers

While Latino parents may have high aspirations for their children's educational attainment, research also shows that their aspirations are moderated by more realistic *expectations* of what their children are *likely* to achieve (Henderson, 1997). It appears that both parents and students wish for particular academic outcomes, but that these wishes are tempered by a realistic assessment of the constraints imposed by their educational situation (Adelman, 1999). One important constraint on aspirations is the way in which teachers respond to ethnic minority students.

Teachers can be very effective in sending non-verbal messages to students about the amount of confidence they have in their abilities. For example, research has shown that teachers wait longer for an answer from a student they believe knows the answer than from one in whom the teacher has little confidence. In this case, the teacher is more likely to provide the correct answer or move quickly on to another student (Brophy & Good, 1974). Students have also been shown to be very sensitive to these subtle teacher behaviors, to "read" their teachers' attitudes quite accurately (Weinstein, 1989), and arguably, to internalize these attitudes in ways that can reduce achievement (Rist, 1970).

Teachers' assessments of student potential begin at a very early age. Alexander, Entwisle, and Thompson (1987) showed that social distance, that is, difference in social and economic status, between first graders and their teachers resulted in lower expectations and lower assessments of maturity and behavior for low income students. Moreover, these early assessments resulted in lower academic achievement in subsequent years (Entwisle et al., 1997). Because teachers are more likely to assess middle class and non-minority students as having higher ability than their low income and minority peers (Baron, Tom, & Cooper, 1985), inequalities in schooling expectations, access to

demanding curricula, and other schooling opportunities are established early in children's school careers (Barr & Dreeben, 1983). Limited proficiency in English is one characteristic of many Latino students that appears to negatively influence their teachers' assessments of their abilities (Burstein & Cabello, 1989).

Limited English Proficiency

Although data on language proficiency nationally are notoriously unreliable (Council of Chief State School Officers [CCSSO], 1989), estimates of the percentage of Hispanic students who begin school with a language other than English in California—the state with the largest number of English learners—is about 50% (California Department of Education, Language Census Unit, 2001). Thus, a very large percentage of Hispanic students must grapple with the handicap of not knowing sufficient English to fully access the curriculum when they begin school. English learners commonly face classrooms that either do not take their language needs into account or are structured to provide an impoverished curriculum that often does not prepare them to succeed academically (August & Hakuta, 1997; Olsen, Jaramillo, McCall-Pérez, White, & Minicucci, 1999). The Prospects Study (Puma et al., 1997), a federally mandated study of student achievement, found that English learners scored consistently lower than all other children on achievement tests, even when compared to students at similar high-poverty levels. Even highly competent English learners, who may have mastered the curriculum in their primary language, cannot demonstrate this knowledge on tests that are in English only. Abedi (2000) has demonstrated that the test performance of English learners is significantly affected by the complexity of the language of the test, even in areas that do not purport to assess English competence. Thus, low test scores and failure to achieve at expected levels often lead to lower expectations on the part of teachers and placement in low level and remedial courses (Minicucci & Olsen, 1992).

Inequalities in K-12 Schooling

Quality of Instructional Offerings

The particular school that a student attends can have a significant impact on his or her academic achievement. Schools in more affluent neighborhoods have been shown to provide more rigorous college preparatory and honors courses than schools in lower income communities that largely serve populations of underrepresented students. For example, in a recent study of California schools, Betts, Rueben and Danenberg (2000) found that the lowest income schools offered only 52% of their classes as meeting college preparatory requirements, while this figure rose to 63% in the highest income schools. Similar patterns held up when the analysis was done by percentage of non-White students in the school. Likewise, Betts et al. found that "the median high-SES school has over 50 percent more Advanced Placement courses than the median low-SES school" (p. 72). Based on analyses of High School and Beyond data, Adelman (1999) concluded that the rigor of the curriculum to which students are exposed is more predictive of long term academic outcomes than even the powerful variable of family socio-economic status. That is, Adelman argues that the greatest amount of the variance in long term academic outcomes among ethnic groups can be

attributed to the differences in the groups' exposure to high level curricula—most particularly to advanced mathematics. Table 6 demonstrates this using data from California showing that Latino students are the least likely of all groups to complete the required courses for 4-year college admission.

Table 6

Public High School Graduates Completing Required Courses for 4-Year College Admission, California, 1999-2000

Mixed Race	**Latino**	American Indian	Black	Pacific Islanders	White	Filipino	Asian
15.7%	**21.5%**	23.4%	24.7%	25.7%	40.2%	45.4%	57.9%

Note. From *California Basic Educational Data File 1999-2000.*

Quality of Teachers

Not only are schools in more affluent areas better organized to provide more rigorous curricula, they also tend to have better prepared teachers (Betts et al., 2000; Ferguson, 1998; Haycock, 1998). However, Haycock (1998) demonstrates that children of color, regardless of their socio-economic level, are more likely to be taught by teachers with lower test scores and less academic preparation than are White children. And the quality of the teacher, measured by certification, quality of institution from which the teacher received his or her degree, and test scores, has been shown in a number of studies to have a significant impact on student performance (Darling-Hammond, Berry, & Thoreson, 2001).

Segregation of Minority Students Within and Between Schools

Racial and ethnic segregation continues to have an impact on school performance for underrepresented students. Inequalities in educational opportunity between segregated White schools and segregated schools with students of color have been well documented (Orfield & Eaton, 1996) and served as the catalyst for a decades-long experiment with desegregation and busing. That experiment has largely come to an end. Today, both Black and Latino students attend increasingly segregated schools. Latino segregation has been increasing since data were first collected in the 1960s. In 1997, 35.4% of Latino students were attending schools that were 90 to 100% minority (Orfield & Yun, 1999). And as Orfield (1996) points out:

> Low-income and minority students are concentrated in schools within metropolitan areas that tend to offer different and inferior courses and levels of competition, creating a situation where the most disadvantaged students receive the least effective preparation for college. A fundamental reason is that schools do not provide a fixed high school curriculum taught at a common depth and

> pace. The actual working curriculum of a high school is the result of the ability of teachers, the quality of counseling, and enrollment patterns of students. (p. 67)

Defying the Predictions: Explaining Latino High Achievement

The litany of reasons given in the extant literature for Latino underachievement provides an excellent rationale for why they fare so poorly in public schools. In fact, it is difficult to imagine that they would perform otherwise, considering the multiple impediments to high achievement that they face. However, some Latino students fare exceptionally well, in spite of coming from backgrounds that would predict academic failure. Less attention has been devoted to studying those who defy the predictions, but some researchers have attended to this issue, and while the focus is seldom on Latino students specifically, there is a considerable body of literature that can be applied to the task of understanding Latino high achievement in adverse circumstances. Relevant literature is found in at least four different disciplinary traditions: psychology, sociology, anthropology, and education. Each takes a different perspective on explaining the phenomenon. Figure 1 displays a map of these theoretical perspectives.

The discussion that follows is in no way exhaustive of the relevant literature. For each researcher or study cited, a dozen more could have been included. However, the attempt here is to cover the major strands of research and some of the most well known and broadly published of the proponents of those perspectives.

Psychological Perspectives

Psychological theories attempt to explain achievement phenomena from an intra-personal perspective. That is, the primary source of achievement motivation is believed to be found in the internal cognitive and psychological processes of the individual. High achievement in the face of adverse circumstances is theorized to occur as a result of a process whereby the individual's psyche, motivation, or inherent abilities are allowed or encouraged to flourish in spite of adversity. There are three major theoretical strands that derive from the psychological perspective: resilience, entity, and motivational theories.

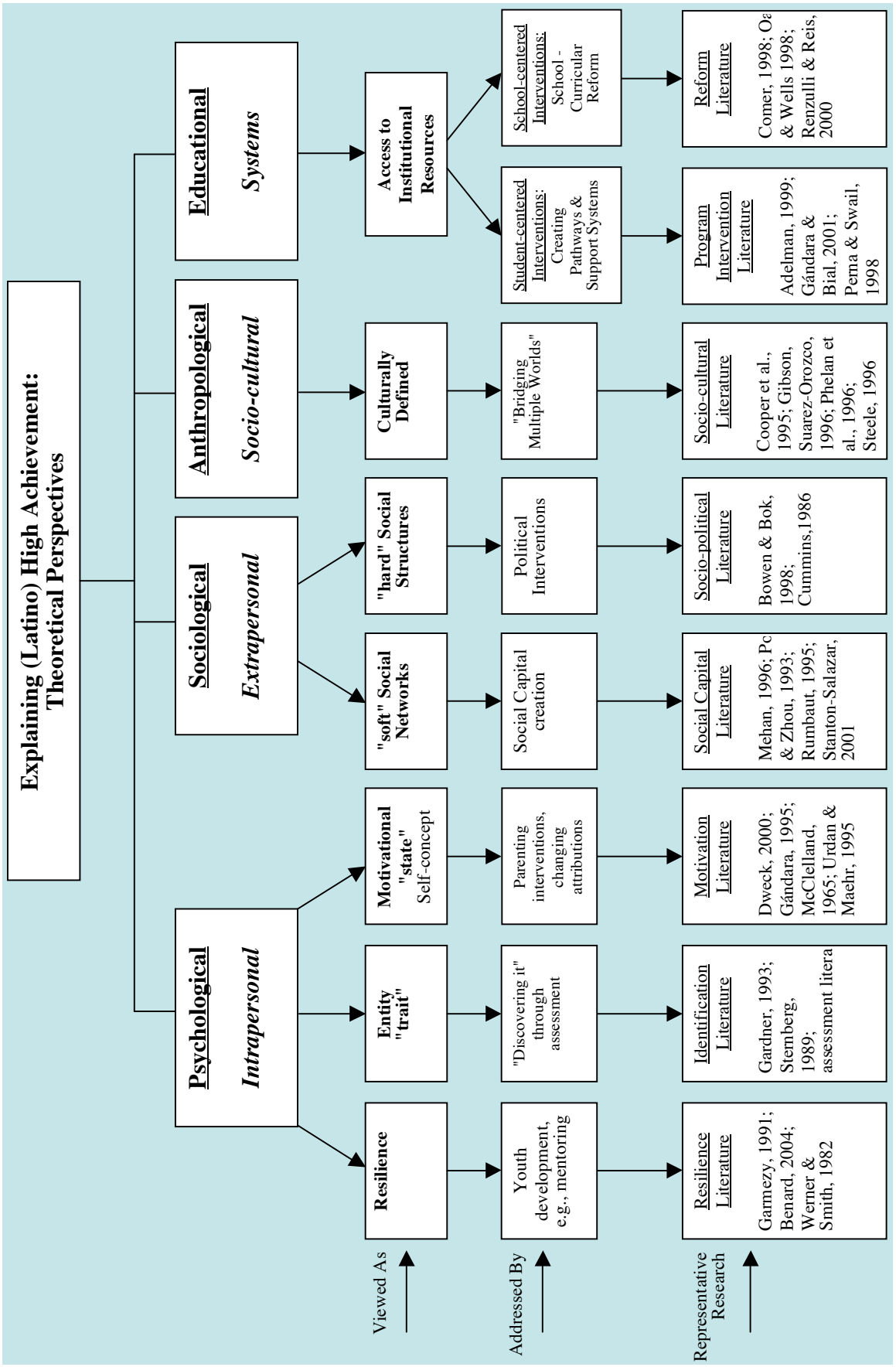

Figure 1. Explaining (Latino) high achievement: Theoretical perspectives.

Box: Resilience

Benard, B. (2004). *Resiliency: What we have learned*. San Francisco: WestEd.

Garmezy, N. (1991). Resilience and vulnerability to adverse developmental outcomes associated with poverty. *American Behavioral Scientist, 34,* 416-430.

Werner, E., & Smith, R. (1982). *Vulnerable but invincible: A longitudinal study of resilient children and youth*. New York: McGraw-Hill.

Box: Identification

Gardner, H. (1993). *Multiple Intelligences: The theory in practice*. New York: Basic Books.

Sternberg, R. J. (1989). *The Triarchic mind: A new theory of human intelligence.* New York: Penguin.

Box: Motivation

Dweck, C. (2000). *Self-theories: Their role in motivation, personality, and development*. Philadelphia: Taylor and Francis.

Gándara, P. (1995). *Over the ivy walls: The educational mobility of low income Chicanos*. Albany, NY: State University of New York Press.

McClelland, D. (1965). Toward a theory of motive acquisition. *American Psychologist, 20,* 321-333.

Urdan, T., & Maehr, M. (1995). Beyond a two-goal theory of motivation and achievement: A case for social goals. *Review of Educational Research, 65,* 213-243.

Box: Social Capital

Mehan, H., Villanueva, I., Hubbard, L., & Lintz, A. (1996). *Constructing school success: The consequences of untracking low-achieving students*. New York: Cambridge University Press.

Portes, A., & Zhou, M. (1993). The new second generation: Segmented assimilation and its variants. *Annals of the American Academy of Political and Social Sciences, 530,* 74-96.

Rumbaut, R. (1995). The new Californians: Comparative research findings on the educational progress of immigrant students. In R. Rumbaut & W. A. Cornelius (Eds.), *California's immigrant children, theory, research, and implications for educational policy* (pp. 71-90). San Diego, CA: University of California Center for U.S.-Mexican Studies.

Stanton-Salazar, R. (2001). *Manufacturing hope and despair: The school and kin support networks of U.S. Mexican youth*. New York: Teachers College Press.

Box: Socio-political

Bowen, W., & Bok, D. (1998). *The shape of the river: The long term consequences of considering race in college and university admissions*. Princeton, NJ: Princeton University Press.

Cummins, J. (1986). Empowering minority students: A framework for intervention. *Harvard Educational Review*, *56,* 18-36.

Box: Socio-cultural

Cooper, C., Jackson, J., Azmitia, M., Lopez, E., & Dunbar, N. (1995). Bridging students' multiple worlds: African American and Latino youth in academic outreach programs. In R. Macias & R. Garcia Ramos (Eds.), *Changing schools for changing students: An anthology of research on language minorities* (pp. 111-234). Santa Barbara, CA: University of California Linguistic Minority Research Institute.

Fordham, S., & Ogbu, J. (1986). Black students' school success: Coping with the burden of "acting White." *Urban Review, 18,* 176-206.

Gibson, M. (1988). *Accommodation without assimilation: Sikh immigrants in an American high school*. Ithaca, NY: Cornell University Press.

Suárez-Orozco, M., & Suárez-Orozco, C. (1996). *Trans-formations: Migration, family life, and achievement motivation among Latino adolescents*. Stanford, CA: Stanford University Press.

Phelan, P., Davidson, A., & Yu, H. C. (1996). *Adolescents' worlds: Negotiating family, peers, and school*. New York: Teachers College Press.

Box: Program Intervention

Adelman, C. (1999). *Answers in the tool box: Academic intensity, attendance patterns, and bachelor's degree attainment*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.

Gándara, P., & Bial, D. (2001). *Paving the way to postsecondary education: K-12 intervention programs for underrepresented youth*. Washington, DC: National Center for Education Statistics. Available at www.ed.gov/nces

Perna, L., & Swail, W. S. (1998, November). *Early intervention programs: How effective are they at increasing access to college?* Paper presented at the annual meeting of the Association for the Study of Higher Education, Miami, FL.

Box: Reform Literature

Comer, J. (1988). Educating poor minority children. *Scientific American, 259,* 42-48.

Oakes, J., & Wells, A. S. (1998). Detracking for high student achievement. *Educational Leadership, 55,* 38-41.

Renzulli, J. S., & Reis, S. M. (2000). *What is Schoolwide Enrichment? And how do gifted programs relate to total school improvement?* Available online at www.gifted.uconn.edu/sem/whatisem.html

Resilience Theory

Resilience theory has the potential to help explain the phenomenon of high achievement among Latinos in spite of adversity by borrowing from the findings of research on at-risk youth who survive both psychological and biological threats to their well-being and yet develop into physically and psychologically healthy adults. The roots of this theoretical perspective are in the early work of Garmezy and his colleagues (Garmezy, 1976, 1991; Garmezy, Masten, & Tellegen, 1984) who investigated what was initially referred to as "invulnerability" but later developed into the study of competence and resilience. Garmezy was particularly interested in children raised by schizophrenic mothers who managed to develop normally in spite of their chaotic upbringing. However, he began to turn his attention to a more generalized competence, including the development of achievement motivation. In reflecting on more than a decade of work on high risk and vulnerable children, Garmezy (1971) noted,

> [W]e have come across another group of children whose prognosis could be viewed as unfavorable on the basis of familial or ecological factors, but who upset our prediction tables and in childhood bear the visible indices that are hallmarks of competence: good peer relations, academic achievement, commitment to education, and to purposive life goals, early and successful work histories. . . . Were we to study the forces that move such children to survival and to adaptation, the long benefits to our society might be far more significant than our many efforts to construct models of primary prevention designed to curtail the incidence of vulnerability. (p. 114)

Among the chief findings of this research was that these "resilient" children had at least one psychologically healthy adult in their lives and they also had a basic social and intellectual competence that appeared to make them less vulnerable to psychological stressors.

Masten extended this early work with Garmezy to include a broader focus on an array of childhood stressors, and shifted away from the model of psychopathology to focus on resilience as an aspect of *normal* development (Masten, 1994; Masten & Coatsworth, 1998). In 1955, Werner and Smith set out to study the long term outcomes for children who experienced prenatal and perinatal stress and who were reared in adverse (poverty, family instability) circumstances (Werner & Smith, 1982). By the end of their 40-year study, they found that only about one in six of the children who had entered the world under adverse conditions actually succumbed to their circumstances (Werner & Smith, 2001). Most experienced what the researchers came to view as a normal developmental "self-righting" process, which was aided by certain specific protective factors. Among these protective factors were a temperamental predisposition to be open to the help and guidance of others, opportunities to develop a sense of competence and self esteem, and caring and supportive adults in their lives (Werner, 1992; Werner & Smith, 2001).

The shift from an early focus on "invulnerability" to "resilience" appears to have come about as researchers came to view the phenomenon not so much as an individual's imperviousness to the challenges placed before him or her, but rather an ability to withstand and even thrive in spite of the impact and effects of these circumstances. Individuals who survived such backgrounds were not, in fact, invulnerable; they were simply resilient in the face of the "slings and arrows of outrageous fortune"—they bounced back. Contemporary resilience theorists tend to emphasize that resilience is not a "trait" that some individuals have, but a "state" that can be nurtured and supported and that is evident in some contexts and not in others. That is, an individual may demonstrate resiliency in the face of certain kinds of challenges, but not necessarily in others. And much depends on the resources and support he/she receives (Benard, 1996). Horn and Chen (1998) looked at resilience in at-risk students who make it to college, based on the National Educational Longitudinal Study (NELS) of 1988. At-risk status was measured as having two or more of the following risk factors: low socio-economic status, sibling who dropped out of school, single parent home, low grades, held back a grade, or changed schools. Horn and Chen concluded that parental involvement, in the form of school-related discussion while in high school, was an important protective factor that significantly increased students' likelihood of going on to college.

The field of Youth Development has adopted the resilience model in attempting to address the needs of young people at risk for both behavioral and academic problems. Big Brothers/Big Sisters is one of the most well known and successful of these efforts. The core of their intervention is the provision of a mentor for children at risk due to poverty and absence of a parent. Findings are mixed with respect to the ability of a mentor to change the academic trajectory (and thereby have a significant impact in creating high achievement) of young people at risk, but there is good evidence that mentors can affect behavioral outcomes for at-risk youth (Gándara & Mejorado, 2004; Grossman & Tierney, 1998). Benard (1996) has focused her attention on the ways that schools can foster resilience in at-risk students by emphasizing a "strengths perspective." She argues that schools that focus on students' strengths rather than their deficits, that provide opportunities to develop self-efficacy, and that exhibit caring and nurturance can play active roles in producing students with resilient outcomes. Similarly, Renzulli and Reis (2000) have also described how their Schoolwide Enrichment Model (SEM) can foster students' strengths in ways that support resilience by considering three domains—the types of skills and abilities that a child has, the types of services that can be provided to support the development of those abilities, and the kinds of performances that can demonstrate learning outcomes. Schools that serve Latino students and that are organized to provide such thoughtful and tailored curricula, support, and nurturing could be expected to produce more high achieving Latinos.

An important feature of resilience theory is that it is based on a universalist notion that certain developmental principles hold for all children, and thus interventions can and should be equally effective for all children, regardless of gender, background, race, or ethnicity. However, the evidence on programmatic interventions does not necessarily bear this out. In a review of programs designed to increase college access for underrepresented students, Gándara, and Bial (2001) found that programs differed in their

ability to effect successful outcomes for youth according to background characteristics of the students. Some programs were more effective with some ethnic or racial groups than others and this appeared to be related to the cultural backgrounds, knowledge, and experience of the staff. Some proponents of the Youth Development movement have focused efforts on raising the academic achievement of minority youth specifically and sought to identify programs that demonstrate particular success with African American, Native American, and Latino students (James, Jurich, & Estes, 2001). Thus, the development of resilience in youth may depend to some extent on the nature of the supportive mechanisms provided and the degree to which they are culturally aligned with the young person's life circumstances.

Entity Theory

Entity theorists generally subscribe to the notion that high achievement is the product of high ability and that it can be found in the midst of adversity as well as in affluence. Thus the central challenge of the entity theorists is to identify the characteristics of high ability in children who may not demonstrate it in the same ways as others because of cultural, linguistic, or other differences. Entity theorists would argue that Latino high achievement is often masked by cultural practices and that culturally biased measurement simply fails to uncover the existence of this ability or set of competencies. Undiscovered, these abilities go unnurtured and unacknowledged, and may, in fact, convert into social deviance because of boredom and disaffection with a mind-numbing curriculum that is not matched to the talents of the child (Galbraith, 1985). For the entity theorists, the problem of Latino underachievement is based in the failure to *identify* high ability accurately in this population. Hence, much of the research has focused on issues of identification and measurement of high ability in low income and minority children.

During the 1970s, Jane Mercer (1979) led a movement to develop racially non-discriminatory measurement of intelligence in order to increase the chances of "discovering" high ability in children for whom it might be masked by conditions of poverty, disability, and cultural difference. Her System of Multicultural Pluralistic Assessment (SOMPA) gained some adherents but ultimately floundered because it did not have the predictive ability of more standard forms of measurement. Other efforts at developing "culture free" and "culture fair" assessments have received a cool reception from the field, in part because they often fail to yield any better results for children of color than do the traditional measurements (Anastasi, 1988).

The whole area of gifted education has traditionally relied to a large extent on entity theory, in that it has been predicated on a belief that highly talented youngsters need to be identified early and provided with appropriate curriculum and instruction. Otherwise, the argument goes, their potential will be untapped, and they may even turn away from school out of boredom and frustration (Galbraith, 1985).

Howard Gardner's (1993) theory of multiple intelligences has resonated with the field of psychology and created the intellectual space to envision culturally different

children as equally capable as their mainstream peers, but in different ways. This work has spun off teacher workshops and numerous publications geared toward helping school personnel to foster the multiple abilities of students, but has not yet yielded much in the way of uncovering many Latino candidates for high achievement. A number of programs reviewed in Callahan, Tomlinson, and Pizzat (1994) provide potential models for identification and assessment of young minority children that are designed to be both culturally sensitive and innovative. The Full Potential Program for African American students described by Amuleru-Marshall, Mumford-Glover, and Jones (1994) incorporates a series of rating scales for teachers, parents, and peers combined with student portfolios and is used with children beginning in the first grade. While no psychometric properties are reported for the scales, the overall battery of diagnostic instruments appears to correlate reasonably highly with the Iowa Tests of Basic Skills, while effectively increasing the numbers of African American students identified by 18 to 22%. The STEMS program, reported on by Pizzat (1994) focuses on training teachers to identify special talents in children who may be gifted. Task commitment, risk taking, and independence are some of the characteristics teachers are trained to recognize, as well rich verbal expression and use of imagery. Exceptional abilities in arts, athletics, and creative communication are also a focus of the program. However, there is relatively little attention in the literature to assessment programs that are particularly sensitive to cultural differences for Latino students, and as Burstein and Cabello (1989) note, teachers appear to have particular difficulty in identifying potentially high achieving (or gifted) Latinos. Frasier, García, and Passow (1995) reviewed existing literature on assessment issues associated with identifying giftedness in minority students and concluded that an important reason that the field continues to struggle with problems of identification is that the construct of giftedness is poorly defined. Thus, while entity theory has the potential to help explain Latino high achievement, the field has not developed to a point where it has been very successful in doing so, largely because of the limitations of measurement.

Achievement Motivation Theory

There is probably more research into motivation than any other area of psychology. Psychologists have long been fascinated by the drive that seems to impel some individuals to heights of achievement, while others appear to be felled by life's most trivial impediments. Most of this research, however, ignores the possibility of cultural and ethnic differences in the forces that shape achievement motivation. Nonetheless, some of this research does have direct application to an examination of achievement motivation for Latino populations. McClelland, Atkinson, and their colleagues (Atkinson & Feather, 1966; McClelland, 1965; McClelland, Atkinson, Clark, & Lowell, 1953) argued that parenting practices were related to high need to achieve (NAch) in school and otherwise. They proposed that motivation for achievement could be engendered in children through early training by setting high standards and providing sufficient independence and autonomy for the child to develop a sense of task mastery. A similar line of research was followed by Baumrind (1989) and others (e.g., Steinberg, 1996) who have argued that particular parenting practices are associated with academically ambitious students. The three types of parenting practices mentioned repeatedly in the literature are: authoritarian—in which parents are often distant,

controlling and offer few opportunities for autonomous behavior; authoritative—in which parents are warm, firm, but allow children sufficient autonomy to make choices; and permissive—in which parents allow excessive autonomy without firm guidance. Authoritative parenting has consistently been found to be associated with higher academic achievement in children (Baumrind, 1989; Steinberg, 1996). This type of parenting, not surprisingly, is found most frequently in middle class and Anglo American households, while African American, Latino, and other immigrant groups are more likely to be authoritarian. Laosa (1978) showed that Mexican origin mothers from lower income backgrounds were indeed less likely than White middle class mothers to foster autonomous behavior and independent problem solving in their children. And, as their children tended to be less successful in school, this research seemed to confirm the importance of fostering self-efficacy and task mastery as a prelude to formal schooling.

Some have argued, however, that the association between authoritative parenting and middle and upper class status may be more than coincidence. While relatively benign social environments may lend themselves to this type of parenting, quite possibly a stricter, less flexible parenting style may be called for in less benign environments where a single bad choice can lead to irreversible consequences. Both Clark (1983), investigating the antecedents to high achievement among low income African American youth, and Gándara, (1995), studying similarly successful low income Mexican Americans, concluded that many of their high achievers were reared in authoritarian households. Strict parents with strong goals for their children often kept them out of harm's way by limiting their autonomy and insisting on adherence to non-negotiable rules. While such parenting may not have prepared the children well for interactions with middle class peers and teachers, it kept them on a straight and narrow path—"the buen camino"—during risky points in their young lives and allowed them to flourish in school. This research calls into question the universality of a single type of parenting for academic excellence across cultural circumstances, and begs the question of whether the field of psychology has paid sufficient attention to the socio-cultural context in which achievement is nurtured.

