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ECONOMIC CONSEQUENCES OF THE ACADEMIC ACHIEVEMENT GAP FOR AFRICAN AMERICANS

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I. INTRODUCTION

To appreciate the continuing challenge to translate the promise of *Brown v. Board of Education*¹ into the actuality of equal education for African Americans, we need look no further than to data that suggest that in 2003, African American eighth-graders read at approximately the same level as second-quarter white sixth-graders.² While considerable progress in reducing racial disparities in academic achievement was made during the 1970s and through the mid-1980s, that progress stalled in the 1990s, and, today, at all ages, substantial disparities remain between the academic success of African Americans and European Americans.³ While to some extent, racial disparities in

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1. 347 U.S. 483 (1954).

2. In the 2003 National Assessment of Educational Progress ("NAEP"), black eighth-graders scored 244, white fourth-graders scored 229, and white eighth-graders scored 272. The difference between white fourth-graders and eighth-graders is forty-three points. The difference between white fourth-graders and black eighth-graders is fifteen points. Hence, I infer that black eighth-graders score where white students one-third of the way between fourth-grade and eighth-grade would score, or in the first third of sixth grade. See NAT'L CTR. FOR EDUC. STATS., NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS (2003), <http://www.nces.ed.gov/nationsreportcard/reading/results2003/raceethnicity.asp>. National Center for Education Statistics ("NCES") data also show that in 1999, black seventeen-year olds read at the same level as white thirteen-year olds. See NAT'L CTR. FOR EDUC. STATS., NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS 1999 LONG-TERM TREND READING SUMMARY DATA TABLES FOR AGE 13 STUDENT DATA, <http://www.nces.ed.gov/nationsreportcard/tables/Lt1999/NTR21012.asp>; NAT'L CTR. FOR EDUC. STATS., NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS 1999 LONG-TERM TREND READING SUMMARY DATA TABLES FOR AGE 17 STUDENT DATA, <http://www.nces.ed.gov/nationsreportcard/tables/Lt1999/NTR-31012.asp>.

3. I use African American interchangeably with black, and European American interchangeably with white.

academic achievement arise out of socioeconomic disparities that are associated with differential academic success within, as well as between, racial groups, considerable proportions of racial achievement gaps cannot be explained as epiphenomena of socioeconomic differentials.⁴

Continuing racial disparities in academic achievement engender persistent disparities in educational attainment. While 18% of twenty-six- to twenty-nine-year-old African Americans in 2001 had completed a four-year postsecondary degree or better, 33% of European Americans had done so.⁵ Because both academic achievement and educational attainment directly affect adult occupational status and earnings, and do so increasingly, and because economic well-being is essential to broader well-being in a society in which already weak welfare-state provisions are being eroded at an accelerated pace, we are impelled to ask about the economic costs of the achievement gap for African Americans.⁶

That those costs are high is, ironically, a measure of the progress we have made. There was a time when African Americans could hold no expectation that their academic accomplishments and educational attainments would be fairly rewarded, if they were rewarded at all. While racial isolation and persisting discrimination in the labor market impede African American men from earning the same wages or salaries that European Americans of comparable academic achievements and education earn, African American women do earn what comparably achieving and educated European Americans earn.⁷ The fact is that today, unlike in the past, increments in achievement and educational attainment raise the earnings of African American men and women in their late twenties at rates comparable to or greater than those by which

4. Approximately 50% to 70% of the observed racial disparities in standardized test scores cannot be attributed to differences in socioeconomic status and other measures of family background. Larry V. Hedges & Amy Novell, *Black-White Test Score Convergence Since 1965*, in *THE BLACK-WHITE TEST SCORE GAP* 149, 161-67 (Christopher Jencks & Meredith Phillips eds., 1998).

5. NAT'L CTR. FOR EDUC. STATISTICS, *THE CONDITION OF EDUCATION 2004*, <http://nces.ed.gov/pubs2004/2004077.pdf>.

6. Gaps in education also create disparities in measures of nonmarket outcomes, which, in turn, add to the impact of the overall economic value of education. Such outcomes include health and consumer efficiency. Robert H. Haveman & Barbara Wolfe, *Schooling and Economic Well-Being: The Role of Nonmarket Effects*, 19 *J. HUM. RESOURCES* 377, 378-401 (1984).

