

CHALLENGE

A Journal of Research on Black Men



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Challenge is the official organ of the Morehouse Research Institute (*MRI*), an interdisciplinary research institute whose principal objectives are to encourage relevant scholarship and to build a viable information exchange network so that policies and programs, particularly those germane to the status of African American men and boys, will be firmly grounded in research.

Typically, issues of *Challenge* will contain proceedings of the symposia, conferences and focus groups sponsored by *MRI* as well as invited occasional papers and reports on topical concerns such as priorities for future research and policy analysis and the identification and development of programs and agendas for change.

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MRI
Morehouse College
830 Westview Drive, S.W.
Atlanta, GA 30314

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BACKGROUND INFORMATION

The **Morehouse Research Institute (MRI)**, established in 1990, promotes an interdisciplinary program of scholarship. It is designed to generate, disseminate, and exchange information which can guide public policy and programs, particularly those which impact upon black men in American society. As an integral component of Morehouse College, students are involved at all levels. The program is aimed at revitalizing the social sciences and the humanities in undergraduate liberal arts education. The intent is to reproduce the supply of economists, political scientists, historians, psychologists, sociologists, and others who will become the next generation of informed policy makers, researchers, educators, and policy analysts. *MRI* includes the following components:

Curriculum. Enriching and expanding existing courses and developing new courses which introduce students to perspectives on race, gender, and class in American social structure and processes. Includes courses from all disciplines, but with emphasis in the social sciences and the humanities. Organizing and sponsoring faculty development and enrichment activities.

Research and Information Exchange. Addressing the dearth of scholarship on issues impacting black men specifically, and the black community in general. Activities of this component include, but are not limited to, the following:

The Scholars Program and Information Exchange Network. Sponsoring research projects and the presentation and examination of emerging issues in conferences, workshops, and seminars led by visiting scholars and policy makers. Hosting on-going projects, short courses, and colloquia by scholars in residence.

The National Data Base and Clearinghouse. Procuring extant data on black men and generating new data. Packaging, publishing, and disseminating information and resources to interested educators, researchers, policy makers, foundations, and the general public.

Community Bridge. Linking the College, surrounding community, and wider society in ways which are mutually beneficial to students, faculty, community residents, and public and private policy makers. Offering leadership training workshops and seminars on voluntarism.

I. Rousseau Mukenge
Project Director

CONTRIBUTORS

Ronald F. Ferguson is an Associate Professor of Public Policy at the John F. Kennedy School of Government at Harvard University. His research covers topics that fit generally under the heading of social and economic development. His publications include studies of the fiscal health of cities, youth employment, public education, drug problems, and state and local economic development policy. Professor Ferguson's current research addresses the effects of teacher quality on school achievement, the determinants of child support payment by non-custodial fathers, and initiatives to improve the quality of life for teenagers and young adults in low income black neighborhoods. Professor Ferguson participates in several state, local and national policy advisory groups. His current advisory and consulting activities include projects at the Aspen Institute, the Manpower Demonstration Research Corporation, Public/Private Ventures, the Social Science Research Council, and the Urban Institute.

Antoine M. Garibaldi is Dean of the College of Arts and Sciences and Professor of Education at Xavier University of Louisiana. He is one of the country's leading education researchers. His publications include studies of teacher education programs, the role of black colleges in higher education, recruitment and retention of teachers, and education issues related to black male students and the black men in family life. In addition to numerous publications, Professor Garibaldi has addressed meetings of such organizations as the American Educational Research Association, the Southern Education Foundation, Educational Testing Service. He has also served as a consultant to the National Urban League and given testimony before the House Select Committee on Children, Youth, and Families.

Ronald B. Mincy is an economist whose principal areas of expertise are the effects of minimum wages, the underclass, and poverty. He has combined teaching and policy oriented research in government, academic, and research institutions. Professor Mincy's research has focused on estimates of the effects of minimum wage increases on the working poor and on estimates of the size, characteristics, and growth of the underclass. He is currently the

principal investigator for a project to test alternative explanations of underclass growth. He is cooperating as a panelist, consultant, expert witness, and conference speaker with academic, research, and government organizations around the country. Presently, he is a visiting Associate Professor at Swarthmore College and Research Associate at The Urban Institute.

**RACIAL PATTERNS
IN HOW SCHOOL AND TEACHER QUALITY
AFFECT ACHIEVEMENT AND EARNINGS***

Ronald F. Ferguson
Harvard University

African American and Hispanic students tend to have lower average scores than do white students on standardized math and reading exams. As young adults, they have lower earnings. This paper examines the reasons. It first summarizes findings from a project that studies schooling in Texas. The project provides new evidence about factors that improve performance on standardized reading and math exams by students in primary and secondary schools. Factors identified include (1) teachers with strong language skills, per teacher (2) of 18 or fewer students, (3) teachers with more experience, and (4) teachers with master's degrees. Second, we explore the degree to which these and other characteristics of schools and communities help to explain why districts with more African American and Mexican American students

* This paper was written for the Morehouse Research Institute at Morehouse College in Atlanta, Georgia, to be disseminated through its journal, *Challenge: A Journal of Research on Black Men*. Intended for a general audience, this is a largely non-technical summary of racial patterns from a broader study covering additional issues not fully addressed in this paper. A technical version of the complete study and papers focusing on particular policy-relevant findings will be available from the author. Readers who want these papers and are willing to be billed to cover reproduction costs should write to the author at: John F. Kennedy School of Government, 79 JFK Street, Cambridge, MA 02138.

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in Texas have lower average scores on state-wide exams. The paper answers the "Why care about test scores?" question by reporting evidence that disparities in reading and math achievement, as measured by test scores, explain a large share of the difference between the races in average weekly earnings for young adult males. A final section comments briefly on some implications.

OVERVIEW

In March of 1986 the state of Texas administered the Texas Examination of Current Administrators and Teachers (TECAT) to all of its existing teachers. (See Shepard and Kreitzer, 1987, for a political analysis.) Recertification to teach required passing the test. The TECAT measured basic language skills using a standard multiple choice format. Standardized test results collected simultaneously for an entire statewide cohort of existing teachers have never been available before. (U.S. Department of Education, 1986, p. 96) Hence, when combined with the other data that this project has assembled, TECAT provides a new and unique opportunity to assess the importance of teachers' basic language skills to children's reading and math achievement.

Obviously, the TECAT and other such tests do not measure all of the skills that make teachers effective. Indeed, whether a simple language skills test like the TECAT captures *any* of the skills that contribute to teaching effectiveness is among the questions that inspired this project. A fully plausible finding would have been that, other things equal, TECAT scores are not significant predictors of student performance. This would have provided strong support for people who argue that what the TECAT measures is irrelevant to effective teaching. The findings of this study say the opposite.

The study shows that where the percentage of black and Hispanic children in a Texas school district is higher, the average score on the TECAT is typically lower for each race of teachers -- black, Hispanic and white. The fact that teachers in Texas who instruct children of color tend to have weaker language skills appears, other things equal, to account for more than one quarter of the reading and math score differential between black and white children in Texas, and about 20 percent of the gap between Hispanics and whites.

The project finds no evidence that the degree to which TECAT scores predict student achievement depends on the races of the teachers. In other words, a given increment in a district's average TECAT score predicts the same change in average student scores independent of teachers' races. This is not to say that race is necessarily irrelevant to teacher effectiveness. It appears from this analysis, for example, that African American and Hispanic teachers are more effective than white teachers at motivating black and Hispanic students to take the Scholastic Aptitude Test (SAT). Other evidence concerning racial matching of students and teachers is inconclusive at this writing but may be resolved in later work using supplementary data. The effects may in fact be important. See Irvine, 1990, for a recent and comprehensive overview of what social scientists know about how social relations in primary and secondary schools influence schooling outcomes for black youth. Also see Farkas et al., 1990.

The second part of the paper briefly reports the results of an analysis of the National Longitudinal Survey of Youth (NLSY) to show why society at large, and communities of color in particular, should be concerned about test scores. Specifically, young men in their mid-twenties who scored higher on a standardized reading and math exam administered to the NLSY participants in 1980 tended to earn more in 1984-86. This is true independent of race: a given increment in reading and math exam performance predicts roughly the same increment in weekly earnings for black men as for young white or Hispanic men of the same age and social background. Test score differences explain much of the earnings gap between young men of different races.

The following section of the paper briefly describes this study's relationship to previous research. Sections that follow describe the Texas data then address the degree to which teachers' TECAT scores, class size, teacher experience and master's degrees predict students' test scores, dropout rates and rates of taking the SAT controlling for a host of other influences. Afterwards a discussion based on findings from the NLSY concerning the extent to which test scores predict earnings for young males in their mid-twenties. A short section exploring policy implications precedes a brief conclusion.

PREVIOUS EDUCATION RESEARCH

Education is a production activity whose outputs include knowledge and reasoning skills. When economists study production processes they use mathematical expressions called "production functions" to summarize the technical relationships through which various combinations of inputs generate particular outputs. Over the past 25 years a substantial body of literature has developed from attempts to measure education production functions. Researchers use multivariate statistical techniques to estimate the effect on output (usually students' test scores) of changing the amount of any given input (e.g., class size or teacher experience) while holding other inputs (e.g., family background) constant.

Unfortunately, using these techniques, research has confirmed very few conclusions across independent studies. Indeed, a recent and authoritative review of this vast literature (Hanushek, 1986) concludes that:

...differences in quality [i.e., students' standardized test scores] do not seem to reflect variations in expenditures, class sizes, or other commonly measured attributes of schools and teachers.

The inability of statistical research to find that expenditures for "commonly measured attributes of schools and teachers" matter is surely among the forces responsible for a clear shift in policy discussions over the past decade. The shift is toward organization and process issues. The proposition that more money alone is not "the answer" is now widely accepted. School-based management and parental choice (e.g., vouchers) have, for good reasons, become dominant preoccupations. (See, e.g., Chubb and Moe, 1990.)

Still, a strong and widely shared conviction remains that measurable school characteristics such as class size and teachers' language skills must matter. The idea that they might be unimportant is simply too counter-intuitive. The present study finds strong new evidence that the intuitive answers are correct.

EDUCATION IN TEXAS

The Data

Each observation in the data for Texas is for an individual school district. Statistical estimates discussed below explain why school districts differ in their average reading and math scores on uniform statewide student exams. Texas has more than 1000 school districts. This project was able to assemble fairly complete data for almost 900. Districts omitted because of missing data were generally very small; therefore, more than 90 percent of the state's primary and secondary students are included in the analysis.

Social science theories suggest that educational outcomes such as grades and test scores are the products of innate ability, school inputs and inputs from families and communities. (See Hanushek, 1986.) The data for this project do not include variables that measure innate abilities. Nor do they separate family effects from community effects. Instead, family, community and innate ability effects are subsumed by school district averages for various socioeconomic indices. Most of these come from a special tabulation of the U.S. census from 1980 that provides data by school district.

Variables from the census include the following: income per household and per capita income, levels of education among the adult population, the poverty rate in households with children, the prevalence of single-parent female-headed households and the percent of households in which English is a second language. Since our school data cover only public schools, the percent of a district's children attending public (versus private) school is included as a control variable.

Data from the 1980 census are obviously from half a decade before the 1985-86 school year. This is less than ideal. Nevertheless, aside from isolated aberrations, relevant socioeconomic features are not likely to have shifted enough in so short a time to seriously distort the inter-district comparisons upon which our results depend. This seems to be confirmed by the results reported below. The results are fully consistent with standard findings for how socioeconomic background influences student performance.

Other data from the 1985-86 school year include the percent of students who are from migrant farm worker families, the percent Hispanic, and the percent Black. Also, the analysis allows for separate effects for cities, suburbs, rural districts, towns, non-metropolitan cities

(growing and stable), and districts along the Mexican border with high poverty rates. These capture effects that vary systematically by type of place and are not captured by other variables in the estimated equations.

Students' reading and math scores used in this analysis come from the Texas Educational Assessment of Minimum Skills (TEAMS). TEAMS exams are standard multiple choice tests administered to first, third, fifth, seventh, ninth, and eleventh graders. The TEAMS results that this study seeks to explain are from the second semester of the 1985-86 school year. In addition, we use results for the same cohort of children two years (1987-88) and four years (1989-90) later. The latter allow the study to check the degree to which school and community characteristics that explain differences in scores across districts at a point in time also predict how much progress children achieve over time.

As introduced above, the focal explanatory variable in the analysis is teachers' performance on a language skills exam (TECAT) administered to all teachers and administrators in March of 1986 for purposes of recertification. Passing rates were about 97 percent overall, 94 percent for Hispanics, and 81 percent for blacks. People who failed the exam were permitted to retake it. The present study uses only the March 1986 scores and is therefore not distorted by results from second and third attempts. The analysis here employs both district average scores and district passing rates from the TECAT exam. For passing rates, but not for average scores, we were able to get data separately for primary and secondary school teachers.

Several additional characteristics of each school district enter the analysis. These include teacher experience, the percentage of teachers who have master's degrees, the average school size (separately for primary and secondary schools), total district enrollment and the number of students per teacher in the district (a good approximation of average class size).

One set of indices covering the school district as a whole across all grades comprises the explanatory data for each grade. For example, the teacher test score data in the equation for any given grade is the average score for all of the teachers in the district across all grades. The same holds for other school and socioeconomic background variables. While this is primarily because available data are not disaggregated by grade level, it has the advantage of including teachers who taught current students in earlier grades. Thus, it comes

closer to measuring students' cumulative educational experience than would an equation containing data only for the current school year. These same explanatory data are used to estimate the dropout rate and the percent taking the SAT.

Using school district averages rather than data for individual children can, under certain quirky circumstances, produce misleading results because of "aggregation bias." Data measuring performance and other characteristics of individual children and their individual teachers are preferable but were not available. However, the findings reported below, based on almost 900 individual school districts, disclose a systematic and internally consistent story about what influences children's standardized test scores, dropout rates and decisions to take the SAT. This coherence and plausibility leads us to believe that aggregation bias is not a serious problem. Any subsequent analysis based on disaggregated data for individual students and teachers is likely to add interesting and important details but not to change the central findings.

General Findings Concerning Schooling Effects

Teachers matter. Controlling for all of the influences discussed above, all four of the variables in the analysis that measure teacher characteristics (TECAT scores, class size, experience, master's degrees) have statistically significant effects on student test scores. Moreover, the magnitudes of the effects are not trivial. By contrast, of the same four variables, only teachers' experience has an effect on high school dropout rates or on the percentage of students taking the SAT.

Teachers' language skill as measured by the TECAT score is the most important school input for both math and reading. (Readers with training in statistics will appreciate knowing that the coefficient on the TECAT score was typically six times its standard error.) The next most important school characteristic in the analysis is teacher experience, followed in importance by class size and master's degrees. A list of variable names and descriptive statistics and a table of coefficients and t-statistics is available in the appendix. However, this is only one of several tables that inform the following discussions. Tables detailing other results discussed below are available from the author in more technical papers.

The next few pages outline the project's general findings before discussing patterns associated with race. All of the patterns reported below are statistically significant.