Earlier motivation theorists gave little consideration to the possibility that socio-cultural differences could shape the definition or expression of achievement motivation. However, Maehr (1974), building on the work of McClelland and Atkinson, argued that motivation to achieve was not a "trait" found in some individuals, nor was it exclusive to particular cultural groups, but that its expression was highly dependent on context, and that culture formed one of those primary contexts. In later work, Urdan and Maehr (1995) proposed that motivation to achieve could also be a function of social goals, and that one could be motivated to achieve not just for the self, but also for the group. Such broader notions of achievement motivation are more useful in trying to explain high achievement among collectivist groups, such as some Latinos, where individuals may be rewarded more for pursuing familial, rather than personal goals (Grebler, Moore, & Guzmán, 1970).

Closely related to the concept of achievement motivation is *aspirations*. Aspirations are the manifestation of one's need to achieve or achievement motive. They

are the goals that individuals set for themselves. A number of studies have shown that Latino youth as a group tend to have lower aspirations than other ethnic groups. For example, Latinos tend to report less ambition to go to college than other ethnic groups (Gándara et al., 2004; Kao & Tienda, 1998; Steinberg, 1996). This is sometimes attributed to realistic assessments of their likelihood of achieving the goal of a college education (Kao & Tienda, 1998), and at other times viewed as a result of the social and peer contexts in which these goals are formed (Gándara et al., 2004). It has been pointed out by a number of researchers that it is difficult to form high achievement goals in the absence of a supportive network of school, family, and friends who hold similar goals (Steinberg, 1996; Steinberg, Dornbusch, & Brown, 1992).

Some Latinos from low socio-economic backgrounds, however, do form high educational goals, and self reports of the sources of their motivation include prominently the influence of mothers, but also other significant "mentors" in their lives (Arellano & Padilla, 1996; Gándara, 1995). Gándara (1995) also found that Mexican origin parents of high achievers sometimes used very cultural-specific strategies for increasing the aspirations of their children. She has shown that a strategy of telling stories of family exploits or status in prior times (whether or not they are true) is often used to inspire and instill hopefulness in young Latinos who do not see models of high achievement in their immediate environment. Gándara (1995) also found evidence of an abundance of early literacy practices in the homes of these high achievers, even though parents typically had low levels of formal education. Reading and studying the bible and engaging children in conversations about civil rights and social justice issues were ways that many parents of high achievers inspired their children to aim high and do well in school to be able to meet their own and their parents' expectations.

Self-concept and perceptions of one's own ability figure importantly into the motivation to achieve and the development of aspirations. Dweck (2000) has found that ability concepts are developmental in nature and that as children get older, they have a greater tendency to see ability to be fixed (a trait) and to judge themselves increasingly harshly with regard to their own ability. By 7-8 years of age, social comparisons (how smart one perceives oneself to be compared to others) and academic outcomes (e.g., grades, test scores, teacher feedback) affect students' ability estimates, but have relatively little impact on their motivation. However, by 10-12 years of age, both social comparison and academic outcomes have a substantial impact on self-evaluation and motivation (Dweck, 2000; Heyman & Dweck, 1998). The implications of these findings are significant for explaining Latino children's achievement. Because Latino children typically fare much more poorly in school than either their White or Asian classmates, both academic outcomes and social comparisons converge to dampen motivation for high achievement. For example, when one Latino middle-schooler was asked to assess where he stood with respect to his classmates in a particular class: "Are you in the top 10 percent of your class?" The young Latino looked incredulous and retorted, "I can't possibly be, there are more than 3 Asians in my class [of 30 students]!"

Stevenson and Stigler (1994), studying perceptions of ability and effort in American, Japanese, and Chinese students and their mothers, concluded that Americans

tend to hold a strong entity view of ability—that it is a relatively unalterable trait—while Asians viewed academic outcomes to be the product of effort rather than any immutable ability trait. They also found that American mothers were more satisfied with their children's academic outcomes, even when they were relatively mediocre, while Asian mothers tended to feel that their children could always improve "with a little more effort." If Stevenson and Stigler are correct, then the American tendency to downplay the role of effort in academic outcomes is culturally transmitted and forms an important part of the cultural ethos into which Latino children as well are assimilated.

Latino students who excel academically must view themselves as intellectually competent when compared to their classmates and must receive sufficiently positive feedback about their academic performance to sustain high self-concepts of ability, and they must accomplish this in the context of a culture that tends to see academic outcomes as more the product of fixed ability than a willingness to expend effort to excel. This is a tall order for any student; it is especially so for students who carry the stigma of coming from a group for which achievement is chronically low.

Sociological Perspectives

Under the rubric of sociological perspectives there are two significant theoretical strands of research that can help to explain Latino high achievement. A cornerstone of sociological research is status attainment theory, which explains the mechanism by which social reproduction occurs. Essentially, status attainment theory posits that privileged groups in society pass on their status to their progeny by controlling access to power and structuring opportunities in ways that advantage their class. We divide these structural explanations into two categories: (a) "soft" social networks, and (b) "hard" social structures. The distinction between soft and hard structures refers to some extent to their permeability, but also to the amount of political "force" or intervention that is required to change them. Soft social networks are the web of social relations—and the access to power and authority that they represent—which generally differ substantially by social and economic status. The hard social structures refer to the entrenched practices and policies that more directly admit some groups and exclude others from privilege of all kinds in society. It is important to reiterate here also that sociological theories differ fundamentally from psychological theories in that they attempt to explain behavior for groups as opposed to individuals, and so methods for effecting change are also directed at group phenomena rather than characteristics or assumed of individuals.

"Soft" Social Networks

Bourdieu and Passeron (1977) and Coleman (1988) are most closely associated in contemporary sociological writings with the theory of "social capital" as an explanation for how the middle and upper classes very effectively maintain social privilege for their members. Social capital is the wealth of important human relationships and information about how to make the social system work to one's group's advantage. An important example of this was demonstrated in the work of Lareau (1987), in which she showed the different ways that affluent parents were capable of extracting far more benefit for their

children from the same schools than were low income parents. Affluent parents, with their knowledge of how the system worked at the level of decision makers and their easy access and comfort with persons of authority, allowed them to influence important educational decisions on behalf of their children, gaining them access to better curricula and more effective teachers. Not only could they affect the decisions, but they felt an entitlement to do so. It becomes clear through the work of these writers why so many Latino students are disadvantaged in their school settings. But it is the work of other sociologists, such as Mehan and his colleagues (1996), Stanton-Salazar (2004), and Portes and Zhou (1993), that explicates the ways in which social networks can also *advantage* some Latinos and lead to high achievement.

Mehan et al. (1996), in a study of low income and minority high school youth in a college preparation program, described the ways in which this largely Latino group of students was able to support each other's aspirations for high achievement, even in the face of a peer culture that was not very approving of their dedication to schooling. Mehan and his colleagues argued that in structuring these mutually supportive peer groups, the program had created a social safety net for the students. Within the peer groups, students were able to share both encouragement and information that kept them on track academically and headed for college. Stanton-Salazar (1997) refers to this as creating social capital and argues that even marginalized Latino youth can create capital rich micro-environments. In her study of high achieving Chicanos, Gándara (1995), too, found evidence of students providing the information and support for each other that they did not receive from teachers or counselors. One young woman recalled how she was in the line to register for classes and did not know she was in the vocational track line, but also did not believe she belonged in college preparatory classes. A friend called her out of line with the admonition, "Don't stand in that line because you will learn the same stuff you learned in seventh and eighth grade, just reviewing the same stuff," and so her friend steered her into the college prep line in spite of her protestations that she didn't "belong there." This highly achieving Latina student attributed the fact that she went on to college and ultimately earned a Ph.D. to this one fateful day and the friend who encouraged her to take the college prep classes.

Portes and Zhou (1993) argue for what they call "segmented assimilation." The vast differences among Latino groups with respect to academic achievement—Cuban Americans often outperform White middle class students, while Mexican origin and Puerto Rican students are at extremely high risk for school failure—they aver is due to the capital rich and capital poor environments into which these youth are assimilated. They point out that Cubans, with a strong economic foothold in the United States, are able to provide considerable social capital for their co-ethnic peers, while Mexican and Puerto Rican parents, with little social or economic capital in their communities, are severely challenged in attempting to orient their children toward high achievement goals. Few role models of achievement exist, and there is little access to networks of power brokers in the larger community. But even within such capital poor environments, it is possible to create social capital for students.

Jaime Escalante, the famed math teacher from East Los Angeles whose students, virtually all of whom were Latino, outperformed children of privilege across the nation in passing AP calculus exams, was a source of enormous social capital for his students. And he taught them how to share that capital among themselves. Escalante daily imbued his students with "life lessons" in addition to teaching calculus. He urged them to aim high and told them they would all go to college. He brought the students into contact with experts in every field that used mathematics and paired them with former students who were succeeding in college and in their careers. The Escalante students hung out together in his classroom before and after school and during lunch. They created their own oasis of social capital and nurtured each other's ambitions.5 Many of Escalante's Latino students have gone on to become very high achievers.

Another important example of the creation of social capital in socially and economically disadvantaged Latino communities is found in the work of González et al. (1995). In this ongoing work, the researchers have designed strategies for bringing the skills and talents found in the communities of low income Latino students into the classroom. Parents are invited to share their skills with children, acting as experts in particular areas of the curriculum, such as the use of mathematics concepts in building and sewing. The approach is known as Funds of Knowledge and the intent is to help Latino students see the intellectual strengths in their own homes and communities and to increase the credibility of parents as sources of knowledge. It also effectively builds social capital as community members become part of the resources in the school. The researchers conclude that students become more engaged in their learning, but more importantly, that teachers also come to see Latino families as more intellectually competent as a result of these pedagogical practices.

"Hard" Social Structures

The other way in which sociological theory can help explain high achievement in Latino students is through challenges to the deeply imbedded "hard" social structures that often exclude them from opportunity. Seldom does a society create such pervasive changes in the distribution of resources or opportunities that they have an identifiable impact on the disenfranchised. In fact, this is why we have referred to these as "hard" structures. Affirmative action, however, is one such challenge to the social reproduction of power and privilege. While relatively few students of color have actually benefited directly from affirmative action, there is evidence that, as a strategy, it has played a role in raising the achievement of some minority youth—including Latinos. William Bowen and Derek Bok (1998) studied the long term outcomes of minority (mostly African American) students who were the beneficiaries of affirmative action practices in admission to elite universities. They found that the more selective the college or university that these students attended, the more likely they were to complete their studies, graduate, and go on to graduate school. By a number of measures, they were also more personally and financially successful than co-ethnic peers who attended less selective institutions. There are several explanations for the greater success that minority

5 I spent 4 years in Mr. Escalante's classroom in the early 1990s, observed classes, interviewed and surveyed students, and spent many hours in conversation with Mr. Escalante about his practice.

students experience in elite schools. These schools have a higher overall graduation rate than almost all other institutions of higher education because their operating assumption is that if a student survives the extremely rigorous admission process, he or she is fully capable of obtaining a degree. Most public institutions, and other less selective colleges, on the other hand, assume that the graduating class will be substantially smaller than the freshman class because not all students admitted can be expected to complete their degrees (Klitgaard, 1985). Both social and academic support, as well as social and academic pressure, no doubt also contribute to the high success rate, as success is the *expected* outcome. It is unfortunate that Bowen and Bok did not conduct their analyses on a Latino sample, but there is every reason to believe that such findings would be consistent for Latinos as well as for Black students.

Bilingual education is a structural intervention that has been particularly targeted to the Latino community, given that up to half of Latino students begin school as English learners (Rumberger & Gándara, 2000). However, like affirmative action, it has been highly politicized, characterized as an "unfair" ("*my* grandfather came to this country, learned the language, and became successful without bilingual education") and costly6 intervention. While the most definitive research on bilingual education concludes that, when well-implemented, it holds a small advantage in long term educational outcomes over other instructional methods (August & Hakuta, 1997), it continues to be the focus of intense political debate, most recently culminating in a series of voter initiatives in California, Arizona, and Massachusetts that prohibited or severely limited its use for students with limited English proficiency. Why should a pedagogical strategy be the target of such broad political concern? Some commentators note its powerful symbolic value as a political concession to a growing—and not universally welcome—minority group (Crawford, 2000). Cummins (1986) describes bilingual education as a strategy for empowering Latino students by providing them with linguistic and political legitimacy. There can be little doubt, however, that bilingual education, with its objective of channeling educational resources to one group (English learners), is perceived by many as fundamentally a political, rather than a pedagogical, tool for the advancement of Latino students. Nonetheless, in a recent review of the extant literature on language assistance programs, Gándara (1999) found that the highest achievement gains were posted by students in dual immersion (simultaneous instruction in literacy in two languages) programs. This instructional approach appears to hold the greatest promise for high achievement for both native English speakers and English learners, as the cognitive benefits of multilingualism (cf. August & Hakuta, 1997) are best realized in programs that focus on high levels of biliteracy.

Anthropological Perspectives

The primary investigative methodology of anthropology is ethnography, and one of its major contributions has been the study and illumination of socio-cultural context as

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6 Two major studies have been conducted that address the issue of the cost of bilingual education (Carpenter-Huffman & Samulon, 1981; Parrish, 1994). Both concluded that bilingual education was among the most cost effective approaches for the education of English learners; nonetheless, the issue of cost continues to be raised as a red herring in debates about bilingual education.

a key variable in shaping attitudes, beliefs, and behaviors. Socio-cultural theory helps to explain Latino high achievement by unearthing the processes by which some Latino students are able to adapt, accommodate, bridge multiple cultures, and not only survive in "alien" environments, but excel in them. There has been a plethora of socio-cultural research in the last couple decades that sheds light on this issue.

Margaret Gibson (1988) conducted an ethnographic study of the school and cultural adaptation of Sikh immigrant youth in a rural community in Northern California. She sought to understand, from the perspective of the high school students and their families, how they were able to excel in school in spite of cultural differences and language handicaps. Gibson concluded that these students had "accommodated" to the demands of the school very well, but they had not assimilated to the American culture. By maintaining strong cultural ties, they also maintained an intact identity and a strong support system in the community. Unlike other immigrants that too quickly assimilate, they had maintained close ties to elders and family who supported these young people's aspirations without fear that they would turn their backs on the community. Rumbaut (1995) finds similar patterns across "successful" immigrant students in California. Based on data from the San Diego schools, he concluded that those immigrant students—whether Mexican or Asian—who maintained closer ties to their native culture and language were more likely to be successful in school. He explained this phenomenon as an example of the way in which family culture can be a "protective factor" for youth, reminiscent of the resiliency research. Similarly, Suarez-Orozco and Suarez-Orozco (1996), in a psycho-anthropological study comparing Mexican immigrant, second generation Mexican origin, and Anglo-American students, concluded that Americanization was bad for students—the more the Mexican students became estranged from traditional culture, the less motivated they were to achieve. On the other hand, Mexican immigrant students tended to work hard in school to please their parents, and they took pride in excelling. Second generation Mexican students, like the White students, only considered whether working hard in school would please themselves. Too often they concluded that it did not.

A growing body of literature has focused on the ability of some students to effectively "bridge multiple worlds" (Cooper, Jackson, Azmitia, Lopez, & Dunbar, 1995). Phelan, Davidson, and Yu (1997) argue that minority students can be typed according to their skill at "border crossing" and that students who learn to navigate across cultural boundaries are more likely to achieve success in school. Mehan et al. (1996) observed this phenomenon among their Advancement Via Individual Determination (AVID) students, arguing that highly competent Latino and African American students typically had multiple reference groups and socialized with both low achieving "homeboys" and "homegirls" as well as higher achieving peers in school. Gándara (1995), too, found this a common feature of her high achieving Latino sample. These high achievers had a skill for maintaining good social relations with both low and high achievers, and their willingness and ability to move agilely across peer groups allowed them to avoid the stigma some high achievers suffer for "acting White" (Fordham & Ogbu, 1986) or being a teacher's pet. For example, one young woman in Gándara's study noted:

> [W]e were about six, seven girls . . . like a clique. But none of them went to college . . . and actually a lot of people say that bright kids were made fun of and all that, but in my case, it wasn't the case. It was the opposite. They would look up . . . and say, "She's so smart," and "She's a brain," and like that. But in a nice way, you know. (p. 75)

Gándara concluded that the students who were supported by their peers for high achievement were those who did not turn their backs on the lower achievers or seek to disassociate themselves from co-ethnic peers. Some helped the lower achievers with their homework, others made a point of joining in activities with these lower achieving students, and sometimes making excuses to leave a party early to go study. However, this "border crossing" ability was key to allowing these Latino students to simultaneously gain access to the social capital of their mainstream, usually White and high achieving peers, at that same time that they were able to nurture their identity as Latinos among students like themselves in background and circumstances, if not in aspirations.

Educational Systems Perspectives

The fourth and final theoretical perspective is a hybrid model that takes into account the literature in school reform and the social organization of schooling. From this somewhat eclectic vantage point, one can discern two major strands of thinking about the ways in which Latinos can emerge as high achievers in school. As is typical in the education literature, these perspectives are more theories of action than merely explanatory frameworks that seek only to describe the phenomenon of Latino high achievement in the face of adversity. However, there is a clear relationship to the more theoretical literature on forms of capital, in this case educational capital, which we believe can result from the intervention of school systems in the lives of students. The divisions here are not unlike the divisions between psychology and sociology, with the former focusing on explanations at the level of the individual and the latter emphasizing group processes. The first theoretical perspective under this rubric is the student-centered approach. From this perspective, Latino high achievement can result from intervention in the lives of individual students with very specific and targeted instruction and guidance. Such support is often programmatic in nature and adults are assigned to work with individual students to maximize their potential. The second theoretical strand is the school-centered approach. From this perspective, Latino high achievement can be seen as the product of fundamentally reformed schooling conditions and practices in which these students are viewed as assets rather than as a resource drain on the system.

Student-centered Educational Interventions

The intransigent achievement gap between Latinos (and African Americans and Native Americans) on the one hand, and White and Asian students on the other, has led some researchers to try to understand the potential of student-centered programs in producing high achievement in Latinos and other disadvantaged students. Student-centered programs include the panoply of programs and activities that target specific students for intervention to raise their achievement, reduce drop out rates, and often to go

on to college. Some of these activities involve ancillary school services, such as counselors and psychologists, but these are rarely targeted to high achievement goals. More often these kinds of services are focused on prevention efforts. Most intervention programs in the schools focus on narrowing the education gap for low income and ethnic minority students, and most are focused on students at risk of school failure. Some programs, however, and these are usually referred to as college access programs, may attempt to stimulate high achievement, and therefore may include a less at-risk population. Students in these kinds of programs are often those who demonstrate high potential, but who may not complete high school or go on to college because of risks in their environment (e.g., poverty, low parental education, inadequate schools). Among these are programs such as Prep for Prep, I Have a Dream, AVID, and Puente.

A critical strategy that almost all of these programs use is to remove students from either dead-end curricular tracks or dead-end schools and put them into new settings where the educational rigor and support are increased. This typically involves students in secondary schools who already have a lengthy school history and often have significant deficits in their learning, if not in their achievement. Ambitious students in low income schools often earn A's for work that would not qualify for a C in more affluent schools (Educational Trust Incorporated, 2001). The "theory of action" behind this strategy is that capable young people will be able to flourish intellectually and academically if provided the appropriate curriculum and support to access that curriculum. Often students who have been in low-end courses are not prepared initially to tackle both a rigorous curriculum and the strong competition posed by fellow students who come to school well prepared and socially and economically advantaged. In this sense, the effectiveness of such programs also depends on their ability to support students socially and emotionally as they transition into these new environments. Puente is one of the only programs that actually focuses specifically on Latino students, though many of the others have a largely Latino clientele, depending on where they are located.

There is consistent evidence that well-implemented programs of this type can significantly raise the aspirations and the educational outcomes of students who otherwise may not have completed school or gone on to college (Gándara & Bial, 2001; Horn & Chen, 1998). Typically, these programs meet a goal of doubling college-going rates (compared to other similar students), but there is little evidence that they actually raise measured achievement (grades, test scores) significantly. Very rigorous programs like Prep for Prep, which places students from low income neighborhoods into elite college preparatory schools, *may* be able to effect these changes, but there are no existing data to demonstrate this. The absence of data to show large gains in measured academic achievement raises the issue once again of the definition of constructs. Is a high achieving Latino student one who goes on to a 4-year college and successfully graduates from that institution or is she a student who scores high on SAT exams, gets good grades, and is focused on a career in science? Student-centered educational intervention programs have demonstrated that they can increase production of the former, but not necessarily the latter.

School-centered Educational Interventions

Because people who work in schools are well aware of the limitations of intervention programs that serve only a small number of students, intervene late in their educational careers, often provide only part-time help or involve selected curricula (e.g., focus on math or English), and usually have weak relationships with the schools that students attend, considerable attention has been directed toward school-centered programs. The theory of action behind school-centered programs is that by changing the entire ethos of the school, more children can be served and the intervention will be broader and more sustained. The decade of the 1980s opened with a call to reform the nation's schools with the publication in 1983 of *A Nation at Risk*. This was soon followed by a plethora of "effective schools" research, some focusing on effective schools specifically for Latino and other immigrant students and English learners. Unfortunately, almost all of this research was anecdotal, comprised largely of case studies of allegedly effective schools, with little systematic evidence to support the claims or recommendations that resulted from these studies. Moreover, the "findings" tended to be so general, such as the importance of a "strong principal" (Carter & Chatfield, 1986) or "school staff who are sensitive to cultural differences" (Lucas, 1997), that replication was extremely difficult. By the 1990s, the research on whole school interventions began to turn to investigating more specific reforms. Slavin and Madden (2001) reported on the effects of Success for All (SFA) with Latino and limited English proficient students; Opuni (1999) investigated the effects of Project GRAD on low income Black and Latino students. Small scale and short term studies have shown significant programmatic effects (Opuni, 1999; Slavin & Madden, 2001), but the long term effects are not yet known for any of these programs, and given the very high mobility rates of poor children, they may never be known.

Various efforts at "detracking" schools (offering high level curriculum to all students) have been documented (Oakes & Wells, 1998), but the long term effects of these strategies on raising student achievement are also unknown. James Comer's (1988) School Development Program is an example of a school-centered program aimed at raising the achievement of all students, but focusing on Black students. Comer's program includes heavy parent and community involvement, with the community, in large part, taking responsibility for schooling outcomes. Cook, Hunt, and Murphy (1998) evaluated the Chicago site of the School Development Program and concluded that while it held potential to raise the achievement of students, it was not clear that the practices that actually had an impact on student achievement were the same as Comer had intended. That is, there was significant variation in the way the program was designed and the way it was implemented.

Benard's (1996) work on resiliency also supports the whole school approach. She argues that whole schools need to intervene with appropriate support to nurture resiliency in low-income, disadvantaged (Latino) students. Renzulli and Reis (2000) likewise recommend the Schoolwide Enrichment Model to meet the needs of all students for more rigorous curricula that are tailored to individual strengths and needs. There has been no shortage of school reform efforts over the last two decades, but few have been rigorously

evaluated and fewer still have focused specifically on the advancement of Latino students.

The literature on school reform is rife with examples of schools attempting to reform to better serve low income, minority, and Latino students (e.g., Bohrnstedt & Stecher, 1999; Gándara, 2002; Johnson & Asera, 1999; Opuni, 1999). However, there is scant evidence on the effects of these efforts for increasing the incidence of high achievement among Latino students. While there is considerable agreement that reforming schools would have the broadest impact of the two strategies in increasing Latino achievement, there is also strong consensus in the field that reforming schools is long, hard work and that achievement outcomes for individual students are far from certain (Cuban, 1990).

Summarizing the Explanatory Power of the Four Theoretical Models for Understanding Latino High Achievement

The foregoing discussion of explanatory models attempted to lay out the ways in which different disciplines have responded to the challenge of explaining how some Latino students, raised in poverty and disadvantage, manage to rise to high levels of achievement. The psychological perspective is rooted in the belief that in all ethnic and racial groups, there is a normal distribution of ability, and Latinos, no less than others, have their share of high ability, high achieving students. Entity theorists would argue that although current definitions of the construct are inadequate to the task and most assessment instruments are insensitive to cultural differences that can mask ability in culturally different groups, nonetheless, some Latino students survive the identification process and are "discovered." A second theoretical perspective—resilience theory—asserts that all humans have a natural tendency to "self-right," and that in spite of the disadvantage experienced by many Latino students, the happy coincidence of "protective factors"—such as a caring adult and a personality that is attractive to others—many survive and a few truly excel. Finally, achievement motivation theorists would point to parenting practices and other environmental factors that shape the behavior of individual students and their self-evaluations such that they are steeled to the task of overcoming the academic odds against them. Through appropriate child rearing practices and supportive home conditions, even low income Latino parents are able to produce high achieving students.

Sociological perspectives are rooted in group processes and emphasize social reproduction, or the strong tendency for those who are privileged in society to maintain their privilege by creating relatively impermeable social structures that benefit them exclusively. An example of these kinds of structures is the merit system of education that says "anyone can make it," but that is based on a grand system of tests, all of which have been calibrated to affirm the merit-worthiness of the skills and abilities of the privileged classes and to ignore the skills and abilities of others. Thus it is that verbal skills are highly rewarded in most standardized tests (Anastasi, 1988), while skills at building complex structures or designing complex artifacts are rarely ever tested. Nonetheless,

those who adhere to the notion that social capital accumulation and creation can explain high achievement in some Latino students point to the ways in which even low income communities can and do create and share social capital. Supportive peer groups, teachers with a passion to create opportunities for their students, and parents and communities that share their "funds of knowledge" with students are examples of the creation of social capital that leads to high achievement for some Latino students.

Hard social structures, such as bureaucratic systems and testing regimes, are more difficult to affect, but some examples do exist. Affirmative action is one such example. The perception on the part of some that affirmative action has been "too effective"—a perception that is easily dispelled by looking at national data that show an intractable achievement gap and very modest progress for most minorities—has led to a number of attempts to curtail the practice. Bilingual education can be viewed as another attempt to circumvent structures that control the distribution of power and privilege. By asserting a right to learn in a language that they understand, some Latino students have benefited from instruction tailored specifically to their needs and they can demonstrate high levels of competence. However, skills that are assessed in another language are almost never considered valid measures of ability in the United States. Attempts to build structures that benefit the disenfranchised can be expected to meet with strong resistance from the privileged classes and require political, rather than educational, intervention.

There has been considerable activity in the area of socio-cultural research that grows out of an anthropological perspective. This theoretical orientation asserts that "high achievement" is a social construct and that those who are chosen as exemplars of this construct generally conform to the social and cultural practices of the dominant culture. Thus students who feel marginalized by the dominant culture have the "choice" to abandon their own cultural identities and assimilate to majority cultural practices or to exist outside of them. For those who choose the latter, the option is often to drop out of school or to "resist" school in ways that lead to poor achievement. Socio-cultural theorists, however, have uncovered another pathway: the "bridging multiple worlds" strategy in which some Latino students manage to straddle multiple cultures, develop multiple reference groups, and move back and forth among different groups. Gibson (1988) refers to the way this is practiced in a Sikh community as *accommodating* to the demands of American schooling without *assimilating* into the culture. The advantage of this strategy is that it allows students to maintain their cultural identity, which is a critical social and psychological asset, and still rise to levels of high achievement in school. Gándara (1995) demonstrated that students in her sample of high achieving Latino students were able to maintain multiple reference groups that supported both achievement aspirations and ethnic identity.