7. William R. Johnson & Derek Neal, *Basic Skills and the Black-White Earnings Gap*, in *THE BLACK-WHITE TEST SCORE GAP*, *supra* note 4, at 482-94; Jonathan Jacobson, *Educational Achievement and Black-White Inequality: Statistical Analysis Report*, NAT'L CTR. FOR EDUC. STATISTICS, NCES 2001-061 (2001).

they raise the earnings of European Americans.⁸

Our interest in the economic costs of racial disparities in academic achievement is impelled as well by the present demand, represented in the provisions of the federal No Child Left Behind Act (“NCLB”), that schools find ways to increase the achievement of African American and other students of color, linguistic minorities, and economically disadvantaged students, or face serious sanctions that can redirect funds from the schools to supplementary services, offer students exit options, and, in the very worst cases, require school reconstitution.⁹ While the NCLB stipulates that all groups of students will be performing at national norms by 2014,¹⁰ more realistic expectations for the results of education reform raise the question of whether modest improvements in educational achievement can significantly improve students’ economic life chances.

Finally, particularly in light of our recent commemoration of *Brown v. Board of Education*’s fiftieth anniversary in 2004, we are prompted to ask if the intensifying racial isolation of students¹¹ is likely to exacerbate educational disparities, and, therefore, to increase racial economic disparities.

In this article I want briefly to address the following questions by synthesizing results from recent relevant sociological and economic research:

(1) To what extent do disparities in academic achievement contribute to black-white earnings disparities? Put differently, if blacks and whites had the same levels of academic achievement, to what extent might we expect their earnings to converge?

(2) Would the rather modest gains in academic achievement, which we might reasonably expect education reforms to accomplish, increase

8. David A. Jaeger & Marianne E. Page, *Degrees Matter: New Evidence on Sheepskin Effects in the Returns to Education*, 78 REV. OF ECON. & STAT. 733, 733-739 (1996); Johnson & Neal, *supra* note 7, at 480-94; see Richard J. Murnane et al., *How Important are the Cognitive Skills of Teenagers in Predicting Subsequent Earnings?*, 19 J. POL’Y ANALYSIS & MGMT. 547 (2000) [hereinafter *Cognitive Skills*]; Richard J. Murnane et al., *Do Different Dimensions of Male High School Students’ Skills Predict Labor Market Success a Decade Later? Evidence from the NLSY*, 20 ECON. OF EDUC. REV. 311 (2001) [hereinafter *Different Dimensions*]; but see Mamoura Ishikawa & Daniel Ryan, *Schooling, Basic Skills and Economic Outcomes*, 21 ECON. OF EDUC. REV. 231 (2002) (showing smaller effects for education attainment, though not for literacy skills).

9. No Child Left Behind Act of 2001, 20 U.S.C.A. § 6311 (West 2003 & Supp. 2005).

10. 20 U.S.C. § 6311(b)(2)(f).

11. CHUNGMEI LEE, CIV. RTS. PROJ.: HARV. U., IS RESEGREGATION REAL? 1 (2004), http://www.civilrightsproject.harvard.edu/research/reseg03/mumford_response.pdf.

the expected earnings of African Americans to any meaningful extent?

(3) Can raising achievement from very low to moderately low or average levels promote economic success, or does achievement have to lie in the above-average range in order to be economically valuable?

(4) Is high school graduation alone economically valuable, or does high school graduation have to be followed by post-secondary education in order to "pay off"?

(5) Does school segregation affect the economic value of a student's education?

II. TO WHAT EXTENT DO DISPARITIES IN ACADEMIC ACHIEVEMENT CONTRIBUTE TO BLACK-WHITE EARNINGS DISPARITIES?

Recent research suggests that the *entire* disparity in the hourly wages paid to African American women who hold full-time jobs at some point during a calendar year is accounted for by disparities in measured cognitive skills.¹² For example, in the 1990-93 National Longitudinal Survey of Youth ("NLSY") data, among such women, twenty-six- to thirty-one-year-old African Americans earned 17% less than their European American counterparts, but adding the Armed Forces Qualifying Test composite into the equation reduced the gap to a statistically insignificant 5%.¹³

Recent research suggests that two-thirds or more of the disparity in hourly wages between white and African American men is associated with disparities in measured cognitive skill. For example, in the same survey mentioned above, in which the wages of white males in their late twenties were 30% higher than those of black males, the differential fell to approximately 10% when measures of cognitive skill were held constant.¹⁴

However, the actual annual earnings of African American men remain noticeably lower than those of whites even when measured cognitive skills are equivalent. In the sample in question, African American men earned only 73% of what white men with equivalent test

12. Johnson & Neal, *supra* note 7, at 480-87. Because of the ugly history and the political volatility of using terms like "cognitive skill" in reference to racial disparities, I must emphasize that I am referring to test scores as measuring realized or manifested cognitive skill, *not* to innate ability.