1. **TECAT helps to explain variation across districts in students' average scores at a point in time.** After the first grade (when teachers' scores are relatively unimportant) teacher scores on the TECAT account for about one fifth to one quarter of all variation across districts in students' average scores on the TEAMS exam. (TECAT has virtually no influence on the dropout rate or on the percent taking the SAT; the only effects of the TECAT on the latter indices appear to be extremely small and indirect, acting through the effect of the TECAT on students' test scores.)
2. **TECAT predicts changes in students' average scores over time.** Item 1 directly above reports that TECAT scores explain variation across districts *at a point in time* even for ninth and eleventh grades. However, estimates predicting *changes over time* suggest that much of the learning that TECAT "causes" occurs between third and seventh grades. Teachers' scores have much smaller effects on *changes* in student scores from the first to the third and after the seventh grade. (These estimates, for example, compared third (or seventh) graders' scores in 1986 to their scores in 1988 when they were fifth (or ninth) graders and in 1990 when they were seventh (or eleventh) graders.)
3. **Primary teachers appear to be particularly important for establishing the reading foundation upon which students depend in later years.** Primary school teachers' passing rates on the TECAT have three times the impact of secondary teachers' passing rates for predicting eleventh graders' passing rates on the TEAMS exam. Conversely, neither the primary nor the secondary teachers passing rate is statistically significant in predicting *changes* in what students learn after the seventh grade (e.g., the difference between seventh graders scores in 1985-86 and the same cohort of students' ninth grade scores in 1987-88 or their eleventh grade scores in 1989-90).

4. **Teachers with five or more years of experience produce higher student test scores, lower dropout rates, and higher rates of taking the SAT.** Our experiments with other measures show that the percent with five or more years of experience is the best index to capture the effect of teacher experience on test scores. This index accounts for a little more than 10 percent of the inter-district variation in student test scores. Moreover, an increase of 10 in the percent of teachers with five or more years of experience leads to a drop of almost four in the dropout rate (e.g., from a 25 percent dropout rate to a 21 percent rate) and an increase of three in the percent of students taking the SAT.
5. **Master's degrees produce moderately higher scores in grades one through seven.** The percentage of teachers who have master's degrees accounts for about five percent of the variation in student scores across districts for grades one through seven. Master's degrees have no predictive power after the seventh grade.
6. **Large classes lead to lower scores in grades one through seven.** Class size, approximated here by the number of students per teacher in the district, is very important when it exceeds 18, but not when it is under 18. Each additional student over 18 causes the district average score to fall by between one-tenth and one-fifth of a standard deviation in the inter-district distribution of test scores for grades 1 through 7. This is among the stronger effects for any variable in the study. However, it is an effect that is clearly restricted to the primary grades. Class size influences neither high school test scores, dropout rates nor the percent taking the SAT.
7. **Districts that pay higher starting salaries have teachers who score higher on the TECAT.** Teacher supply equations estimated by this project show that, other things equal, districts paying higher salaries than nearby competitors attract teachers who score higher on the TECAT. Hence, from the perspective of any given district, money can affect student achievement by attracting better teachers. However, a note of caution is in order. First, within a geographic region, raising salaries may be close to a zero sum game if districts simply compete for a relatively fixed pool of skilled teachers. Also, merely raising

the salaries of existing teachers is not sufficient. Higher salaries will improve teacher quality in the aggregate only if districts use them to attract better students into teaching careers and to tie them to incentives for existing teachers to upgrade their skills and performance.

8. **Other things equal, larger schools and larger districts do slightly worse.** Tests for effects of scale -- larger schools and larger districts -- showed that bigger usually means lower student scores, but the effects are small and often not statistically different from zero. The effects on dropout rates are marginally significant for school size and highly significant for district size. Also, larger districts have marginally lower rates of taking the SAT.

Findings Concerning Home and Community Effects

Most estimates of education production functions find that conditions in home and community environments outside of the school are important determinants of schooling outcomes. The next few paragraphs review findings that are fully consistent with what other studies have found.

Parents' education in this study is represented by two variables: (1) the percent of adults living in the district with exactly four years of high school, and (2) the percent who have some college. The latter variable is by far the most important explanatory variable in the analysis aside from teachers' TECAT scores. In the overall analysis, its importance for predicting students' test scores is roughly equal to TECAT in magnitude and in statistical significance. Parental education is also important where TECAT is not: for explaining first grade reading scores, dropout rates and the percent of students taking the SAT.

Income in this analysis appears to have an effect on test scores only when parental education is omitted. Adding parental education always causes the estimated effect of income on test scores to become very small, statistically insignificant and usually negative.

A similar statement characterizes the relationship between poverty and female-headed households. The percentage of children living in poverty never has a statistically significant influence on students' test scores when the analysis controls for the rate of female headship. In fact, the percentage of children living in poverty is highly

statistically significant only when both female headship and students' race variables are omitted; its measured significance becomes very marginal when either of these is added. Female headship, conversely, is a statistically significant predictor of test scores for all grades up to and including ninth, and for dropout rates.

Hence, the general finding is that money *per se* is not a critical ingredient in home and community environments for affecting schooling outcomes.

Two additional variables capture special forms of disadvantage experienced mainly by Hispanic students. These are (1) the percent of students from homes where English is a second language and (2) the percent from migrant farm worker families. In both cases, larger percentages tend to drive down average test scores, though the statistical significance of these effects varies across grade levels.

Variables representing the percent of students who are Hispanic and the percent who are black are essentially stand-ins for factors that are correlated with race but not otherwise represented in the estimated equations (e.g., peer culture; ethnic idiosyncrasies in grammar). The coefficient for "Students Percent Hispanic" is always statistically significant and negative and its magnitude does not change much across the grade levels.

Contrast this with "Students Percent Black," where the effect is statistically insignificant for first, third and fifth grades, marginally significant for seventh grade, and highly significant for ninth and eleventh grades. This means that other variables included in the analysis explain virtually all of the difference in test scores between black and white districts in the primary grades, but not in the later grades; the magnitude of the effect for ninth grade is triple that for seventh grade and five times that for third grade. We return to this curious pattern below.

A final set of variables measures otherwise unexplained place effects. For example, are children's test scores in cities higher or lower than in other types of places for reasons not captured by other variables in the analysis? The estimates answer this question separately for cities, suburbs, rural districts, towns, and non-metropolitan cities (growing and stable). The answer is generally no. In other words, forces that cause test scores to differ by type of place are captured well by other variables in the analysis. Only districts with high poverty rates along the

Mexican border have statistically significant effects that consistently distinguish them. And there, the effects are negative for grades three through seven and positive for grades nine and eleven.

This brief summary shows patterns that fit well with what standard theories and common sense might predict. Generally, teachers matter, as do various features of the home and the community.

Now, what do these findings suggest about why average standardized test scores are lower in districts where larger percentages of the students are African American or Mexican American?

Explaining Racial Patterns

Estimates in this section come from first examining each explanatory variable to estimate how the average value of that variable differs across districts with different student racial compositions. We then combine this information with estimates discussed above that gauge each variable's impact on test scores. Variables that (a) change more as racial composition changes and (b) have larger effects on test scores will be most important for explaining why average test scores are lower in districts with more black and Hispanic students.

Using this procedure we find five basic dimensions on which more heavily black districts have patterns that tend to cause their test scores to be lower than in more proportionately white districts. More heavily black districts: (1) have higher rates of poverty and female headship; (2) are slightly larger with larger class sizes; (3) have parents with fewer years of education; (4) have teachers who score lower on the TECAT; and (5) have a remaining unexplained deficit in student test scores after accounting for the other factors that are in our analysis. Variables not represented in this list have patterns that are neutral or positive for districts that have larger percentages of black students. For example, both "Teachers with 9+ Years of Experience" and "Teachers Percent with Masters Degrees" have positive effects on student scores and higher values in districts with more black students. Hence, neither is among the variables that cause scores to be lower in districts with more black students. (As seen below, the opposite is true for districts with more Hispanic students.)

Pie diagrams are a convenient way to show the relative importance of the five categories. Figures 1 and 2 consider why test scores are lower in districts that have larger percentages of black students and smaller percentages of white students (holding the

percentage Hispanic constant). The two figures show what percentage of the difference in test scores our estimates suggest can be attributed to each of the five categories.

The most striking feature of Figure 1 is that almost half of the black-white difference for fifth graders (47.5%) is attributable to differences in teacher quality as measured by the TECAT. This number falls to 39.5% for seventh grade and 26.4% in Figure 2 for ninth grade. However, the absolute effect of TECAT on student test scores that lies behind these numbers is almost constant. For each of the three grades, the difference between an all-black district and an all-white district, due only to the difference in teacher quality (TECAT), would be about one standard deviation in the inter-district distribution of average student scores -- 1.1 standard deviations for fifth graders and 0.92 standard deviations for ninth graders. It is mainly the *relative* importance of teaching that falls in the comparison of fifth with seventh and ninth grade scores.

The primary reason for this relative change is that the percentage of the black-white difference due to the still unexplained race effect balloons from 12.9% for fifth grade (12.9% here is not statistically distinguishable from zero), to a statistically significant 19.9% for seventh grade and an astounding 43.1% for ninth grade. Based on this effect alone, the average score for ninth graders in an all-black district would be 1.5 standard deviations behind that in an all-white district. Adding the TECAT effect pushes this to almost 2.5 standard deviations. (Tests for non-linearities in the equations used to estimate these relationships show that the effects are quite linear. Hence, while there are no literally all-black districts in Texas, these estimates are quite in line with the data.)

Figures 3 and 4 are for Mexican Americans. These diagrams have six categories rather than the five in the diagrams for blacks. The sixth represents teachers' experience and master's degrees. These effects are positive (though small) for blacks relative to whites and therefore are not shown in Figures 1 and 2. However, they are negative for Hispanics relative to whites and therefore belong in these diagrams that show why scores are lower in Hispanic districts. Also, the "poverty and female-headed" cell for Hispanics includes effects of English as a second language and migrant farm worker families.

Figures 3 and 4 show changes from the fifth through the ninth grades that are similar to those for blacks but not as dramatic. The main difference between black and Hispanic districts in the pattern of change between fifth and ninth grades is that Hispanics do not experience such explosive growth in the "still unexplained" racial differential. The "still unexplained" cell for Hispanic districts is always large but it grows only slightly. The poverty cell grows noticeably more, driven mostly by the growing disadvantage of English as a second language.

The relative importance of TECAT falls only slightly between Figures 3 and 4. This is because the absolute effect of TECAT is rather stable, and it is not being swamped by other categories that are exploding in importance as is the case for the "still unexplained" effect in black districts. (Specifically, hold all else constant and considering only the effect due to TECAT, the difference between an all-white and an all-Hispanic district would be 0.63 standard deviations in the inter-district distribution of average student scores for fifth grade, and 0.53 for the seventh and ninth grades. The analogous numbers for blacks are 1.10 and 0.92.)

Before leaving this section, the fifth to ninth grade jump in the "still unexplained" race effect for black students deserves an additional comment. Other work that this author and others are doing explores changes in black youth culture (particularly that of males) that occurs at the transition from childhood to adolescence -- roughly the fifth to ninth grade years. (See, e.g., Ferguson, 1990; Kunjufu, 1983) Boys begin to adopt what they consider to be manly attitudes and behaviors. Among some youth, this can include mockingly confrontational communication styles that teachers may find difficult to understand and manage. A self-fulfilling prophecy of poor academic performance may ensue wherein teachers and certain students give up on the hope for productive collaboration in learning.

Related to this, is the anti-achievement ethic with which early adolescents of all races flirt as they mount the obligatory challenge to adult authority. For black youth, the confrontation may be against more than simply adult authority. It may also reject white authority and "white values" as it becomes ever more clear that society refuses to view African Americans as social equals. Unfortunately, academic excellence is seen by some black youth (both girls and boys) as a peculiarly white aspiration. Aside from having peers call them "nerds,"

a risk for academically zealous youth of all races, youth who are African American face the additional allegation from peers that they are "acting white." These attitudes are currently hot issues among researchers seeking to understand black youth perspectives and behaviors. (See, e.g., Ferguson with Jackson, 1990; Fordham, 1988; Fordham and Ogbu, 1986; Kunjufu, 1983) If we could measure the force of these social pressures we might explain a significant share of the fifth to ninth grade growth in the "still unexplained" race effect for black students in Texas.

TECAT Scores in Districts with More Students of Color

Why are teachers' average TECAT scores lower in districts with more students of color? How much lower are they?

Consider two hypothetical districts. In the first, all students are black or white. In the second, all students are white or Hispanic. Imagine increasing by 10 (say from 20 to 30) the percentage of students who are black (in the first district) or Hispanic (in the second district). According to our estimates, this increase in representation predicts a drop of .45 standard deviations in the average TECAT score for the first district and .26 standard deviations for the second district. To understand intuitively what this means, consider ranking all of the districts in this analysis by their average scores on the TECAT. Using this ranking, lowering a district's average TECAT score by .45 standard deviations could move it, for example, from the 50th to the 29th percentile or from the 77th to the 50th percentile among districts. For the second district, the drop of .26 standard deviations could move it from the 50th to the 36th or from the 64th to the 50th percentile. Hence, the differences in average TECAT scores among those who teach children of different races is not trivial.

A disproportionate share of the explanation for this pattern is that black and Hispanic teachers have lower average scores and teach more often in black and Hispanic schools. However, this fact should not be seen or reported in isolation. The average scores of white teachers who teach in proportionately more black and Hispanic districts tend to be lower than the scores of white teachers in "whiter" districts. In fact, for all three races of teachers, adding students of color predicts a drop in the districts average TECAT. For example, an increase of 10 (as in the paragraph above) in the percent of a district's students who are black (versus white) typically brings a drop of .15 standard