Finally, the literature on educational perspectives has focused on the ways in which schools and educators intervene to either effect changes in student performance (student-centered approaches) or schooling practices (school-centered approaches). These theoretical perspectives tend to be more grounded in practice and are best described as "theories of action." There is considerable research on these efforts, and there is good evidence that student-centered approaches can and do result in students

raising their aspirations, graduating from high school, and going on to college in higher numbers. It is not clear from this research, however, the extent to which these programs actually produce "high achievement." One reason for this is the lack of precision in the construct. Not everyone agrees on what it means to be a high achiever. The school centered approaches, while holding the greatest hope for affecting the largest number of students and thereby having a broader social impact, are admittedly difficult to implement and little research exists to demonstrate what their actual or potential impact is on raising achievement to high levels for Latino students.

Given this understanding of the challenges in conceptualizing and defining high achievement and the ways in which it comes to be identified, what is known about efforts to increase its incidence for Latino students?

Narrowing the Gap and Nurturing High Achievement Among Latino Students

Preschool Interventions

A substantial body of research has demonstrated that very early intervention can prevent negative outcomes for at-risk students (Haskins, 1989; Karoly et al., 1998; Schweinhart, Weikart, & Larner, 1986). What is less certain is the role that such programs can play in fostering high achievement in young children, especially Latinos, at risk for school difficulties. Campbell and Ramey (1995) reported on a carefully designed study of the effects of high quality preschool intervention: the Carolina Abecedarian Project. On the basis of a longitudinal study of mostly African American children, 7 to 10 years after intervention had ceased, the researchers concluded that early intervention in infancy resulted in superior academic outcomes including maintenance of IQ advantages and higher academic achievement than the control group or the early elementary group. The research supports the idea of intervening early and intensively in the lives of low income and minority youth and suggests that when intervention occurs early and extends over a lengthy period, intellectual gains may be sustained.

Head Start is the primary program supported by the federal government to intervene in the lives of low income and minority children, but Zigler et al. noted that because Head Start is a funding source and not a specific intervention, there is large variation in the way it is implemented. Robinson, Wienberg, Redden, Ramey, & Ramey (1998), however, found evidence that some former Head Start students were functioning at particularly high levels academically and investigated factors that might have contributed to this. They did not find evidence that Head Start itself was responsible for these outcomes, rather that features of the students' home environment differed from those of their lower performing peers. Of course, there is no reason why such home characteristics cannot be recreated in Head Start centers and disseminated to parents in culturally appropriate ways. Newer studies that have examined the effects of Head Start by racial and ethnic background find that cognitive gains are substantial and persistent for Mexican American children. When compared to stay-at-home siblings, they are able to

narrow the test score gap with White children by at least one quarter and to close the gap in the probability of having to repeat a grade by about two-thirds (Currie & Thomas, 1996).

In sum, while most early intervention programs at the preschool level focus on closing the gap in developmental outcomes between disadvantaged students and their more advantaged peers, the evidence does suggest that early intensive enrichment can have long term effects on cognitive functioning. Thus this research lends support to the notion that early intervention could also have a positive impact on higher level functioning for children who are not at serious risk. Such interventions, however, generally fall into the category of experimental programs for gifted and talented preschoolers, a topic dealt with in greater depth later in the monograph.

K-8 Interventions

In the current era of school reform, numerous programs have been developed in K-8 to increase the academic achievement of under-performing students and schools. Virtually every school district in the nation is home to at least one special intervention program for underachieving students, and many schools operate multiple programs simultaneously (Slavin & Fashola, 1998). However, few of these programs have been widely replicated or carefully evaluated, hence it is difficult to know to what extent they have an impact on the achievement or cognitive functioning of program participants.

Slavin and Calderon (2001) surveyed the field of program interventions for Latino students in grades K-12 and found few that had been widely replicated or that met a loose set of criteria for evaluation rigor. Among those they concluded were very effective in increasing measured achievement were Success for All (Slavin, Madden, Dolan, & Wasik, 1996) and Lee Conmigo (the Spanish language version of Success for All). In addition to being programs that they have developed, these programs are highly prescriptive, with detailed, "teacher proof" lesson plans. Thus the consistency of curriculum and the tendency to even out the instruction provided by teachers of differing experience and skill may be responsible for a significant portion of the students' improvement. Some researchers have also questioned the findings of the report given that the only effective programs the authors were able to identify were those with which they worked.

Borman, Stringfield, and Rachuba (2000) reviewed the findings of the *Special Strategies* study (Stringfield et al., 1997) conducted for the U.S. Department of Education. Their review looked at the effectiveness of several schoolwide intervention programs in K-6, including Success for All, the School Development Program (Comer, 1988), Paideia (Adler, 1982), Chapter 1 schoolwide projects, and Chapter 1 extended-year projects. Data were aggregated to ascertain if they yielded significant improvement in academic achievement of program participants. All students served by these programs, as well as the control group students, were in schools serving low-income (minority) students. Data for students from the national study of Title 1, Prospects (Puma et al., 1997) were used as controls. Stringfield et al. found that Special Strategies' African

American students learned at a faster rate than their controls, and that their achievement levels surpassed the controls' over the 4-year period of the study. More importantly, the high achieving African American math students not only grew at a faster rate, but they also surpassed the achievement levels of all initially high-achieving math students in the control group (Borman et al., 2000). Thus without disaggregating data to determine the independent effects of particular programs or implementations, the Special Strategies study did confirm that schoolwide reform efforts directed toward strengthening the curriculum (among other things) can have an impact on raising the achievement of high achieving African Americans to even higher levels. Conceivably such interventions could raise the achievement of Latino students to higher levels as well.

Most schoolwide reform efforts, as well as individual program interventions in high poverty, minority schools, are focused on raising students' achievement levels to something akin to national norms. Very little attention is given in these programs to nurturing high achievement, and where some portion of the students are found to perform at very high levels, the findings tend to be reported as incidental to the overall goals of the program. There are no data to suggest that these high performing students are placed in programs for the gifted and talented as a result of their higher achievement. However, a finding that recurs in many of the individual studies is that the longer a student is exposed to the "treatment," whether it is the result of school reform, or individualized enrichment, the better the outcomes appear to be (Gándara & Bial, 2001). This suggests that high quality curricula, delivered to students consistently over a lengthy period of time can raise achievement. However, to what degree such interventions are capable of stimulating achievement at the high end of the continuum remains a researchable question.

Promising Practices at the Middle and High School Levels

While the evidence is thin that middle and high school interventions have a significant impact on academic achievement, it is clear that some practices are more associated with positive outcomes (school retention, higher aspirations, greater intellectual interests, and college matriculation) than others. Among the most effective strategies reported in the literature are (a) close monitoring of students' personal and academic growth; (b) providing access to high quality curriculum; (c) providing appropriate "scaffolding" to ensure academic success—tutoring, supplemental coursework, more time on task; and (d) providing academically-oriented, supportive peer groups. Unfortunately, there is little evidence that most intervention programs at the secondary school level are focused on producing exceptionally high achievers. Given the enormous challenges that many Latino students face, long histories of mediocre achievement, and the intransigence of most schools with respect to effecting changes in routine practice, the goal of college matriculation already sets the bar high. Gándara and Bial (2001) did, however, identify some practices that have the potential to foster high achievement. One such practice was the Dynamic Assessment Process associated with selection into the Posse Program.

Posse is a program based in New York City that attempts to identify and prepare low income, inner-city students with high potential for admission to one of several elite cooperating universities. The program is also a site for experimentation with the Dynamic Assessment Process that focuses on identifying non-traditional high school students with strong leadership ability and potential for success. The selection process for Posse is based on four principles that underline the program:

- Educational progress, personal development, and academic achievement are advanced by cooperative and supportive conditions of learning;
- Purposive involvement in social and political action designed to change the social context of one's learning contributes to a sense of polity that aids personal and academic development;
- Cultural, political, and social intelligences, as complements to traditional criteria, are useful variables for consideration in selection of students for selective colleges;
- Cultural, political, and social leadership are viable as categories of talents, and *comparable* to artistic, athletic, and scholastic abilities for the assignment of merit-based college scholarships.

The early evaluation of the program—and the assessment process involved in selecting students—gave considerable reason for optimism about its potential for identifying talent and nurturing ability in innovative ways. As a result, the Mellon Foundation has recently undertaken to investigate this model systematically over a 5-year period and is investing well over a million dollars to this end. Rather than employing standard measures of achievement such as GPA and SAT or ACT scores, the program evaluates students in small, cooperative groups based on performance skills evidenced in areas related to the program's guiding principles. Thus students are evaluated on such things as their ability to lead a group in cooperative problem solving, to draw on cultural knowledge to complete particular tasks, and to creatively address social issues that are posed to them (Bowman & Gordon, 1998).

Another program that has experimented with innovative practices for Latino students is the Puente project. It is operated in 36 schools in California and it draws on cultural knowledge and Latino literature to engage Mexican American high school students in rigorous, college preparatory work. Like Posse, it draws from a wide range of students with varying measured abilities, but seeks to build on their drive and interest in developing their abilities. Students are placed in rigorous, college preparatory English classrooms with teachers trained to incorporate high quality Latino literature and other culturally relevant material. They work in groups and dyads where they focus on reading, writing, and analytical skills. The students are also supported by counselors and mentors from their own community who represent models of high achievement. Students in Puente go on to college at significantly higher rates and demonstrate significantly higher interest in intellectual activity and in "being a good student" than matched control students from the same schools (Gándara, 2002).

These are isolated examples of programs that are experimenting with innovative methods for engaging underrepresented minority high school students in productive intellectual activity with the goal of producing high achievement. However, there are relatively few systematic efforts in the pre-college intervention area that are targeted specifically toward developing talent at the upper ends of the achievement distribution, and even these programs focus on a broad range of student abilities.

The Role of Gifted Education in Nurturing High Achievement in Latino Youth

Gifted and talented education holds considerable promise for the nurturing of high achievement among Latino youth, and it can influence the field of early intervention in important ways; however, there remain several obstacles to a full realization of this potential. There are three points at which gifted and talented programs traditionally fail to incorporate Latino students into their frameworks: (a) in the definition of giftedness; (b) in the initial nomination of students; and (c) in the assessment and identification of students.

Definition

In spite of concerted efforts to broaden the definition of "gifted and talented," many schools and districts still rely on a very narrow conception of giftedness that essentially equates with high academic performance (Figueroa & Ruiz, 1999). A study by Callahan, Hunsaker, Adams, Moore, and Bland (1995) showed that the preponderance (48%) of districts in a national survey ascribed to the United States Department of Education (USDE) definition of giftedness ("high performance capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields") (P.L. 100-297, Sec.4103, Definitions), yet their use of assessment devices belied an adherence to this definition. Most districts assessed students primarily for general intellectual ability or IQ. For all of the reasons cited above, such tests more often screen low income and Latino children out of gifted and talented programs; they certainly do not tap into the non-intellective abilities or specific academic skills that are part of the USOE definition. Clearly, educators have difficulty matching non-intellective constructs to appropriate measurement tools (Callahan et al., 1995).

Nomination

The working definition that a district uses to identify students for gifted and talented programs will shape, to some extent, the kinds of behaviors that teachers and others look for in determining whether to nominate a student for the program. However, the ability of teachers to recognize giftedness in Latino students remains a vexing problem. A study by Burstein and Cabello (1989) underscores this point. They found that 38% of student teachers in their teacher preparation program believed that the reason more minority students did not qualify for gifted programs was because of cultural deficits. After specific training in the identification of these children, only 7% held this

belief. However, most teachers do not receive specific training in identifying gifted behaviors in minority students (Archambault et al., 1993). Moreover, in a study by Forsbach and Pierce (1999) that randomly surveyed all middle and junior high schools in New York state, training in the identification of gifted minority students only increased the nomination of African Americans and Asians, but not Latino students. One reason that the investigators posited for this inability to recognize gifted behaviors in Latino students was teachers' limited understanding of the effects of language on classroom performance.

Assessment and Identification

The inappropriate use of a narrow range of assessment instruments remains an enduring problem in the field. In spite of years of research on identification and assessment of a broader range of gifted abilities, the field remains largely stuck in a traditional assessment model that relies heavily on tests of specific cognitive abilities that may lack construct validity for students for whom different skills and abilities have been fostered in their home environments (Figueroa & Ruiz, 1999). For all of the reasons previously mentioned, talented and highly able or creative Latino students may not perform well on any of these dimensions, and thus are overlooked as possible candidates for gifted programs.

Notwithstanding the difficulties in assessment and identification, there are many promising practices within the field of gifted education that can promote talent development in schools and programs that currently focus almost exclusively on "closing the gap." In some cases, the practices simply lead to better identification of talented youngsters from diverse backgrounds so that they are able to access high quality curriculum that is already offered in their schools. In other cases, the program strategies themselves may constitute important interventions that can help underrepresented students achieve at higher levels.

Beyond Gifted and Talented: Curricular Innovation and Access to Rigorous Curriculum

Frasier and Passow (1994) call attention to the assessment/treatment mismatch that often occurs in programs for the gifted. That is, while students may be identified for the program on the basis of a particular intellectual or behavioral strength, the program may, in fact, focus on developing quite different abilities than those identified in the student. One way to address this problem is to more carefully link assessment outcomes with the type of programming provided for children. Another approach is offered by Renzulli and Reis (2000) with the Schoolwide Enrichment Model. Based on Renzulli's (1978) three ring conception of giftedness (above average ability, high levels of task commitment, and high levels of creativity), SEM provides enrichment education at levels appropriate to different student ability levels in a whole school context. Some of the strategies that follow from this model include an emphasis on divergent thinking and the nurturing of creativity, process versus product oriented learning, problem solving and critical analysis as an important learning method, and complex tasks that allow for long

term engagement and that have multiple component. Renzulli (1997) also makes the point that time is a significant variable in talent development. The same rich curriculum may be provided for non-traditional gifted students, but the time they are given to master it may need to be manipulated to accommodate their stage of academic development. Strategies developed in specialized programs are made available to all students, while still meeting the particular needs of those students who are considered to have special talents through continuation of services.

Once children go on to high school, the issues of gifted education tend to revolve more around access to a high level curriculum, including honors and AP courses. Here, as in virtually all other aspects of K-12 education, there are significant differences by ethnicity in students' access to demanding curricula. Table 7 shows the percentages of students enrolled in AP courses nationwide by ethnicity. These are the most recent data released by the Office for Civil Rights as of this writing, however, a review of these statistics over time shows remarkably little change from year to year.

Table 7

AP Mathematics Courses Taken in U.S. Public Schools by Percent Ethnicity and Gender, 1997

Ethnic Group	Male	Female	Total	Percent of Population
White	37.36	35.00	72.36	64.0
Asian	5.60	5.52	11.12	3.1
Hispanic	3.74	3.73	7.47	14.3
Black	3.26	4.13	7.39	17.0
Native American	.40	.40	.80	1.1

Source: U.S. Department of Education, Office for Civil Rights, 2000.

There is little in the literature that looks longitudinally at the careers of students identified early for gifted and talented programs as they move into high school. The literature suggests that these students should have easier access to high level courses both because they have been labeled as "gifted" and therefore are perceived to be capable students, but also because they have assumedly been exposed to a more enriched curriculum prior to high school. However, the extent to which access to high level curriculum (honors and AP courses) in secondary schools is assured for these students remains an empirical question.

Is There Evidence That Students in Gifted Programs Are Channeled Into More Rigorous Curricula?

If Adelman (1999) is correct that the rigor of the curriculum to which students are exposed is the best predictor of their long term outcomes (college attendance and completion) irrespective of race or ethnicity, then one of the most important roles that gifted and talented programs can play is in preparing and channeling students into upper level curricula. As Adelman points out, the best proxy for a rigorous curriculum is taking math courses beyond 2 years of algebra. Students who take beginning algebra in Grade 8 are on track to take high level math courses later in high school; those who postpone algebra will have a more difficult time reaching higher level math in the time remaining to them in high school. Therefore, being assigned to algebra in the eighth grade is an important marker of a student's assignment to a rigorous curriculum and a good predictor of future academic attainment. Table 8 attempts to answer the question whether students from different ethnic groups who were in gifted and talented programs had an equal chance of being assigned to algebra in Grade 8; it displays the percentages of students from each major ethnic group that were in gifted and talented programs in Grade 8 and who were also assigned to algebra. All data are based on student self-report from the NELS 88 survey.

Table 8

Percent of Students in Gifted and Not in Gifted Programs Who Are Assigned to Algebra in Grade 8 NELS 88 Database

Ethnicity	Percent Gifted in Algebra	Percent non-Gifted in Algebra
White	73	28
Hispanic	52	26
Black	60	27
Asian	83	35

Evidently being in a gifted and talented program is highly associated with being assigned to algebra in Grade 8, suggesting that students who have been identified as gifted are generally perceived as being more academically able, at least in mathematics. Students in gifted and talented programs were two to three times more likely to be assigned to algebra than those students who were not in the program. For students not in a gifted program, differences among ethnic groups in the percentage of students assigned to algebra were relatively small. However, there are considerable discrepancies by ethnicity in assignment to algebra for students who are in a gifted and talented program. Asian and White students are much more likely to be assigned to algebra than are African American and Latino students. Latino students have the least likelihood of being in algebra, whether they are in the program or not. Why would this be? We then examined

grades and achievement test scores for each of the groups to determine if students' grades or test scores were responsible for the discrepancies in algebra placement. Table 9 displays the percentages of students falling into each test score quartile and at each of four levels of grade point average by ethnicity.

Grades and test scores probably explain a fair amount of the variance in assignment to algebra in the Grade 8 by ethnicity. For White students, 82.4% had overall grades of 3.0 or higher, and for Asians, 90.4% had 3.0 or higher, and grades correlate highly with assignment to upper track classes. However, the fact that Latino students were less likely than African Americans to be assigned to algebra is not explained by grades or test scores, inasmuch as both were higher for Latino than for African American students. This may be related to other findings noted earlier that teachers are somewhat less likely to identify Latino students for gifted classes and that even training in identification procedures does not appear to reduce this problem substantially. The discrepancies in grades among different ethnic groups does raise another fundamental concern, however: Are students from different ethnic groups being selected into gifted and talented programs on the basis of very different criteria? And, if this is the case, does the curriculum to which they are exposed in the program meet their needs equally? Put another way, does the experience of being in a gifted program contribute significantly to closing the high achievement gap between groups? The labeling effect of being identified as gifted may be a factor in some African American and Latino students being assigned to algebra (given their overall lower grades and test scores). However, it is difficult to know to what extent the benefits of the program extend beyond the label for these students.

An important area of curricular innovation in secondary gifted education for Latino students has been launched by the Johns Hopkins Center for Talented Youth (CTY) at several sites around the country. CTY Prep in the Los Angeles is an example of the model being generated by the Center. This program provides intensive summer enrichment programs for Latino students identified as gifted through the Center's national testing program. However, the students in CTY Prep do not yet meet a level of measured ability (between 95th and 97th percentile on the program administered test) to qualify. Thus, the programs provide Saturday and summer enrichment programs, based on the model developed by the Center for gifted students, to help prepare these second through eighth graders to eventually qualify for acceptance to the Talent Search program. The content of these programs focuses on in-depth study of high interest curricula; hands-on, collaborative, and discovery-oriented learning. University experts are called upon to help guide students through field and laboratory-based projects. As a new project, there is not yet any evaluation data on the programs' effectiveness, however, like the Renzulli and Reis (2000) model of Schoolwide Enrichment, this innovative program has the objective of applying research on the education of the gifted to young minority children in an effort to *develop* talent. Moreover, some evidence suggests that this type of instruction may produce better outcomes for most low income Latino students than more traditional remediation or drill-based approaches (Levin, 1987). These are potentially important models for application to the field of early intervention if they are able to produce a new cadre of high achievers.

Table 9

Percent of Students With Specified Grades and Test Scores by Ethnicity for Grade 8, Gifted and Talented Students, NELS 88 Database

Ethnicity	Test Score 1st Quartile (Low)	Test Score 2nd Quartile	Test Score 3rd Quartile	Test Score 4th Quartile (High)	Grades Less than 2.0	Grades 2.0— 2.99	Grades 3.0—3.49	Grades 3.5+
White	18.1	25.8	30.3	23.0	2.2	15.3	20.0	62.4
Hispanic	29.7	22.6	22.9	20.9	6.9	24.8	28.3	40.1
Black	39.6	19.1	13.7	18.9	17.7	30.4	22.6	29.3
Asian	11.4	7.7	17.0	37.9	2.2	7.5	21.7	68.7

In sum, innovative and culturally sensitive identification and assessment aimed at increasing the numbers of Latinos in programs for the gifted and talented tend to rely heavily on diagnostic teaching practices, behavioral checklists and scales, and broader interpretations of "giftedness" or high ability, including multiple intelligences (Gardner, 1993) and creative problem solving (e.g., Torrance, 1966). They also focus heavily on training teachers to identify a wide range of competent behaviors.

Preliminary evidence suggests that these methods are more effective than traditional means of identifying talented Latino youngsters at early ages. There was no evidence found in the literature, however, for long term outcomes of these experiments. Thus we do not know if those students who are identified for programs have better long term academic outcomes than similar students who are not so identified or who are identified on the basis of more traditional criteria. We also do not know if such students are ultimately able to reach levels of academic achievement or attainment that are comparable to their White and Asian peers. Programs that have targeted the education of non-traditional gifted students usually incorporate the same teaching methods and curricula that high quality programs for other gifted children experience, but they may be accompanied by more "scaffolding"—that is, they may provide more assistance, more time, or other supportive resources to help children move from where they are to where they want to be.

Conclusions

There are three major problems to be confronted in attempting to increase the number of Latino students who achieve at very high levels. One is gaining consensus on the definition of constructs. There is little consensus around the terms "high ability," "high achievement," and "gifted." And it is quite possible that there is little relationship among them. The second is the problem of identification of individuals with high *potential* for achievement, an even more illusive construct. Finally, the third challenge is the provision of appropriate educational services to help more Latino students realize their potential.

While great strides have been made within the field of gifted education in acknowledging the problems associated with identification—definitions of giftedness and talent that are too narrowly drawn, are overly dependent on developed academic skills, and fail to account adequately for cultural and linguistic differences in the expression of ability; the inability of teachers to recognize other characteristics of high ability or talent in Latino students; and the inadequacy of most standardized tests to measure such abilities in these students—practitioners often fail to practice what the leading edge of the field preaches. Thus Latino students remain seriously underrepresented in programs for the gifted and talented. This is especially unfortunate for at least two reasons. The evidence suggests that placement in these programs can lead to greater access to high quality instruction, college preparatory classes, and AP and honors courses—all critical elements in developing academic talent. But it is also unfortunate because the field of early intervention remains fixated on a "closing the gap" approach to increasing

achievement for Latino students that pays relatively little attention to those students at the high end of the achievement continuum. Thus effective alternatives to developing talent outside of special programs, such as gifted and talented, are rare. Unfortunately, if students are not identified early for participation in such programs, they are unlikely to encounter the kind of enrichment in regular educational programs that will stimulate *high* achievement.

The early intervention literature yields the finding that high quality curriculum, delivered consistently over a long period of time, can have an important impact on student outcomes. However, most early intervention programs do not appear to significantly increase the academic achievement of their participants because the intervention is either too little, too late, it does not last long enough, or it focuses on narrow aspects of the curriculum or the schooling experience, leaving most of the students' normal educational routines intact. As Renzulli (1997) points out, to have any substantial effect on developing high levels of talent, the whole of instruction must be addressed—both content and pedagogy.

Under current conditions, gifted education, early intervention, and school reform are all compartmentalized, serving particular constituencies in an uncoordinated fashion that fails to maximize their possibilities. If early intervention programs were to coordinate with school reform efforts and embed themselves more deeply in the day-to-day school routines of students, they could have a more pervasive and powerful effect. Moreover, if school reform and early intervention were to borrow from the teaching and learning strategies developed in gifted education programs, they could strengthen the educational experience of all children and increase the yield of high achievement for Latino students as well as others.

The research suggests that talent can be developed and not simply discovered, but this requires a much more sustained effort than we have made to date. Intervention must occur early with a focus on enrichment instead of remediation, and it must be sustained at high levels throughout the educational pipeline with the objective of fostering high achievement and not just closing the (low) achievement gap. One clear lesson from the intervention literature is that the earlier the intervention occurs and the longer it lasts, the greater are its outcomes. Moreover, interventions such as Renzulli and Reis' Schoolwide Enrichment Model that attempt to apply *specific strategies* developed in gifted education to whole school settings hold hope for narrowing the gap among ethnic groups and stimulating higher achievement in all children.

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PART III
Promoting Sustained Growth in the Representation of African Americans, Latinos, and Native Americans Among Top Students in the United States at All Levels of the Education System

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Introduction

In the fall of 1999, the National Task Force on Minority High Achievement, a foundation-funded group of leaders from education and other sectors of society that was housed at the College Board, issued a report called *Reaching the Top*. In it, the Task Force called attention to the fact that African Americans, Latinos, and Native Americans are severely underrepresented among the nation's top students at all levels of the educational system, by traditional measures of academic achievement, including grade point average (GPA), class rank, and standardized test scores (National Task Force for Minority High Achievement, 1999).

The Task Force, for which I had the privilege of serving as director, emphasized in *Reaching the Top* that this situation is having several very negative, sequential consequences for these groups in higher education and the labor market: The shortage of top high school graduates from these groups is limiting their presence among undergraduates at selective colleges and universities. Only a small percentage of the underrepresented minority students who do attend selective institutions are excelling academically on the undergraduate level. The shortage of top bachelor's degree recipients from these groups is limiting their presence in selective graduate and professional schools. Finally, it also is limiting the number that emerges from professional and graduate degree programs well positioned to compete successfully for a wide range of entry-level professional positions that offer avenues to leadership positions in many sectors of society.

In this monograph, I will: a) summarize several key aspects of the high achievement situation; b) review data that describe the extent of the high achievement problem; c) discuss characteristics of the high achievement challenge that I believe should inform much of the work in this area (some things that I call, collectively, *conditions of fewness)*; d) argue for the need to learn more about how the most academically successful groups produce their results as a means of informing strategy development; e) discuss how the movement for more evidence-based educational improvements can serve the underrepresented minority high achievement agenda; and f) make several recommendations for action.

Key Aspects of the High Achievement Situation

There are many dimensions to the high achievement situation. In this monograph, I would like to mention a dozen that I find helpful when thinking about the development of recommendations for action.

- *African Americans, Latinos (especially Mexican Americans and Puerto Ricans), and Native Americans are currently severely underrepresented among the nation's highest achieving students, by virtually all traditional academic achievement measures, including GPA, class rank, and standardized tests scores.* These measures show that these groups are acutely underrepresented among the top 1%, 5%, and 10% of students, and even heavily underrepresented among the top quarter (Borman, Stringfield, & Rachuba, 1999; College Board 2003a). They are underrepresented at all levels of the educational system, from kindergarten through graduate and professional school (Miller, 2000). Moreover, there is nothing new about this situation. It is documented, for example, in National Assessment of Educational Progress (NAEP) reading test trend data going back over 30 years (Campbell, Voelkl, & Donahue, 2000).