13. *Id.*

14. *Id.* at 481; see also *Different Dimensions*, *supra* note 8, at 311.

scores earned.¹⁵ This is because, except for college graduates, African Americans are less likely to work a full year than are whites with comparable measured skills. In another national sample, the 1992 National Adult Literacy Survey, of individuals aged twenty-six to fifty-nine, the likelihood of being unemployed, even when a broad measure of prose literacy, document literacy, and quantitative literacy is held constant, is 54% higher for African American men than for European American men.¹⁶ Another way of saying this is that lower-scoring (and less well-educated) white men are less likely than comparable African Americans to be unemployed.

While it is probably easier to find ways to keep students in school (for example, by raising the compulsory schooling age, than it is to find ways to improve their cognitive skills while they are in school), the latter is considerably more important for reducing racial disparities in economic outcomes.¹⁷ Unless discrimination were to intensify in the face of improvements in the academic achievement of African Americans, equalizing measured cognitive skills could reduce the wage gap between African American and white men by one-half to two-thirds or more,¹⁸ and all of the gap between African American and white women.¹⁹ Merely equalizing years of education acquired would be predicted to reduce these gaps by only one-fifth and one-sixth, respectively.²⁰

A somewhat different question than what accounts for the gap in the earnings of African Americans and whites at any one time, is what accounts for *increases* in that gap, such as have occurred since the mid-1970s.²¹ Here again, disparities in cognitive skills are of importance because these skills have increasingly commanded high monetary

15. Johnson & Neal, *supra* note 7, at 481.

16. Stephen W. Raudenbush & Rafa M. Kasim, *Cognitive Skill and Economic Inequality: Findings from the National Adult Literacy Survey*, 68 HARV. EDUC. REV. 33, 56-57, 63-64 (1998).

17. Nan L. Maxwell, *The Effect on Black-White Wage Differences of Differences in the Quantity and Quality of Education*, 47 INDUS. & LAB. REL. REV. 249, 250-51, 253, 255, 258-61 (1994).

18. Derek A. Neal & William R. Johnson, *The Role of Premarket Factors in Black-White Wage Differences*, 104 J. POL. ECON. 869, 874 (1996); Johnson & Neal, *supra* note 7, at 490-97; *Cognitive Skills*, *supra* note 8, at 311.

19. *Different Dimensions*, *supra* note 8, at 311.

20. Neal & Johnson, *supra* note 18, at 869-95.

21. Michael A. Boozer et al., *Race and School Quality Since Brown v. Board of Education*, BROOKINGS PAPERS: MICROECONOMICS 169, 270 (1992).

premiums.²² In such circumstances, static or even diminishing disparities in cognitive skills can be associated with increasing disparities in earnings. A possibly important school-related source of increasing earnings disparities is the disparity in the use of computers in school by African American students, and the concomitant disparity in the acquisition of computer-related skills.²³ A second important education-related source of increased earnings disparity is the persistent disparity in college graduation between African Americans and whites at a time when the premium paid to college graduation has increased.²⁴

III. WOULD THE RATHER MODEST GAINS IN ACADEMIC ACHIEVEMENT, WHICH WE MIGHT REASONABLY EXPECT EDUCATION REFORMS TO ACCOMPLISH, INCREASE THE EXPECTED EARNINGS OF AFRICAN AMERICANS TO ANY MEANINGFUL EXTENT?

Two of the most highly touted education reforms for which we have at least a modicum of data are school choice and reduced class size. The best estimates for the effects of these reforms are that they raise achievement scores in the neighborhood by one-fifth of a standard deviation.²⁵ This is equivalent, for example, to moving a student from the fifteenth percentile to the nineteenth percentile, or from the thirtieth percentile to the thirty-seventh. What happens when choice, reduced class size, and other reforms like high stakes testing and school restructuring occur together, is a matter of speculation at this point. By one estimate, one-fifth of a standard deviation increase in academic achievement would raise African Americans' earnings by approximately 4%.²⁶ Another estimate that assumes an intervention, which both raises achievement by one-quarter of a standard deviation and increases education attainment by one year, is that discounted lifetime earnings might increase between \$22,000 and \$77,000.²⁷ That is an average of

22. June O'Neill, *The Role of Human Capital in Earnings Differences Between Black and White Men*, 4 J. ECON. PERSP., Fall 1990, at 25, 35-42; Richard J. Murnane et al., *The Growing Importance of Cognitive Skills in Wage Determination*, 77 REV. ECON. & STAT. 251, 256-64 (1995) [hereinafter *Wage Determination*].