WHY 5TH GRADE READING SCORES ARE LOWER
IN DISTRICTS WITH MORE BLACK STUDENTS

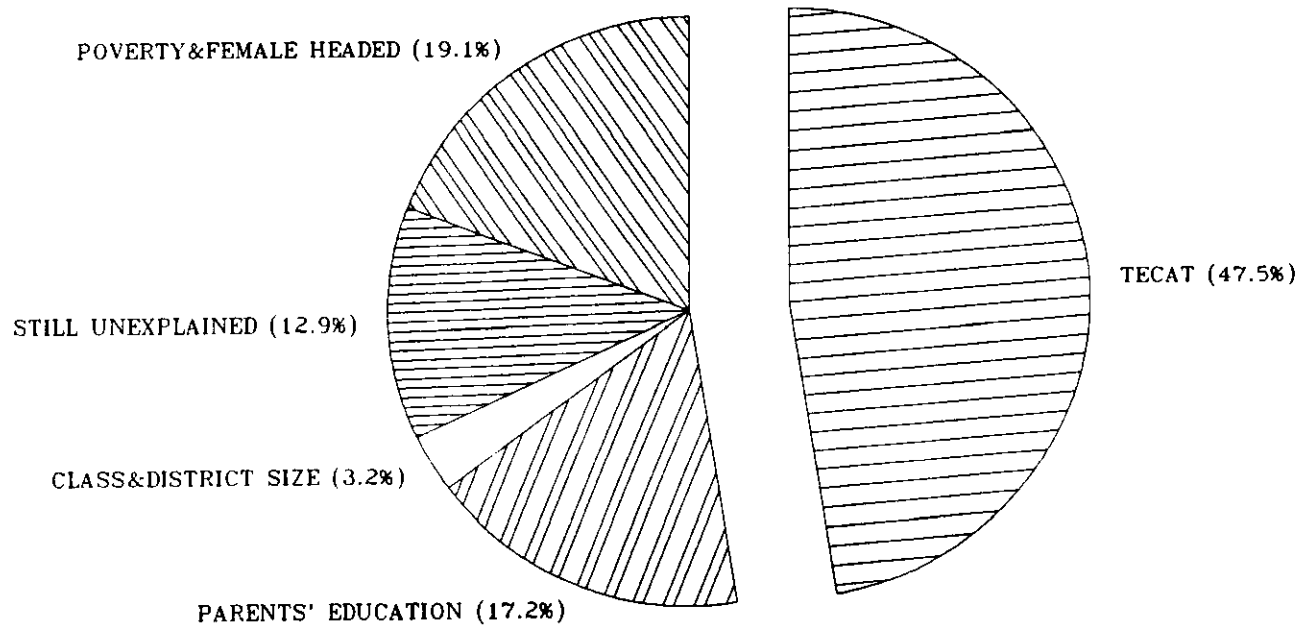


FIGURE 1

WHY 9TH GRADE READING SCORES ARE LOWER
IN DISTRICTS WITH MORE BLACK STUDENTS

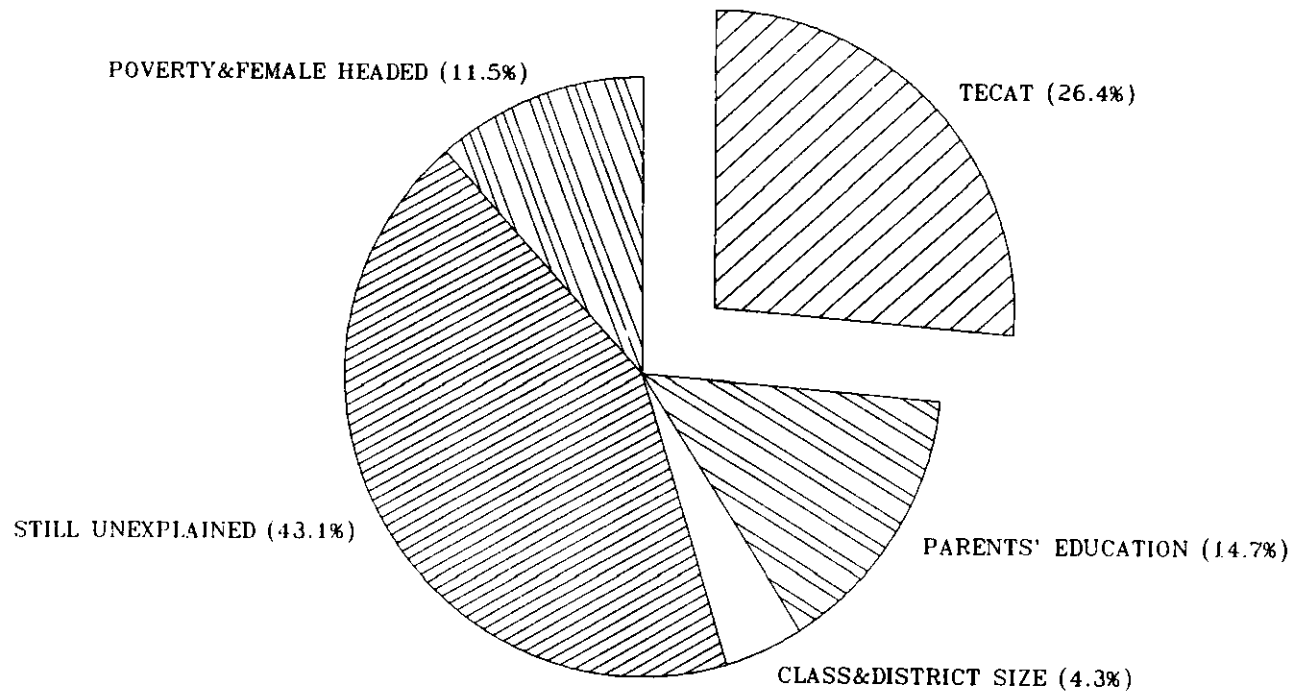


FIGURE 2

WHY 5TH GRADE READING SCORES ARE LOWER IN DISTRICTS WITH MORE HISPANIC STUDENTS

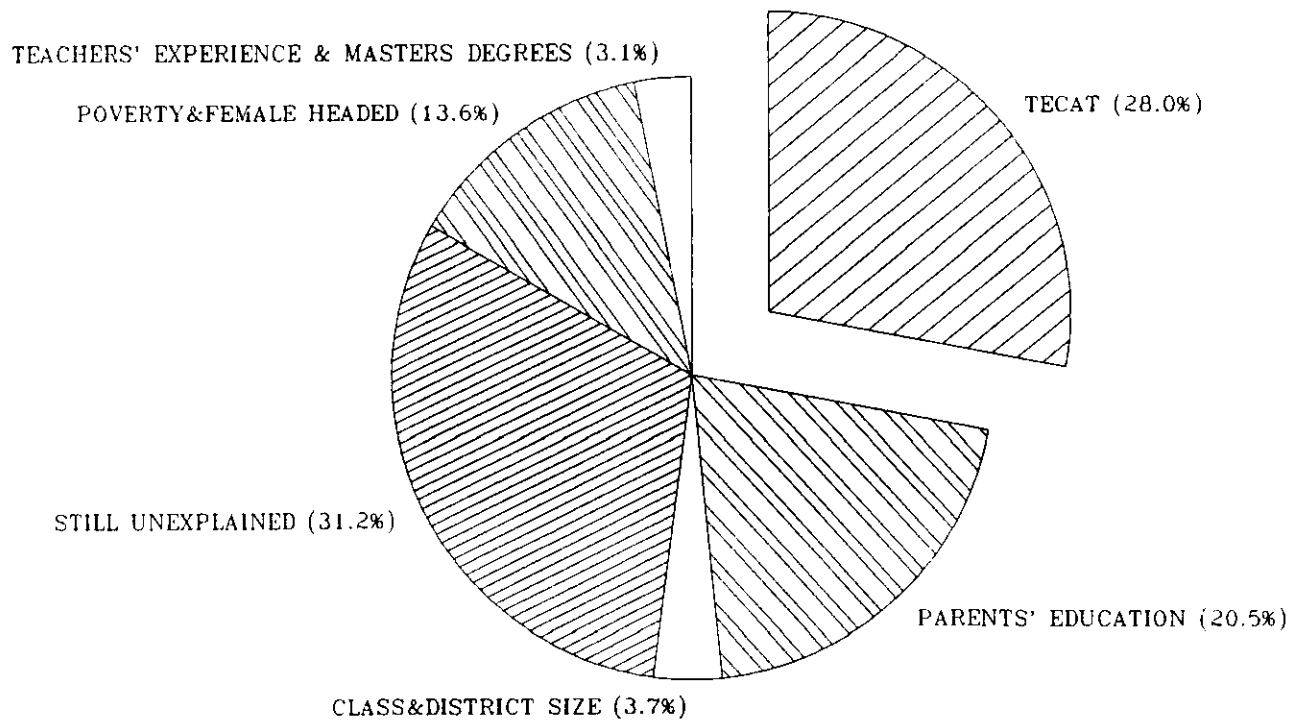


FIGURE 3

WHY 9TH GRADE READING SCORES ARE LOWER
IN DISTRICTS WITH MORE HISPANIC STUDENTS

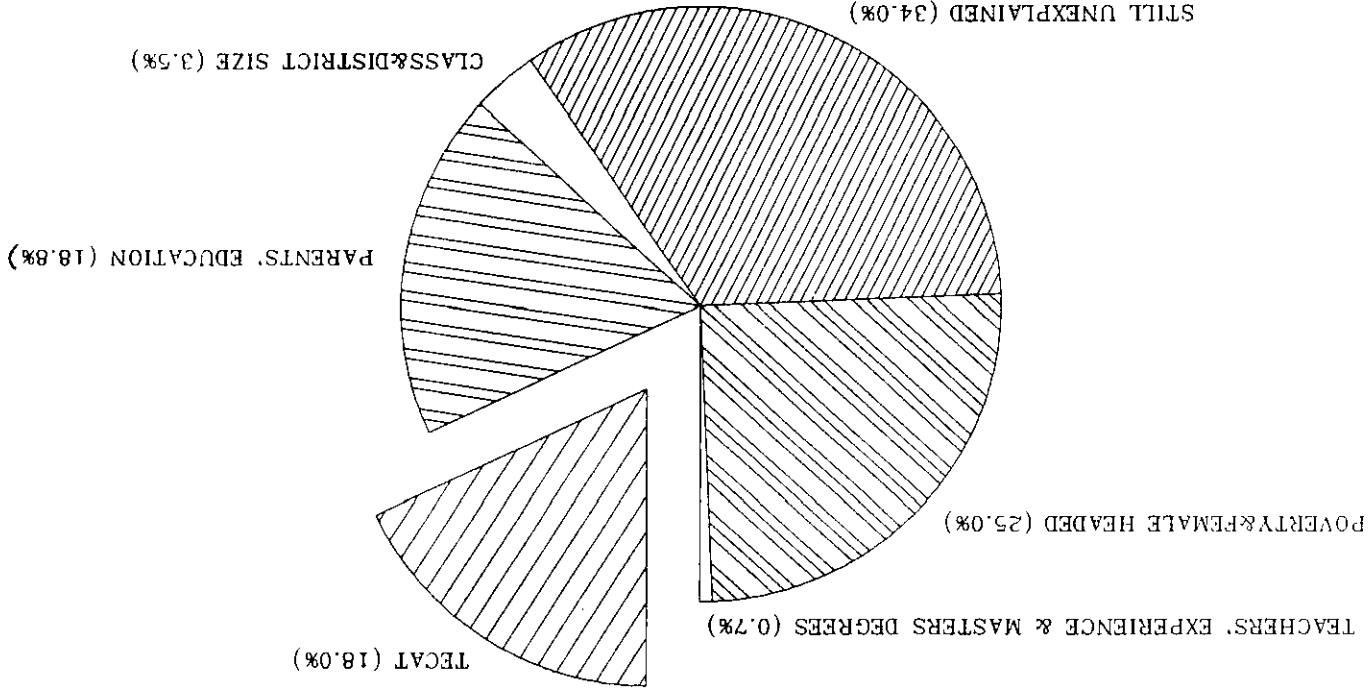


FIGURE 4

deviations in the average TECAT score for white teachers, .18 for black teachers and .27 for Hispanic teachers. Similarly, a 10 percent increase in Hispanic students (versus white) brings a drops of 0.08, 0.06, and 0.17 standard deviations respectively in white, black and Hispanic teachers' scores.

Thus, districts with more black and Hispanic students tend to have lower scores for two reasons. First, they have proportionately more teachers from groups (i.e., black and Hispanic teachers) whose scores are lower. Second, within each race of teachers, the average TECAT score is lower for those who teach in districts with more black and Hispanic students.

If salaries were systematically lower in districts with more black or Hispanic students, this could help to explain why, even for white teachers, average TECAT scores are lower in such districts. Parts of the analysis not emphasized in this paper show that, other things equal, districts that pay higher salaries tend to attract teachers who do better on the TECAT. The same analysis, however, shows that it is not generally true that salaries are systematically lower in districts with more black or Hispanic students. Hence, lower salaries are not the primary reason for the lower TECAT scores in districts with more students of color. (Of course, higher salaries could nevertheless be effect tools for attracting teachers with stronger verbal skills to teach in black and Hispanic school districts.)

To summarize, existing salary differentials are not the primary explanation for why teachers' scores are lower in districts with more black and Hispanic students. Instead, because salaries are quite similar, the TECAT differentials appear to be due to (a) systematic differences in the language skills of people who supply themselves to districts where larger numbers of students of color attend, and (b) differences across districts in the standards by which teachers are selected. The paper returns below to some thoughts concerning policy implications.

It moves along now to address the "So what?" question.

WHY CARE ABOUT TEST SCORES?

Many reasons exist to care about test scores. Here, we consider only one: test scores measure the speed and accuracy of reading and calculating skills that employers value. Hence, people with higher scores tend to have higher earnings. Ideally for the present

paper, we would want to examine the relationship of the student scores studied above to later earnings for the same students. Unfortunately, such data are not available. Data from other sources, however, provide strong evidence that test scores can be important predictors of earnings.

At least three recently published analyses (O'Neal, 1990; Berlin and Sum, 1988; Bishop, 1988) and a fourth currently underway by this author have investigated the relationship of test scores to earnings for young men. (Other than some discussion of young women in Berlin and Sum, this author is unaware of analogous studies for young women.) Each of these four uses the National Longitudinal Survey of Youth (NLSY). This is currently the best available data with which to test whether reading and math skills affect earnings. The NLSY follows a nationally representative sample of youth who were ages 14 through 21 in the first year of the survey, 1979. During July through October of 1980, 94 percent of the sample completed a battery of 10 tests known as the Armed Services Vocational Aptitude Battery.

Only in the past few years have men in the NLSY sample been old enough to permit testing of the hypothesis that people's test scores as adolescents might predict their earnings as adults. Given that data of this quality and completeness have not been available in the past, the number of good studies addressing the link between earnings and test scores is relatively small. (See Jencks et. al., 1972, for discussion of early studies that correlated the AFQT with earnings for military veterans.)

The four recent studies cited here use an index computed from scores on the four sub-tests that directly measure standard reading and math skills. The sub-tests are: word knowledge, paragraph comprehension, numerical operations, and coding speed. The index, called the Armed Forces Qualification Test (AFQT), sums the scores from the first three tests plus one-half of the score from the fourth. Two studies, that by Bishop and work in progress by the present author, discussed below, also use the separate sub-test scores. Bishop makes much of the fact that the math scores appear more important than the reading scores. However, because the sub-test scores are highly correlated with one another, this author remains skeptical that this distinction is reliable. In multivariate analyses that this author has conducted with all of the control variables listed below, any of the four sub-test scores entered without the other three contributes statistically significantly to explaining earnings for men in their mid-twenties.

The important point for the present paper is that each of these studies, using both simple correlations and multivariate statistical techniques, finds a strong relationship between the AFQT score and earnings. Bishop and the present author find that this relationship grows stronger as men get older. For example, Table 1 shows correlations between AFQT scores and weekly wages for men who work at least part year and are not enrolled in school. Just as Bishop has found, the relationship between test scores and earnings is weak during the first few years after high school. Nevertheless, the table shows that by age 23 the correlation is firmly established. Also, controlling for age, O'Neal finds evidence that the marginal payoff to higher scores grew during the 1980s. This is consistent with conventional wisdom that reading and math skills are becoming more highly valued by employers in the "knowledge based economy."

Measuring the link between test scores and earnings while holding other important factors constant requires multivariate statistical techniques. All four of the studies cited have conducted such analyses. O'Neal and the present author have focused on men in their mid-twenties. O'Neal examines hourly wages for young black and white men ages 22 through 29 in 1987. All of the men in her analysis work full time. She finds that the hourly wage for blacks is 82.9 percent of the hourly rate for whites. Controlling for years of schooling takes this percentage up to 87.7 percent, and then further controlling for AFQT scores takes it to 95.5 percent. The jump from 87.7 to 95.5 is 46 percent of the difference between 82.9 (the actual ratio of black to white wages) and 100 (what the ratio would be if equality prevailed).

It would be premature, however, to conclude that the AFQT score explains 46 percent of the difference between black and white wages. For example, at least part of this 46 percent might be capturing the effects of background factors that are correlated with the AFQT score but are not controlled in the analysis -- the AFQT score might be measuring family background effects on earnings instead of reading and math-skill effects. Conversely, the actual effect could be more than 46 percent. The 46 percent was the *additional* earnings that AFQT explained after years of schooling were already controlled. But schooling itself has a positive effect on the AFQT. Hence, if the AFQT were added first (i.e., before schooling) its apparent effect would be larger.