- *Little progress has been made over the past generation toward reducing the underrepresentation of these groups among the nation's top students, despite an active school reform movement throughout the period.* As will be demonstrated in a subsequent section of this monograph, some measures of academic achievement suggest that ground may have been lost since the late 1980s.

- *A major contributing factor to the high achievement "gap" is that much larger percentages of Blacks, Hispanics, and Native Americans continue to grow up in low socioeconomic (SES) circumstances than Whites and Asian Americans.* This is the "*between-class*" dimension of the high achievement challenge. It is very important, because low SES students are generally much less likely to be high academic achievers by traditional measures than middle class and high SES students (Hafner, Ingels, Schneider, & Stevenson, 1990; Persky, Daane, & Yin, 2003; White, 1982). This is true not only in the United States, but also in virtually all industrialized nations—although achievement gaps between social classes are somewhat larger in America than in some other industrialized countries (United Nation Children's Fund Innocenti Research Centre, 2002).

- *Another major contributing factor is that, in all social class strata (as measured by parent education and family income), students from underrepresented groups achieve at significantly lower levels, on average, than White and Asian American students.* This is the "*within-class*" dimension of the high achievement challenge. This aspect of the

challenge is very important, because some of the largest within-class gaps are among students who have parents with bachelor's, graduate, or professional degrees (Beatty, Reese, Persky, & Carr, 1996; Campbell, Donahue, Reese, Phillips, 1996; College Board, 2000). This is very damaging for underrepresented minorities, because they, like all groups, rely on their high SES segments to produce a disproportionate share of their high academic achievers.

- *Still another significant factor is that, at most levels of the educational system, underrepresented minority students who have been high performers do less well, on average, than high performing White and Asian students.* This is the "*within-the-top*" dimension of the high achievement challenge. For example, Black students in the top quartile on reading tests at the beginning of the first grade have been found to make smaller gains in the primary grades than White students in the top quartile at the start of the first grade (Borman, Stringfield, & Rachuba, 1999). Similarly, top African American and Latino high school graduates tend to earn lower GPAs at selective colleges and universities than comparably prepared White and Asian students, i.e., those with similar high school grades and college admission test scores (Bowen & Bok, 1998; Ramist & McCamley-Jenkins, 1994). This often is referred to as the "overprediction" phenomenon by researchers, because high school grades and college admission test scores predict higher college grades for underrepresented minorities than they typically receive.

- *There are currently very few educational strategies, from preschool through higher education, for which there is strong empirical evidence that they help increase the percentage of high achieving students from underrepresented groups.* There literally may be no strategies with evidence of substantial high achievement impacts based on randomized trials with control groups. Tests of strategies using randomized controlled trials, of course, have been rare in education (Borman, 2002; Jencks, 2000).

- *The shortage of proven strategies is an outgrowth of the fact that increasing the percentage of high achievers from underrepresented groups (using traditional measures, such as GPA) has never been a high operational priority among educators and others who have been working to improve educational outcomes for underrepresented groups.* As a result, few strategies on the K-12 or higher education levels have been designed over the years with this objective in mind. Unsurprisingly, therefore, few have been evaluated for high achievement impacts. For example, it has been rare for evaluations of school reform strategies to look at whether more students in the targeted schools are achieving in the top 10% or even the top 25% of students nationally as measured by a standardized test. It is even rarer for evaluators to use multiple measures

of high performance, such as samples of written work in various subjects benchmarked to that of top students in advantaged private schools, along with GPA and standardized test scores.

- *The dearth of proven strategies is also related to the fact that closing the large achievement gaps in the middle and high SES student segments has been a low priority over the years.* Consequently, few strategies have been designed to close them or evaluated from that perspective. Instead, most efforts to improve academic outcomes for underrepresented minority students have focused on those who are from low SES backgrounds, because so many are at risk of school failure. Preschool programs such as Head Start, elementary school reform strategies such as Success for All, and the growing number of summer school programs for low achievers in urban school districts are examples of these efforts.

- *In practical terms, the fact that the high achievement and within-class issues are not high operational priorities means that few organizations are currently working on these issues in a substantial, systematic way.* This is true on both the "doer" and "funder" side. The lack of work in the preschool years and primary grades is devastating, because achievement patterns are established early for all groups (Denton, Reaney, & West, 2001; Phillips, Crouse, & Ralph, 1998).

- *The paucity of government and foundation investment in efforts to address the high achievement and within-class gaps may be the greatest current obstacle to progress on these issues.* Without a major infusion of money, it is hard to see how a lot more work can be undertaken.

- *Even if an energetic effort began tomorrow to create the necessary organizational capacity, sustained, broad-based progress on these issues might not emerge until 2025 or beyond.* This is because, even if a great deal of sophisticated strategy-development/testing/evaluation work began in the next few years on these issues, it would undoubtedly take at least two decades to develop a set of proven, widely usable approaches for addressing them from preschool through higher education.

- *To maximize progress, it probably also will be necessary for a great deal of specialization to emerge among those who work on various aspects of the high achievement agenda.* After all, designing early childhood education strategies to help Black and Latino children from professional class families start school as well prepared as their White and Asian counterparts is different from working to develop strategies to eliminate the overprediction phenomenon at selective colleges and universities. Unfortunately, in my judgment, we are far from having the cadre of specialists that is needed.

Some Data on the Extent of the High Achievement Challenge

The description of the high achievement situation that follows draws on data from kindergarten through college. Because we are ultimately concerned with producing robust representation of African Americans, Latinos, and Native Americans among top students in higher education, i.e., high achievers at the end of the educational "pipeline," I begin with a discussion of the situation on the undergraduate level.

The High Achievement Situation on the Undergraduate Level

The 1999-2000 National Postsecondary Student Aid Study (NPSAS) provides GPA data on a nationally representative sample of all students enrolled in higher education. Thus, the sample includes students attending institutions at all levels of selectivity. It found that about 17% of the Whites and 14% of the Asian Americans earned mostly A's, but only 7% of the African Americans, 10% of the Hispanics, and 8% of the Native Americans did so (Horn, Peter, & Rooney, 2002).

Over the past several years, I have had the opportunity to see unpublished GPA data for many selective colleges and universities. Those data suggest that high achievement gaps at selective institutions are often considerably larger than those found for higher education as a whole in the 1999-2000 NPSAS. In my experience, the percentages of White and Asian undergraduates with a GPA of, say, 3.5+ (on a 4.0 scale) at selective institutions are often three-to-five times as large as those of African Americans, Latinos, and Native Americans. At the 3.75+, the multiple can be even larger.

One of the most important recently published sources of GPA data at selective institutions is *The Shape of the River*, by William Bowen and Derek Bok (1998). In it, Bowen and Bok report on their analysis of a database assembled from 28 selective colleges and universities. They found that, among students who enrolled at those institutions in 1989, the average White student graduated with a GPA of 3.15 and had a class rank at the 53rd percentile, while the average Black student graduated with an average GPA of 2.61 and had a class rank at the 23rd percentile. They also found very large differences in class rank between African American and White students with high SAT scores. Notably, the average Black student in their study with an SAT score of 1300 graduated at the 36th percentile, while their White counterparts graduated, on average, at the 60th percentile. Although less information was provided on Hispanics, they reported that the average Latino student in the study graduated at the 36th percentile.

Disturbingly, Bowen and Bok (1998) reported that the half-GPA-point difference in average GPAs between Whites and African Americans in their study was about twice as large as predicted by differences in the academic preparation for college between these two groups of students—two-to-three-tenths of a GPA point. They also reported finding that the GPA gap between Whites and Hispanics was somewhat larger than would have been predicted. Thus, Bowen and Bok found consequential overprediction patterns of the type mentioned in the previous section of this monograph.

Many other studies going back 20-30 years at the undergraduate, graduate, and professional school levels have produced similar findings (Klitgaard, 1985; Ramist & McCamley-Jenkins, 1994). Such differences have continued to be found. Notably, Stephen Cole and Elinor Barber (2003) reported in *Increasing Faculty Diversity* that, in their study of students at a number of institutions, 36% of the Latinos with SAT scores of 1300+ said they had an A or A- GPA, while 31% of those students said they had a GPA of B or lower. In contrast, they found among Whites with 1300+ SAT scores, that 52% had an A or A- GPA and only 17% had a GPA of B or lower. The percentages for Asians were 50% and 19%, respectively. This general pattern also was found among students with SAT scores of 1200-1299 and with scores below 1200.

These GPA differences are magnified by the fact that African Americans and Latinos are heavily underrepresented among undergraduates at selective colleges and universities. The extent of this underrepresentation is illustrated by enrollment data from seven institutions selected at random from the first 25 on the list of the top 50 national universities in the 2003 edition of *America's Best Colleges*: During the 2001-2002 academic year, Blacks constituted only 4% of the undergraduates at the University of Chicago, 6% at Georgetown University, 6% at MIT, 8% at Princeton University, 7% at Rice University, 9% at Stanford University, and 6% at Vanderbilt University; and, the Hispanic percentages were 7% at Chicago, 5% at Georgetown, 11% at MIT, 6% at Princeton, 11% at Rice, 11% at Stanford, and 4% at Vanderbilt (*U.S. News and World Report*, 2003). The simple (unweighted) average of undergraduate enrollments for these institutions was less than 7% Black and less than 8% Hispanic, even though these groups now constitute about one-third of the student-age population in the United States and about one-quarter of high school graduates in recent years (National Center for Education Statistics, 2003).

The High Achievement Situation on the Elementary and Secondary Levels

The underepresentation of African Americans, Latinos, and Native Americans among undergraduates at selective colleges and universities is related to the continuing severe underepresentation of top high school graduates from these groups. To get a sense of the extent of the shortage, it is useful to look at some recent SAT and AP data, because they are two sources of information widely used in the admission decision process at selective colleges and universities. The AP data are also particularly valuable, because they provide information on student performance on very challenging subject area tests—tests that are benchmarked to entry-level college courses.

Table 1 presents data on the number and percentage of high school seniors from each racial/ethnic group that scored 700 or higher on the SAT math section in 1988 and 2000. Table 2 presents similar data for those years for the verbal section of the test. The 700+ threshold has been chosen, because many students admitted to highly selective colleges and universities score at that level on either or both sections of the SAT. (The math and verbal sections of the SAT are each scored on a scale of 200 to 800.)

Table 1

High School Seniors in 1988 and 2000 Who Scored 700 or More on the SAT Math Section, by Race/Ethnicity

	1998			2000		
	No. with 700+	% with 700+	No. of Test Takers	No. with 700+	% with 700+	No. of Test Takers
White	25,530	3.1	813,116	41,449	5.8	712,105
Asian/Pacific Islander	5,394	8.4	64,102	15,456	16.0	96,717
Black	249	0.3	97,483	746	0.6	119,591
Mexican American	149	0.7	22,722	555	1.2	44,921
Puerto Rican	53	0.5	11,497	165	1.2	14,147
Other Latino	273	1.4	20,213	793	2.0	38,804
Native American	105	0.9	12,330	195	2.5	7,658
Other	473	3.4	14,094	2,528	6.5	38,634
No Response	2,145	2.7	78,807	12,156	6.5	187,701
Total	34,371	3.0	1,134,364	74,043	5.9	1,260,278

Note. From *2000 College-bound Seniors: Ethnic and Gender Profile of SAT and Achievement Test Data,* by College Board Summery Reporting Service, 2000, New York: College Board, pp. 7, 9. Copyright 2000 by the College Board. Adapted with permission. All rights reserved. www.collegeboard.com.
1988 College-bound Seniors (Recentered): Ethnic and Gender Profile of SAT and Achievement Test Data, by College Board Summary Reporting Service, 1988, New York: College Board, pp. 7, 9. Copyright 1988 by the College Board. Adapted with permission. All rights reserved. www.collegeboard.com.

Table 2

High School Seniors in 1988 and 2000 Who Scored 700 or More on the SAT Verbal Section, by Race/Ethnicity

	1998			2000		
	No. with 700+	% with 700+	No. of Test Takers	No. with 700+	% with 700+	No. of Test Takers
White	34,732	4.3	813,116	37,761	5.3	712,105
Asian/Pacific Islander	3,393	5.3	64,102	6,156	6.4	96,717
Black	672	0.7	97,483	914	0.8	119,591
Mexican American	263	1.2	22,722	514	1.1	44,921
Puerto Rican	94	0.8	11,497	168	1.2	14,147
Other Latino	424	2.1	20,213	776	2.0	38,804
Native American	138	1.1	12,330	184	2.4	7,658
Other	711	5.0	14,094	2,318	6.0	38,634
No Response	2,984	3.8	78,807	9,644	5.1	187,701
Total	43,431	3.8	1,134,364	58,435	4.6	1,260,278

Note. From *2000 College-bound Seniors: Ethnic and Gender Profile of SAT and Achievement Test Data,* by College Board Summery Reporting Service, 2000, New York: College Board, pp. 7, 9. Copyright 2000 by the College Board. Adapted with permission. All rights reserved. www.collegeboard.com.
1988 College-bound Seniors (Recentered): Ethnic and Gender Profile of SAT and Achievement Test Data, by College Board Summary Reporting Service, 1988, New York: College Board, pp. 7, 9. Copyright 1988 by the College Board. Adapted with permission. All rights reserved. www.collegeboard.com.

Table 1 shows that, in 2000, there were 41,449 White and 15,456 Asian American high school seniors who scored 700 or higher on the math section of the SAT, compared to only 746 Blacks, 555 Mexican Americans, 165 Puerto Ricans, 793 other Latinos, and 195 Native Americans. Thus, there were 23 times as many White and Asian seniors who scored 700+ on the math section than there were underrepresented minority seniors who did so (56,905 versus 2,454), even though there are now only about twice as many Whites and Asians in the student-age population as Blacks, Hispanics, and Native Americans. Note also that an extraordinary 16.0% of the Asian seniors along with 5.8% of the White seniors scored 700+ on the math section in 2000, while only 0.6% of the African Americans, 1.2% of the Mexican Americans, 1.1% of the Puerto Ricans, 2.0% of the other Latinos and 2.5% of the Native Americans did so.

It also is informative to compare the SAT math data in 2000 to the math data in 1988, since NAEP math test score trend data suggest very little progress was made in closing achievement gaps in that period. The SAT data in Table 1 tell a similar story. While all the groups had growth in the number and percentage of their test takers who scored 700+ on the SAT math section, the underrepresented groups had difficulty gaining ground on Asians and Whites. Indeed, in terms of the absolute percentages that scored 700+, they lost ground. Moreover, the growth in the Asian percentage scoring 700+ on the math section from 8.4% to 16.0% was truly remarkable; while, at the same time, the growth from 0.3% to 0.6% for African Americans was very disappointing, given the extensive school reform efforts during the period.

There is another point that must be made about the data in Table 1. Between 1988 and 2000, the percentage of seniors who took the SAT, but did not respond to the background question on race/ethnicity, grew from 7% to 15% (from 78,807 to 187,701). Based on the scoring patterns of the nonrespondents in 2000, it seems likely that most were White and Asian. If so, the growth of White and Asian high math scorers on the SAT was much larger than the data here indicate, because the number of nonrespondents scoring 700+ on the math section grew from 2,145 to 12,156 in the period.

The data in Table 2 tell a generally similar story of underrepresentation of African Americans, Latinos, and Native Americans among 700+ scorers on the verbal section. In 2000, about 17 times as many Whites and Asians scored 700+ on the verbal section as did students from the underrepresented groups. One important difference in the verbal scoring pattern relative to the math pattern is that the percentage of Asian students who scored 700+ was only modestly higher than that of Whites. Another major difference is that the growth in the percentage of each group that scored 700+ on the verbal section between 1988 and 2000 was generally small, especially relative to the gains registered on the math section. This also is consistent with changes that took place in NAEP reading and math test scores in the period.

The College Board has not yet released detailed data on the number of high school seniors from each group that scored at high levels on the SAT in 2003. However, it has published the percentages of each group that did so (College Board, 2003a). Those data suggest that there has been little change for most groups in the percentages scoring 700+ on the math and verbal sections. The largest change was for Asian's scoring 700+ on the math section. It had grown to 19% by 2003. Possibly the most consequential change was that the percentage of high school seniors in 2003 that did not respond to the question on race/ethnicity had reached 25% (College Board, 2003b). Thus, it is increasingly important to find out what the racial/ethnic mix is of that segment of test takers.

Let me now turn to data on recent scoring patterns on Advanced Placement (AP) Program exams. There are now about 35 AP courses. The exams for each course are scored on a five-point scale, with 1 the lowest score and 5 the highest. Traditionally, a score of 3 has been viewed by many colleges and universities as evidence of performing well enough to earn college credit for the course, or to be exempted from the introductory

course at the institution. However, highly selective colleges may require a score of 5 for credit or advanced placement—if they allow either.

Table 3 presents aggregate AP score data in 1997 and 2002 for Whites, Asians/Pacific Islanders, Blacks, and Mexican Americans. As Table 3 shows, the number of exam takers, exams taken, and scores of 1 through 5 grew a great deal during the period. For example, Whites and Asians, together, grew from 435,134 test takers in 1997 to 710,469 in 2002—an increase of 63%. Blacks and Mexican Americans grew even more rapidly, expanding from 47,875 exam takers in 1997 to 97,699 in 2002—an increase of 104%. Nonetheless, there were still over 7 times as many White and Asian exam takers in 2002 as Black and Mexican American exam takers, even though there were only about two-and-half times as many Whites and Asians in the student-age population as African Americans and Mexican Americans.

In 2002, there were very large differences in average scores on AP exams as well. Whites and Asians averaged 3.07 and 3.08, respectively, while Blacks and Mexican Americans averaged 2.14 and 2.61. Furthermore, the overall average score for Mexican Americans benefited from the large number of Mexican Americans who took and scored well on the AP Spanish language exam. For this reason, Table 3 also presents score data for Mexican Americans that exclude the Spanish language results. Note that, when that is done, the average AP exam score for Mexican Americans in 2002 drops to 2.13, which is virtually identical to the average score for African Americans.

Look now at the number of Whites, Asians, Blacks, and Mexican Americans that scored a 5 on AP exams. Note first that, while 10,076 Mexican Americans scored a 5 in 2002, just 1,973 were on exams other than AP Spanish Language. Thus, excluding the Spanish language results, 40 times as many exams taken by Whites and Asians (182,719) were scored a 5 in 2003 than was the case for exams taken by Blacks and Mexican Americans (4,594). This was actually a slightly higher multiple than in 1997. That year, there were about 39 times as many as earned by Whites and Asians (97,793) than by Blacks and Mexican Americans (2,516).

It also is important to note that Blacks and Mexican Americans were much more likely to score a 1 on AP exams than Whites and Asians. In 2002, excluding AP Spanish language, 36.3% of the exams taken by Mexican Americans were scored a 1, along with 35.9% of those taken by Blacks. In contrast, only 10.7% of the exams taken by Whites and 13.5% of those taken by Asians were scored a 1.

Table 3

AP Data for Whites, Asians/Pacific Islanders, African Americans, and Mexican Americans in 2002 and 1997

2002										
	Total Per Group					% Per Group				
				Mexican American					Mexican American	
	White	Asian	Black	All	Excluding Span. Lang	White	Asian	Black	All	Excluding Span. Lang
Exams Scored a 5	146,829	35,890	2,621	10,076	1,973	14.4	17.4	3.8	12.6	3.3
Exams Scored a 4	232,772	44,506	6,494	12,783	5,814	22.8	21.6	9.5	15.9	9.6
Exams Scored a 3	299,400	53,546	13,535	15,684	12,268	29.3	26.0	19.8	19.5	20.3
Exams Scored a 2	234,136	44,210	21,140	19,351	18,373	22.9	21.5	30.9	24.1	30.4
Exams Scored a 1	109,344	27,822	24,533	22,389	21,940	10.7	13.5	35.9	27.9	36.3
Total Exams	1,022,481	205,974	68,323	80,283	60,368					
Total Exam Takers	607,816	102,653	45,271	52,428	NA					
Ave. No. Exams Taken	1.68	2.01	1.51	1.53	NA					
Ave. Score of All Exams	3.07	3.08	2.14	2.61	2.13					

Table 3 (continued)

1997										
	Total Per Group					% Per Group				
				Mexican American					Mexican American	
	White	Asian	Black	All	Excluding Span. Lang	White	Asian	Black	All	Excluding Span. Lang
Exams Scored a 5	77,885	19,888	1,409	6,913	1,107	13.3	16.9	4.1	21.4	5.0
Exams Scored a 4	126,401	25,486	3,484	5,352	2,732	21.6	21.7	10.1	16.6	12.3
Exams Scored a 3	178,519	33,398	7,499	6,606	5,470	30.5	28.4	21.7	20.5	24.6
Exams Scored a 2	139,669	24,853	10,842	7,255	6,912	23.9	21.1	34.4	22.5	31.1
Exams Scored a 1	62,059	14,025	11,280	6,143	5,973	10.6	11.9	32.7	19.0	26.9
Total Exams	584,533	117,650	34,514	32,269	22,194					
Total Exam Takers	371,606	63,528	24,469	23,406	NA					
Ave. No. Exams Taken	1.57	1.85	1.41	1.38	NA					
Ave. Score of All Exams	3.03	3.11	2.21	2.99	2.37					

Note. From *National Totals: All Students, School AP Grade Distributions by Total and Ethnic Group, Administrative Date: May, 2002*, College Board, 2002, New York: Author, p. 3. Copyright 2002 by the College Board. Adapted with permission. All rights reserved. www.collegeboard.com.
1997 Advanced Placement Program National Summary Reports, by College Board, 1997, New York: Author, p. 3. Copyright 1997 by the College Board. Adapted with permission. All rights reserved. www.collegeboard.com.

A couple more comments about the Mexican American data are in order. Between 1997 and 2002, the number of non-Spanish-language AP exams taken by Mexican Americans nearly tripled, growing from 22,194 to 60,368. In the process, the percentage of exams taken by Mexican Americans that was scored a 1 increased from 26.9% to 35.9%, while the percentage scored a 5 dropped from 5.0% to 3.3% (and the percentages scored a 4 and a 3 dropped as well). This suggests that the quality of the AP courses offered to Mexican Americans has not been able to keep pace with the expansion of Mexican Americans taking AP courses and/or the pool of Mexican Americans that are well prepared for those courses was not large enough to support the expansion.

I do not have access to data on the quality of AP courses. However, the SAT data presented in Table 1 and 2 suggest that a shortage of Mexican American students who are academically prepared to do well in AP courses and on AP exams is a significant problem. In 2000, there were still only 514 Mexican Americans who scored 700+ on the verbal section and 555 that did so, on the math section. Yet, scores such as those are common among students who score 3 or more on the exams for the majority of AP courses. For instance, in their report, *Advanced Placement Students in College: An Investigation of Course Grades at 21 Colleges*, Morgan and Ramist (1998) noted that, among high school seniors in 1997 with qualifying AP grades, their combined SAT score was over 1300 on 19 of the 31 AP course exams offered that year; and, their average high school GPA was 3.67. Furthermore, while I was director of the National Task Force on Minority High Achievement in the late 1990s, I had AP and SAT data analyzed for high school seniors in 1995. Those data showed that, among Mexican Americans, Puerto Ricans, other Latinos, Blacks, and Native Americans who scored between 900 and 1600 on the SAT and had not taken an AP exam, only 3% had a SAT score of 1300+, while 77% had a score in the 900-1100 range (Miller, 1999).

The data for 1995 seniors also showed SAT and AP score patterns consistent with the findings of Morgan and Ramist (Miller, 2000). For example, among all seniors in 1995 who had a combined verbal and math score on the SAT of 1500+, 82% had taken at least one AP exam, and they had taken an average of 4.97 exams with an average score of 4.30. Among seniors in the 1300-1500 range, 68% had taken at least one exam, and they had taken an average of 3.39 exams with an average score of 3.60. Among those in the 1100-1300 range, 39% had taken at least one exam, and they had taken an average of 2.30 exams with an average score of 2.81. And, among the seniors with SAT scores in the 900-1100 range, 14% had taken at least one exam, and they had taken an average of 1.67 exams with an average score of 2.17. Note that the average score of 2.17 is very close to the average AP scores in 2002 for Blacks and for Mexican Americans as well (when AP Spanish language test results are excluded) that are presented in Table 3.

That analysis also found that this overall pattern generally did not vary a great deal by race/ethnicity. For instance, 63% of the Mexican American and 67% of the White high school seniors in 1995 who scored in the 1300-1500 zone took at least one AP exam. The Mexican Americans averaged 3.6 exams and the Whites averaged 3.3. The Mexican Americans had an average exam score of 3.5, while the Whites averaged 3.6. In the 900-1100 SAT zone, 17% of the African Americans and 12% of the Whites

took at least one AP exam. The Black students averaged 1.7 exams taken, compared to 1.6 for the Whites. The African Americans had an average exam score of 1.8 compared to 2.1 for the Whites.

Unfortunately, relatively small numbers of African American, Latino, and Native American seniors in 1995 were high scorers on the SAT. For example, while there were 64,162 Whites and 10,306 Asians in the 1300-1500 zone, there were only 1,358 Blacks, 792 Mexican Americans, 256 Puerto Ricans, 1,153 other Latinos, and 279 Native Americans in it. (The total of 74,468 Whites and Asians in that SAT zone was 19 times larger than the 3,838 underrepresented minority students in it.)

So far, the AP discussion has discussed general patterns. Table 4 presents data on the average exam scores for racial/ethnic groups on AP exams in 2002 in five important courses—biology, calculus AB, chemistry, English literature and composition, and U.S. history.

Table 4

Average Performance on Selected AP Exams in 2002, by Race/Ethnicity

	Biology	Calculus AB	Chemistry	English Literature & Comp.	U.S. History
White	3.20	3.19	2.83	3.14	2.92
Asian/Pacific Islander	3.29	3.20	3.05	3.02	2.93
Black	2.14	2.17	1.86	2.13	2.08
Mexican American	2.04	2.22	1.75	2.18	1.96
Puerto Rican	2.63	2.68	2.27	2.57	2.38
Other Latino	2.51	2.64	2.28	2.54	2.32
Native American	2.65	2.68	2.18	2.57	2.36
Other	3.06	3.07	2.84	3.06	2.87
No Response	3.10	3.14	2.86	3.10	2.83
All	3.10	3.10	2.79	3.00	2.81

Note. From *National Totals: All Students, School AP Grade Distributions by Total and Ethnic Group, Administrative Date: May, 2002*, by College Board, 2002, New York: Author, p. 3. www.collegeboard.com.

Note that, on four of the five exams, Asians averaged at least a 3, while Whites did so on three exams. And, on the remaining exams, the Asian and White students' average scores were generally close to a 3. In contrast, none of the underrepresented groups came close to averaging a 3 on any of the five exams. Blacks and Mexican Americans—the two largest underrepresented minority segments—averaged only about a 2 on all five exams.