23. Boozer, *supra* note 21, at 293-300.

24. Ishikawa & Ryan, *supra* note 8, at 251-66.

25. Susan E. Mayer & Paul E. Peterson, *The Costs and Benefits of School Reform*, in *EARNING AND LEARNING: HOW SCHOOLS MATTER* 341, 343-45 (Susan E. Mayer and Paul E. Peterson eds., 1999).

26. *Id.* at 345.

27. DUNCAN CHAPLIN, ALLIANCE FOR EXCELLENT EDUC., PUBLIC AND PRIVATE BENEFITS OF EDUCATION FOR AT-RISK YOUTH AND THE ALLIANCE FOR EXCELLENT

\$550 to \$1925 per year. Using the one-quarter of a standard deviation as a reasonable expectation, I would expect that successful school reform could reduce the racial earnings gap for men by 17% to 20%. For women, the figure would be from 25% to 30%. These are non-trivial magnitudes, and they imply a considerable reduction in the number of workers who would earn very little. If school reforms synergistically produced greater gains in achievement that were real, and not just the results of concentrated “test prep,” the earnings gap would be correspondingly further reduced.

It is important to note that the economic returns to higher skills and longer schooling accelerate as young workers age and acquire more work experience.²⁸ Therefore, the incentives for academic effort and persistence may not be obvious to youth while they are still in school and when the workers they know may be only somewhat older than themselves.

IV. CAN RAISING ACHIEVEMENT FROM VERY LOW TO MODERATELY LOW OR AVERAGE LEVELS PROMOTE ECONOMIC SUCCESS, RATHER THAN ACHIEVEMENT HAVING TO LIE IN THE ABOVE AVERAGE RANGE IN ORDER TO BE ECONOMICALLY VALUABLE?

The answer appears to be an emphatic yes. While much public attention is on demands for higher-level skills that are associated with technologically demanding occupations, demand for and therefore, returns to basic skills (including, for example, the ability to manipulate decimals and fractions) are appreciable. As one group of economists has concluded, “a high school senior’s mastery of skills *taught in American Schools* [sic] *no later than the eighth grade* is an increasingly important determinant of subsequent wages.”²⁹ The jobs that high school dropouts acquire reward variations in cognitive skill even within the narrower range and lower level of skills that dropouts bring to the labor market.³⁰ For example, in a study of the earnings of Florida high school dropouts who took the General Educational Development (“GED”) exams in the mid- to late-1990s, a standard deviation increase

EDUCATION FRAMEWORK 26, http://www.all4ed.org/publications/BenefitsOfEducationFor-AtRiskYouth_Chaplin.doc (last visited Sept. 14, 2005).

28. John H. Tyler, *Basic Skills and the Earnings of Dropouts*, 23 *ECON. OF EDUC. REV.* 221 (2004).

29. *Wage Determination*, *supra* note 22, at 264 (emphasis in original).

30. John Tyler et al, *Do the Cognitive Skills of School Dropouts Matter in the Labor Market?* 35 *J. HUM. RESOURCES* 748, 751-54 (2000); Tyler, *supra* note 28, at 226.

in scores on the math portion of the GED, on average, raised earnings by somewhat over 7%.³¹

V. IS HIGH SCHOOL GRADUATION ALONE ECONOMICALLY VALUABLE, OR DOES HIGH SCHOOL GRADUATION HAVE TO BE FOLLOWED BY POST-SECONDARY EDUCATION TO "PAY OFF"?

High school graduation is economically valuable even when test scores are not higher than those of dropouts and when graduation is not followed by college. African American men in their late twenties who have completed high school but not college are predicted to earn annually over double what African American dropouts with the same test scores earn.³² It is worth noting that the advantage of white high school graduates over dropouts with comparable test scores is only 38%, making vivid that the labor market penalizes black dropouts far more than it does white dropouts.³³ Much of the effect of high school graduation on annual earnings arises because high school graduates are far less likely to be unemployed than are dropouts, not because they earn twice as much per hour.