TABLE 1

SIMPLE CORRELATIONS OF TEST SCORES WITH AVERAGE WEEKLY EARNINGS
FOR OUT-OF-SCHOOL MEN WITH EARNINGS, AGES 20 THROUGH 27 IN 1985
(Races Pooled)*

AGE:	20	21	22	23	24	25	26	27
AFQT (INDEX)	.10	.21	.28	.41	.44	.41	.40	.45
ARITHMETIC REASONING	.05	.17	.22	.38	.39	.38	.37	.45
WORD KNOWLEDGE	.09	.19	.24	.36	.40	.33	.33	.37
PARAGRAPH COMPREHENSION	.06	.13	.23	.35	.34	.31	.35	.35
NUMERICAL OPERATIONS	.15	.20	.29	.36	.43	.42	.41	.41

* Tabulations by author using National Longitudinal Survey of Youth.

The present author has conducted a separate analysis of the NLSY that reduces these sources of ambiguity. This analysis examines the relationship between weekly earnings and test scores controlling simultaneously (rather than adding variables sequentially) for a host of family background and life-style variables. The data set, on hand from another study that the author is conducting, was not initially assembled to study how test scores influence earnings nor to be comparable to O'Neal's data. It does not include hourly wages for full time workers (O'Neal's dependent variable). However, the data do include weekly earnings, come from the same source as O'Neal's (the NLSY) and cover males for the years 1984 through 1986. The estimates summarized below explain weekly earnings for men ages 23 through 28 who work at least 26 weeks per year, but not necessarily full time.

Beside AFQT scores and education, this analysis controls for a number of other personal background factors that we hypothesize to affect weekly earnings through their impacts on opportunity, life styles, attitudes and productivity. Indices such as work experience or occupation, whose relationship to earnings O'Neal examines in parts of her paper not discussed here, are themselves likely to be functions of the background and context variables that the present analysis includes.

Though discussing how each of these variables affects earnings is beyond the scope of the present paper, we list them in order to provide some context for results that we report below concerning the AFQT. Specifically, the equation estimating the effect of reading and math skills (the AFQT) on weekly earnings includes as explanatory variables in addition to the AFQT all of the variables listed below. The variables are:

Education: years of schooling; high school graduate (no=0, yes=1); increment for years beyond high school; college graduate (0,1); educational resources in the home at age 14.

Family Background: lived with working adult male when age 14 (0,1); lived with working adult female when age 14 (0,1); father's years of schooling; mother's years of schooling; lived with two adults (including father) at age 14 (0,1); lived with two adults (but not father) at age 14 (0,1); currently enrolled in school (0,1).

Respondent's Age.

Marital and Fatherhood Status: number of children; married (0,1); separated (0,1); divorced (0,1); child support obligation (0,1).

The Local Unemployment Rate.

Life Style And Attitudes: age when first tried cocaine; self esteem (measured in 1980); sense of efficacy (measured in 1980); resistance to using food stamps (measured in 1979); age when first had sex; frequency of heavy drinking; illegal income (1980).

Results

The estimated equations include all of the 24 variables listed immediately above. Even when controlling for all of these influences, the AFQT score has a large and highly statistically significant effect on weekly earnings for men in their mid-twenties. Estimates are from separate equations for each group: blacks, Hispanics, and whites. Other things equal, a change of 10 points on the AFQT causes weekly earnings to rise by 6.08 percent for whites (t-ratio=7.98), 7.57 percent for Hispanics (t-ratio=6.14), and 7.70 percent for blacks (t-ratio=5.87). The average AFQT scores for blacks, Hispanics, and whites in the analysis respectively are 50, 59 and 76.

To summarize the effect of AFQT scores on earnings differences among the races, we consider men ages 23 through 27 in 1985 who worked at least 26 weeks per year. The average Black man in this group earns \$275 per week: 77 percent of what whites earn. For Hispanic males the average is \$326, which is 93 percent of the \$356 per week that whites earn.

Using the estimated coefficients for AFQT, one can calculate how much higher the average earnings of black and Hispanic males in the analysis would be if their AFQT scores were equal to those for whites. For blacks, closing the AFQT gap closes 70 percent of the weekly earnings gap: black men's weekly earnings would be 93 percent (\$331) of white men's weekly earnings instead of 77 percent if black men scored as high as whites on the AFQT. For Hispanics in the analysis, closing the AFQT gap would push weekly earnings to \$372. This is 104 percent of average earnings for whites in the sample.

To conclude, the analysis summarized immediately above as well as results from the Berlin and Sum, Bishop, and O'Neal studies find strong relationships between earnings and AFQT scores in the NLSY. The basic similarity between most multiple choice reading and math exams leads this author to suspect that the results would be quite similar if some exam other than the AFQT (e.g., the exam that 11th graders in Texas take) were used. This paper's analysis above of education in Texas suggests some of the factors that help to determine such scores. We turn now to briefly consider some of the policy implications of the Texas results.

POLICY IMPLICATIONS

Teacher Salaries

Discussion earlier in the paper reported that all of the measures in the analysis that concern teachers -- teachers' test scores, class size, teacher experience, and master's degrees -- help to predict student test scores. It is not difficult to figure out that smaller classes, more experienced teachers, and more teachers with advanced degrees requires paying more salaries and higher salaries. Teachers with stronger language skills cost more as well: our results show that salaries are very important in Texas for rationing teacher quality across school districts. Hence, an implication of these results is that schools may require additional funds to attract and retain enough skilled, experienced and well-trained teachers to provide children with higher quality instruction.

It would be wrong, however, to interpret these results as justification for across-the-board pay increases to primary and secondary school teachers. Instead, higher salaries should be used carefully as (a) inducements for existing teachers to upgrade their skills, (b) incentives for the best teachers to remain in the classroom, and (c) means of attracting stronger students, of all races, to adopt teaching as a career. Higher salaries used in these ways are likely to improve student achievement rather than simply teachers' incomes.

Certification Standards

This study examines only one certification test, the TECAT. Our findings are not proof that all standardized multiple choice teacher certification examinations measure potential teaching effectiveness.

However, the rudimentary language skills that TECAT measures appear to matter and to vary enough among teachers that the effects on student skills show up strongly in our statistical estimates.

Further, patterns in these results show no indication that there is a point of diminishing returns. Consider the following two patterns, not discussed earlier. First, the average TECAT score totally dominates the passing rate in predicting student test scores -- what matters is not how many teachers passed, but how well on average they scored. The passing rate has strong predictive power only when it enters as a proxy for the average score: its measured effect disappears when the TECAT average is added to the equation being estimated. Second, the relationship between teacher scores and student scores appears to show increasing returns at the top end.

More specifically, the effect on student scores of a small change in the average teacher score is roughly constant when the average teacher score is less than one standard deviation above the inter-district mean. However, past this point, the magnitude of the coefficient roughly triples, suggesting a much larger effect of improving teacher scores on student scores when teacher scores are already high. While too ambiguous to be the basis of policy decisions, this pattern is highly suggestive. It implies that current standards may be substantially below the point where raising minimum standards would not make a positive difference for student achievement.

The idea of raising standards on certification exams is troubling for those of us who worry about racial diversity among teachers. Hispanic and especially black teachers had lower average scores on the TECAT in March of 1986 than did white teachers. Most people would agree that if a tradeoff exists between the interests of children and teachers, children must win. However, the issue is clouded because the language skills measured by the TECAT are not the only things about teachers that matter. Children clearly benefit, in ways measured here (e.g., SAT taking rates) and in other ways, when exposed to teachers from their own racial and ethnic groups. School districts need ways to upgrade teaching quality while maintaining and increasing racial balance. Here, alternative certification is an approach that holds promise.

Alternative Certification

As suggested above, the challenge is to attract academically stronger teachers of all races. Alternative certification programs are a way to give a racially diverse and academically talented pool of potential teachers access to the classroom. (See Stein, 1990; Feistritzer, 1990.) They give candidates who have college degrees in fields other than education opportunities to become teachers. Candidates typically teach, take education courses and get on-the-job training in route to becoming formally certified to teach. Some states have very poorly run programs that deserve to be abolished. Others, however, take seriously this opportunity to draw on a larger and possibly stronger pool of teaching candidates. California, New Jersey and Texas are states in the lead.

California has abolished education as an undergraduate major and is therefore atypical. The standard route into teaching in California is now a Masters Degree in education. The state's alternative certification program allows candidates who do not have master's degrees to take courses and train while they also teach and receive a salary. Teachers coming through California's alternative certification pipeline are well qualified and more racially diverse than those who come through the regular route. Surveys suggest that one reason for this pattern is that alternative certification is a more practical route in California for people (often racial minorities) who cannot afford to postpone earning until after graduate school.

Texas and New Jersey are more typical of other states. Both rely primarily on recruits whose undergraduate major is education. Each has evidence that alternative certification attracts a larger percentage of minorities than the normal pipeline, and that the minorities who come the alternative route perform better on certification exams. (New Jersey State Department of Education, 1990; Texas Education Agency, 1990) The programs are relatively small and no guarantee exists that current patterns would persist if the programs were scaled up. Nevertheless, experience so far is encouraging. It provides hope that schools can raise skill requirements and thereby the classroom effectiveness of new teachers while maintaining and expanding racial and ethnic diversity.

We must acknowledge, however, that we may be wrong about the superiority of alternative certification. The statistical estimates in this paper do not distinguish certification modes and therefore do not

bear directly on whether alternative certification per se is superior. For example, undergraduate education programs may teach important skills that teachers in alternative certification programs are likely to miss. Though this author suspects otherwise, it is conceivable that standard undergraduate education programs provide skills that are more important than any improvement in language or other skills that might come from drawing more on alternative certification candidates. Resolving these questions will require studies comparing the classroom effectiveness of teachers certified by the various routes.

CONCLUSION

The evidence in this paper is both discouraging and hopeful. It is discouraging because it identifies conditions that will be terribly difficult to confront and, once confronted, to ameliorate. The paper is also hopeful, however, because it concludes that improving student performance and narrowing racial gaps are not beyond the reach of public policy. Reducing to 18 the number of students per teacher, retaining teachers with five or more years of experience, supporting the acquisition of master's degrees, helping existing teachers to upgrade their language skills, and implementing measures to attract and retain teachers with strong language skills are all strategies that evidence here suggests can improve academic performance in primary and secondary schools. Moreover, our findings from the NLSY show that improvements in academic performance can have positive consequences for productivity and earnings. If society can confront the issues that this paper raises and master the challenges that they present the payoffs will be substantial.

APPENDIX

DESCRIPTIVE STATISTICS

<u>VARIABLE NAME</u>	<u>MEAN</u>	<u>S.D.</u>	<u>MIN</u>	<u>MAX</u>
STUDENTS' READING SCORES:				
FIRST GRADE	0.00	1.00	-9.09	4.79
THIRD GRADE	0.00	1.00	-5.34	4.05
FIFTH GRADE	0.00	1.00	-5.19	4.06
SEVENTH GRADE	0.00	1.00	-4.32	3.94
NINTH GRADE	0.00	1.00	-3.98	4.59
ELEVENTH GRADE	0.00	1.00	-3.77	3.81

TEACHERS' AVERAGE TECAT SCORE	0.00	1.00	-6.09	2.57
TEACHERS PERCENT 5+ YEARS EXPERIENCE	70.01	10.41	31.25	100.00
TEACHERS PERCENT MASTER'S DEGREES	33.11	10.25	0.00	84.93
STUDENTS PER TEACHER	17.16	1.92	6.60	22.70
STUDENTS PER PRIMARY SCHOOL (Hundreds)	5.61	1.85	.06	11.66
STUDENTS PER HIGH SCHOOL (Hundreds)	14.48	7.44	.22	34.97
STUDENTS PER DISTRICT (Thousands)	18.31	19.11	.07	66.46
ADULTS PERCENT HS GRAD & NO COLLEGE	29.17	5.74	5.90	45.90
ADULTS PERCENT WITH SOME COLLEGE	32.64	13.15	6.10	77.00
STUDENTS PERCENT POVERTY	14.57	9.92	0.00	90.00

DESCRIPTIVE STATISTICS (Continued)

<u>VARIABLE NAME</u>	<u>MEAN</u>	<u>S.D.</u>	<u>MIN</u>	<u>MAX</u>
PERCENT FROM FEMALE HEADED HOUSEHOLDS	13.56	4.99	1.30	35.20
STUDENTS PERCENT ENGLISH 2ND LANGUAGE	3.76	5.50	0.00	36.70
STUDENTS PERCENT MIGRANT	1.45	3.83	0.00	27.99
STUDENTS PERCENT HISPANIC	30.67	30.32	0.00	100.00
STUDENTS PERCENT BLACK	10.18	11.79	0.00	81.40
STUDENTS PERCENT IN PUBLIC SCHOOLS	95.39	3.79	56.59	100.00

WEIGHTED LEAST SQUARES REGRESSION ESTIMATES
 OF AVERAGE READING SCORES ON THE TEAMS EXAM FOR SCHOOL DISTRICTS IN TEXAS
 (Dependent variable standardized to have mean=0 and Standard Deviation=1.)
 1985-86 SCHOOL YEAR

(t-ratios in parentheses)

DEPENDENT VARIABLE:	DISTRICT'S AVERAGE SCORE ON TEAMS READING EXAM					
	FIRST GRADE	THIRD GRADE	FIFTH GRADE	SEVENTH GRADE	NINTH GRADE	ELEVENTH GRADE
TEACHERS' AVERAGE TECAT SCORE	-.024 (-0.38)	.248 (6.03)	.245 (6.10)	.206 (5.82)	.204 (5.60)	.233 (6.80)
TEACHERS' AVERAGE TECAT SCORE >1	1.94 (3.41)	.646 (1.76)	.889 (2.48)	.691 (2.18)	.553 (1.67)	.678 (2.04)
TEACHERS PERCENT 5+ YEARS EXPERIENCE	.013 (2.37)	.016 (4.76)	.014 (4.22)	.010 (3.43)	.013 (4.37)	.013 (4.33)
TEACHERS PERCENT MASTER'S DEGREES	.013 (3.50)	.006 (2.57)	.004 (1.82)	.005 (2.46)	-.002 (-1.05)	-.003 (-1.30)
STUDENTS PER TEACHER	-.005 (-0.17)	.049 (2.49)	.036 (1.91)	.012 (0.71)	.018 (1.06)	-.023 (-1.37)
STUDENTS PER TEACHER >18	-.152 (-2.20)	-.196 (-4.39)	-.180 (-4.14)	-.119 (-3.01)	-.033 (-0.83)	.044 (1.19)
STUDENTS PER PRIMARY SCHOOL	-.077 (-3.15)	-.050 (-3.16)	-.009 (-0.56)	-.007 (-0.51)	.023 (1.63)	-.002 (-0.13)
STUDENTS PER HIGH SCHOOL	- -	- -	- -	- -	-.003 (-0.85)	-.007 (-1.97)
STUDENTS PER DISTRICT	.002 (0.62)	-.006 (-2.80)	-.002 (-1.23)	-.002 (-1.11)	-.005 (-2.96)	.004 (2.26)
ADULTS PERCENT HS GRAD & NO COLLEGE	-.000 (-0.04)	.018 (3.30)	.010 (2.01)	.010 (2.20)	.005 (1.15)	-.001 (-0.19)
ADULTS PERCENT WITH SOME COLLEGE	.018 (3.83)	.021 (7.02)	.018 (6.13)	.019 (7.36)	.026 (9.46)	.032 (12.38)
STUDENTS PERCENT POVERTY	-.008 (-0.78)	.003 (0.47)	-.005 (-0.82)	-.001 (-0.24)	-.003 (-0.55)	-.008 (-1.51)
PERCENT FROM FEMALE HEADED HOUSEHOLDS	-.047 (-3.87)	-.019 (-2.41)	-.013 (-1.69)	-.017 (-2.46)	-.013 (-1.89)	-.001 (-0.20)