These scoring patterns, of course, mean that the overwhelming majority of the high scores on these exams in 2002 were received by White and Asian students, while underrepresented minorities accounted for a disproportionately large share of those who received a 1. For instance, underrepresented students were 12% of the AP biology exam takers in 2002, but less 4% of those who scored a 5, about 6% of those with a 4, about 9% of those with a 3, about 14% of those with a 2, and fully 33% of those with a 1. In contrast, Whites and Asians accounted for 82% of those who took the exam, 90% of those with a 5 and 60% of those with a 1. A disheartening 43% of the Mexican Americans who took the AP biology exam in 2002 had a 1. (Note: These data were derived from tables on the 2002 AP retrieved from www.apcentral.collegeboard.com .)

What did this mean in absolute terms on the high scoring front on AP biology? It meant that 8,684 Whites and 2,853 Asians received a 5 in 2002, but only 159 Blacks Americans, 106 Mexican Americans, 44 Puerto Ricans, 201 other Latinos, and 24 Native Americans did so. Thus, there were nearly 22 times more Whites and Asians with a score of 5 on the AP biology exam than underrepresented minorities—11,537 compared to 534. Moreover, nearly two-fifths of the underrepresented students with a 5 were other Latinos.

The AP scoring patterns discussed here are not simply consistent with SAT scoring patterns; they also are consistent with the scoring patterns on NAEP subject tests for twelfth graders in virtually all the areas in which NAEP administers exams. Table 5 presents the percentages of White, Asian, Black, Hispanic, and Native American twelfth graders that scored at or above the Proficient level and at the Advanced level in seven different areas: reading, writing, math, science, U.S. history, geography, and civics. Note that African Americans, Latinos, and Native Americans are heavily underrepresented at both the Proficient and Advanced levels in all seven areas.

NAEP, of course, tests eighth graders and fourth graders as well as twelfth graders. One of the striking features of NAEP exam results is that they are generally similar at all three grades. To put it slightly differently, the scoring pattern for groups in the fourth grade tend to carry forward through the eighth and twelfth grades. Table 6 presents the percentages of White, Asian, Black, Hispanic, and Native American fourth graders that scored at or above the Proficient level and at the Advanced level in reading, writing, math, science, U.S. history, geography, and civics in the same years as the data presented in Table 5 for twelfth graders.

Table 5

Percentages of Twelfth-Grade Students, by Race/Ethnicity, Who Scored Within the Proficient and Advanced Ranges on the NAEP 2002 Reading, 2002 Writing, 2000 Math, 2000 Science, 2001 U.S. History, 2001 Geography, and 1998 Civics Tests

	% at or Above Proficient					% at Advanced				
	White	Black	Hispanic	Asian	Native American	White	Black	Hispanic	Asian	Native American
Reading	42	16	22	34	NA	6	1	1	4	NA
Writing	28	9	13	25	NA	2	0	1	3	NA
Math	20	3	4	34	10	3	0	0	7	0
Science	23	3	7	26	9	3	0	0	4	1
US History	13	3	5	21	1	1	0	0	5	0
Geog.	31	4	10	26	32	2	0	0	1	1
Civics	33	9	11	28	9	5	1	1	5	1

Note. From *The Nation's Report Card: Reading 2002* (p. 54), by W. S. Grigg, M. C. Daane, Y. Jin, and J. R. Campbell, 2003, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The Nation's Report Card: Writing 2002* (p. 56), by H. R. Persky, M. C. Daane, and Y. Jin, 2003, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The Nation's Report Card: Mathematics 2000* (pp. 64-65), by J. S. Braswell, A. D. Lutkus, W. S. Grigg, S. L. Santapau, B. S.-H. Tay-Lim, and M. S. Johnson, 2001, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The Nation's Report Card: Science 2000* (p. 75), by C. Y. O'Sullivan, M. A. Lauko, W. S. Grigg, J. Qian, and J. Zhang, 2003, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The Nation's Report Card: U.S. History 2001* (p. 31), by M. S. Lapp, W. S. Grigg, and B. S.-H. Tay-Lim, 2002, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The Nation's Report Card: Geography 2001* (p. 32), by A. R. Weiss, A. D. Lutkus, B. S. Hildebrant, and M. S. Johnson, 2002, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The NAEP 1998 Civics Report Card for the Nation* (p. 51), by A. D. Lutkus, A. R. Weiss, J. R. Campbell, J. Mazzeo, and S. Lazer, 1999, Washington, DC: National Center for Education Statistics, U.S. Department of Education. [Adapted]
All reports are available on-line in PDF format from: nces.ed.gov/pubsearch/getpubcats.asp?sid=031#017 .

Table 6

Percentages of Fourth-Grade Students, by Race/Ethnicity, Who Scored Within the Proficient and Advanced Ranges on the NAEP 2002 Reading, 2002 Writing, 2000 Math, 2000 Science, 2001 U.S. History, 2001 Geography, and 1998 Civics Tests

	% at or Above Proficient					% at Advanced				
	White	Black	Hispanic	Asian	Native American	White	Black	Hispanic	Asian	Native American
Reading	41	12	15	37	22	10	2	2	10	5
Writing	34	14	17	41	15	3	1	1	4	1
Math	34	5	10	NA	14	3	0	1	NA	1
Science	38	7	11	NA	19	5	0	1	NA	1
US History	24	6	7	19	12	3	0	1	3	4
Geog.	29	5	6	25	13	3	0	0	1	0
Civics	29	8	8	27	14	2	1	0	3	0

Note. From *The Nation's Report Card: Reading 2002* (p. 54), by W. S. Grigg, M. C. Daane, Y. Jin, and J. R. Campbell, 2003, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The Nation's Report Card: Writing 2002* (p. 49), by H. R. Persky, M. C. Daane, and Y. Jin, 2003, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The Nation's Report Card: Mathematics 2000* (pp. 60-61), by J. S. Braswell, A. D. Lutkus, W. S. Grigg, S. L. Santapau, B. S.-H. Tay-Lim, and M. S. Johnson, 2001, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The Nation's Report Card: Science 2000* (p. 73), by C. Y. O'Sullivan, M. A. Lauko, W. S. Grigg, J. Qian, and J. Zhang, 2003, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The Nation's Report Card: U.S. History 2001* (p. 29), by M. S. Lapp, W. S. Grigg, and B. S.-H. Tay-Lim, 2002, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The Nation's Report Card: Geography 2001* (p. 30), by A. R. Weiss, A. D. Lutkus, B. S. Hildebrant, and M. S. Johnson, 2002, Washington, DC: National Center for Education Statistics, U.S. Department of Education; *The NAEP 1998 Civics Report Card for the Nation* (p. 51), by A. D. Lutkus, A. R. Weiss, J. R. Campbell, J. Mazzeo, and S. Lazer, 1999, Washington, DC: National Center for Education Statistics, U.S. Department of Education. [Adapted]
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Without belaboring the point, the percentages of each group that scored at the Proficient and Advanced levels in the fourth grade are, in the main, consistent with the percentages at the twelfth grade. Clearly, data from all seven of the NAEP subject area tests indicate that the severe underrepresentation of African Americans, Latinos, and Native Americans among high achieving students that we have discussed above at the high school and undergraduate levels is also present in the middle of the elementary school years.

Furthermore, these patterns begin even earlier. For example, in an analysis of the federal government's Prospect Study database (which includes achievement data from the first grade through middle school for nationally representative samples of students in the early 1990s), Blacks and Latinos were found to be heavily underrepresented among high scorers at the beginning of the first grade on standardized reading and math tests (Borman, Stringfield, & Rachuba, 1999). Moreover, data from the federal government's Early Childhood Longitudinal Study, which is following a nationally representative sample of children who started kindergarten in the fall of 1998 through the fifth grade, show that these groups' underrepresentation among high achievers is evident to some extent at the start of kindergarten, and continues to emerge over the course of the kindergarten year on through the first grade. These findings are based on measures of basic literacy skills and mathematics concepts. Table 7 presents data at the start of kindergarten, at the end of the kindergarten year, and the end of the first grade.

The data in Table 7 show that, in the fall of their kindergarten year, most children could recognize letters; and, by the end of the first grade, virtually all could do so. Regarding recognizing words on sight or identifying words in context, only a few percent of any of the groups could do so at the start of kindergarten; but, in both cases, larger shares of Whites and Asians could do so than Blacks and Hispanics. Also, while a large majority of all groups could recognize words on sight by the end of the first grade, Blacks and Latinos lagged their White and Asian counterparts considerably. The gaps were even larger for recognizing words in context. Table 7 tells a similar story about the children's knowledge of numbers and shapes, adding and subtracting, and multiplying and dividing.

Although it is difficult to precisely determine how much of the overall achievement gaps among racial/ethnic groups exist at the start of schooling, an extensive analysis conducted by Meredith Phillips and two colleagues led them to estimate that about half of the Black-White gap exists at the start of the first grade (Phillips, Crouse, & Ralph, 1998). In a separate analysis, Phillips found that very substantial differences in the distributions of scores on a commonly used vocabulary test for preschoolers are present between African American and White children at age 3, with Black children extremely underrepresented among the highest scorers (Phillips, 2000). In her discussion of these data, she conjectured that, if data were available on the cognitive skills of infants and toddlers, "we might be able to trace the gap back even further" (p. 125).

Table 7

Percentages of Children, by Race/Ethnicity, Demonstrating Selected Basic Literacy Skills and Mathematics Concepts in the Fall and Spring of their Kindergarten Year and in the Spring of Their First Grade Year, by Race/Ethnicity

	Letter Recognition			Sight Words			Words in Context			Numbers and Shapes			Add/Subtract			Multiply/Divide		
	Fall	Spring		Fall	Spring		Fall	Spring		Fall	Spring		Fall	Spring		Fall	Spring	
	K	K	1	K	K	1	K	K	1	K	K	1	K	K	1	K	K	1
White	74	97	100	3	16	88	1	5	52	96	100	100	5	23	82	0	3	34
Black	59	92	99	1	9	71	0	2	34	91	99	100	1	8	59	0	0	10
Hispanic	51	91	100	1	10	78	0	2	41	91	99	100	2	12	72	0	1	19
Asian	79	99	100	7	28	90	4	12	62	97	100	100	9	28	79	1	6	34
Other	52	91	99	2	10	73	1	4	36	89	99	100	2	12	66	0	1	19

Note. From *Children's Reading and Mathematics Achievement in Kindergarten and First Grade* (pp. 39-40), K. Denton and J. West, 2002, Washington, DC: National Center for Education Statistics, U.S. Department of Education. [Adapted]

Within-Class Achievement Differences on the Elementary and Secondary Levels

Let me now shift to data on a very important topic: The large differences that exist among racial/ethnic groups in academic achievement within social class categories. There are no regularly published data on trends in within-class achievement patterns at any level of the educational system. This is truly ironic, given the call by many school reformers these days for "disaggregation" of achievement data—coupled with fact that disaggregation is mandated by the No Child Left Behind Act. Unfortunately, what most people mean by disaggregation is that standardized test scores be reported separately by social class and by race/ethnicity—not that scores be reported for each racial/ethnic group at each social class level, even though secondary analysis of Coleman Report data as far back as 1969 showed very large differences in average test scores at the elementary and secondary levels among racial/ethnic groups at all social class levels (Okada, Cohen, & Mayeske, 1969). I have been one of those who have called for within-class disaggregation for many years (Miller, 1995), so far to no avail.

Despite the limited availability of such data, Table 8 presents some from the 1988 and 2000 SAT. Specifically, it shows average combined verbal and math SAT scores for high school seniors in those years who reported that they had at least one parent who had earned a high school diploma and for those who reported having at least one parent with a graduate degree.

The data in Table 8 show that some of the within-class differences are quite large. In fact, for African Americans, the gaps relative to Whites and Asians are such that White and Asian students with no parent who had gone beyond high school had higher average combined verbal and math SAT scores in both 1988 and 2000 than Black students who had at least one parent with a graduate degree.

Also, the within-class gaps tend to be larger among the students with at least one parent with a graduate degree than among those with no parent who has gone beyond high school. For example, there was an 89-point difference in 2000 in the average combined scores of Asians and Mexican Americans with no parent who had gone beyond high school—995 versus 906—and a 146-point difference between Asians and Mexican Americans with at least one parent with a graduate degree—1176 versus 1030. (The 146-point gap was roughly two-thirds of a standard deviation.) NAEP data show generally similar patterns (Beatty, Reese, Persky, & Carr, 1996; Campbell, Donahue, Reese, & Phillips, 1996).

Finally, while Table 8 shows that most groups made gains in average combined SAT scores at both parent education levels during the period, the two largest underrepresented minority segments, African Americans and Mexican Americans, lost some ground relative to Whites and Asians among students with at least one parent with a graduate degree. This is potentially consequential from a high achievement standpoint, because students from families with parents with graduate degrees provide a disproportionate share of high scorers on the SAT.

Table 8

Average Combined SAT Math and Verbal Scores for High School Seniors In 1988 and 2000, by Race/Ethnicity and Parent Education

	At Least One Parent With a High School Degree			At Least One Parent With a Graduate Degree		
	1988	2000	Change	1988	2000	Change
White	983	986	+3	1106	1137	+31
Asian/Pacific Islander	958	995	+37	1130	1176	+46
Black	819	823	+4	938	958	+20
Mexican American	913	906	-7	1018	1030	+12
Puerto Rican	854	880	+26	939	999	+60
Other Latino	904	897	-7	1010	1026	+16
Native American	906	920	+14	1005	1040	+35
Other	911	944	+33	1081	1120	+39
All	955	949	-6	1094	1124	+30

Note. From *2000 College-bound Seniors: Ethnic and Gender Profile of SAT and Achievement Test Data,* by College Board Summery Reporting Service, 2000, New York: College Board, pp. 7, 9. Copyright 2000 by the College Board. Adapted with permission. All rights reserved. www.collegeboard.com.
1988 College-bound Seniors (Recentered): Ethnic and Gender Profile of SAT and Achievement Test Data, by College Board Summary Reporting Service, 1988, New York: College Board, pp. 7, 9. Copyright 1988 by the College Board. Adapted with permission. All rights reserved. www.collegeboard.com.

The scope of the high achievement problem in that SES segment for underrepresented students is demonstrated by SAT data for 1995 high school seniors that I had cut while I was director of the National Task Force on Minority High Achievement. For instance, among seniors who reported that both of their parents had a graduate degree, 54% of the Asians and 50% of the Whites scored in the top quartile on the SAT verbal section, while only 27% of the Mexican Americans and 20% of the Blacks did so. In contrast, among students with no parent with a high school degree, 9% of the Whites and 7% of the Asians scored in the top quartile on the verbal section, compared to 3% of the Mexican Americans and 1% of the African Americans (Miller, 2000).

Although it is relatively rare to see national data on the within-class achievement gaps in the early years of school, the reality is that they are quite large in those years. Table 9 demonstrates this by presenting data on within-class achievement gaps in the first grade. These data show the percentages of White, African American, and Latino first

graders in the federal government's Prospects Study that scored in the top quartile on standardized reading and math tests. These data not only demonstrate that substantial within-class gaps are present at the start of elementary school, they also show that the underrepresentation of Blacks and Hispanics among high achieving students exists at that point as well.

Table 9

Percentages of First Graders in the Prospects Study That Scored At or Above the 75th Percentile in Reading and Mathematics, by Race/Ethnicity and Parent Education Level

	% in Top Quartile in Reading		% in Top Quartile in Math	
	No Parent With High School Degree	At Least One Parent With College Degree	No Parent With High School Degree	At Least One Parent With College Degree
White	13	33	29	49
Black	6	13	12	17
Hispanic	8	11	20	28

Note. From *Working More Productively to Produce Similar Patterns of Education Performance Among Racial/Ethnic Groups in the United States*, by L. S. Miller, 2003, New York: ERIC Clearinghouse on Urban Education.

Note that much smaller percentages of Black and Hispanic first graders than Whites scored in the top quartile on the reading and math tests at both high and low parent education levels. Similar to the SAT data presented in Table 7, the data here show that the within-class differences in achievement were sufficiently large that White first graders with no parent with a high school degree had percentages scoring in the top quartile in both math and reading that were as high or higher than for African Americans and Latinos who had at least one parent with a college degree.

Unsurprisingly, evidence of the within-class gaps can be found prior to the first grade. A recent analysis of kindergarten data from the federal government's Early Childhood Longitudinal Study by Richard Coley found not only that Asians and Whites performed much higher overall than African Americans and Latinos on a number of reading and math skills and concepts as they started kindergarten, but that they also did better in several social class segments (Coley, 2002). Some of the largest within-class racial/ethnic differences were among children in the highest SES quintile. Table 10 presents some of these data.

As the data in Table 10 show, in general, higher percentages of Asian and White children from families in the highest SES quintile than their African American and Latino counterparts demonstrated various literacy skills and understanding of various

mathematics concepts at the start of their kindergarten year in the fall of 1998. Although some of the differences were very small, others were fairly large, especially in mathematics. For example, while 48% of the Asians and 41% of the Whites understood ordinal sequence, only 21% of the Blacks and 25% of the Hispanics did so. And, while 16% of Asians and 10% of Whites could perform addition and subtraction, only 3% of the African Americans and 4% of the Latinos could do so.

Coley's analysis looks only at group differences at the start of kindergarten. A recent analysis by Sean Reardon of Early Childhood Longitudinal Study data for kindergarten and the first grade shows that overall group differences and within-class differences in reading and math achievement persist, and in some cases grow, through the first grade (Reardon, 2003).

Table 10

Percentages of Children in the Highest SES Quintile, by Race/Ethnicity, in the Early Childhood Longitudinal Study Who Demonstrated Various Literacy Skills and Understanding of Various Mathematics Concepts in Kindergarten in the Fall of 1998

	White	Black	Hispanic	Asian
Understand Beginning Sounds of Words	52	42	41	64
Understand Ending Sounds of Words	33	26	25	46
Recognize Common Words	6	3	5	17
Understand Common Words in Context	2	1	3	9
Recognize Numbers and Shapes	99	95	97	99
Understand Relative Size	79	65	60	82
Understand Ordinal Sequence	41	21	25	48
Perform Addition & Subtraction	10	3	4	16
Perform Multiplication & Division	2.7	1.0	0.6	0.6

Note. From *An Uneven Start: Indicators of Inequality in School Performance*, by J. R. Coley, 2002, Princeton, NJ: Policy Information Center, Educational Testing Service. Adapted with permission of Educational Testing Service, the copyright owner. For limited use by the University of Connecticut.

Pursuing the High Achievement Agenda Under Conditions of Fewness

Let me turn now to what I have come to believe is a one of the most difficult realities for those of us concerned with developing effective strategies for increasing the representation of African Americans, Latinos, and Native Americans among the nation's top students. Work on the high achievement issue probably will have to proceed for a long time to come under *conditions of fewness*, i.e., under circumstances in which only small percentages of students from these groups will be high achievers as measured by grades and test scores from kindergarten and the first grade onward. As the use of the word *conditions* suggests, *fewness* has a number of dimensions.

Stereotype Threat

One of the most important dimensions may be a psychological one identified by Claude Steele and his colleagues. Through a series of thoughtful experiments with undergraduates at some selective universities, they have found evidence that many outstanding African American students may perform less well than they could as a result of *stereotype threat* (Steele, 1997). According to Steele, stereotype threat is "the threat of being viewed through the lens of a negative stereotype, or the fear of doing something that would confirm the stereotype" (Steele, 2003). In this case, the stereotype is the old view that Blacks are not as intelligent as Whites (Howard & Hammond, 1985).

Of potentially great importance for the high achievement agenda, Steele and his colleagues have found that the students who tend to be vulnerable to stereotype threat are those who have historically been high achieving students and who strongly identify with being good students (Steele, 2003). (Low achievers are not expecting to do well and may have long ago disidentified with academics.) Furthermore, they also have found in their experiments that the contexts in which stereotype threat seems to lower performance are those that present genuinely difficult academic challenges (Steele, 1997). This is significant, of course, because it is the difficult aspects of course curricula that separate A students from those who are B or C students.

Steele and his colleagues believe that the main reason why academically strong Black students seem to do less well under conditions of stereotype threat is a lack of *trust* that they will be judged or treated fairly in the situation (Steele, 2003). For example, they may believe that a test is not fair or that they will not be graded fairly on the test. This raises anxiety levels, which can undermine their performance, particularly when they are encountering difficult academic tasks.

Unfortunately, owing to the shortage of top Black students in college, the threat may often be felt in a context in which students from all groups are aware that few African Americans have high undergraduate GPAs. Moreover, it seems unlikely that stereotype threat is confined to higher education. Indeed, some recent research suggests that it has the potential to emerge in the early years of school, because many students may become aware of the negative intellectual stereotype of African Americans during the primary grades (McKown & Weinstein, 2003). And, as we have seen, Black students

are already severely underrepresented among high achieving students in those years. Thus, one could envision circumstances, for example, in which African American third graders in affluent suburban schools are frequently aware that the stereotype exists and that most of the high achieving students in their classes are White and Asian American.

Apart from observing differences in achievement in their own classrooms and schools, they and their counterparts in urban districts will have the "opportunity" to hear about their underrepresentation among high achieving students all along their educational careers from many sources. They may hear about it from educators in their schools and districts who announce new efforts to close the "achievement gap," as well as from federal and state policymaker who announce new federal or state initiatives (such as the No Child Left Behind Act) to do the same. They may hear about it from newspaper and television journalists who report on the latest SAT, NAEP, or other data that describe differences in achievement among groups and the progress that is and is not being made to reduce these differences (Belluck, 1999; Hoover, 2003). They may encounter papers (such as this one), reports, and books that discuss achievement gaps from a variety of perspectives, including what the authors' believe can and cannot be done to eliminate them (Gottfredson, 2000; Herrnstein & Murray, 1994; Massey, Charles, Lundy, & Fischer, 2003; Perry, Steele, & Hilliard, III, 2003; Thernstrom & Thernstrom, 2003). They may even hear about it periodically from the courts, as when the Supreme Court ruled recently on two affirmative action cases regarding undergraduate and law school admissions policies at the University of Michigan (Winter, 2003).

Of course, students from all groups will have opportunities to observe and hear about these gaps throughout their educational careers. Thus, what Jeff Howard and Ray Hammond (1985) referred to nearly two decades ago as "rumors of inferiority" have the potential to be fed constantly by the continuation of large achievement differences and the inevitable public and private discussion of them.

Fewness on the Elementary and Secondary Level

There also are a series of curricular, instructional, and other problems related to fewness, which have little or nothing to do directly with prejudice or discrimination. For example, in many elementary schools serving mainly extremely disadvantaged underrepresented minority children, a large percentage of the students achieve at low levels, while a small percentage perform at high levels. As a result, there can be a tendency for the curriculum and teaching strategies used in many of these schools to become heavily weighted toward helping "at-risk" students reach credible levels of performance (Archer, 1999). (Some comprehensive school reform approaches, such as Success for All and Accelerated Schools, have been conceived and developed with at-risk students in mind.) Similarly, much of the after school assistance and summer programs available to students in these schools may be targeted mainly to at-risk students, owing to a concern that, without extra help, they will not be able to master the curriculum on even the minimum level required to be promoted to the next grade and eventually to earn a high school diploma (Denton, 2002; Roderick, Engel, & Nagaoka, 2003). Indeed, remedial-oriented supplementary education is now common in many industrialized

nations (Baker, Akiba, LeTendre, & Wiseman, 2001). Owing to financial constraints, this can make it difficult for many such schools and their districts to offer the supplementary assistance needed by their high achieving students to help them stay on a high performance trajectory (using national standards of high achievement).

Another potentially important dimension of fewness is that, as many underrepresented minority students in schools serving mainly disadvantaged youngsters move through the K-12 years, there often may not be enough high achievers for the top students to get the same academic benefits of group study that are available to White and Asian high achievers in affluent suburban schools (Puma et al., 1997). At the high school level, there also may not be a sufficient number of well-prepared students to offer the robust mix of advanced courses that is common in affluent suburban high schools (which is one implication of the AP and SAT data reviewed earlier in this monograph).

Even in suburban schools that serve many high SES and high achieving White students, fewness may still be a challenge for underrepresented minority students. In those circumstances, there may often be relatively few high achieving Black or Latino students. Thus, to have a substantial number of high achieving peers to study with in most courses, the underrepresented students will have to be participants in integrated networks of such students. The research of Ronald Ferguson and John Ogbu in affluent, racially/ethnically diverse suburban districts, as well as other research that examines academic dimensions of peer relationships at the secondary level, suggests that such integration can be difficult to achieve (Ferguson, 2001; Ferguson, 2002; Ogbu, 2003, Steinberg, 1996).

Fewness on the Undergraduate Level

At the undergraduate level, fewness also is likely to have a number of dimensions, especially at selective colleges and universities, some of which are similar to those at the K-12 level. Since my work as executive director of the Consortium for High Academic Performance (CHAP) is focused heavily on identifying and developing effective strategies for increasing the percentage of top undergraduates from underrepresented groups, I will offer a somewhat more extensive discussion of fewness at that level.

As noted earlier, the shortage of top Black, Latino, and Native American high school graduates is limiting their presence at selective colleges and universities; and, available evidence suggests even smaller percentages are excelling as undergraduates at those institutions. For example, consider a set of selective institutions at which African Americans, Latinos, and Native Americans collectively constitute about 15% of the undergraduates. My experience suggests that they will often make up only 3-5% of the students who have a GPA over 3.5. In some heavily quantitative fields, such as physics or engineering, the percentage over 3.5 might drop to 2-3%—and possibly drop further still among the highest performers in these fields, say, those with a GPA over 3.75.

Even at fairly large universities, this would mean that, in a given year, there probably would not be a single African American, Latino, or Native American junior or

senior who has a cumulative GPA of 3.5+ in a number of majors. There often may not even be one with a high B average, such as a 3.3. At small selective colleges, these patterns often may be more pronounced.

Viewed from the perspective of high achieving students from underrepresented groups, one likely implication is that most of the high achievers from these groups will take *several* courses in their major during their junior and senior years in which there will be no other high performing (high GPA) student from their group. Among other things, this almost certainly means that they frequently will not have similarly high achieving students from their own group to study with in upper division courses. And, underrepresented students with a solid B average often may be in a similar position.

Because many undergraduates from underrepresented groups at selective institutions are likely to be from low SES circumstances, the high achievement dimension of fewness may often have two other variations. First, many students from these groups may have to work too many hours to pay for their educational expenses to devote sufficient time to their studies to excel. Thus, relatively few may be able to dedicate themselves fully to maximizing their academic performance. Second, many of these same students may not come to college with a full awareness of the importance of high achievement for pursuing graduate school or securing a good job after college, because they are the first in their families to attend college. For example, both of these dimensions may be fairly common among Mexican Americans students, because many are from low-income families in which the parents have little formal education (College Board, 2003; Vernez & Kroll, 1999).

Fewness also has a dimension related to White and Asian American students (the groups that are producing most of the high achievers at selective colleges and universities) as well as a dimension related to faculty. Regarding White and Asian students, Douglas Massey and his colleagues present data in *The Source of the River* on the composition of high schools that the students in their study attended (Massey, Charles, Lundy, & Fischer, 2003). Unsurprisingly, there was a great deal of segregation for all groups. The average White student attended a high school that was 70% White, 9% Asian, 12% Black, and 7% Latino. The average Asian attended a high school that was 55% White, 21% Asian, 11% Black, and 11% Latino. The average Latino attended a school that was 54% White, 10% Asian, 12% Black, and 21% Latino. And, the average Black attended a school that was 44% White, 8% Asian, 37% Black, and 9% Latino.

