Is the Black–White Achievement Gap Simply a Poverty Gap?

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A Black–White Achievement Gap characterizes the performances of African American students and their non-Hispanic White peers. This paper discusses the role of poverty in under-achievement by African American students. The thesis of this paper is that poverty has the potential to impact the academic achievement of any student living in impoverished circumstances in profoundly negative ways. Thus poverty plays a role in the poor academic outcomes of the disproportionately high numbers of African American students who live in low-income homes. Poverty alone, however, is not a sufficient explanation for the Black–White Achievement Gap. A number of other potential influences must be considered. As discussed later in the paper, oral language skills are an important new direction in this line of research.

What is the Black–White Achievement Gap?

The Black–White Achievement Gap is a term used to refer to the performance disparities that characterize African American and non-Hispanic White students. The Gap is long-standing. It was initially recorded in the early 1900s, at the time when performance comparisons first began to be made (Fishback & Baskin, 1991). The Gap has spanned the many subsequent generations, and continues essentially unabated today.

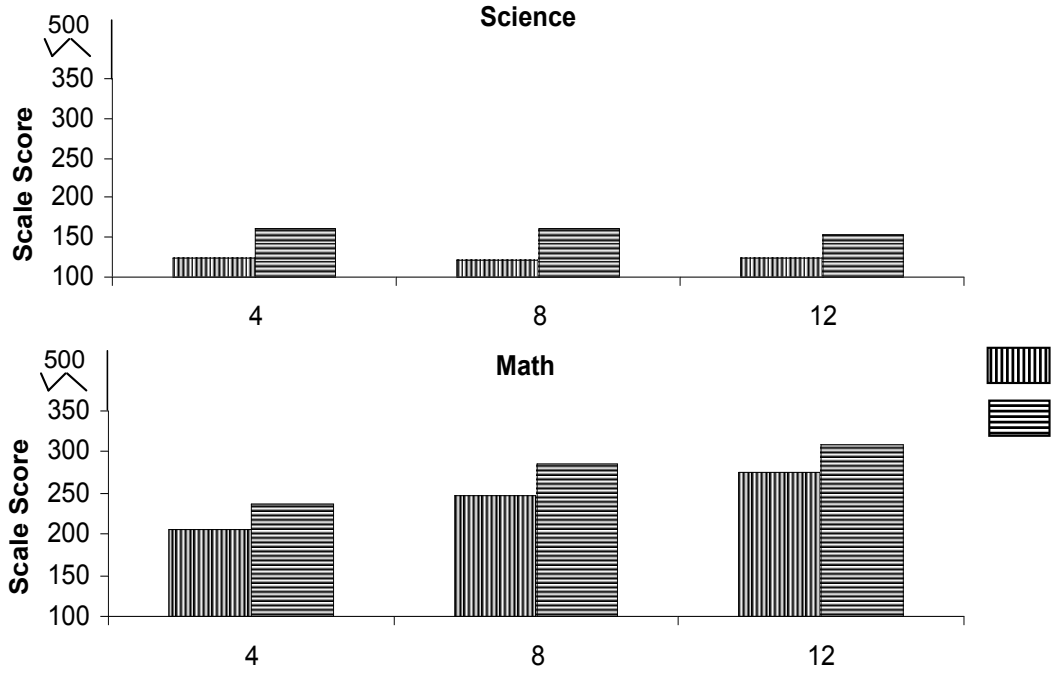
The Black–White Achievement Gap includes a "Black–White Test Score Gap" (Jencks & Phillips, 1998), such that African American students are much less likely than their majority peers to perform at basic competency levels on major tests. For example, the prevalence of reading below basic levels at Grade 4 is much greater for African American than non-Hispanic White students, 58% compared to 24% on the 2005 administration of the National Assessment of

Educational Progress, NAEP (Perie, Grigg, & Donahue, 2005). The Black–White Test Score Gap is observable at school entry, continues through high school, and characterizes performances across all major content areas. To illustrate, Figure 1 displays performance disparities in three major academic content areas, for elementary grades through high school, on recent administrations of the NAEP (Grigg, Daane, Jin, & Campbell, 2003; O'Sullivan, Lauko, Grigg, Qian, & Zhang, 2003; Braswell, Lutkus, Grigg, Santapau, Tay-Lim, & Johnson, 2001). Regardless of grade or academic content area African Americans score lower than their non-Hispanic White peers.

Figure 1. Average scale scores on the NAEP across three subjects

African American

Non-Hispanic White



The Achievement Gap is not limited to test score differences. Disparities are observable on almost any measure of achievement used to compare African American and non-Hispanic White students. Further, the achievement gap continues into adulthood. On many major benchmarks of adult success, African Americans attain lower levels than non-Hispanic Whites. Table 1 provides some critical examples for children and adults.