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DEPENDENT VARIABLE:	DISTRICT'S AVERAGE SCORE ON TEAMS READING EXAM					
	FIRST GRADE	THIRD GRADE	FIFTH GRADE	SEVENTH GRADE	NINTH GRADE	ELEVENTH GRADE
STUDENTS PERCENT ENGLISH 2ND LANG	.004 (0.21)	-.009 (-0.77)	.012 (1.06)	-.015 (-1.45)	-.025 (-2.30)	-.013 (-1.32)
STUDENTS PERCENT HISPANIC	-.006 (-2.09)	-.007 (-4.02)	-.007 (-3.89)	-.009 (-5.38)	-.010 (-5.77)	-.009 (-5.88)
STUDENTS PERCENT BLACK	-.000 (-0.05)	-.004 (-1.28)	-.003 (-0.93)	-.005 (-1.83)	-.015 (-5.70)	-.017 (-6.67)
STUDENTS PERCENT MIGRANT	.024 (1.86)	-.006 (-0.67)	-.028 (-3.44)	-.006 (-0.82)	-.018 (-2.34)	-.007 (-1.04)
STUDENTS PERCENT IN PUBLIC SCHOOLS	.022 (2.04)	.017 (2.51)	.015 (2.21)	.016 (2.80)	.006 (0.97)	.016 (2.72)
BORDER POVERTY	.110 (0.59)	-.321 (-2.65)	-.393 (-3.35)	-.199 (-1.93)	.203 (1.91)	.167 (1.67)
CITY (METRO)	.192 (1.40)	.155 (1.74)	.129 (1.49)	-.058 (-0.76)	.020 (0.25)	-.022 (-0.29)
SUBURB	.171 (1.40)	.097 (1.22)	.293 (3.82)	.033 (0.49)	-.082 (-1.14)	-.055 (-0.81)
RURAL	-.169 (-1.04)	.112 (1.07)	.234 (2.30)	.127 (1.41)	.295 (3.15)	.017 (0.19)
TOWN	.145 (1.12)	.132 (1.58)	.003 (0.04)	-.080 (-1.12)	-.129 (-1.72)	-.027 (-0.38)
NON-METRO GROWING CITY	-.003 (-0.02)	.001 (0.01)	.083 (0.86)	.002 (0.03)	.043 (0.50)	-.008 (-0.10)
CONSTANT	-2.25 (-1.78)	-3.49 (-4.28)	-3.19 (-4.02)	-2.45 (-3.50)	-1.58 (-2.18)	-2.01 (-2.94)
GOODNESS OF FIT ¹	14	44	46	52	52	55
GOODNESS OF FIT ²	0.55	0.84	0.85	0.88	0.88	0.89
NUMBER OF DISTRICTS	889	888	885	884	856	856

¹ The regression equations reported here are weighted by the square root of the number of students in the district in order to take care of heteroskedasticity. The standard R^2 statistic is biased upward in weighted regressions. Hence, we use different measures of fit. This measure is one hundred times the quantity one minus the ratio of the standard error of the residual to the standard error of the dependent variable. Hence it measures the percent of variation explained.

² This measure is the simple correlation (weighted by district size) of the predicted with the actual value of the dependent variable.

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THE EDUCATIONAL EXPERIENCES OF BLACK MALES: THE EARLY YEARS

Antoine M. Garibaldi
Xavier University of Louisiana

INTRODUCTION

While our nation's cities and communities are experiencing numerous problems such as high unemployment, low educational achievement, increasing levels of crime and rampant drug cultures, one segment of the population in this country is being disproportionately affected by these negative circumstances. That group of individuals is young black men. Their current condition has been poignantly portrayed in the media and their future is being characterized by pejorative modifiers such as "disappearing," "endangered," and "vanishing." But no matter how appalling and gloomy the situation is and may seem, there are viable solutions which can bring about the gradual resolution of this overwhelming problem. The remedies though must span the entire developmental, educational and social continuum of the lives of these young men and will require the assistance of parents, teachers, college students and other significant individuals and groups in the communities where we live.

THE NATIONAL PERSPECTIVE

Most persons will agree that there is a direct correlation between the educational achievement and attainment of young black men and their future vocational success and earning potential. And it is for that reason that I contend that *education is the primary solution to improving the self concept, self esteem, academic ability and future economic opportunities of these young men.* There is no one magic solution to the many adverse conditions which these young men are experiencing because the symptoms of the problem are too widespread. The following national data, for example, very clearly demonstrate that we have indeed reached a crisis of epidemic proportions.

- The median age of black men, according to the most available (1986) census statistics, is the lowest among all segments of the population at 25.5 years -- almost three years younger than black females (28.2), six years younger than white males (31.2), eight years younger than white females (33.9) and six years younger than the national median of 31.8 years of age.
- In 1984, 20 percent of black men between the ages of 20 and 24 reported no income, compared to 8 percent in 1973; and in 1986, almost one-fourth (24.1 percent) of all 20 to 24 year old black males were unemployed compared to 10.7 nationally for this age group.
- Black males represented 43 percent of the federal and state prisoner population in the United States in 1985 (216,344 of 494,678) even though they represented only 6 percent of the population. And as The Sentencing Project in Washington, DC reported in February 1990, 609,000 black males between the ages of 20 and 29 are today either in jail, on probation or on parole -- 23 percent of the entire 20 to 29 year old black male population!
- Black males are also more often the victims of homicides in this country, 50 percent higher than for white males, and they represented 33 percent, or 6616, of all homicides in this country in 1985 -- the fifth leading cause of death for black males. (In 1989 in New Orleans, more than 70 percent of the 250 homicides were drug-related and a comparable percentage of the victims were black males -- a pattern that is very similar in most urban areas.) Sixty three percent of Washington, DC's homicide victims in 1988 were black males between the ages of 15 and 34 (235 of 372); more than half of Detroit's (352/686) and Baltimore's (116/226) homicide

victims were black males; and the pattern was similar in New York (534/1672 in 1987) and Los Angeles (233/811) where almost one-third of homicide victims were black males.

For many individuals, very little of the preceding data is surprising. But the morbid statistics do tell us directly and by inference that unless something is done now, the future survival of the black male and consequently the stability and viability of the black family will be threatened even more in the near future. Young black men without a job or without sufficient income can hardly support themselves, let alone a family. And those who have not obtained a high school diploma will find that their chances of obtaining a job without an education are diminished considerably. (Forty three percent of the 20- to 24-year old black men who reported no income in 1984, for example, were high school dropouts.) Therefore, improving the educational achievement and attainment of these young men must be at the core of any remedies we propose.

BLACK MALES' STATUS IN THE EDUCATIONAL ENVIRONMENT

Educational indicators all across this country show that the majority of young black men are not faring well in most of the nation's 16,000 urban, rural and suburban school districts. Their educational deficiencies are well documented nationally but the problems are so pronounced in some communities that sometimes it is difficult to be optimistic that many of the adverse trends can be reversed. This author, for example, was asked by the New Orleans school district in 1987 to direct a volunteer study on the educational status of black males in the local system. The study arose out of concern as well as some anecdotal evidence by school board members that black males were rarely represented on school honor rolls and in academic extracurricular activities.

After assembling data from the previous academic year, it quickly became clear to the author and his volunteer committee of civic leaders and educators that black males were disproportionately represented in almost all categories of academic failure. *While black males represented 43 percent of New Orleans' public school population in 1986-87, they accounted for 58 percent of the non-promotions, 65 percent of the suspensions, 80 percent of the expulsions and 45 percent of the dropouts.* (It is important to mention also that the situation for black females was also bleak as they represented 34 percent of the non-promotions, 29 percent of the suspensions, 20 percent of the expulsions and 41 percent of the dropouts in the 1986-87 school year.)

When the data were more closely analyzed, it became obvious that black boys began to experience educational problems in their early school years. Almost sixty percent of the first-graders who were not promoted in 1986-87 (817 out of a total of 1470) were young black males. The proportion of black males who were not promoted during the middle school years of sixth, seventh and eighth grades was unfortunately just as bad, as they also represented close to sixty percent of non-promotions in those grades (1664 out of a total of 2774 students).

In the case of suspensions, another negative and dysfunctional indicator which contributes to and is a result of academic failure, these young men accounted for 62 percent of all suspensions between grades six through ten (5445 out of a total of 8810 for the five grade levels) and dropout rates increased rapidly beginning at grade nine. The latter data and grade levels are emphasized because both the early and middle grades are places where the academic and behavioral problems of black males begin to occur, where they are most pronounced and where remedies are urgently needed.

With respect to academic achievement, we also observed that these youth were performing significantly below the national mean on standardized tests. For example, approximately one-third of black male and female students scored in the lowest quartile on the reading and mathematics sections of the California Test of Basic Skills. But even though only 13 and 18 percent of black males scored in the highest quartile on the reading and mathematics sections, respectively, and only 16 and 20 percent of black females scored in the highest quartile on reading and mathematics, respectively, it is important to highlight the

fact that approximately one-third of the black males in the sample scored at or above the mean on both of these sections of the test (32.4 percent of them on the reading component and 37.9 percent on the mathematics section). The latter positive data thus should not only make us more optimistic but also should encourage us to implement more successful intervention strategies that can increase the academic performance and expectations of a larger group of these youth.

New Orleans is not an isolated example when one reviews the dismal performance and low retention rates of black male students. Most of these students, as we verified, began to show signs of academic failure as early as the third and fourth grades and these regressions in educational performance inevitably led to many young men dropping out or being suspended for behavioral problems as early as the seventh grade. Thus, the pool of those who eventually entered senior high school was very small and the proportion of those who actually graduated from high school was reduced considerably.

The devastating effects of high dropout rates and low academic performance in most of our metropolitan school districts and urban areas have also had a noticeable impact on the numbers of black males who have gone to college over the last ten years. Analyses of data between 1976 and 1986 show that black male enrollment has declined by seven percent over that ten year period and there have been an annual average of 194,000 more black females than males attending college since 1976 (see chart). Black males accounted for 4.3 percent of college enrollment in 1976 but only 3.5 percent in 1986, even though high school graduation rates for blacks increased by almost 10 percent. Moreover, the figure of more than one million black students in college is skewed further by the fact that 43 percent of black males and females are in two-year and community colleges where the rate of transfer to a college or university is barely 10 percent.

To amplify the previous discussion, the following chart demonstrates how the gap between the college enrollment of black males and black females has been widening since 1976. The data come from the biennial surveys of post-secondary education which are compiled by the U.S. Department of Education's National Center for Education Statistics.

**DISPARITY OF BLACK FEMALES AND MALES IN COLLEGE
(IN THOUSANDS)**

	FEMALES	MALES	DIFFERENCE
1976	563	470	(-96)
1978	601	453	(-148)
1980	643	464	(-179)
1982	644	458	(-186)
1984	639	437	(-202)
1986	646	436	(-210)
1988	687	443	(-244)

Overall, black women represent 60 percent of all black students in college; they account for 60 percent of all bachelor's degrees awarded to black students (approximately 34,000 of the 56,554 undergraduate degrees received by blacks in 1987); and black women received 63 percent of the 13,867 master's degrees and 58 percent of the 912 doctorates awarded to black students in 1987. Moreover, while the number of blacks receiving bachelor's degrees between 1976 and 1987 declined by 4.3 percent overall, *12.2 percent fewer black males earned undergraduate degrees during that twelve year period* (Wilson and Carter, 1989).

IDENTIFYING REMEDIES AND PRESCRIPTIONS

The previous data clearly show that much needs to be done in order to increase black males' participation, matriculation and their academic performance throughout the entire education continuum. A variety of solutions has been offered as this national discussion has proceeded (e.g., more male teachers in schools as well as male role models, separate educational facilities for males, the increased role of parents, etc.) but no single solution can effectively eradicate this widespread problem. Our analyses of the academic achievement and school progression of a large segment of New Orleans' black male students (Garibaldi, 1988) emphasized to us that *the education problems of these young men begin early, are multifaceted and require the collective action of parents, teachers, and the entire community to ameliorate this situation.*

Even though the challenge appears to be overwhelming, realistic and viable solutions are available to increase the numbers of black males who are indeed succeeding in schools, attending and graduating from college and obtaining meaningful jobs, despite the fact that they are not in the significant numbers that we would expect given their representation in the 18 to 24 year old age cohort. But the remedies must be systematic rather than narrowly focused and include black male students, teachers, parents and the community at large. For that reason, I continue to offer a few fundamental solutions which I have advanced before. They are by no means extensive but they do address some of the primary issues related to the early developmental, social, and educational needs of black males.

These personal recommendations include the following: (1) we must raise the academic expectations and achievement of black male students; (2) we must bridge the gap between the perceptions of teachers and the public about black male students' abilities and aspirations; and (3) we must involve parents and the community-at-large in the motivation of these youth.

Raising the Academic Expectations and Achievement of Black Male Students

In order for more black male students to achieve in school, they must first and foremost be challenged and taught to believe that they can succeed, regardless of their socioeconomic backgrounds. These expectations and aspirations must be nurtured and reinforced early in their lives by parents, by teachers and counselors, by the black community and by the larger society as well. Even more, black male students' success in school must be acknowledged, promoted and rewarded in schools, in their homes and in their local communities. Simultaneously though we must bring to a halt the negative peer pressure and bantering encountered by black males who are doing well in school. Even though the teasing may seem playful, the psychological consequences of intimidation, ostracism and ridicule are much more serious because they discourage successful black boys from working harder for the mere purpose of being accepted by the peer group.

These many forms of intimidation are affecting young black men of *all* socioeconomic backgrounds and there is ample evidence to indicate that low college going rates result from this peer pressure and black males' lower academic expectations. In 1988 only 23 and 28.1 percent of low and middle income black males between the ages of 18 and 24 were enrolled in college compared to highs of 37.2 and 53.2 percent for those two income groups, respectively, in 1976 (Wilson and Carter, 1989). We must not tolerate this behavior in our communities if we want more of our young men to use rather than waste the academic talents they possess.

Despite the fact that the media portray few successful black males in roles other than athletics or entertainment, many young black men in other fields are succeeding and pursuing post-secondary opportunities. However, there are some individuals who have been swayed so much by the negative press and stereotypes that they have given up on these young persons' abilities and have decided that they have very few vocational interests. For that reason, it is the responsibility of the masses who believe that there is hope to begin to instill the value of education and to reinforce its importance in long-term financial stability.

To be more specific, we must teach these young men about the more permanent rewards of delayed rather than immediate gratification and help them to internalize personal values that will help to bolster their self-concepts. But this can only occur if we encourage them to participate in more extracurricular activities which are related to academics (e.g., academic clubs, the debate team, yearbook, etc.) and motivate them to take leadership roles in the school (e.g., on the student council or as patrol boys). Teachers and administrators can also promote and reward these young men's academic achievement in schools by providing tangible forms of recognition (e.g., academic "letters, T-shirts, etc.) and other forms of external reinforcement to demonstrate to them that their efforts are important and worthy of the same kind of public recognition society has been giving to athletic prowess. We must take the initiative and put our priorities in the right places, making sure that educational achievement ranks higher than any other accomplishment.

Despite the magnitude and severity of this educational crisis, I must continue to emphasize that many young black men are overcoming unbelievable obstacles and ignoring peer pressure to do well in school. Contrary to conventional wisdom, many young men do want to finish school and many want to be challenged. *In our survey of more than 2250 black male students in the New Orleans study, for example, 95 percent of them said they expected to graduate from high school but close to 40 percent of them said they believed that their teachers did not set high enough goals for them. Moreover, 60 percent of them said they believed that their teachers should push them harder.* Those findings suggest that black male students do want to be challenged to do well in school but it can only be accomplished if those who are responsible for their academic and social development give them the necessary motivation and guidance to make this a reality.