These data support the widely held belief that most Whites and Asians who enroll at selective colleges and universities have had relatively limited academic contact with African Americans and Latinos in high school, especially if small percentages of the underrepresented students in their schools are enrolled in honors and AP courses (Ferguson, 2001; Glionna, 2002; Oakes, 1985). Furthermore, once they enter college, White and Asian American students at selective institutions typically will not encounter large numbers of high achieving Black and Latino students in their classes, while they will find many top performing Whites and/or Asians. Thus, it is reasonable to believe that relatively few Whites and Asians at most selective institutions have had a lot of

experience studying with high achieving African Americans and Latinos in high school, and that this continues to be the case during their undergraduate years.

Of course, the high school composition data gathered by Massey and his colleagues also suggest that many top Black and Latino high school students have had limited experience with each other in high school. Subsequently, the same may often be true in college. This means that lumping these groups together for purposes of assessing critical mass at selective institutions often may be problematic in the high achievement arena.

Turning to faculty members, because there are limited numbers of African American, Latino (especially Mexican American and Puerto Rican), and Native American students at selective colleges and universities who are excelling academically at any given time, this inevitably means that most faculty members will not be seeing many such students in their classes. In small upper division courses, they may only occasionally have top performing students from these groups. Thus, few professors are likely to have had extensive experience working with top undergraduates from these groups. This would imply that few would have done a lot of mentoring of such students or had extensive experience providing feedback on assignments or other information to such students designed to help them perform at the highest levels in their courses. Moreover, under these circumstances, relatively few professors may be actively looking for ways to help more students from these groups to excel in their classes. These circumstances may pose even more complexities for African American undergraduates at selective institutions than for students from other underrepresented groups, owing to stereotype threat.

We might hypothesize that, compared to White faculty members, those from underrepresented groups have more close contact with top African American or Latino students at selective institutions, because the students might tend to seek them out, and vice versa, even when it means crossing disciplinary boundaries. However, the low percentage of underrepresented minority professors at most selective colleges and universities is yet another form of fewness that presumably is an obstacle in its own right to making these connections. For example, a recent study of African Americans, Latinos, and Native Americans on the chemistry faculties of top research universities in the United States found that, among the 1,637 tenured and tenure track faculty members in 50 leading chemistry departments, only 43 were from the three groups—and 23 of those departments had no faculty members from these groups (Long, 2001).

The extent to which this description of the dimensions of fewness on the undergraduate level is correct is not completely clear. Therefore, several of my CHAP colleagues and I have been developing a questionnaire for use with undergraduates at selective institutions, which is designed to shed light on many of these matters. For example, the questionnaire has sets of questions on who students study with, how they interact with their professors, what they know about the importance of excelling academically on the undergraduate level, and so forth. Thus, the questionnaire should

allow us to look for correlations between these areas and students' undergraduate academic achievement.

Some Example Fewness-driven Questions

As the brief comments on the questionnaire being developed by CHAP indicate, fewness enables one to raise a number of salient questions for strategy development, such as: a) Do underrepresented minority students have much less opportunity to study with high achieving peers than Whites at various levels of the educational system? b) If so, what can be done to mitigate this problem at each level? c) What curricular and instructional approaches are most effective at meeting the needs of high, middle, and low achieving students in elementary schools in which a high percentage of the students are low achievers? 4) What are the most effective and cost efficient approaches for providing after-school programs for high achieving students in schools serving mostly disadvantaged students?

Learning From the Most Academically Successful Groups

As the data reviewed earlier in this monograph make abundantly clear, some racial/ethnic groups are doing much better than others academically, including having much higher percentages of top students, by traditional measures, *from the start of schooling* onward. A somewhat different way of making this point is that all groups basically establish their pool of top students in the early years, and none of the groups (including the most successful ones) have demonstrated a capacity to expand greatly their pool of top students after the middle elementary school years (at the latest). Consequently, I believe that one of the most promising ways to inform the development of effective strategies for increasing the percentage of top students is to study what the most successful groups are doing to support high achievement, with emphasis on their efforts from infancy through the primary grades. (Of course, it also would be valuable to learn more about what the most successful groups do to help keep substantial percentages of their students on a high achievement trajectory over the course of their academic careers.)

This work would involve looking much more systematically than is now the case at what the most academically successful racial/ethnic groups are doing inside school and outside school (in the home and community). The point here, of course, is not that there is no work being done of this kind; rather, it is that there is not a sufficient amount being conducted, especially for the purpose of informing the development of strategies for promoting high academic achievement among underrepresented minority students.

Despite the limited amount of work of this kind over the years, researchers have been able to identify some of the things that may be contributing to the success of the highest achieving groups. For instance, the National Task Force on Minority High Achievement noted that some of the sources of the overall success of students in the United States of East Asian origin (e.g., Chinese American and Korean American

students) may be the extensive use of supplementary education programs in their communities, the propensity of the students from these groups to study more in groups in structured ways, and their tendency to spend more time on homework (National Task Force on Minority High Achievement, 1999).

The information on supplementary education available for students from the most academically successful groups is sketchy. However, there is reason to believe that many students from some of these groups have extensive opportunities of this kind (Bhattacharyya, 1999; Johnston, 2000; National Task Force on Minority High Achievement, 1999). There also is reason to believe that many underrepresented minority parents value and seek more supplementary education for their children, but that the opportunities available to them may be fewer, including for those from middle and high SES circumstances (Gross, 2002; Varner, 1999).

Considerably more is known about group study. For instance, over a quarter century ago, Uri Treisman and his colleagues not only identified the importance of group study for the success of Chinese American students in the introductory calculus course at the University of California at Berkeley, they also used that finding to help design a strategy that was able to raise underrepresented students' achievement in that course (Fullilove & Treisman, 1990; Treisman, 1992). The strategy included a companion workshop to the regular calculus course, in which students had the opportunity to master very challenging calculus problems, often by working together. That approach has subsequently been adapted for use in many other courses (with varying degrees of success), especially in science, mathematics, engineering, and technology at many institutions (Asera, 2001). While not a panacea, the workshop model, with emphasis on group work on challenging academic tasks, is clearly a valuable tool. Moreover, there is some solid research now at both the college and high school level that shows that many high achieving students study frequently with other successful students (Light, 2001; Steinberg, 1996; Steinberg, Dornbusch, & Brown, 1992). Some of the most extensive research on the high school level indicates that top Asian students are the most likely to study with other top students, while top Black students are the least likely (Steinberg, 1996; Steinberg, Dornbusch, & Brown, 1992). There is a compelling need for much more research on group study patterns at all levels of the education system, including at the elementary school level, to learn more about how they develop and evolve over time, how opportunities to learn with and from high achieving peers vary (and why), what circumstances seem to support integrated groups, etc.

Regarding the early years—infancy through preschool and kindergarten, it is very important to learn much more about how substantial percentages of students from the most academically successful racial/ethnic groups (and the most successful segments of underrepresented groups) acquire extensive vocabulary and other literacy skills, along with understanding of mathematics concepts, that puts them in a strong position to excel in elementary school. Moreover, it is important that this work not simply proceed only from the perspective of what might be learned to support the development of low SES underrepresented minority students (and low SES Whites and Asians). Rather, a high priority should be to given to learning how their experiences might differ, on average,

from middle and high SES underrepresented minority youngsters, in order to inform strategy development work for them as well as for the disadvantaged.

While there is some research on aspects of this question, such as in the area of parenting strategies—some of which suggests similarities and some of which suggests differences among high SES segments (Hrabowski, III, Maton, & Greif, 1998; Lareau, 2003; Moore, 1987, 1988; Ogbu, 2003; Steinberg, 1996;) it is far from definitive. The data for high SES Asian and White students from the Early Childhood Longitudinal Study that were presented earlier in this monograph underline the importance of doing much more research in this area.

The Need and Opportunity for a More Rigorous Strategy Development Process

Over the years, there have been frequent efforts to synthesize research in various areas for the purpose of informing work to raise student achievement, particularly for disadvantaged students (many of whom are from underrepresented groups). For example, there have been many efforts to synthesize what has been learned from research on early childhood development and education for the disadvantaged (Barnett, 1995; Karoly et al., 1998). Another example in recent years has been the extensive effort to synthesize the reading research base, which has given considerable emphasis to identifying practices that can ensure that disadvantaged and other children who often have difficulty learning to read in the primary grades are able to do so (National Reading Panel, 2000; Snow, Burns, & Griffin, 1998).

Along side synthesis work of this kind has been the growing movement to assess the effectiveness of specific educational strategies intended to raise academic achievement levels of students. On the elementary and secondary level, much of this evaluation work has been focused on the many comprehensive school reform (CSR) models that have emerged during the current period of educational reform, which began a generation ago (Slavin & Madden, 2001; Stringfield, Millsap, & Herman, 1997). In addition, a considerable amount of evaluation work has been directed at many other types of programs and strategies, ranging from the impact of school choice programs to efforts to reduce class size, to determine if they have helped raise student achievement (Mosteller, Light, & Sachs, 1996; Peterson, Myers, & Howell, 1998). Some also has been directed at school districts as a whole and to "quasi-districts," such as the schools operated by the Department of Defense, which have been attempting to produce instructional coherence via standards, curricula, and professional development (General Accounting Office, 2001a; Newman, Smith, Allensworth, & Bryk, 2001; Slavin, 2003; Smrekar, Guthrie, Owins, & Sims, 2001). This expansion also has included more evaluation work on the higher education level, and on the preschool level as well (Building Engineering and Science Talent, 2003; General Accounting Office, 2001b).

Evaluations of CSR and other school reform strategies on the K-12 level have become so numerous that it has been possible over the past 5 years to conduct reviews

and analyses of their results. One of the major findings is that the capacity of these strategies to raise academic achievement levels—usually as measured by standardized tests—of the targeted students is real, but modest. For instance, Geoffrey Borman and several colleagues recently completed one of the most extensive and sophisticated reviews to date of the capacity of CSR strategies to raise test scores—a meta-analysis of 213 studies of 29 of the best-known CSR approaches (Borman, Hewes, Overman, & Brown, 2002). They found an overall effect size of 0.12, which is about one-eighth of a standard deviation. As Borman and his colleagues pointed out, this means that the average student in the CSR schools had achievement test scores that were higher than about 55% of similar students in non-CSR schools.

Another example is a review that Ronald Brady recently conducted of data on major efforts to turn around low performing schools in the state of New York, in Memphis, Tennessee, and in Prince Georges County, Maryland (Brady, 2003). Brady found that getting even half of the schools to produce higher overall levels of academic achievement was an accomplishment. Moreover, he noted that the gains were often small and could be difficult to maintain.

In a recent review of studies and evaluations of intervention programs for underrepresented minorities on the K-12 level that target underrepresented minority students, Patricia Gándara and Deborah Bial (2001) looked at a number of academic outcome measures, including whether the programs helped more students complete college prep courses, raise their academic achievement in terms of grades or standardized test scores, or go on to attend college. While they found that some programs had some evidence that they helped more students to complete college prep courses and/or to go on to college, they found no solid evidence that any of the programs helped raise student achievement either in terms of higher grades or test scores. As they pointed out, this was unsurprising, as few of the programs had been evaluated from the perspective of whether they had any academic achievement impacts.

Yet another example is a National Science Foundation funded initiative known as Building Engineering and Science Talent (BEST). It recently issued a report on its effort to identify programs at colleges and universities across the country for which there was evidence that they promoted greater academic success of students from underrepresented groups in higher education (BEST, 2004). Over 100 programs were reviewed over the course of the study. Only one of the undergraduate programs cited by BEST as being exemplary had extensive evidence that it helped raise GPAs of underrepresented minority students—the Meyerhoff Scholars Program at the University of Maryland Baltimore County, which has been one of the most visible and respected programs of its kind nationally for many years (Hrabowski, III & Maton, 1995).

I should also note that the work that my CHAP colleagues and I have been doing over the past year directed at identifying and developing undergraduate level programs that can promote high achievement also has involved a review of over 100 programs. While we have encountered several that probably contribute to higher GPAs, only one

has reasonably strong evaluation evidence—the same one that was identified by BEST, the Meyerhoff Scholars Program.

Three points need to be made about the findings of research syntheses and of reviews of evaluations of school improvement and other educational intervention programs from the perspective of the underrepresented minority high achievement challenge. First, few such efforts have looked explicitly for what has been learned about helping more underrepresented minority students achieve at very high levels by traditional measures, i.e., to perform in the top 1%, 5%, 10%, or even 25% of students nationally at any level of the educational system. The National Task Force on Minority High Achievement commissioned two of the few studies that have done so. One looked for high achievement impacts in exemplary examples of a few elementary school CSR strategies (Borman, Stringfield, & Rachuba, 1999). That study found no strong evidence of high achievement impacts, as measured by standardized test scores. The other looked for high achievement impacts among a number of programs on the undergraduate level (Gandara & Jolly-Maxwell, 1999). They found a few promising programs, but the one with strongest evaluation-based evidence that it helped more underrepresented minority students (in this case, African Americans) achieve a high GPA was the same one identified by BEST—the Meyerhoff Scholars Program.

Second, even if many research syntheses and reviews of evaluations of education strategies were to look for solid evidence of high achievement impacts, it is unlikely that much would be found. This is because very few educational reformers and program designers have been attempting to develop strategies that produce high achievement impacts by traditional academic measures. As a result, few evaluations of these strategies have even looked for whether more students that they serve are top performers by traditional achievement measures than would have been the case otherwise.

Third, on the K-12 level, very little research and school reform work has focused on improving outcomes for middle and high SES minority students, including closing the within-class gaps with Whites and Asians in those SES segments. Because middle and high SES underrepresented minority students perform at considerably higher levels than their low SES counterparts, they are better positioned to ratchet up their performance into high achievement zones. For this reason, the lack of work over the years directed at devising effective strategies for raising their achievement levels (beginning in the preschool and primary grades) is an enormously costly omission. On a more positive note, the Minority Student Achievement Network, which involves over a dozen school districts in affluent suburbs and university towns, has begun to work on middle class achievement issues in recent years (Spencer, 1999), with the assistance of some university-based researchers, such as Ronald Ferguson and the late John Ogbu (Ferguson, 2001, 2002; Ogbu, 2003).

In their studies, Borman and his colleagues and Gándara and Bial made one other major observation that is essential to mention here. They pointed out that very few evaluations of programs compared randomly assigned students to the program with true control groups or even compared participants to similar students. Consequently, they

called for a much greater commitment to testing of strategies on that basis. In that regard, it is noteworthy that even the Meyerhoff Scholars Program has not been tested using random assignment of students to the program and to a control group; instead, its evaluation has compared Meyerhoff students to other students who are similar in various important ways (Maton, Hrabowski, III, & Schmitt, 2000).

Others have made similar observations and recommendations in the past few years. For example, the Coalition of Evidence-Based Policy made strong recommendations of this kind in its recent report, *Bringing Evidence-Driven Progress to Education: A Recommended Strategy for the U.S. Department of Education* (Coalition of Evidence-Based Policy, 2002). Owing to the limited number of high quality evaluations of education strategies—and, therefore, the limited number of strategies that can demonstrate that they raise student academic achievement levels, the Coalition proposed that the Department of Education "should launch a major, Department-wide effort to:

(i) *Build the knowledge base* of educational interventions proven effective through randomized controlled trials—not just in small demonstration projects but in large-scale replication; and
(ii) *Provide strong incentives for widespread use* of such proven interventions by recipients of federal education funds." (p. i)

In fact, the Department has been moving for several years to invest much of the educational research money at its disposal in that manner. Its current 5-year strategic plan (2002-2007) calls for a much-expanded use of randomized trials to test education strategies (U.S. Department of Education, 2002). One of the priorities is to find ways to raise student academic achievement, with particular interest in raising achievement in reading, mathematics, and science. However, it is noteworthy that the detailed description of the Department's student academic achievement goals in its 2004 strategic plan does not specify true high achievement goals for underrepresented minorities, i.e., ones that call for better representation among the nation's top students at the elementary, secondary, and/or higher education levels (U.S. Department of Education, 2003).

When one reads *Bringing Evidence-Driven Progress to Education* and similar books, reports, and articles, such as *Evidence Matters: Randomized Trials in Education Research* (Mosteller & Boruch, 2002), *Scientific Research in Education* (Shavelson & Towne, 2002), and "Experiments for Educational Evaluation and Improvement" (Borman, 2002) there also are no specific references to the need to develop proven strategies for increasing the representation of African American, Latinos, and Native Americans among the nation's highest achieving students by traditional measures. There also are no references to the need to develop proven strategies for closing achievement gaps between middle and high SES Black, Hispanic, and Native American students and their White and Asian American counterparts.

Given the overall absence of attention to these issues among educational researchers and educational reformers as a whole, it should be expected that the call for the development of evidence-based strategies in education would be consistent with this

pattern. (One of the few exceptions is the strong interest of The National Research Center on the Gifted and Talented in increasing the number and percentage of high achieving Black, Hispanic, and Native American students.) Nonetheless, this call for more evidence-based education strategies is undoubtedly applicable to the high achievement and middle/high SES within-class issues for underrepresented groups. For those who are working on these issues, there is both an opportunity and a responsibility to push for their inclusion in efforts to conduct randomized trials of education strategies concerned with raising academic achievement.

Recommendations for Action

The underrepresentation of African Americans, Latinos, and Native Americans among the nation's top students is both severe and the product of a complex set of factors. Having worked on this issue for over 20 years in a number of different ways, one of the few things about which I am absolutely certain is that this is truly a long-term challenge. It seems very likely that, even under favorable circumstances, it will take several more generations for these groups to reach general parity with Whites among top students, by traditional achievement measures, at all levels of the education system. (It may take even longer to reach parity with Asian Americans.) And, this assumes that a critical mass of educational practitioners, educational policymakers, educational researchers, and other interested parties, including the foundation community, will finally make addressing this issue a genuinely high operational priority, and decide to work to address it from preschool through higher education in an unrelentingly empirical way, e.g., with generous use of randomized controlled trials to develop strategies that can be effective on a widespread, predictable basis.

Truthfully, I do not believe that a critical mass of educators, policymakers, and funders will actually make this issue a high priority in the near future. Instead, we still seem to be in the "vanguard-building" stage. Fortunately, the prospects for establishing the vanguard over the next several years appear to be reasonably good, as there seems to be a much greater awareness of the high achievement gap—and the within-class achievement differences—than was the case 5-10 years ago. At the elementary and secondary level, these are issues of great interest to The National Research Center on the Gifted and Talented and the Great Cities Universities', as well as to the previously mentioned Minority Student Achievement Network, which is made up of a number of school districts in affluent suburbs and university towns. Within the selective sector of higher education, the high achievement issue is being addressed by CHAP as well as the Consortium on High Academic Achievement and Success (a large consortium of selective liberal arts colleges). The high achievement issue is even beginning to be the subject of conferences and meetings in higher education. For example, a conference was held in the fall of 2003 at Princeton University that focused exclusively on closing the high achievement gap between African Americans and Whites at the secondary and higher education levels. In the late summer of 2003, it also was a major topic at a meeting of representatives of over 20 selective private liberal arts colleges and universities on improving overall academic outcomes for underrepresented minorities.

Nonetheless, to be successful, the vanguard will need to make the case for addressing the issue in a sustained way; and, it will need to identify and pursue a number of promising avenues for action in a *visibly productive manner*. If that is done in the years ahead, there is a good chance that the high achievement issue (including the within-class challenges) will emerge as a true priority by 2020 to 2030.

The fact that current trends indicate that the underrepresentation of Blacks, Hispanics, and Native Americans among the nation's top students will continue to remain severe for a long time to come also could be a valuable, growing source of pressure for action, since these groups' collective share of the student-age population is likely to continue to grow. In a related vein, the growing number of middle and professional class African American and Latino parents could produce more pressure for educators, researchers, and policymakers to find ways to raise their children's academic achievement.

Thus, by 2020 or so, necessity and leadership by a vanguard may finally converge to put the high achievement issue on the educational agenda. It is important to remember, however, that if it does take until 2020, this would mean that a robust set of proven strategies for addressing the high achievement issue, including its within-class dimensions, from preschool through higher education, might not be available until 2030 or later.

It is from the perspective of the need to establish a strong vanguard that I offer 11 recommendations for action. These are mainly recommendations for entities that need to be established to pursue major missions and tasks in the high achievement arena. I strongly believe that most of these entities should specialize in only one or two aspects of the high achievement challenge, so that there efforts are not diluted. Most of them also should be new nonprofit organizations or university-based centers, in order to ensure that they have the freedom and independence to maintain their specialized agendas over time. No effort is made here to provide a detailed description of what each recommendation would entail. Separate papers for each recommendation would be required for that.

1. *A high achievement trend-monitoring unit should be established.* It would have several responsibilities. For example, it would undertake secondary analyses of standardized achievement test data sets, such as NAEP test data, SAT data, AP data, and data from major federal studies, such as the Early Childhood Longitudinal Study, that would allow monitoring of high achievement trends for racial/ethnic group across the K-12 years. The unit would monitor these patterns overall and on a within-class basis, so that it would be possible to determine whether within-class dimensions of the high achievement problem are growing, shrinking, or staying about the same. The unit would recommend ways in which these several databases could be improved, in order to enhance the accuracy of the monitoring. (Expanding NAEP sample sizes may be necessary, for example, to monitor changes in the percentages of high achievers for the various groups and in the sizes of the within-class gaps in an accurate fashion.)

The unit also might develop a prototype system for school districts for monitoring their high achievement and within-class situations. The monitoring unit would provide regular reports to educators, researchers, policymakers, and others on the high achievement and within-class situations.

2. *A high achievement education strategy evaluation unit should be created for the K-12 level.* One of its missions would be to review existing evaluations of CSR and other strategies in search of high achievement (and within-class) impacts. Because so few randomized controlled tests have been conducted, another of this unit's responsibilities would be to recommend such tests for promising approaches for increasing the percentage of high achievers from underrepresented groups, and offer specific recommendations for how the tests should be conducted. (If funds could be secured, the evaluation unit might get into the business of running high quality evaluations of some promising strategies.) The unit would look for evidence of high achievement impacts both in schools serving mainly disadvantaged students and in schools serving mostly middle and high SES students. Similarly, its suggestions for randomized trials would include promising strategies serving middle and high SES students, as well as the disadvantaged. Initial priority would be given to evaluations of elementary school strategies, because the high achievement gaps are established in those years. Work would need to be done at the classroom, school, and district levels. Some of the most challenging and important evaluation work over time may be at the district level, owing to the importance and difficulty of maintaining high quality education (including instructional coherence) across schools in large districts that serve heavily minority student populations.

3. *An academic development research synthesis unit for the K-12 level should be established.* One of its initial responsibilities would be to look at the reading and mathematics research bases in the early grades, for the purpose of identifying leads for promoting high achievement in those pivotal years. Particular attention should be given to identifying leads for raising the performance of students who are already above average to well above average performers, since they are relatively close to the high levels of achievement that is our goal. (Moving a student from the 60th percentile to the 75th percentile or from the 80th to the 90th is more plausible than moving a student from the 20th percentile to the 75th percentile or from the 35th to the 90th.) The unit would also have responsibility for identifying gaps in the research bases related to the high achievement issue. It probably also would find it necessary to reach back to the preschool period (possibly reaching back all the way to infancy).

4. *An early childhood and parent-education working group should be established to develop model preschool and parent education programs*

that should be tested with middle class and high SES underrepresented minority students. The goal would be to develop strategies that could close the within-class academic readiness gaps that exist for middle and high SES Black, Hispanic, and Native American students relative to middle and high SES Whites and Asian Americans at the start of kindergarten. (If early childhood and parent education strategies could be developed that actually produce these results, they could then be tested with lower SES populations.)

5. *A research unit should be established that is focused on documenting more clearly the differences in knowledge and skills that exist among low, medium, and high achieving students*. Priority would again be given initially to the early years—preschool and the primary grades. This work would be focused on understanding what high achievers are actually able to do academically, with the intention of using that knowledge to develop more effective strategies. Documenting differences in operational vocabulary in school settings in the early years might be an example of the work of this unit.

6. *A research unit on academically successful groups should be established.* It might initially have a three element work agenda. The first element would synthesize what is known about how parents and communities in the most academically successful racial/ethnic groups (and most successful segments of underrepresented groups) support the intellectual and educational development of their children, beginning in infancy, and compare that to what is known about how other groups do so. The second element would be to make recommendations regarding how early childhood education, parent education, school reform, and supplementary education strategies might be informed (for each SES level of underrepresented groups) by what is currently known about what the most successful groups are doing. The third element would be to recommend a research program for expanding what is known about the strategies that the most successful groups are using.

7. *A working group should be established to benchmark curricular opportunities for high achievers in affluent suburban and private elementary and secondary schools*. This benchmarking would be used to help guide efforts to meet the academic development needs of above average to high achieving students in schools serving mostly disadvantaged underrepresented minority students. One of the things that the working group would do is develop suggestions for the latter schools and their districts about how to fill gaps between the benchmarks and what the schools are doing, and whether to try to fill them during the regular school day and/or via supplementary programs after school, on weekends, or during the summer.

8. *An AP working group should be established to promote higher levels of underrepresented minority student achievement in AP courses and on AP exams.* Although it has proven difficult to develop strategies at the secondary level that increase the percentage of high achievers from any group, there continues to be a great need to do so for underrepresented minorities. One early approach might be to use the College Board's AP/SAT databases to search for high schools that are getting higher than expected scores on AP exams for underrepresented minority students. Those that are identified could be studied to see if they have replicable strategies for producing the positive outcomes. This work also might be able to contribute more generally to efforts to raise underrepresented minority student achievement in honors courses in high school.

9. *A unit should be created that provides high-achievement-oriented dissertation topics to doctoral candidates in education and education-related elements of the social sciences.* Currently, few scholars are focusing on the high achievement issue, including its within-class elements. One way to expand work in this area over time is to capture the interest of future faculty members at research universities. Thus, this unit would develop a "bank" of dissertation topics in a number of categories, such as those concerned with developing reliable, replicable strategies that have a high achievement impact; documenting more precisely the actual differences in intellectual development between high, medium, and low achieving students; and learning more about why within-class achievement gaps exist. This unit probably would need to develop a network of professors who would be willing to encourage some doctoral candidates to entertain some of the dissertation topics that are generated.

10. *A high achievement education strategy evaluation unit should be created for higher education.* One of its missions would be to review existing evaluations of undergraduate and graduate level strategies and programs in search of high achievement (and within-class) impacts. Because, similar to the K-12 level, there are so few randomized controlled tests of strategies in higher education, another of this unit's responsibilities would be to recommend such tests for promising undergraduate and graduate school approaches, and to offer specific recommendations for how the tests should be conducted. (If funds could be secured, this evaluation unit also might get into the business of running high quality evaluations of some promising strategies.) It will be essential for this unit to give high priority to identifying/suggesting strategies for addressing the overprediction phenomenon; for, at the very least, underrepresented high school graduates who attend college—especially selective ones—should do as well academically as comparably prepared White and Asian students. Eventually, a second higher education entity focused on promoting research at the higher education level that could inform strategy development probably also will be needed. Because so little attention has

been given to this issue over the years in higher education, however, and so much depends on increasing the pool of high achievers at the K-12 level, the formation of this unit can probably wait until the evaluation unit gets firmly established. In the absence of a research unit, the evaluation unit might find that it will need to assume some responsibility for recommending certain lines of applied research in the early going, such as whether and how some of the conditions of fewness may need to be addressed by strategies.