As I have already noted, increments in cognitive skills among high school dropouts are economically valuable. Additionally and importantly, educational persistence and cognitive skills have reciprocal effects. Further schooling raises cognitive skills, and increases in cognitive skills and in educational attainment raise later educational attainment, and so on.³⁴ However, while calling attention to the economic value of remaining in high school, it is still important to observe, as one group of economists has, that "access to college is critical to enabling students to realize the full return on investing in skill mastery."³⁵

31. *Id.*

32. Johnson & Neal, *supra* note 7, at 491.

33. Jacobson, *supra* note 7.

34. Christopher Winship & Sanders D. Korenman, *Economic Success and the Evolution of Schooling and Mental Ability*, in EARNING AND LEARNING: HOW SCHOOLS MATTER 49, 59-64 (Susan E. Mayer and Paul E. Peterson eds., 1999).

35. *Cognitive Skills*, *supra* note 8, at 563.

VI. DOES SCHOOL SEGREGATION AFFECT THE ECONOMIC VALUE OF A STUDENT'S EDUCATION?

I could find no evidence that the economic returns to academic achievement or educational attainment are lower for those who attend segregated schools and those who attend desegregated schools. But, I did find suggestive evidence that racial isolation affects academic achievement,³⁶ and that attendance in segregated schools directly affects later earnings, even when academic achievement is held constant.³⁷

In a study of well over 100,000 Texas students, researchers recently found that if students were not disproportionately concentrated by race, the achievement of black seventh-graders could be higher by almost one-fifth of a standard deviation, which would have non-trivial effects on high school graduation, college entrance, and later earnings.³⁸ The effects of desegregation on achievement would be predicted to be the greatest for initially higher achieving students.³⁹ Similar effects have not, however, been found in recent national surveys, and the effects of school desegregation on academic achievement are, at best, uncertain.⁴⁰

Whether because segregation limits the networks in which students participate and the social capital which they acquire—recall the reasoning of the Court in *Sweatt v. Painter*,⁴¹ one of the law school cases leading to *Brown*, highlighting the importance of establishing contacts with other students—or because employers hold segregated schools in low esteem, or for other reasons, it appears that attending heavily segregated schools can have a modest but direct effect on the economic prospects of black students that is unrelated to the student's own academic achievement and educational attainment. The effect might be such that attending a school that is 50% black rather than 100% black

36. Eric A. Hanushek, John F. Kain & Steven G. Rivkin, *New Evidence About Brown v. Board of Education: The Complex Effects of School Racial Composition on Achievement* 3 (Nat'l Bureau of Econ. Research, Working Paper No. 8741, 2002), available at <http://edpro.stanford.edu/eah/papers/race/pdf> (last visited Sept. 14, 2005).

37. See Jeff Grogger, *Does School Quality Explain the Recent Black-White Wage Trend?*, 14 J. LAB. ECON. 231, 240-47 (1996); but see Steven G. Rivkin, *School Desegregation, Academic Attainment, and Earnings*, 35 J. HUM. RESOURCES 333, 339-43 (1999).

38. Hanushek, *supra* note 36, at 17.

39. *Id.* at 22.

40. See generally Meredith Phillips, *Do African American and Latino Children Learn More in Predominantly White Schools?* (1998) (unpublished article, School of Public Policy and Social Research, University of California, Los Angeles) (on file with the author).

41. 339 U.S. 629 (1950).

could raise earnings on the order of 5%.⁴²

VII. CONCLUSION

While variations in academic achievement by no means determine the economic destiny of individuals, they do appreciably affect income. Equalizing achievement across race would go a long way toward diminishing economic disparities between whites and blacks, though racial disparities in employment, especially among less highly achieving and less well-educated men, exercise a powerful impact on racially disparate economic opportunities. Even modest gains in achievement among initially poorly performing students are predicted to meaningfully increase economic attainments. High school graduation, independent of levels of academic achievement, contributes to economic opportunity, though its impact is considerably less than graduation from a four-year college. The effects of desegregation on academic achievement are uncertain, but while segregation may not lower the incremental value of additional schooling, it does apparently directly lower the economic opportunities of African Americans.

The message of this brief survey to educators, policymakers, and the broader public should be to encourage those who probably already know intuitively and from experience that conventionally assessed academic achievement is important; to encourage appreciation that modest gains in academic achievement can bring meaningful economic benefits, even to those who continue to lag behind their peers; to establish that the message "stay in school" is not idle; and to affirm that desegregation should not be abandoned as irrelevant.

42. See Grogger, *supra* note 37, at 240-47; but see Rivkin, *supra* note 37, at 339-43.