Before concluding this section, it is important to mention that there is a genuine opportunity here for all of us who are concerned about this situation to learn from (and continue to reinforce) the academic success of young black males who are performing well in school and who want to achieve their aspirations. Black males as a group are not monolithic and it is imperative that we attempt to destroy those stereotypical images that have prompted some individuals to develop negative self-fulfilling prophecies about their potential. *It may be useful, therefore, to focus more of our energies on how black males are*

succeeding rather than on why they are failing. But regardless of the approach, more emphasis must be devoted to showing all students why and how educational achievement and attainment are critical to their long-term security as adults and as parents.

Bridging the Gap Between the Perceptions of Teachers and the Public and Black Male Students' Abilities and Aspirations

Another major problem that exists and which must be confronted in our schools, and in society in general, is the tremendous perception gap that exists with respect to what the public believes black males can and want to learn and what these young men in fact know that they are capable of achieving. Negative self-fulfilling prophecies about black male students' intellectual abilities pervade our schools and society as strongly today as they did for most non-white and poor youth prior to the days of equal educational opportunity in the mid 1960s. It is very disappointing though that some teachers in our urban schools have developed preconceived notions about black male children's intellectual capabilities and potential instead of believing that they all can learn and succeed.

One of the most disturbing findings from our study in New Orleans, for example, which confirmed the above perception came from teachers' responses to an item on a questionnaire we designed for them. *When we asked teachers if they believed that their black male students would go to college, almost six out of every ten indicated that they did not believe that this would occur.* What made this response more troubling was the fact that *60 percent of our random sample of 318 teachers taught in elementary schools, 70 percent of them had 10 or more years of experience, and 65 percent of them were black!* Obviously, teachers' racial, ethnic or cultural affiliations do not make them immune from holding negative self-fulfilling prophecies about the children whom they teach. Moreover, the fact that some teachers have lower expectations for non-white students in general, black male students in particular, and as early as the elementary grades, are strong signs that teacher expectations must be objective and, in many instances, changed. Their perceptions, like others in society, are undoubtedly influenced by what they see happening to the masses of male (and female), poor and non-white youth. These negative perceptions about children's abilities, many of which are subtle and unconscious, must be discussed honestly and

more openly in schools so that all children will have a fair chance to learn and succeed. Similarly, those teachers who have preconceived notions about black male students' academic abilities and aspirations must have a more open mind about their capabilities. It is even more important that teachers and counselors help them to set high expectations for themselves, give them leadership roles in schools and encourage them to pursue post-secondary and vocational opportunities. *Motivating black male youth in schools is clearly the most pressing remedy but this must be accompanied by immediate, continuous, and appropriate reinforcement and positive feedback to emphasize to them that education is the key to their future.*

The Civic Imperative: Parental and Community Responsibilities

The resolution of the crisis which black males are experiencing cannot be solved by teachers and school staffs alone. There are equally important roles for parents, the black community and also the general public. Parents must motivate their male children to do well in school and also support their aspirations to attend college in the same way that they do for their female children. In the New Orleans study, eight out of ten of the 3523 parents surveyed responded that they believed their sons expected to go to college. But one fourth of that same sample indicated that they had never gone to their child's school for a report card conference! We cannot expect black male students to maintain their interest in learning and to have high expectations without the support and encouragement of parents. Teachers and administrators, nevertheless, may be extremely helpful in getting more parents involved in their children's schools as well as showing them how to monitor their child's academic progress on a daily basis.

The print and electronic media which, as previously noted, typically portray "successful" black males in advertisements and on television primarily as athletes and entertainers, also have a moral responsibility to show other accomplished black male role models in business, education, the sciences, medicine, law and many other professions. Businessmen and businesswomen can also support the aspirations of the male children of their employees by rewarding and/or acknowledging them for their academic success, their daily attendance at school and their participation in extracurricular clubs by giving them part-time or summer jobs for their hard work and effort.

Members of social and civic organizations, persons from blue- and white-collar professions, retired persons, religious leaders and many others can also be instrumental in encouraging black male students to stay in school and help them to appreciate the value of delayed gratification and also the importance of academic success to their future financial security. College students, especially black males, have an important role to play in this effort by regularly visiting schools and establishing mentoring, tutoring and peer support programs. Both their presence and interaction with these youth can help to destroy the presumed stigmas which they erroneously associate with academic achievement. They can motivate them toward college (by bringing them to campus and encouraging them to take challenging courses in junior and senior high school) as well as toward other vocational interests which they might not have believed were possible for them. This modeling and mentoring are so important to building these young men's self confidence and raising their aspirations.

CONCLUSION

This problem is too widespread for one solution and it is unrealistic to believe that only schools can ameliorate this situation. Through collective efforts, school personnel and concerned individuals can raise the self esteem and self concepts of these young men, as well as their academic achievement, expectations and aspirations. But more concerted guidance, formal and informal, is necessary to reverse the negative trends which too many young black men are experiencing. These special efforts, however, must be directed at the elementary and middle school years.

Leadership development in schools, regardless of students' grade levels, should receive special attention to help these young men develop the initiative they will need to perform well in school, to compete in the workplace, to achieve their vocational aspirations and to become productive citizens. Moreover, programs focused on the development of constructive and socially approved values (e.g., respect, altruism, etiquette, sharing, etc.) should also be considered to counteract the materialistic culture in which these youth live and the images to which they are constantly exposed. By providing them with more opportunities to help and show concern for others, they will see that service is rewarding and satisfying.

Though many other non-white and female children are experiencing many of these same problems, we must provide young black males especially with the incentives they need to obtain an education and to raise their levels of self-confidence. It must become the responsibility of all segments of the community to tell them often that completing high school, obtaining a college education, becoming a teacher, a doctor or an entrepreneur is easily attainable. Collective action is needed now to address this problem, for as I wrote in the text of the final report of the New Orleans study on black males: "The malady is too grave for a single prescription and the symptoms are too widespread for us to postpone treatment any longer."

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**WORKFORCE 2000, SILVER BULLET OR DUD?:
JOB STRUCTURE CHANGES AND ECONOMIC PROSPECTS
FOR BLACK MALES IN THE 1990s¹**

Ronald B. Mincy
The Urban Institute

Workforce 2000 (Johnston and Packer, 1987), a widely circulated study supported by the U.S. Department of Labor, was greeted with vastly different responses. Most Americans, especially in the business community, bemoaned the substantial "skills mismatch" predicted by this study. By contrast, the black and Hispanic communities greeted the report with enthusiasm because the report suggested that America could no longer afford to waste its human resources.

According to the report, thirty percent of the new jobs created by the year 2000 will require workers with a four year college degree. Further, blacks, Hispanics, and other "non-traditional" workers will represent eighty-five percent of the new workforce. Thus, the tragic human waste represented by growing mortality, joblessness, incarceration, and drug abuse among young black males is a threat to not only the black community but also to American economic competitiveness. These conclusions seemed to provide the "silver bullet" needed to support renewed investments in the health, education, and training of black youth (Schorr, 1988; William T. Grant Foundation, 1988).²

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² In some respects, Hispanic youths face obstacles to employment and high earnings similar to those of black youths. For example, both groups have low rates of educational attainment and occupy jobs in low status occupations. This makes it tempting to

Recent studies are skeptical of *Workforce 2000* predictions of a growing skills mismatch. These studies suggest that there is no critical void for educated black males to fill and that the continued deterioration of the health, employment, and academic achievement of young black males poses no threat to American competitiveness. This conclusion could undermine unified and broad based support for interventions targeting young black males.

This paper has three purposes: First, we review the historical role of skills mismatches in explaining the economic prospects of black men and the social problems in black families. Then, we review and assess criticisms of the "skills mismatch" predictions in *Workforce 2000*. Finally, we suggest implications of future labor demand and supply conditions for the shape of interventions in the 1990s to improve employment and earnings prospects of black males.

Skills Mismatches and Past Black Socio-Economic Progress

To understand the implications of *Workforce 2000* for black males in the coming decade, we must understand how skills mismatches have affected black men and their families in the past. The general idea of a skills mismatch is that employers want skills that workers lack.

generalize the implications of *Workforce 2000* for blacks to Hispanics.

In other respects, the two groups face different obstacles. Black youths have extremely low rates of labor force participation. Hispanic youths are much more likely to work, even if their wages are low. Finally, we know much more about black youths for two reasons.

First, data on a wide range of social and economic indicators has been collected separately by race since 1972, but surveys have only recently begun to collect systematic data on persons of Hispanic origin. Second, the Hispanic population is diverse, making generalizations among Hispanics difficult.

For example, Puerto Ricans have high rates of unemployment, low rates of labor force participation, and concentrate in large northern metropolitan areas. Therefore, generalizations from blacks to Puerto Ricans would be fairly accurate. Cubans, on the other hand, exhibit labor market problems much less frequently, and they concentrate in cities where structural changes, such as those experienced by northern cities, are less severe. For these reasons, most of the discussion here centers attention on blacks.

By emphasizing blacks, I do not mean to suggest that they are more vulnerable to the job structure changes predicted by *Workforce 2000* than Hispanics; that blacks are more worthy, because of their historical experience in the US., of special inventions to help them adapt to predicted changes; or that blacks are more likely to benefit from such interventions.

This idea has played an important role in explaining high rates of joblessness and poverty among blacks since the 1960s.

For example, the Kerner Commission worried that the decline in manufacturing jobs in the central cities left less-educated black workers without high paying jobs. If these workers continued to concentrate in urban areas, while manufacturing employment moved to the suburbs, the result would be a two-tiered society (U.S. National Advisory Commission on Civil Disorders, 1968). Poor and jobless blacks would populate central cities, while prosperous whites would live and work in the suburbs. Thus, the idea of a skills mismatch was combined with the spatial location of jobs (i.e., spatial mismatch).

Recent research on the underclass assumes a more complex form of the skills mismatch idea. High paying jobs for low-skilled workers in manufacturing continued to decline throughout the post-war period. These jobs were replaced by two kinds of service sector jobs that displaced black workers, especially men, with little formal schooling. Many of the new jobs required college degrees. Others were in traditionally female or low paying occupations (Wilson, 1987; Blackburn, Bloom, and Freeman, 1990; Kasarda, forthcoming).

Thus changes in the structure of urban labor demand that which have been taking place since the 1940s, have reduced employment prospects for low-skilled people. Some researchers associate this decline with the relocation of manufacturing firms from central cities to the suburbs (Kain, 1968). Others associate this decline with economic development.

As the economy matures, there is a reduction in the share of total employment in goods producing industries (Levy, 1988). These industries are traditionally high paying industries. High wages in these industries are due to high productivity and factors, such as profitability and capital intensity, that enable workers to earn or share industry rents (Katz and Summers, 1989). There is a corresponding increase in the share of total employment in service producing industries. These industries have traditionally paid lower wages to workers in all occupations. Black workers have been adversely affected by these changes, because they have lower paying jobs in service industries (e.g., janitors, not doctors).

A growing body of evidence supports or is consistent with the adverse effect of the skills mismatches on less-educated and less-skilled workers. Wage trends are one important type of evidence. While the wages of all workers have been virtually stagnant since 1973, growing wage inequality characterizes the 1980s (Bound and Johnson, 1989). This growing wage inequality is characterized by growth in the returns to skill and education.

That is, the wages of workers with some college training increased dramatically compared with the wages of workers with high school diplomas or less (Juhn, Murphy, and Pierce, 1989; Blackburn, Bloom, and Freeman, 1990; Murphy and Welch, 1989). Finally, the most recent studies suggest that the major reason that returns to education have risen is the downward trend in the earnings of less-educated and less-skilled workers, not a rise in the earnings of college-trained workers.

Besides evidence of rising returns to skill and education, declining black-white earnings and income differentials are also consistent with the skills mismatch idea. Economic growth and equal employment legislation during the 1960s produced substantial reductions in black-white income differentials, most notably among men. For example, Figure 1 shows a steady upward trend in the ratio of black to white male median income between 1955 and 1970. There was much slower progress between 1970 and 1975, and almost no change thereafter. Much of the explanation of the slowdown is that black males have low-skilled occupations (Juhn, Murphy, and Pierce, 1989).

Research on the underclass provides direct evidence of the importance of skills mismatches for social problems among blacks and others with low skills and education. Wilson (1987) uses a skills mismatch argument to explain the growth of social problems among blacks in central cities. He argues that skills mismatches during the 1970s increased joblessness and poverty among black men in central cities. This reduced the number of marriageable men, which in turn increased the number of poor, female-headed families in these cities. Concentrations of poor men, poor single mothers, and poor fatherless children led to the growth of social problems that most observers associate with the underclass. These problems include crime and drug abuse, teen-age parenting, welfare dependency, dropping out of high school, and so on. The multiple coincidence of social problems in neighborhoods constitutes the underclass.

Recent studies adapt an empirical measure of Wilson's underclass idea to examine the relationship between skills mismatch and the prevalence of social problems. Ricketts and Sawhill (1988) construct an index of the prevalence of social problems in a neighborhood, including: (1) welfare dependency, (2) female-headed households, (3) dropping out of high school, and (4) male detachment from the labor force. They define a neighborhood to be an underclass neighborhood if these four social problems simultaneously exceed national averages.

If Wilson is correct, the ratio of the educational attainment of a neighborhood's residents to the educational attainments of workers in the metropolitan labor market, should be positively related to the Ricketts and Sawhill index. Mincy (1990) finds strong evidence of such a positive relationship. The strongest evidence occurs when he includes only neighborhoods in which blacks represent a majority of the population.

Skills Mismatches and Future Black Economic Progress

According to *Workforce 2000*, skills mismatches in the coming decades will not only hurt less-educated and less-skilled workers, but the U.S. economy as a whole. Further, skills mismatches emerging in the 1990s will occur for somewhat more complex reasons than in the past. First, the transition from a goods producing to a service producing economy will continue. This will result in substantial increases in the demand for educated workers.

Second, during the 1990s, the labor force will grow more slowly than at any time in the post war period. This will create a general labor shortage that will make recruiting difficult, so that general wage levels will rise. Third, blacks, other ethnic minorities, and women will make up eighty-five percent of the increase in the labor force in the 1990s. Because these workers have traditionally had lower levels of educational attainment than white males, an acute shortage of educated workers could develop. This shortage could forestall the implementation of new technologies, limit U.S. economic growth, and threaten U.S. competitiveness (Johnston and Packer, 1987).

Workforce 2000 points out that black men are particularly vulnerable to the predicted changes. If their current educational attainment and occupational patterns continue, black men and Hispanics would be the groups most adversely affected by the predicted changes. Therefore, the report urges investments in the education and training of these groups. These investments will enable the U.S. to upgrade the skills of traditionally disadvantaged workers and also resolve a nationally threatening skilled labor shortage.

These predictions became the silver bullet needed to create widely supported interventions to help traditionally disadvantaged groups. Joint ventures involving business, government, schools, and community organizations, have sprung up in major cities around the country to reduce dropout rates and increase academic achievement among inner-city youths. Mentoring and tutoring programs involving corporate sponsors, such as the 'One-to-one Foundation' and the 'I Have a Dream Foundation' have also been growing. Programs to increase college enrollments have also grown. Few of these programs have been rigorously evaluated, so it is too early to tell how effective they are.

Still, the business community has clearly taken the *Workforce 2000* predictions seriously and has taken steps to ensure future supplies of labor with some post-secondary schooling. While, immigrants, retirees, and handicapped workers are all potential sources of labor, blacks and Hispanic youths have been targeted by these efforts (Committee for Economic Development, 1987). Thus, skills mismatches which have cursed black workers for decades, are being transformed into blessings in an era of labor shortage. Who could object to this outcome?