11. *A communications entity should be established with responsibility for disseminating information regarding what is being learned about the extent and nature of the high achievement and within class issues, and the development of effective strategies for addressing them.* This unit would communicate with several audiences, including practitioners, policymakers, researchers, grantmakers (including wealthy individuals as well as foundations), minority leaders, minority parents, the business community, and others. The highest initial priorities here might be to find ways to communicate effectively with grantmakers and minority parents. Finding a lot of money to pay for this work agenda is crucial to its success. And, minority parents may turn out to be the strongest advocates for action.

All twelve of the new entities described here would be "doer" organizations: They would be concerned with working directly on aspects of the high achievement challenge. However, there also probably should be one or two new foundations created that would make grants exclusively to fund high achievement work. This would ensure that steady, reliable, informed sources of funding are available over time.

A few final comments are in order. This monograph has consistently taken the position that the effort to increase the representation of African American, Latino, and Native American students among the nation's top students should define high academic achievement mainly in traditional terms. Moreover, a great deal of attention has been given in this monograph to GPA, not just to standardized test scores. That is because I firmly believe that, ultimately, we need to produce many more students from underrepresented groups who excel in challenging curricula. Certainly, it is true at the end of the educational pipeline, i.e., at the undergraduate and graduate levels, especially at selective colleges and universities. When we begin to see underrepresented groups accounting for much larger percentages of students who graduate, *summa cum laude*, *magna cum laude*, *cum laude*, Phi Beta Kappa, and so forth from selective colleges and universities, we will know that we are finally solving the high achievement problem. Yet, as I have also emphasized, doing much better at the beginning of the pipeline—the preschool years and primary grades—is key to solving the end of the pipeline problem.

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PART IV
Issues and Practices in the Identification and Education of Gifted Students From Under-represented Groups

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Introduction

It has for some time been a commonplace observation that certain children have been and continue to be chronically, if unintentionally, under-represented in programs for gifted students. For example, the under-representation of girls in such programs has been a concern for some time, especially in the field of mathematics (see, for example, Callahan, 1991; Gavin & Reis, 2003; Junge & Dretzke, 1995; Stanley & Benbow, 1983; Stocking & Goldstein, 1992; Swiatek, Lupkowski-Shoplik, & O'Donoghue, 2000; Terwilliger & Titus, 1995), and this is undeniably an important issue and a problem far from solved. However, in the United States, the most pervasive instances of under-representation have been associated with economic disadvantage and racial and ethnic minority status. This is the situation that I will address in this monograph.

Historical Background

The Origins of the Field

From the very beginning of the field, individuals labeled as gifted, either for educational or research purposes, have, to an overwhelming degree, been of European descent and have deviated significantly upward from population-wide socio-economic norms. For example, in *Hereditary Genius* (1869), Sir Francis Galton concluded that eminence in "mental work" is 400 times as likely to be found among children of upper-class parents than among the children of laborers. Galton, who is frequently, and accurately, cited as the intellectual forebear of the field of gifted education, had no doubt that "natural ability," what we today would call *giftedness*, was hereditarily distributed disproportionately in a manner that favored White upper-class individuals.

In the prefatory chapter to the 1892 second edition of his seminal work, Galton, echoing the racial attitudes that predominated among educated Victorians, wrote, "the natural ability of which this book mainly treats, is such as a modern European possesses in much greater average share than men of the lower races" (p. x). With respect to class differences and natural ability, Galton left no doubt as to his beliefs. Discussing "the bulk of general society" (1869, p. 35), Galton wrote, "everyone knows how difficult it is to drive abstract conceptions, even of the simplest kind, into the brains of most people—how feeble and hesitating is their mental grasp—how easily their brains are mazed—how

incapable they are of precision and soundness of knowledge" (p. 21). One is not surprised, therefore, to read Galton's pronouncement that "it is in the most unqualified manner that I object to pretensions of natural equality" (p. 14).

My point is not to impugn Galton's egalitarian or populist credentials; there is nothing to impugn and he no doubt would bridle at the suggestion that there were. It is difficult to think of him wearing the mantle of elitism with anything other than pride. Rather, I am suggesting that the scholarly foundation upon which the field of gifted education has been built, and with which contemporary scholars and practitioners must contend, rests upon assumptions about race and class that have influenced research and theory from the time of Galton to the present, even as these assumptions have become buried under layers of subsequent theory, research, and good intentions and as attitudes and beliefs have become, from our current perspective, less benighted.

I suggest that it is useful to us in the present to understand our collective past. Just as a childhood experience, long repressed, can, according to psychoanalysts, exert a profound influence on adult life, assumptions about giftedness, race, and class held by the founders of the field, I contend, continue to influence us today, despite our repugnance when openly confronted by them. And just as psychotherapists believe that awareness of repressed experiences and conflicts can have a salutary effect on analysands—the essence of Freud's "talking cure"—so too might an awareness of our field's origins in times when even educated people held views that, by today's standards, were undeniably racist and class-biased be beneficial for today's professionals who are struggling with the legacy of views such as Galton's.

In this light, it is useful to examine the work of Lewis M. Terman, generally regarded as the *fons et origo* of gifted education in the United States. Terman's massive longitudinal study of over 1,000 high-IQ students, reported in his *Genetic Studies of Genius* (1925-1959), has obvious historical value as the first large-scale empirical study of "gifted"[i] children and considerable continuing influence over how we think about such children. Because of the pivotal role of Terman's research in our field's history, it is important to understand the nature of the sample on which this work was based and from which the findings were derived.

In the first volume of his magisterial *Genetic Studies*, entitled *Mental and Physical Traits of a Thousand Gifted Children* (1925), Terman described the children who, over their life spans, would be the subject of his and his successors' research. That the sample was far from representative either socio-economically or racially and ethnically is quite clear. For example, whereas 4 to 5% of the adult general population at that time was, according to the scale Terman used, classified as being engaged in "professional" occupations,□50% of the fathers of his high-IQ subjects were so-classified. This is a remarkable statistical deviation from the norm, one that has been insufficiently remarked upon by writers in this field in discussing Terman's findings.

Racially and ethnically, the sample was also atypical of the general school-age population. Terman reported in Volume 1 (1925) that children of Asian, Italian,

Portuguese, Spanish, and Mexican descent were statistically under-represented, and the nearly total absence of African-American children was so much in line with expectations that it was not deemed worthy of mention. Clearly, the "Termites" were, as a group, Whiter and considerably more affluent than their lower-IQ school-age peers.

Nonetheless, Terman's research has, more than any other body of work, constituted the bulk of what we "know" about "gifted" children, although its influence has, to some extent, been obscured by being incorporated into secondary and tertiary sources that have passed along his findings as the common knowledge of the field. It is interesting to look at some of the knowledge contributed by Terman's *Genetic* studies and to consider the role that socioeconomic status (SES) in particular could have played and the degree to which that has become confounded with giftedness.

Among Terman's findings, widely repeated, is that, contrary to the stereotype, gifted children are not sickly, physically frail, neurotic, or socially inept; rather, Terman tells us, they are healthy, robust, emotionally well-adjusted, and socially adept. One must ask, however, whether these characteristics are attributable to giftedness or to growing up in upper-middle-class White families in pre-New Deal America when, owing to a lack of social services, economic advantage carried even more of a benefit with respect to physical health and even survival than it does today and when, again to a greater extent than today, membership in the White middle- and upper-middle-class mainstream conferred certain advantages that bore directly on one's emotional and social development?

One could examine a number of Terman's findings concerning the physical, emotional, vocational, and social development of his subjects and propose that social class, not giftedness, is the primary causal factor (i.e., these subjects were stronger, more successful, happier, etc. because of comfortable families of origin, not high IQ). Why is this important? It is important because of Terman's lasting influence on our thinking about the children who are the focus of our field. If the foundation of our knowledge rests on a study of high-SES mostly White children with high IQs, this knowledge will be translated into practice. For example, authors of teacher checklists will reproduce these findings as "characteristics of gifted children," and children chosen for gifted programs will, to a greater degree than might otherwise be the case, resemble Terman's sample racially, ethnically, and socio-economically. In other words, I am suggesting that, nearly a half century after his death, Terman's sample is being replicated in a number of gifted programs across the country.

The Post-Sputnik Years

The work of Terman and such contemporaries as Leta Hollingworth (e.g., 1942; Klein, 2002), as well as the publication of two *National Society for the Study of Education (N.S.S.E.) Yearbooks* (T. S. Henry, 1920; Whipple, 1924), not only established an empirical and theoretical basis for the field, one in which race and class played both powerful and invisible roles, but also resulted in the implementation of programs for gifted students in a number of school districts across the United States. However, by the

mid-point of the twentieth century, gifted education was out of favor. It was not until the launching of Sputnik I by the Soviet Union on October 4, 1957, that, with the nation nervously looking to the schools to do more to encourage the development of "the best and the brightest," gifted education came to the forefront of the national consciousness. Once again, during this second wave of interest in gifted education, issues of race and class played major roles in that they were powerful factors in determining who was gifted and who was not. Despite a great deal of discussion about expanding the concept of giftedness in the fifty-seventh *N.S.S.E. Yearbook* (N. B. Henry, 1958; see especially the chapter by Witty) and in the highly influential but flawed work of Getzels and Jackson (1958), giftedness was mainly operationalized through aptitude tests. In the schools in the post-Sputnik era, as in Terman's *Genetic Studies of Genius*, "giftedness" usually equaled a high IQ.

An exception to the norm of treating giftedness in a decontextualized manner without reference to how it can be shaped by issues of race and class and to how certain groups can be advantaged and disadvantaged by how it is conceived is found in the work of the noted African-American educational researcher, Horace Mann Bond. In 1960, Bond studied the relationship between socio-economic status and the awarding of National Merit Scholarships. His findings revealed a pronounced skewing of awards toward higher SES students, prompting him to ask whether we have "developed a class system that is almost as fixed and immutable as that long established in Western European social hierarchies" (p. 117).

In the same anthology on gifted education in which Bond's paper appeared, Martin D. Jenkins, another prominent African-American educator, felt compelled to point out that mean differences in the IQs of Caucasians and African-Americans did not imply that no "superior cases" would be found among the latter group, nor did it mean that African-Americans were lacking in "the ability to participate in the culture at the highest level" (1960, p. 111; see Kearney & LeBlanc, 1993, for more about the work of Bond, Jenkins, and other "forgotten pioneers" in the study of gifted African-American children).

Despite this work, and the coinciding of the post-Sputnik wave of gifted education programs with a crucial period in the struggle for civil rights by African-Americans, little cognizance was taken of issues of race and class in this period. It fell to a later generation of scholars to acknowledge that a problem exists and, belatedly, to begin to work on that problem.

Contemporary Indicators of the Under-representation of Economically Disadvantaged and Children of Color in Gifted Programs

The history of the field of gifted education in the United States can, perhaps simplistically but nonetheless usefully, be divided into three periods characterized by a widespread acceptance of the need of "gifted" children for an appropriately differentiated education and a proliferation of gifted programs. The first such period was launched by the work of Terman, Hollingworth, and others in the post World War I era, and the

second was the short-lived post-Sputnik efflorescence of gifted programs, both of which are briefly discussed above. We are still in the third period, one that began, or at least coincided, with the publication by the U.S. Office of Education's *Education of the Gifted and Talented,* the so-called "Marland Report" (1972).

For the past three decades or so, gifted education has been a more-or-less-accepted part of the educational landscape, never approaching the near-extinction that it faced in the early 1950s or the mid-to-late 1960s. During this time, numerous writers have called attention to the fact that poor children and children of color have been under-represented in programs for gifted students (see, among many others, Baker & Friedman-Nimz, n.d.; Borland & Wright, 1994; Borland, Schnur, & Wright, 2000; Donovan & Cross, 2002; Harris & Ford, 1999; Passow, 1989; Richert, 1987; VanTassel-Baska, Patton, & Prillaman, 1989).

Serious effort has finally been devoted to the problem, especially since the passage of the Jacob K. Javits Gifted and Talented Students Education Act, which resulted in, among other things, the funding of numerous local projects designed to develop ways of identifying and educating traditionally under-represented gifted students. Another product of that legislation was a government publication, *National Excellence: The Case for Developing America's Talent* (U.S. Department of Education, 1993). Contained in this report was a definition of giftedness, replacing the much-quoted definition in the Marland Report (1972), that contained the statement, "Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor" (p. 26). The mention of "all cultural groups" and "all economic strata" in this definition, along with the funding of local projects focused on equity issues signaled a new level of determination in the field of gifted education to attack and make progress with respect to the problem of the under-representation of low-SES children and children of color in programs for gifted students.

Nonetheless, current data suggest that the under-representation of economically disadvantaged and minority students in gifted programs continues. For example, the on-going National Educational Longitudinal Study (NELS '88) conducted by the U.S. Department of Education (e.g., 1991) revealed that eighth grade students whose families' socio-economic status placed them in the top quartile of the population were about five times more likely to be in programs for gifted students than were students from families in the bottom quartile. Moreover, almost half of the eighth grade students identified as gifted and placed in gifted programs were from families in the top SES quartile, whereas about 9% were from the bottom quartile.

Baker and Friedman-Nimz (n.d.) conducted sophisticated statistical analyses of the NELS '88 data and found that part of the problem related to availability of services. They report that students from the third SES quartile were 18% more likely to attend school with gifted programs and students in the highest quartile were 28% more likely to attend schools with gifted programs than were students in the first, or lowest, quartile. This suggests that, in part, the problem of under-representation of poorer children in gifted programs is part of a larger national problem of inequities in the provision of

public educational resources, which results in inadequate services being provided to schools serving low-SES children.

Ford and Harris (1999) used data from 1978 through 1992 to compute indices of under-representation and over-representation of certain groups by comparing their representation in the general population with their representation in gifted programs. Their data show that Latinos were under-represented by 24% in 1978 (accounting for 6.8% of the school population but only 5.15% of students in gifted programs) and by 42% in 1992. American Indians were under-represented by 62% in 1978 and by 50% in 1992, and the indices for African Americans were 33% and 41%, respectively.

Why does this matter? The serious and destructive consequences of this state of affairs can be illustrated in the form of a syllogism that I believe is valid. Take the two following premises:

- Students typically derive at least some benefits from being placed in gifted programs, benefits that are realized in school and later in life.
- Gifted programs disproportionately serve White middle- and upper-middle-class students.

If these premises are true, and I believe they clearly are, the following conclusion is a logical necessity:

- Therefore, gifted programs are serving to widen the gap between society's have's and have-not's and between White and minority families by disproportionately serving the children of the former and neglecting the children of the latter.

The existence and the consequences of under-representation are not in doubt. What is less certain is why the problem exists, a question to which I will now turn.

Possible Causes of the Problem of Under-representation—Factors Outside the Field of Gifted Education

It is useful to distinguish between those causes of under-representation over which we in the field of gifted education have an appreciable degree of control and those over which we do not. Among the latter, I will identify conditions in the larger society and, among the former, practices in the field of gifted education. This is a bit of a simplification if one views education, including gifted education, as an instrument for social change, but for purposes of discussion, I will maintain this dichotomy. Let me first examine factors outside the field of gifted education.

Social and Cultural Factors—Educational Disadvantage

Poverty, racism, class bias—inequity in all of its ugly forms—are malignant and insidious forces that can damage people, and children are especially vulnerable. Thus, a child who is born into poverty and experiences the consequences of racism for the first 5 years of his or her life is at-risk, whatever his or her innate capacity for academic achievement, of entering kindergarten at a disadvantage educationally. In attempting to understand the underachievement and corresponding under-representation in gifted programs of children from certain groups, we sometimes lose sight of the simple and undeniable fact that such things as poverty hurt all but the most resilient children in ways that can deny them their basic rights in our schools and our society.

How this translates into academic underachievement and under-representation in gifted programs is a difficult question. Descriptive data are plentiful. For example, Natriello, McDill, and Pallas (1990) list five "key indicators associated with the educationally disadvantaged . . . [that are] correlated with poor performance in school" (p. 16). These are, (a) being African-American or Latino, (b) living in poverty, (c) living in a single-parent family, (d) having a poorly educated mother, and (e) having limited English proficiency. Useful as this might be, these data are correlational rather than explanatory, so we have to turn elsewhere for possible insights into how what Natriello et al. refer to as "educational disadvantage" comes about.

A Cultural-Ecological Perspective—The Work of Ogbu and Fordham

John Ogbu (e.g., 1978, 1985, 1992) and Signithia Fordham (e.g., 1988, 1991; Fordham & Ogbu, 1986) have provided a useful, although not undisputed (see, e.g., Chapell & Overton, 2002; Lundy, 2003), theoretical framework for investigating the causes and mechanisms of educational disadvantage among children of color. I will summarize some of their ideas that, I believe, bear on the issue of the under-representation of minority children in programs for gifted students.

Voluntary and Involuntary Minorities

Since economic and educational disadvantage is visited disproportionately upon racial and ethnic minorities, understanding the nature and effects of minority status is essential to addressing its educational consequences, including under-representation in gifted programs. To this end, Ogbu makes a distinction between *voluntary minorities*, who come to this country by choice to seek economic opportunity or greater political freedom, and *involuntary minorities*, such as African-Americans, who were originally brought to this country against their will, denied assimilation into the mainstream, and relegated largely to menial occupations. (Ogbu also includes among involuntary minorities American Indians and most Latinos living in the U.S.)

Primary and Secondary Cultural Differences

Although voluntary-minority children may initially experience school difficulties, they do not typically fail generation after generation, as many involuntary-minority children do. Ogbu attributes some of this discrepancy in school success to the ways the two groups differ from the cultural mainstream. According to Ogbu, all minorities, voluntary and involuntary, initially experience *primary cultural differences*—differences in language, religious practice, dress, child rearing—that existed before they came to the United States and that, for a period of time, serve to mark them as different from the acculturated mainstream. Primary cultural differences can cause educational difficulties, lack of fluency in English being a good example, but for voluntary minorities the problems rarely persist because they see primary cultural differences as barriers to overcome to adapt to and assimilate into the mainstream culture and achieve the goals that motivated their immigration in the first place. Maintaining these differences is contrary, not essential, to their identity and sense of self-worth. Thus, at least outside the home, they try to eliminate or minimize cultural attitudes, practices, and behaviors that constitute primary cultural differences, and they instill in their children the importance of assimilating into the mainstream, although perhaps within limitations relating to social relations, for purposes of upward mobility.

In addition to primary cultural differences, involuntary minorities also experience what Ogbu calls *secondary cultural differences*, which arise after their arrival in this country when "members of a given population beg[i]n to participate in an institution controlled by members of another population, such as the schools controlled by the dominant group" (Ogbu, 1992, p. 8). Secondary cultural differences arise in reaction to negative contacts with the dominant culture and serve as "coping mechanisms under 'oppressive conditions' " (Ogbu, 1992, p. 10). Whereas voluntary minorities see primary cultural differences as barriers to assimilation that must be overcome, involuntary minorities see secondary cultural differences as protectors of their very identity and "have no strong incentives to give up these differences as long as they believe they are still oppressed" (Ogbu, 1992, p. 10). Thus, secondary cultural differences can persist generation after generation.

Cultural Inversion

One possible form secondary cultural differences can take is *cultural inversion*, "the tendency . . . to regard certain forms of behavior, events, symbols, and meanings as inappropriate . . . because these are characteristic of White Americans" (Ogbu, 1992, p. 8). In response to oppression and denial of opportunities to assimilate into the mainstream culture, involuntary minorities may develop a subgroup identity based on values, attitudes, and behaviors that are directly oppositional to those of the White culture. Once this occurs, socializing children involves teaching behaviors and values discrepant from those of the mainstream culture, and sanctions are often applied to those who appear to embrace values and behaviors perceived as being part of that culture, such as employing standard English or striving for academic achievement.

Socialization and Caste

Ogbu (e.g., 1978, 1985) argues that involuntary minorities occupy the lowest stratum of a caste system that grants them little chance for upward mobility. Inferior positions in the caste system require little education, and the rigidity of the system is maintained by disproportionately meager rewards for involuntary minorities who do acquire an education.

This leads to Ogbu's analysis of the "failure-of-socialization" hypothesis. This hypothesis represents an attempt to explain the disproportionate educational failure rate among involuntary-minority children by asserting that their parents socialize them less effectively than middle-class parents socialize their children, with the result being that these children become indifferent to and unlikely to achieve academic success. Ogbu challenges this hypothesis, arguing that the real difference is in the *content* or *objective*, not in the *manner*, of socialization. Writing about African-American involuntary minorities, Ogbu states that, "black children's school behavior is not just a spillover of adult adjustive behavior; *it is a part of the training of black children for their survival in the American caste system*" (1985, p. 372). Further, he writes,

> We should not expect blacks and whites to have the same socialization practices and experiences, because they are not being prepared for roles requiring the same kinds of competence. . . . When blacks differ from whites in . . . skills it is probably because their status positions require variant forms of the skills in question, not because parents have failed in their socialization duty. (p. 374)

In other words, the fact that many involuntary-minority children do not appear to be socialized for success in the educational system does not imply a failure by their parents to prepare them for their roles in society. According to Ogbu, just the opposite is the case. Considering their limited horizons and the rigidity of the caste system, these children are being socialized realistically for the future that awaits them. This, Ogbu argues, is *successful*, not failed socialization.

The impact on students' school attitudes and behavior is predictable. Nearly all children find certain aspects of schooling to be meaningless and boring. However, White children and children from voluntary-minority groups are socialized to endure the school routine because their parents know that real benefits can accrue to them if they do so. Ogbu believes that for involuntary-minority children, however, there is likely to be little or no reward for brooking the tedium of the classroom, a fact not lost on parents, who realistically instruct their children in the development of other, more adaptive, skills.

The Burden of Acting White

This creates a dilemma for potentially gifted involuntary-minority students, which Fordham (1988, 1991; Fordham & Ogbu, 1986) refers to as the "burden of acting White."

> Learning school curriculum and learning to follow the standard academic practices of the school are often equated by the minorities with . . . "acting white" while simultaneously giving up acting like a minority person. School learning is therefore consciously or unconsciously perceived *as a subtractive process:* a minority person who learns successfully in school or who follows the standard practices of the school is perceived as becoming acculturated into the white American frame of reference at the expense of the minorities' cultural frame of reference and collective welfare. (Fordham & Ogbu, 1986, pp. 182-183)

The quandary faced by gifted students from involuntary-minority groups can be a painful one: either adopt attitudes and behaviors that, although facilitative of school success, serve to alienate one from friends and culture, or maintain loyalty to friends and culture by sacrificing one's prospects for academic and vocational success. This is no small matter. Those who attempt to cross cultural boundaries may experience what Fordham and Ogbu (1986), borrowing from DeVos (1967), call "affective dissonance," the feeling that "they are . . . betraying their group and its cause" (p. 182; see also Fordham, 1988, 1991; Mickelson, 1990).

Research by Ford (1992, 1993, 1996) suggests that this is a significant problem for some bright involuntary-minority students. In her sample of 148 African-American fifth and sixth graders identified as gifted, above-average, or average in academic ability, 97 "reported exerting low levels of effort in school" (1992, p. 134). This included 38 of the 48 gifted students, despite the fact that this group endorsed what Ford calls the "American achievement ideology."

Assimilation Without Accommodation

For involuntary-minority children both to succeed academically and to deal with the burden of acting White, they need more than what Ogbu (1992) calls "primary strategies," such as positive academic attitudes, hard work, and perseverance that are essential for all academically successful students. Involuntary minority students must also adopt "secondary strategies," which "shield them from the peer pressures and other detracting forces of the community" (p. 11).

Some secondary strategies, such as emulation of Whites or "cultural passing," exact a significant psychological toll. Others, such as "encapsulation in peer group logic and activities . . . [refusing] to do the White man's thing or . . . [to] consider schooling important" (p. 11), come at the cost of wasted academic talent. More successful, with a smaller although not negligible price, is "accommodation without assimilation," adhering to school norms in school but cultural norms at home and in the community. These secondary strategies, with respect to the goal of enabling involuntary-minority students to succeed academically, achieve various degrees of success at varying costs. Yet, under the conditions that obtain in this country today, Ogbu believes they are necessary for involuntary-minority students to achieve.

Ogbu's work suggests that there is a powerful array of forces, often misunderstood, that work to lower the academic achievement of involuntary-minority children. Fordham and Ogbu (1986), referring to African-American children, summarize these as follows:

> The low school performance of black children stems from the following factors: first, white people provide them with inferior schooling and treat them differently in school; second, by imposing a job ceiling, white people fail to reward them adequately for their educational accomplishments in adult life; and third, black Americans develop coping devices which further limit their striving for academic success. (p. 179)

Clearly, the under-representation of economically disadvantaged children, especially those from racial and ethnic minority groups, in programs for gifted students is a problem that, in Ford's words, is "complex and perplexing . . . requiring movement away from traditional theories and paradigms, including those which hold that underachievement results only from a lack of motivation to achieve" (1992, p. 134). Moreover, it is part of a larger problem, the failure of our educational system to educate economically disadvantaged and minority students that is the product of persistent structural inequities in our society.

Structural Inequities in American Education

The theories of Ogbu and Fordham are useful in understanding some of the possible psycho-social factors that may operate in the diminished academic success of some children of color and economically disadvantaged children and that thus may contribute to the under-identification of these children in gifted programs. However, their ideas do not address structural inequities in the provision of educational resources that constitute an additional plausible factor.

I mentioned above the analysis of the NELS '88 data by Baker and Friedman-Nimz (n.d.) that revealed that "across states, higher socioeconomic status students who attend larger schools are more likely to have access to gifted and talented programming" (p. 2). In other words, poorer children (and thus children of color since race and SES are strongly related in this country) are not only less likely to be identified for gifted programs, they are less likely even to have a program in their schools for which they might be identified.

This is a quantitative finding supporting the work of writers such as Kotlowitz (e.g., 1992) and Kozol (e.g., 1986, 1991, 2002), who have shown, through their more intensive qualitative focus on individuals and particular settings, the sometimes brutal effects of what Kozol, in the title of his 1991 book, called "savage inequalities." For example, in that work, Kozol pointed out that in New York City, the majority of whose student population of 1.1 million children is African-American and Latino, the average per-pupil expenditures in 1987 were $5,500. In the nearby, wealthy, largely White suburbs of Manhasset and Great Neck, per-pupil funding exceeded $11,000.

In a 2002 article in *The Nation*, Kozol pointed out that median salary for New York City school teachers was $36,000 less than the median salary in Scarsdale, New York, $30,000 less than the median salary in White Plains, New York, and $19,000 less than the median salary for Westchester County, in which Scarsdale and White Plains are located, as a whole. To make matters worse, these inequities are being exacerbated by budget cuts trickling down from Washington to Albany to New York City, which wealthier suburbs, although often hard-pressed, are better able to weather.