A Critique of the Predictions

Two recent studies suggest that *Workforce 2000* paints a much rosier picture of future prospects for young black workers than the trends warrant. While there are several criticisms of the *Workforce 2000* predictions, four seem most important. First, the predictions emphasize occupational trends among jobs at the cutting edge, but this ignores occupational trends in the vast majority of present and future U.S. jobs.

Second, the predictions emphasize occupational trends, but they ignore more important industrial trends that have driven wages lower for workers in all occupations. Third, the predictions emphasize the demographic characteristics of the net increase in labor supply, but ignore the demographic characteristics of the total future labor force. Finally, the predictions assume that most employers will look for workers who can adapt to increasingly sophisticated technologies. This may be true of best practice employers, but the vast majority of employers may be choosing technologies to accommodate increasingly unsophisticated workers.

Mishel and Teixeira critically review the *Workforce 2000* predictions. They point out that these projections emphasize occupational trends for new jobs and jobs in the fast growing occupations. But, they argue, *Workforce 2000* ignores data on future jobs in all occupations. These data provide the proper context for interpreting occupational projections.

The distinction between new jobs and future jobs is important. Consider a black male, who graduates from high school in the year 2000, but does not go on to college. This young man could apply for a job in a firm that did not exist ten years ago. If he were successful, this would represent a match between a new worker and a new job. He also might apply for a dead-end job, vacated by a worker who decides to quit after ten years to further her education. If successful, this would represent a match between a new worker and an old job. Today, we view both jobs as future jobs, but only one job is new.

A college degree would be more or less important for this young man, depending on the wages, educational requirements, and numerical significance of old and new jobs. Suppose we suspected that seventy percent of jobs in the year 2000 will be new jobs and that new jobs will have higher wages and educational requirements. In this case, we would urge the young man to go to college, even if he were a mediocre student. Suppose, at the other extreme, that seventy percent of the jobs in the year 2000 will be old jobs, with educational requirements and real wages not much greater than today. We might still urge a college education for a bright student, but a poor or mediocre student would be better off not going to college. He would

be unlikely to get one of few high-paying new jobs, even after struggling to get his college degree.³

According to Mishel and Teixeira, *Workforce 2000* predicts a substantial upgrading of skills by analyzing new jobs in the fastest growing occupations. The fastest growing occupations are the professional occupations; these usually require a four-year college degree. Still, these occupations will account for only six percent of jobs in the year 2000 and eleven percent of new jobs. By contrast, jobs in low-skilled occupations such as janitors and security guards, which today employ many black men, will account for seventeen percent of jobs in the year 2000 and nearly a quarter of new jobs.

Readers get a very distorted picture of the future American job structure from the *Workforce 2000* projections. Figure II illustrates that the median worker in occupations with growth rates of forty percent or more completed 16.8 years of schooling; the median worker in slower growing occupations completed 13.6 years of schooling; the median worker in declining occupations completed 12.4 years of schooling. If one stacked these growth rates, as in Figure III, the picture of the future American job structure gives prominence to jobs requiring at least a four-year college degree.

An accurate picture of the American job structure depends on the distribution of total employment by occupation. Figure IV illustrates the structure of current, new, and future jobs based on alternative definitions or schooling requirements. Occupations with low, medium, and high education requirements each represent about one third of current U.S. jobs.⁴

³ The foregoing argument assumes that investing in human capital is the primary reason people attend college (Becker, 1965). If so, anything that lowers the pecuniary return on the investment, such as low future wages, will reduce college attendance. Of course, labor market discrimination historically has lowered pecuniary returns to a college education for black males. Many have chosen to attend college despite low pecuniary returns. The question posed here is: How much should the rate of black male college-going motivated by pecuniary considerations increase given future expectations about the labor market for college-trained workers?

⁴ In Figure III, occupations with high education requirements are those which require a four-year college degree. Occupations with medium education requirements are those which require eight years of schooling, plus some additional training. Occupations

Figure IV shows that the structure of new and future jobs gives even less weight to jobs with high education requirements. Occupations in which the median worker completes a high number of years of school will represent just 17.5 percent of new jobs and 10.5 percent of future jobs. Occupations in which the median worker completes a medium number of years of school will represent 84.0 percent of new jobs and 80.7 percent of future jobs. Occupations in which the median worker completes a low number of years of school will represent 2.4 percent of new jobs and 5.7 percent of future jobs.⁵ Given this, should we encourage a dramatic increase in the number of young black men who prepare to compete for the limited number of jobs at the top of the American job structure?

The second problem with the *Workforce 2000* projections is its failure to relate occupational trends to wage trends. Will rising educational requirements mean rising wages? Occupational shifts are the primary source of *Workforce 2000* projections. This method ignores industrial shifts that are the most important determinants of wage trends. Mishel and Teixeira show that the shift from goods producing to service producing industries reduced wages more than occupational upgrading increased wages. Industrial shifts lower wages because labor productivity is lower in service producing industries and rent producing features are less important in these industries. Further, industrial and occupational shifts will cause modest increases in educational requirements. Together this means that educational requirements will rise, but real wages will remain constant or fall. We may restate our previous question. Should we encourage a dramatic increase in the number of young black men who prepare for jobs that will require more education, but pay lower real wages than similar jobs today?

This third problem with *Workforce 2000* projections is a misleading interpretation of labor supply trends. The future wages of well-educated black men will depend not only on employer demands for

with medium education requirements are those which require less than eight years of schooling, plus some additional training (National Center on Education and the Economy, 1990).

⁵ Here "High" means 16.8 years of schooling completed; "Medium" means 13.6 years of schooling completed; and "Low" means 12.4 years of schooling completed.

educated workers, but also on the supply of well-educated workers in the labor market. *Workforce 2000* suggests that there will be a shortage in the number of well-educated workers because white males will represent just fifteen percent of the growth in the labor force and white males have higher rates of college enrollment and graduation than other demographic groups.

This is misleading because it confuses labor force growth with the future labor force. The majority of workers who will need to be replaced over the next ten years will be white males. If every young white male who enters the labor force in the next ten years replaces an older white male who retires, there will be few young white males left. Thus, white males contribute little to the number of new workers because they contribute so much to the number of replacement workers. Still, nearly two-thirds of all workers in the year 2000 will be white males.

Besides white males, well-educated black males also will face competition from other well-educated workers for two reasons. First, among high school graduates, black males have lower college enrollment rates than females, white or black (Table 1, column 3). Second, proposed changes in immigration laws will admit larger numbers of immigrants into the U.S. than in recent years. The fraction of these immigrants with the equivalent of a U.S. college degree (or better) will be larger than the corresponding fraction of immigrants admitted in recent years (New York Times, 1990). Thus, employers of college trained labor will be able to select from a large pool of qualified applicants. There is no reason to believe that employer preference will shift in favor of black males.

The fourth problem with *Workforce 2000* predictions involves the relationship between changing technology and changing skill requirements. *Workforce 2000* encourages a substantial increase in the number of workers who go on to college. It also encourages increases in the number of workers with other forms of post-secondary training. Such increases appear warranted because technological advances in computers, materials, communications, and biotechnology will occur so rapidly, that workers will need to learn and adapt constantly. This is only one possible outcome.

Employers also can use technological change to lower skill requirements and wages. The fast food industry may provide the most familiar examples of such skills downgrading. Employers no longer require workers who can read and memorize price lists and operate a cash register. Instead, if workers can distinguish between the hamburger button and the french fry button they are perfectly qualified. Similarly, optical scanners and inventory bar codes enable some employers to accommodate alarming rates of functional illiteracy among today's high school students.

Other evidence suggests that employers cannot find the skills they need among young workers, but more post-secondary schooling will not solve this problem. The evidence comes from a recent survey of employers for the Commission on Skills of the American Workforce. This survey showed that only five percent of employers were concerned about the growing skill requirements that post-secondary schooling would provide. Fifteen percent of employers experienced shortages of workers in skilled trades. Reductions in the supply of these workers seem to have occurred because students who formerly entered these trades are opting for college and the higher wages of college trained workers. Thirty percent of the surveyed employers were concerned about the skill mismatches predicted by *Workforce 2000*. On the other hand, 80 percent of the employers were looking for workers who were socialized to the world of work; that is, workers who had appropriate demeanor, deportment, and a strong work ethic (National Center on Education and the Economy, 1990). More post secondary schooling will not provide these "skills."

The dearth of workers with social skills adequate for the workplace is a troubling sign for the future employment prospects of black males. Such skills will become increasingly important because of the continued transition of our economy to service industries in which customer contact is important. A growing number of young black males are raised in poor families, female-headed families, and in segregated or underclass neighborhoods. These young men have less parental supervision than other children, which contributes to higher rates of involvement in crime, drug abuse, and other delinquent behavior (Dornbusch, et. al., 1985).

Black male youths who live in poor, segregated, and underclass neighborhoods also develop aggressive interpersonal skills. These skills serve them well on the streets, but poorly in the rest of society (Anderson, 1990; Glasgow, 1980). These aggressive interpersonal skills contribute to high rates of suspension, expulsion, and other disciplinary sanctions when these youths are in school (Kunjufu, 1982 and Meier, et. al., 1989). The result is lower academic achievement and attainment. Later on, the same interpersonal skills may convince employers that black male employees are more argumentative and less submissive to authority than other employees, and therefore, more difficult to manage. This may result in statistical discrimination in which employers assume that most young black males will be unsuitable workers.

IMPLICATIONS FOR POLICY

Effective and broad based strategies to improve employment and earnings prospects for black males require accurate and sober assessments of the trends. The most important trends to watch are trends in: (1) the structure of jobs; (2) demography, including immigration; (3) productivity; and (4) wages. These trends suggest a three-part strategy for helping young black males.

The structure of jobs and demographic changes are the most important trends affecting future prospects for young black males. The continued shift from goods producing to service producing industries will increase employer demands for college-trained workers, and blacks males will be a larger share of new workers than ever before. Still, the structure of jobs in the year 2000 will be very similar to the structure of jobs today. Further, demographic trends suggest that black males will be competing against many other workers, and employers may perceive these workers to be better educated or more manageable.

These trends suggest the first part of the three-part strategy for helping young black males. The first part of this strategy is already taking place. Public-private interventions to prepare more black youths for college represent cost effective strategies for a few firms that critically need workers with four-year college degrees. Over the next ten year such programs could easily dominate other strategies in large urban areas, where blacks concentrate. Black male high school students

who are already performing well academically are benefiting from these programs. But the vast majority of young black males will be excluded, because these programs will work with students who are easiest to serve.

For example, a large government agency, concerned about the skills mismatch predicted by *Workforce 2000*, sponsored a program to increase college enrollment among black youths. The agency selected a predominantly black high school, where most of the students were from poor, female-headed families, living in poor neighborhoods. According to the program director, the school's valedictorian scored less than 800 on the Scholastic Aptitude Test (SAT) last year. Any high school student who earned at least a B average was admitted into the program in the following semester. Program participants received tutors, mentors, and other services, including paid consultants who helped participants' mothers complete financial aid forms. Except for the consulting services, black professionals employed by the government agency provided most of these services.

Participation rates in the program by sex are telling. Eighty percent of the students who qualified for the program were girls. Participation by black males was low because few could meet the admission criteria. In other words, by the time most of the young black males completed neighborhood elementary and middle schools, their prospects of getting a four-year college degree were too low to justify the investment. To help these students, the program would have had to intervene earlier, but the returns to early intervention were too low, distant, or uncertain for the agency to consider. Other employers who will need many workers with four-year college degrees in the 1990s are reaching the same conclusion.

There was a further irony in the program. The agency wisely refused to allow men to tutor and mentor girls. Therefore, the program had many idle black-male volunteers. Many young black men could have benefited from the affiliation and support of these middle class black men. Despite this need, the professional black volunteers, waited for that rare high academic achiever. Such an achiever is rare. Only eighteen percent of black males between the ages of eighteen and

twenty-four were enrolled in college in 1988 (Table 1, column 2). This was just over half the college enrollment rate of white males of the same age.⁶

How much should black male college enrollment rates increase? To reach parity with the enrollment rate of white male high school graduates, the enrollment rate of black male high school graduates would have to rise by almost fifty-eight percent (Table 1, column 3). This is a substantial increase. Assuming the job structure remains constant, the fraction of all young black males attending college should be about one-third, the same as the fraction of all youths attending college. This would require a sixty-seven percent increase in the black male college enrollment rate. (Table 1, column 2). To reach such a goal in the 1990s, programs would have to include students needing substantial remedial preparation before and during college. This would prolong the amount of time such students (or their sponsors) invest in formal schooling and increase the students' foregone earnings. Such investments seem unwarranted by the wages many of these students can expect.

Productivity trends suggest the second part of the strategy needed to improve the economic prospects of young black males. The decline in U.S. productivity since the early 1970s has depressed real wage growth of all workers. The productivity slowdown, related to declining employment in manufacturing, has meant that growth in the U.S. economy in recent decades is due to increased work by American workers, not increased output per worker. Unless immigration policy continues to expand the supply of labor, we cannot rely on increased work effort to increase output (National Center for Education and the Economy, 1990).

To avoid this outcome, the Commission on the Skills of the American Workforce recommends a radical and deliberate shift in the U.S. economy. Instead of our current low productivity-low wage path, the Commission recommends a high productivity-high wage growth

⁶ Black-white differences in income and wealth explain some, but not all, of the black white male college enrollment gap. If these differences explained all of the gap, we would expect young black men and women to have similar college enrollment rates. In fact, young black women have college enrollment rates almost six percentage points higher than young black men.

path, targeting workers with less than four years of college. This would involve: (1) changes in the organization of work, (2) changes in elementary and secondary education, (3) better supervision of youth making the transition from school to work, and (4) higher investments in worker training for students who do not go on to complete four years of college. The economic prospects of most young black males can be improved within this broad based framework by emphasizing the school reform proposals, which are the least controversial.

Creating a workforce with the skills sought by most employers will require changes in elementary, middle, and secondary schools (Rumberger and Levin, 1989). Schools must teach basic literacy and numeracy, but schools also must teach new competencies such as communication, peer training, problem solving, and working in groups. Besides these skills, schools in large urban areas need to adapt to meet the special needs of children raised in poor, female-headed households and the needs of children raised in underclass neighborhoods. This will involve changes in teacher expectations, teacher competency, disciplinary practices, and so on. (Comer, 1990; Levin, 1988). It also will require developing a curriculum to teach these students bi-cultural competency: the ability to dress, speak, and comport oneself appropriately in one's own surroundings and in the surroundings of those with different norms of dress, speech, and comportment. A curriculum recognizing the legitimacy of the latter, but not the former, may be insufficient because students may simply reject such a curriculum (Fordham and Ogbu, 1986).

Professionals who now volunteer in the programs for college-bound high school students that will serve so few black males are a critical resource for this effort. They can serve as tutors to black boys in the elementary and middle schools. Later in the decade, this can help increase the fraction of young black males who graduate from high school and the fraction of black high school graduates prepared for college. Besides tutoring, professionals, especially black males, can help schools and families serve young black males better. Mentoring programs could be an important vehicle for this kind of service, especially if they targeted all black males enrolled in elementary or middle schools in poor or underclass neighborhoods (Ferguson, 1989, 1990; Mincy and Wiener, 1990).

Wage trends suggest the third part of the strategy to improve the economic prospects of black males. Slow wage growth or actual reductions in real wages may persist, especially for workers lacking a college degree. Even if black males benefit from reforms in education and training, they will face slowly growing or declining real wages with other beneficiaries of these reforms. Income maintenance programs are likely to continue the recent emphasis on self-support. Therefore, achieving and maintaining high labor force participation among young black males is crucial.