Kozol (2002) argues that such discrepancies in per-pupil funding as cited above reflect demographic shifts and suggest a willingness to under-fund schools serving poor children and children of color. He points out that until the late 1960s, when White children still attended the New York City public schools in large numbers, per-pupil spending in the City fairly closely mirrored that in surrounding suburban counties. "Three decades later," he writes, "with the white population having plunged to a surviving remnant of 14.5%, New York City's spending has collapsed to levels far below . . . suburban counties" (p. 22). Kozol quotes Noreen O'Connell, Director of the Educational Priorities Panel, as follows:

> If you close your eyes to the changing racial composition of the schools, . . . you're missing the assumptions that underlie these [funding] decisions. . . . The assumption is that these are parents who can be discounted. These are children who just don't count—children we don't value. (p. 23)

It is likely that none of this is very surprising to readers of this monograph. We have become largely inured to such funding patterns, accepting as inevitable the fact that communities with higher tax bases, i.e., with more affluent families, will be able to raise more monies for their schools through property taxes, just as we accept a suburban child is more likely to live in a six-bedroom home with a four-car garage and a swimming pool than is a child living in the inner city. But I would suggest that this is something that we should not accept so willingly.

In a capitalist system such as ours, whatever one thinks of it, not everyone is entitled to a swimming pool and an estate on a multi-acre lot. But does this same hold true for a decent public education? If every child in this country is entitled to a free public education, what moral justification can there be for one child to receive a substandard education—a decrepit building, an inexperienced and probably transient teacher, fewer textbooks than students in each class, meager supplies often purchased out-of-pocket by the teacher, no music or art programs—and another an enriched one simply because the children were born in different communities?

It is important to understand that the inequities Kozol has documented, as well as the heart-breaking story of the brothers Lafayette and Pharoah, living in Chicago's Henry Horner housing project, told by Kotlowitz in *There Are No Children Here*, are the result of a series of conscious decisions, not the result of inexorable natural forces. As a society, we have made a collective decision to provide a significantly richer public education to children from more affluent suburban families and an often shockingly

inadequate one to poorer urban children, children who are much more likely to be children of color. Moreover, those children to whom we have deigned to give the crumbs of our public educational system are also those who depend on it the most, those whose parents cannot afford supplementary classes, private tutoring, academically oriented camps, and so forth.

The implications for gifted education are obvious. Giftedness, however it is defined, is more likely to emerge in schools in which the prevailing assumption is that children have talents, not deficits, in schools in which the teachers have the professional skills to recognize and nurture these talents, in schools in which there are adequate materials to allow children to learn, and in schools in which the curriculum has not been picked clean of such "frills" as music and art, areas of human experience that enrich the mind and the spirit. And these are more likely to be schools attended by White middle- and upper-middle-class children.

Summary

Thus, I submit that there is a host of factors—those socio-ecological factors identified by Ogbu and Fordham, those structural inequities in contemporary American society deriving from political forces identified and documented by Kozol and Kotlowitz, as well as others, no doubt—over which we, as a field, have no control except as individuals committed to social change. That is to say, changes in our practice as a field will not alter the perception of the need for cultural inversion among involuntary minorities should Ogbu's theory be correct, nor will anything we do with respect to the way we operate gifted programs change what should be seen as a shocking pattern of under-funding of schools that attempt to serve the poorest and most vulnerable of our children.

This, however, does not exculpate us, as a field, with respect to the inequities that obtain in gifted programs across the country. True, gifted education, and the educational system at large, is a creation of and subserves the larger society, which has yet to shed its burden of racism and class bias. But, I believe, there are practices within the field of gifted education that contribute to the chronic under-representation of poor children and children of color in our gifted programs, practices that *are* within our power to change if we are serious about making progress toward a more equitable future. It is to these that I will now turn.

Possible Causes of the Problem of Under-representation—Factors Within the Field of Gifted Education

Conceptions of Giftedness

Giftedness as a Social Construction

Giftedness is not a thing. It has no physical reality, no weight, no mass. It is a social construct, not a fact of nature. It is something that was invented, not discovered. As I argue elsewhere, to state that giftedness is socially constructed is to state that it "gains its meaning, even its existence, from peoples' interactions, especially their discourse. Concepts and constructs that are socially constructed thus acquire their properties, and their influence, through the give-and-take of social interaction, not through the slow accretion of empirical facts about a pre-existing entity" (Borland, 1997, p. 7; see also Borland, 1996, 2003).

This is an important consideration for our field (that is, of course, if my contention that giftedness is socially constructed is valid and not completely misguided). This is because of two properties of social constructs. First, the fact that an entity is socially constructed does not render it meaningless. It simply shifts the criteria for judging it from the scientific-empirical (does it really exist?) to the pragmatic or utilitarian and moral (what are the consequences of its creation in the education of children?). Thus, by arguing that giftedness is socially constructed, I am not arguing that it does not matter.

Second, if giftedness is socially constructed and not a natural phenomenon discovered as a result of disinterested scientific inquiry, it is subject to critical analysis, comprehension as to the nature of and reasons for its creation, and, ultimately and ideally, a greater degree of conscious control by those concerned with the outcomes of education. This requires, as Susan Gallagher states, that we "recognize how our taken-for-granted way of thinking from within the discipline's meaning-making system impacts the educational process in perhaps unintended ways" (1999, p. 69).

Problematizing Giftedness

In her chapter, "An Exchange of Gazes," in Kinchloe, Steinberg, and Villaverde's provocative collection, *Rethinking Intelligence* (1999), Gallagher discusses the importance of problematizing educational psychology. By "problematizing," she means "the process of grasping an assumption, that is, a taken-for-granted way of thinking, and turning it into a question" (p. 74). This requires an understanding that "educational psychologists . . . have constructed the categories and the technologies they apply" (p. 80). These categories and technologies are the product of our discourse—our writing and talking—especially our professional discourse. As Gallagher reminds us, discourses are "an artifact of culture . . . [and] develop from specific social and political locations and are as much the product of social negotiations as they are scientific processes" (p. 74).

Applied to giftedness, this locates the construct within a specific context and implies that its creation was tied to historical forces (e.g., the advent of mental testing, the need to "Americanize" thousands of immigrants through the public schools) and that its creation served, and continues to serve, socio-political ends. Giftedness is not part of a "'neutral' body of knowledge that has as its goal facilitating more effective teaching and learning" but rather is "connected to the ways modern societies manage and regulate their citizens" (Gallagher, p. 70).

As a construct, giftedness is inevitably tied to notions of excellence and potential. In multicultural societies, conceptions of excellence and giftedness are likely to be shaped by the values of the dominant culture or subculture. In fact, some writers, such as Tannenbaum (1983, 1986) in his "psycho-social conception of giftedness," argue that the environment, the social context, is not just a shaper but an actual component of giftedness itself. Thus, in the U.S., intellectual and academic giftedness, as it has traditionally been understood and operationalized, has largely been White middle- and upper-middle-class giftedness because the discourse out of which the construct has been created has been dominated by White middle- and upper-middle-class professionals.

The point is that giftedness as a concept, as a label in the schools, and ultimately as a descriptor of certain adults is likely to reflect the values and strengths of the dominant culture and to slight those of other cultures, especially those of involuntary minorities who employ such secondary cultural differences as cultural inversion as a means to define and protect their identities. Thus, I would argue that giftedness, as it has been constructed in American schools within American society has embedded in it the basis for the under-representation of certain groups outside the White middle-class and upper-middle-class mainstream.

Social Reproduction Theory

One need not view this as reflecting malign intent, although some do. According to social or cultural reproduction theory (see, for example, Apple, 1982; Katz, 1975; Spring, 1989), society's inequities, among them racism and wide disparities in wealth, work to the benefit of a wealthy and powerful elite. Society is structured to maintain the dominance of those in power and to perpetuate the subordinate status of those in the underclass, and social institutions, such as the educational system, are designed to perpetuate inequities that benefit the elite by reproducing, in the educational system, the hierarchical stratification found in the larger society.

One way the schools serve to maintain the status quo and the current power structure, according to social reproduction theory, is by denying an adequate education to the poor and the nonwhite and by extending special privileges to the more affluent. Gifted education is seen by some as an instrument of social reproduction and one of the means whereby schools perpetuate racism and economic injustice. Sapon-Shevin (1994) writes, "Whether or not the intention of gifted programs is to reproduce existing economic and racial hierarchies or to produce cultural capital held by an elite group of students, these are in fact the consequences of such a system" (p. 192).

Margolin, in his book *Goodness Personified: The Emergence of Gifted Children* (1994), and especially in his *Journal for the Education of the Gifted* article, "A Pedagogy of Privilege" (1996), asserts that gifted education is a "pedagogy of privilege," an inversion of Freire's (e.g., 2000) "pedagogy of the oppressed." In Freire's notion of the pedagogy of the oppressed, an educational system in the service of the power structure inculcates in poor and marginalized children the message that their role in school, and later in life, is to be passive and to accept a subordinate role in the scheme of things. Margolin argues that the pedagogy of privilege, on the other hand, exists to teach gifted children, who as a group are disproportionately White and upper-middle-class, that *their* role is to be active, to be leaders, to be privileged.

Although I do not believe that gifted education is the result of a conscious intention to perpetuate inequities in society, there remains the nagging question of whether the very concept of giftedness necessarily leads to or reinforces racial and economic inequities, whether it might be impossible to conceptualize and operationalize the distinctions at the heart of the concept independent of such factors as race, ethnicity, and SES. I will return to this issue below.

At the very least, we need to be conscious of the fact that conceptions of giftedness are created, not discovered, and that their application has powerful practical consequences. If we conceive of giftedness in the manner that Terman did, and if our definitions of the target population in our gifted programs mirror that conception, we need to be aware of the fact that we are operating in a manner that will inevitably advantage certain children and disadvantage others and that the line, or lines, of demarcation between the advantaged and the disadvantaged will be in large part determined by racial, ethnic, and socio-economic differences.

Identification Practices

That White middle-class children are identified as gifted in proportions that exceed their proportion in the general school population is a fact of educational life in the U.S. In part, this is a consequence of the ways we have traditionally identified students as gifted, which are themselves rooted in the values of the White middle class. For example, IQ tests have traditionally played a major role in identifying gifted students. Although no one in the field of gifted education of whom we are aware advocates using these tests as Terman (1925) and Hollingworth (1942) used them, such tests and other measures that correlate substantially with IQ are still widely used in the schools to identify gifted students.

Standardized tests can play an important role in the equitable identification of gifted students (see, for example, Borland, 1986; Pendarvis & Howley, 1996). However, because standardized tests reflect the values and interests of the largely White professionals who created them, unless we also use nontraditional methods for identification (Borland & Wright, 1994), inequities will be inevitable. Furthermore, our traditional conception of identification as a method whereby we separate the gifted students from the rest of the student population has, despite some challenges (e.g.,

Renzulli, Reis, & Smith, 1981), continued to dominate our thinking. As long as this is the case, we may be faced with the problem I address in this monograph.

Curriculum

Multicultural curriculum is, unfortunately, one of a number of commonsensical educational initiatives that has become controversial as a result of its being politicized. Although it has many definitions, the one by Banks and Banks (1993, as cited in Ford & Harris, 1999) is one of the most frequently used. Banks and Banks define multicultural education as

> an educational reform movement designed to change the total educational environment so that students from diverse racial and ethnic groups, both gender groups, exceptional students, and students from each social-class group will experience equal educational opportunities in schools, colleges and universities. (p. x)

As defined here, multicultural educational is quite unexceptionable, especially in light of the diverse nature of our nation's population and the inescapable fact that as a country we are indeed multicultural. Multicultural education does not mean the elimination of Shakespeare from the English curriculum, nor does it preclude the possibility of a common thread that unites us as interdependent citizens of a single country, diverse as it might be. Rather, it means, as Banks and Banks, explain, that equal educational opportunities should be available to all students irrespective of their race, their ethnicity, their sex, their exceptionality, and their socio-economic status (sexual orientation could have been added as well, since this is becoming more and more of an issue in education, especially secondary education). It is difficult to see how anyone could oppose these ends, although there is certainly room for debate over means.

As desirable as multicultural education is in the manner in which Ford and Harris treat it in their book *Multicultural Gifted Education* (1999), as they state in their preface, a focus on multicultural education has been "noticeably absent in gifted education" (p. xi). This is troubling when one thinks about Ogbu's (1992) notion of cultural inversion, Fordham's (1988, 1991) discussion of "the burden of acting white," and Ford's (1992) finding that a majority of the gifted African-American students in her sample reported expending little effort in their schoolwork.

Ford and Harris argue that "too often, students are presented a homogeneous curriculum, one that is most likely to meet the academic and affective needs of White students in upper-income brackets" (p. xii). To the extent that is this true of the curricula of gifted programs, it creates one more impediment to the incorporation of lower-income gifted students and gifted students of color in these programs. Just as the manner in which we conceive of giftedness and the way we identify gifted students can work to exclude such students, so, too, can curriculum that does not reflect the fact that ours is a multicultural society with a multicultural student population that deserves exposure to a world of ideas to which people from many different groups have contributed. As Ford

and Harris write, "just as we have argued for the desegregation of gifted education relative to increasing student diversity . . ., we ask for desegregation of the curriculum" (p. xii).

Some Thoughts About How to Address the Problem of Under-representation

Without pretending to have the answer to the question of how to remedy the problem of under-representation, I will present some thoughts about the three aspects of the problem that I identified above as being endogenous to the field of gifted education.

To a considerable extent, I will draw on my experiences with Project Synergy, a Javits Grant project co-directed by Lisa Wright and me from 1991 through 1997. Through Project Synergy, we were able to work in schools in Central Harlem to develop nontraditional methods for identifying potentially gifted kindergarten and preschool students; to provide curriculum to enable the students to develop their abilities; to work with parents, guardians, teachers, and administrators to support the students' growth; and to place students in more appropriate educational settings.

Conceptions of Giftedness

We need to rethink giftedness as a concept and to do so radically, to go to the root of the concept and examine what it means, what it connotes and implies, and what value it actually brings to our field. At the very least, we need to examine our conceptions of giftedness to identify whether and how they might lead to the inequities I discuss above. Take as an example Renzulli's three-ring conception of giftedness (e.g., 1978, 1986), probably the most influential conception of giftedness in recent times. Renzulli challenged some well-entrenched, fundamental assumptions about giftedness, including the primacy of high levels of general ability, a legacy of Terman, Hollingworth, et al. This alone makes the definition a significant contribution to our literature. Yet, even this definition, in which giftedness is conceived of as an interaction among above-average ability, creativity, and task commitment, can contrary to its author's intention, be operationalized in a manner that reinforces social inequities.

Creativity and task commitment are necessarily assessed subjectively, that is, without the use of standardized tests, since valid standardized measures of these constructs do not exist. This is not necessarily a liability; in fact, my colleagues and I have strongly advocated the use of subjective measures in gifted education (see, for example, Borland & Wright, 1994; Wright & Borland, 1993). But problems can occur when any conception is applied in the practical sphere. For example, in many urban school systems, the teachers are predominantly White and middle-class and the students are not. It is not difficult to conceive of how conceptions of task commitment might be quite discrepant in the culture in which the majority of teachers live and the one in which the majority of students live. Teachers might, without any malign intent, conceive of this

construct in a manner that predisposes them to see it in children culturally like themselves and not to see it in students unlike themselves.

If this can happen with a conception of giftedness that breaks with a prevailing psychometric tradition favoring White middle-class students, few if any conceptions are immune to this problem. This seems to leave us with two options. The first is to attempt to develop conceptions of giftedness that are either culture-fair or equitably multicultural. This may prove to be as difficult as the attempt to develop culture-fair tests has been.

A second approach led me a few years back to "think the unthinkable: that there might be effective gifted education without gifted programs" (Borland, 1996, p. 144). Perhaps it is time to ask an even more radical question: Can there be effective gifted education without gifted children? (see Borland, 2003, for a more fully developed discussion of this possibility). By this, I mean to ask whether we can accomplish the goals that gave rise to the field of gifted education without identifying children as gifted or even having recourse to the construct of giftedness at all. This latter course of action would constitute nothing short of a revolution in the field of gifted education. It would, no doubt, be strongly resisted by many of our colleagues, but as a thought experiment it could be a productive exercise. I suggest that it is once again necessary to think the unthinkable.

If, as I argue above, giftedness is at root discursive, a social construction, then the appropriate question to ask about it is not whether a given definition of the construct is the "true" one, which would be a non sequitur. Instead, one must ask what the consequences of the application of a given definition, or better yet the totality of our conceptions of giftedness over the history of the field of gifted education, has been. In other words, the relevant criteria for judging any conception of giftedness—and, I believe, the construct of giftedness itself—are pragmatic, utilitarian, and moral ones, not the ontological and epistemological ones we apply to theories deriving from empirical science.

I argue in my chapter "The Death of Giftedness" (2003) that the construct of the gifted child, as applied in the public educational system of the U.S., not only lacks logical support but has not resulted in beneficial outcomes for students, those in gifted programs and those excluded from them, nor has it resulted in a system of gifted education that can be easily defended on moral grounds. I do not have the space to develop those arguments here, but I would suggest that worrying less about who is "truly gifted" and more about making curriculum and instruction truly differentiated for all students would do more to meet the goals of the gifted child movement than would a mandate for pull-out enrichment programs in every school in the nation. Moreover, it would, by eliminating the construct of the gifted child and the implicit construct of the "not gifted child," constructs that cannot be culture-free and that, I believe, must reflect the values and interests of those who are most privileged in our society, result at least in the mitigation of the problem with which this monograph deals.

Identification Practices

Since I do not believe that the field of gifted education will readily give up the foundational concept of the gifted student, I would like to propose two possibilities for dealing with problems of inequity deriving from identification practices. The first of these is to work within the traditional conception of giftedness and the idea of programs that require the identification of gifted students. The goal here is to make the identification process more equitable and sensitive to diverse expressions of giftedness. Since I am most familiar with our own work in Project Synergy, I will use that as an example (see Borland, 1994; Borland & Wright, 1994; the latter has a more complete description of the identification process used in Project Synergy). However, the reader should also consult the work of Frasier and Passow (e.g., Frasier, Garcia, & Passow, 1995; Frasier et al., 1995; Frasier & Passow, 1994), Ford and Harris (e.g., 1999), Richert (2003, Richert, Alvino, & McDonnel, 1982), among others.

In Project Synergy, we learned that certain features of an identification process can make it more effective for identifying economically disadvantaged students. They include:

- a post-positivistic approach to assessment (see Borland, 1990), including the use of observation and other forms of the "human instrument" (Lincoln & Guba, 1985);
- a focus on "best performance" (Roedell, Jackson, & Robinson, 1980) instead of averages of scores and ratings;
- curriculum-based assessment and other forms of "authentic assessment" instead of, or in conjunction with, standardized measures;
- portfolio assessment (Coleman, 1994; Wright & Borland, 1993);
- dynamic assessment, based on the work of Vygotsky (e.g., 1978) and Feuerstein (e.g., 1980), in which assessment is carried out in Vygotsky's "zone of proximal development";
- open-ended teacher referrals instead of checklists;
- a case-study approach to identification that relies on human judgment instead of a mechanical approach such as combining scores, which is characteristic of a matrix;
- conceiving of identification as a process, not an event; that is, making the identification process a long-term one, extending at least over a period of months.

I strongly believe that modifying identification procedures as we did in Project Synergy and has been done in other Javits Grant projects (e.g., Baldwin, 1996; Coleman, 1994; Feiring, Louis, Ukeje, & Lewis, 1997; O'Tuel, 1996) can improve our field's performance with respect to equity. However, there is a second possible direction for the field, and this is the course of action I suggested above: the possibility of gifted education without gifted students, or the concept of the "gifted student."

It is often said that, in an ideal educational world, special education, including gifted education, would not be necessary because curricula would be sufficiently

responsive to individual differences to make separating children into exceptionality categories unnecessary. Lisa Wright and I have worked with school districts interested in moving in this direction by helping them plan and implement programs that combine school-wide enrichment, flexible grouping across grade levels in major subjects, and, for a very few truly exceptional students, individual educational plans. The result is a form of gifted education that does not look like traditional gifted education and that requires little in the form of traditional identification, save for those few students who require individual plans (whose identification involves a process that begins with pre-kindergarten screening and continues for 2 or 3 years).

In many ways, identification is at the crux of the problem of under-representation, for this is the process whereby more students from some groups and fewer children from other groups are designated as gifted. It seems to me that a major decision has to be made if we do not want to live with the inequities that have plagued the field since its inception. Either we have to make our practice equitable by modifying the way we do the things we have always done, or we have to give up these things while still hewing closely to our core values. In other words, we need to determine whether we can have gifted education, that is, its fundamental goals, not only without gifted programs as we have traditionally known them but without gifted children, labeled as such, as well.

If we give up the processes of conceiving of giftedness as a trait, or even state, possessed by some and not others and the process of sorting children into "gifted" and "not gifted" groups and instead attempt to achieve the goals inherent in the practice of gifted education through curriculum reform and more creative administrative arrangements such as flexible grouping, large-scale equity problems in education will not disappear. However, the problem of under-representation I am discussing here would become a moot point, for program placement, the activity that gives rise to under-representation, would no longer be a concern. Discrepancies in educational achievement would and should, of course, continue to be a concern. However, addressing these as issues of educational achievement instead of gifted or nongifted status strikes me as a slightly, but significantly, more tractable matter for educators.

Curriculum

I will briefly address two issues related to curriculum for gifted students that are germane to the problem of under-representation. The first is the role multicultural education can play in gifted education, as I discuss above. Ford and Harris (1999) advance the idea that gifted education and multicultural education are complementary and point to some practical steps educators can take to effect this synthesis. To the extent that such educational streams as gifted education and multicultural education are seen as having a potential confluence, the goal of remedying the under-representation of lower-SES students and students of color in gifted programs will seem less remote.

The second approach derives from our work in Project Synergy. Working with kindergarten children in a severely under-resourced school in Central Harlem, we quickly became aware of two things. The first was that there were potentially gifted students in

this school, just as there are in any other. The second was that because of the nature of their schooling, these students were not ready academically for placement in gifted programs. Our approach was to implement what we called "transitional services," curriculum designed to help young students identified as potentially gifted develop their potential so that subsequent placement in gifted programs would be successful and appropriate. Such a curriculum need not be terribly elaborate. In Project Synergy, the emphasis was on traditional skills of reading, writing, and mathematics. We employed a diagnostic-prescriptive model, along with some interdisciplinary enrichment, work on thinking skills, and help developing academic "meta-skills," behaviors and attitudes that seem to be part of the tacit knowledge of successful students. Parent education was another important emphasis, and every attempt was made to maintain a multicultural perspective.

I think the concept of transitional services has potential in the field of gifted education for students who have not had the nurturance given to students from more economically favored circumstances. In cases where the only alternatives seem to be benign neglect or placement in a demanding sink-or-swim environment, the effort involved in developing transitional services curricula may be amply repaid. This does not mean that the gap between potentially high achieving poor and minority children and their high achieving age peers would necessarily be eliminated, for I am not advocating that the latter mark time while the former catch up. "Catching up" is not the goal; it is the development of potential that is too often frustrated by inequities in our society and our schools.

Some Final Thoughts

In this monograph, I have tried to describe the extent of the problem of the under-representation of economically disadvantaged and minority children in gifted programs, to discuss some of the forces contributing to the problem, and to suggest some measures that might be palliative, if not curative. I hope that the problem can be addressed and substantial progress can be made. This should be a major priority for the field of gifted education, both as a matter of educational effectiveness and as a moral imperative. However, I think we also need to confront the troubling possibility that a complete resolution of the problem may not be possible.

The philosopher Isaiah Berlin, in an essay entitled "The Pursuit of the Ideal" (1990; see also, Gray, 1996), advances the notion of "value pluralism," which, I believe, has relevance here. This is the idea that we might not be able to attain a perfect state in which all goods, all desirable outcomes, are realizable. Some goods, Berlin argues, may be incompatible or incommensurable. That is, *A* may be a good, a desirable, even necessary thing; so, too, might *B*, which is equal in importance to *A*. But it may be impossible for both *A* and *B* to co-exist, for them both to be realized. The realization of *A* may render the realization of *B* impossible.

Berlin writes, "Values may easily clash within the breast of a single individual; it does not follow that, if they do, some must be true and others false" (p. 12). That is,

contrary to what many philosophers, at least since the time of Plato, have argued, there may be no perfect system, no ideal world in which the competing claims of various desirable but incompatible outcomes can be realized. As Berlin argues, "The notion of the perfect whole, the ultimate solution, in which all good things coexist, seems to me to be not merely unattainable—that is a truism—but conceptually incoherent" (1990, p. 13).

It is more than a little frightening to ask whether striving for a world in which the goals of both gifted education and perfect equity are pursued is, in Berlin's sense, a striving for that which is conceptually incoherent and, therefore, impossible. Might it be the case that, in any multicultural society in which there are discrepancies in socioeconomic status, the concept of giftedness and the practice of gifted education inevitably lead to the under-representation of certain groups of individuals and obviate the very possibility of equity?

This is a troubling thought. However, since I have been urging us to think the unthinkable, I feel obligated to suggest thinking what may be the most unthinkable thing of all within our field. This is the possibility that two essential, core values—pursuing the goals inherent in the practice of gifted education and striving for racial, ethnic, and socioeconomic equity—may be incompatible. We may be able to realize one or the other, but not both.

This is, in essence, the question Gardner (1961) confronted in his book *Excellence: Can We Be Equal and Excellent Too?* Gardner raised the issue and expressed optimism over the possibility of a resolution, but he did not show how it could be effected. His concluding line, "But who ever supposed it would be easy?" (p. 161) is certainly more optimistic than the response Berlin's idea of value pluralism suggests: "It is not only far from easy, it is impossible."

Perhaps Berlin was wrong, or, if he was not, this may not be one of those situations in which seemingly competing goods are truly incommensurable. And perhaps, until it can be convincingly demonstrated that excellence and equity are, in some ways relevant to the practice of gifted education, mutually antagonistic, we need to proceed as if they are reconcilable. That is, we should not give up on either good, we should strive both for excellence and for equity. But we need to ask the disturbing question of their incompatibility and, if all evidence suggests that, in this world at least, incompatible they are, we need to make some extremely difficult choices.

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[i] I place the term *gifted* in quotation marks here not to express skepticism about the utility or conceptual coherence of the term, which I do later on, but to indicate that Terman was using the term gifted generically but conceiving of giftedness in a narrow and specific manner. One of the problems with which we contend in this field is that various meanings are attached to the word by different writers and that these differences are anything but subtle. Terman, for example, conceived of giftedness as the possession of a very high level of general intelligence, which, he believed, could validly be operationalized as a Stanford-Binet IQ of 140 or above. By contrast, Renzulli, a contemporary authority (e.g., 1986), conceives of giftedness as the interaction among above-average ability, creativity, and task commitment. Clearly, these two writers are using the same word to refer to different things, and they are only two among many, although two of the most influential. The words *gifted* and *giftedness* are what Stuart Hall (e.g., 1997), writing about race, calls a "floating signifier," a semiotic term "variously defined as a signifier with a vague, highly variable, unspecifiable or non-existent signified. Such signifiers mean different things to different people: they may stand for many or even *any* signifieds; they may mean whatever their interpreters want them to mean" (Chandler, 2001, p. 33). Thus, I use quotation marks here, and in some other instances, to indicate that the term, used repeatedly in this monograph, has shifting meanings depending on who is using it and in what context and is the focus of more than a little disputation.

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