To do this, policy makers must make work pay through tax and transfer programs that subsidize earnings. The Earned Income Tax Credit (EITC) and the Family Support Act (FSA) are currently the most popular programs of this kind, but they do not serve black males well. To be eligible for EITC and FSA individuals must work, or prepare for work, and have custody of children. Due to high rates of absentee fatherhood among black men, many young black males cannot benefit from EITC or FSA. On the other hand, low income among black males may decrease their marriage rates and decrease their capacity to support children. Therefore, to reach black males, and through them, more black families, it may be necessary to extend earnings subsidy programs to include unrelated individuals, and to recognize and encourage even small contributions from absentee fathers (Horrigan and Mincy, 1990; Steurle, 1990).

SUMMARY

Workforce 2000 predictions could have changed the meaning of skills mismatches for blacks and Hispanics. Over the last three decades blacks and Hispanics have been the victims of skills mismatches. With low educational attainment and high concentrations in the lower rungs of the American job structure, blacks and Hispanics often lacked the skills that employers could not easily get. This led to reductions in employment and real earnings, especially among black men, and contributed to rising social problems among blacks and Puerto Ricans in inner cities.

Workforce 2000 predicts that skills mismatches will become a more general problem for the U.S. economy in the 1990s. Demand for workers with four years of college training will rise. Changing demographics will reduce the share of white males entering the labor

force, thereby, reducing the supply of workers with four years of college training. If educational and occupational patterns among blacks and Hispanics continue, these labor market changes would cause much hardship. On the other hand, these changes create a window of opportunity to upgrade the skills of traditionally disadvantaged workers and also resolve a nationally threatening skilled labor shortage. As the 1980s closed, public and private efforts to increase college enrollments among blacks and Hispanics responded to the call.

Recent critiques of the *Workforce 2000* predictions may change the course of these events. These studies suggest that *Workforce 2000* has inflated forecasts of the demand for college-trained workers; ignored the connection between changing educational requirements and wages; mislead readers about the contribution of white males to the future labor force; and assumed that technological change is always skill enhancing. Jobs requiring workers with at least four-year college degrees are growing faster than jobs requiring less schooling, but the overwhelming majority of future jobs will require little more than a high school diploma. Though professional jobs are growing faster than other jobs, professional workers in the future may earn the same or less in real terms than professional workers today.

Young white males will account for a small fraction of the net increase in the labor force, because they will be needed to replace the majority of retirees, who are also white males. Besides white males, black males and Hispanics who graduate from college will be competing against many other workers with college degrees, including black and white women and immigrants. Finally, many technological changes enable employers to downgrade employee skill requirements.

Together these trends suggest a revision of current intervention strategies if black males are to be served. First, expanding the number of college-trained workers will be the goal of selective programs. Typical sponsors of these programs are best practice firms with critical needs for college-trained workers in the 1990s. These programs will benefit about one-in five young black males who are prepared for college following high school. To further increase college enrollments among black males in the 1990s, such programs would have to recruit black male high school students who need substantial remedial help. These poorly prepared students would have lower returns on investments in college-training. Further, program sponsors can find

cheaper ways to ensure adequate supplies of labor. They can help young black females, who now enroll in college at higher rates than young black males, and they can recruit immigrants with college-training.

Interventions targeting young black males will have different focuses, targets, and goals. First, they will look to the latter part of the 1990s and beyond. Second, they will look beyond jobs requiring a four-year college degree, which represent at most eleven percent of future jobs. The change in focus calls for interventions targeting black males in elementary and middle schools, especially those in poor or underclass neighborhoods. The goals are to increase the fraction of young black males who are able to undertake college preparatory courses in high school and to help young black males not bound for college to make a more successful transition to work.

Finally, any strategy targeting black males must see that they benefit from policies that accommodate patterns in American job structures, education, and earnings. Less than one-third of American jobs require four year college degrees and less than one-third of American workers obtain such degrees. If these long-standing patterns continue, one-third of black males is a realistic target for the fraction attending college. This means that the majority of black males, like the majority of all workers, will hold jobs requiring less than four years of college. The real earnings of such workers have been falling since the early 1970s.

These patterns have helped to motivate a shift in American income maintenance policy that excludes many black males. The shift favors tax and transfer programs that subsidize the earnings of low wage workers. The most popular programs benefit only those who work and have custody of children. High rates of joblessness and absentee fatherhood disqualify many young black males from these programs. To make black males eligible for new income maintenance policies, it may be necessary to expand these policies to include unrelated individuals and to change them in other ways that recognize and encourage even small contributions by absentee fathers.

Table 1

**Percent of Persons 18-24 Years Old
By High School Graduation and
College Enrollment Status
October 1988**

	High School Graduates	Enrolled in College	High School Graduates Enrolled in College
MALES			
ALL RACES	78.7	30.2	38.3
WHITE	79.7	31.4	39.4
BLACK	71.9	18.0	25.0
HISP ORIG	52.7	16.6	31.5
FEMALES			
ALL RACES	83.6	30.4	36.3
WHITE	84.8	31.2	36.9
BLACK	77.9	23.8	30.5
HISP ORIG	58.1	17.7	30.4

SOURCE: U.S. Bureau of the Census, Current Population Report, Series P-20, No.443, School Enrollment-Social Characteristics of Students: October 1988 and 1987. Table A-7.

FIGURE I

**Ratio of Nonwhite Male Median Income
to White Male Median Income
Selected Years, 1955-1985**

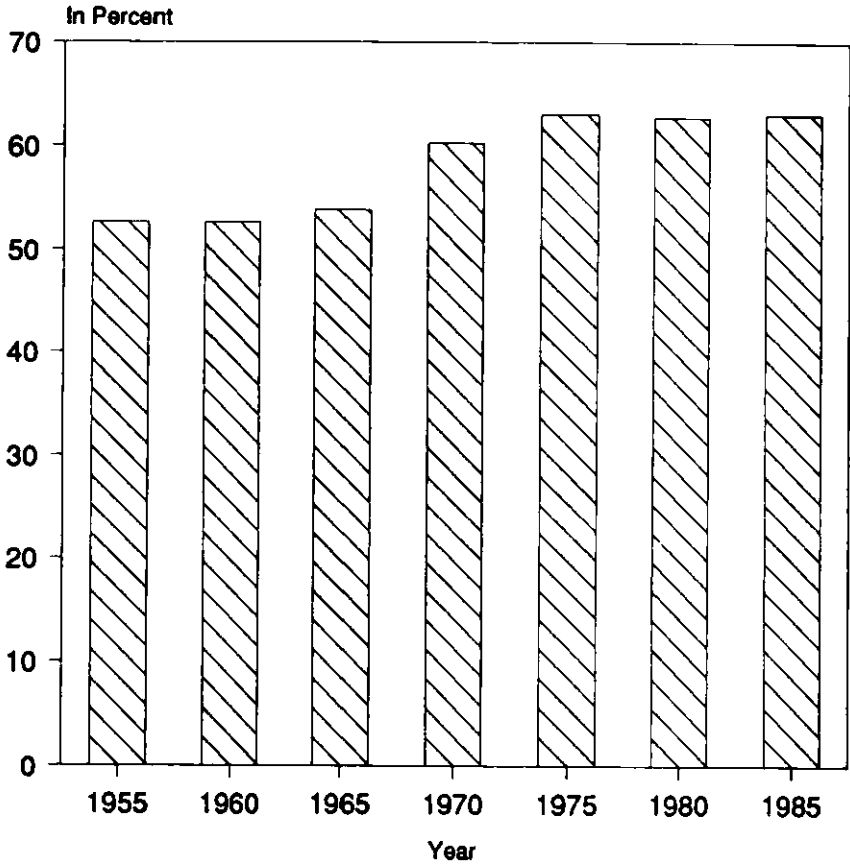
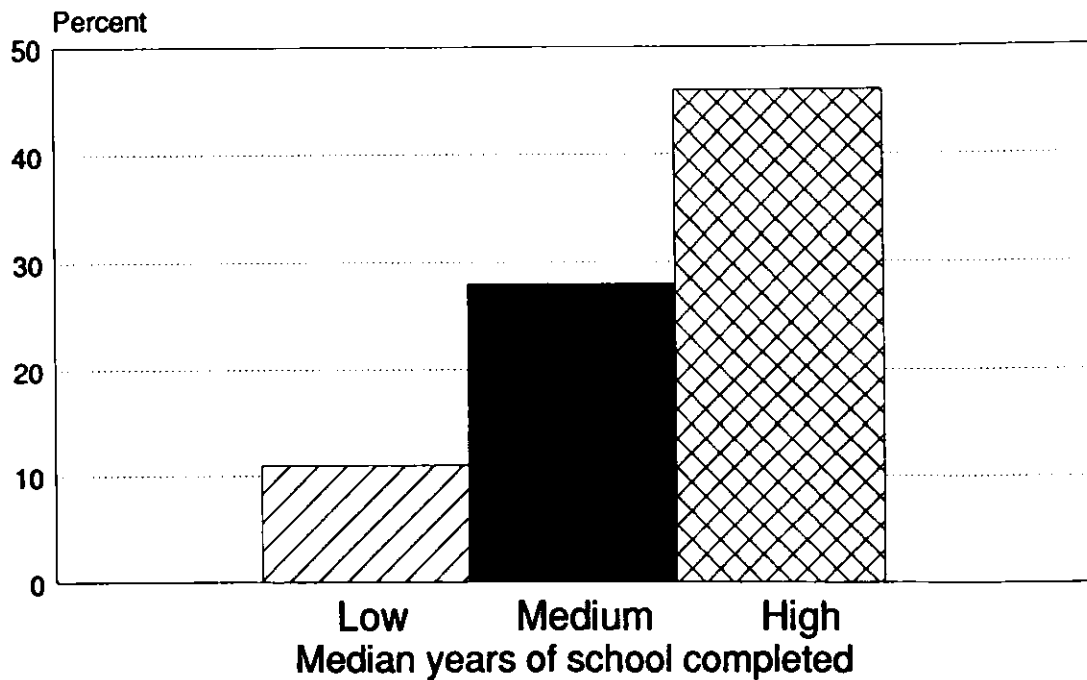


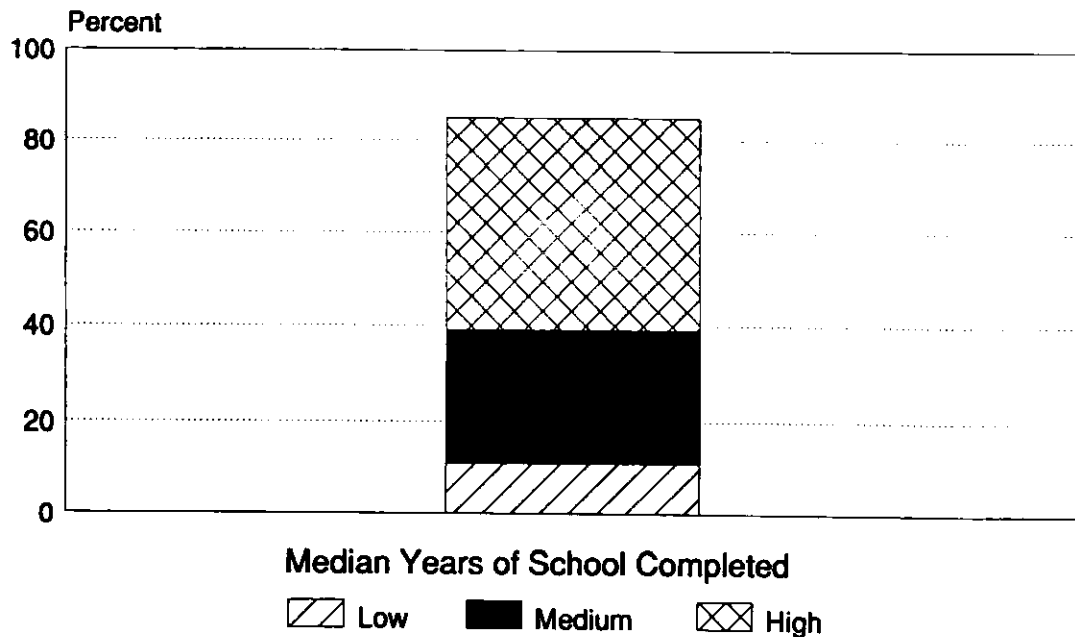
Figure II
OCCUPATIONAL GROWTH RATES
By Level of Education



Sources: Calculations based on data from the U.S. Bureau of the Census, Current Population Reports, Series P-60, Nos. 132, 157 and 161.

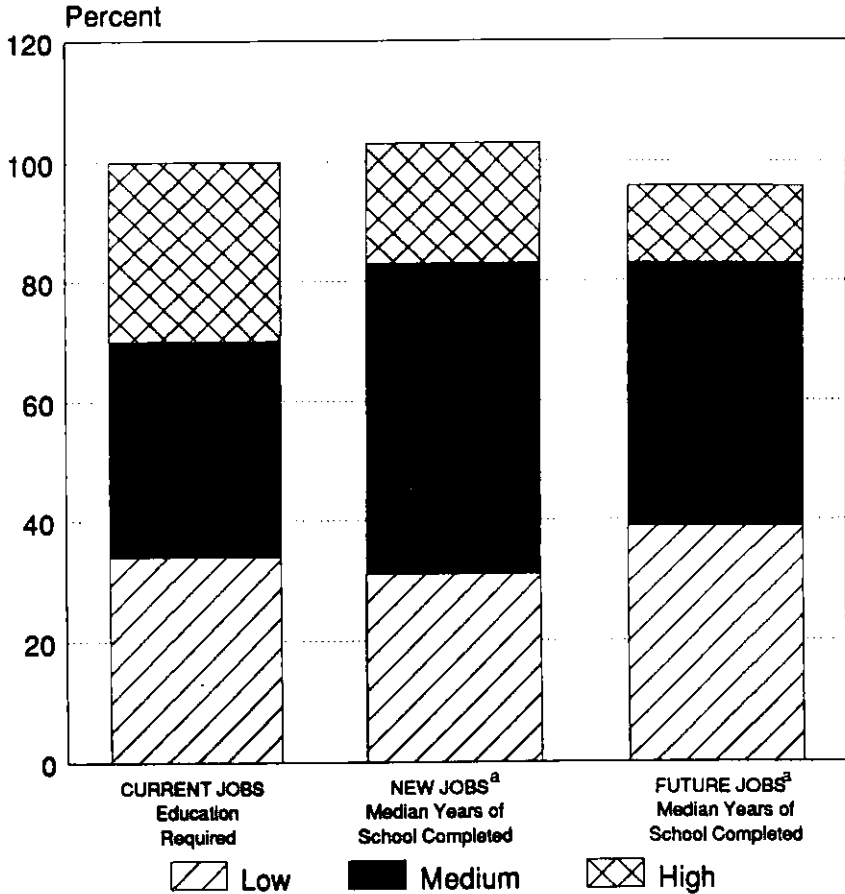
Sources: Bureau of Labor Statistics; and Workforce 2000.

Figure III
OCCUPATIONAL GROWTH RATES
By Level of Education



Sources: Bureau of Labor Statistics; and Workforce 2000.

Figure IV JOB STRUCTURE By Level of Education



Level of Education

Sources: Bureau of Labor Statistics; Workforce 2000; and America's Choice: High Skills or Low Wages.

a. Numbers do not add to 100 because education figures for mining and agricultural sectors were not available, thus not included in tabulation.

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