Table 1. Important achievement indicators* for African Americans and non-Hispanic Whites

Indicator	African American	Non-Hispanic White
Students:		
% grade retention for elementary and secondary students	18	9
% suspensions/expulsions for elementary and secondary students	35	15
% high school drop-outs	13	7
Number of students per 1,000 taking Advanced Placement exams	53	185
% 18-24 year olds in college or universities	31	39
% children living in poverty	31	9
Adults:		
Median earnings (in year: 2000 dollars) for adult males 25 years and over	$28,167	$36,668
% 25-29 year olds who have a bachelor's degree or higher	18	34
% Unemployment of 16-24 year olds	18.5	7.4
Births per 1,000 15-19 year old females	82	33

* data taken from Hoffman & Llagas (2003)

What is the Black–White Poverty Gap?

A Black–White Poverty Gap also exists. Poverty is often defined operationally in terms of family income. Family income determines access to a variety of important basics such as food, shelter, clothing, and medical care. When these necessities are inadequate, a child's health

can be compromised with deleterious effects on a wide-ranging array of learning factors, including school attendance (Rooney et al., 2006) and cognitive development (Bradley & Corwyn, 2002). Homes where parents cannot provide financially for their children are characterized by high levels of stress and can create a context ripe for the emergence of behavioral and socioemotional difficulties (McLoyd, 1990), which impede learning. Students from low-income homes often attend lower quality schools and are taught by poorer quality teachers with lower expectations for achievement, thereby perpetuating inequalities at the "starting gate" (Lee & Burkham, 2002). Children living in low-income homes also have access to fewer community resources and those available tend to be of poorer quality. Further, students from low-income families live in communities where libraries, museums, and other educationally enriching resources are scarce (Brooks-Gunn, Duncan, Klebanov, & Sealand, 1993; Hoffman & Llagas, 2003).

The rates of child poverty for African American children are far greater than for non-Hispanic Whites. African American students are three times as likely to be living in poverty as non-Hispanic White students; thirty-three percent of African American children live in poverty compared to approximately ten percent of mainstream children (See Table 1). Overall and compared to their non-Hispanic White peers, therefore, the population of African American children is at risk for being affected acutely and negatively by poverty and by its covariates.

Measuring Poverty

In any discussion of the Black–White Gaps in achievement and poverty, it is important to acknowledge the many measurement issues that complicate poverty research, and exercise appropriate caution when interpreting results. (See for example, Duncan & Magnuson (2005) for a fuller discussion of measurement issues). There is no single, best measure of SES (Liberatsos,

Link, & Kelsey, 1988). Poverty is a complex and multi-dimensional concept, often resulting in combined effects across a number of more discrete variables. Many scholars adopt the term socioeconomic status to represent social stratification, comparing low and middle socioeconomic status homes (LSES and MSES, respectively) in their research, in part as a better way to capture the multiplicity of variables and covariates affecting a child living in impoverished circumstances.

For more than a decade at the University of Michigan, we have been examining language and literacy relationships for African American students. Our approach to measuring poverty and its covariates has been to create a binary variable and designate families as either LSES or MSES. Some students qualified for the free- or reduced price lunch program, meeting the federal qualifications for the program, and therefore, were designated LSES. Most students were classified as LSES or MSES based on the Hollingshead Four Factor Index of Social Status (HI, Hollingshead, 1975), using self-reported family data. Rather than income, the HI considers four types of information: caregiver education, caregiver occupation, gender, and marital status. The HI uses weighted scores from these factors to identify 5 social strata, from the lowest level: unskilled labor and menial service work to the highest level: major business and professional. This scale has the advantage, therefore, of being the composite of a set of potentially influential variables, including the maternal/caregiver education variable. Maternal education is known to be an important predictor of reading achievement (Chall, Jacobs, & Baldwin, 1990; Entwisle, Alexander, & Olson, 1997) and of foundational reading skills, such as vocabulary size (Washington & Craig, 1999). Further, the scale depends upon information provided fairly readily by families, avoiding more sensitive reporting about household income, which may yield high no-response rates (Entwisle & Astone, 1994). In addition, the occupation factor is tied to the

titles and codes in the U.S. Census so new employment categories (e.g., software programmer) can be fit fairly readily into the 9 point occupation scale, thereby maintaining its currency.

Unfortunately, there is little guidance in the extant literature about how to apply the specifics of the HI to African American families, and it may be appropriate to develop more precise guidelines. Assignment of the same social strata score to African Americans and non-Hispanic Whites may not capture real differences that exist between the two groups. For example, African American male adults earn about 25% less than their non-Hispanic White peers (see Table 1). Earning differentials persist even when controlling for years of education (Hoffman & Llagas, 2003). Accumulated assets and overall wealth are other significant financial differences which distinguish the two populations. African Americans are less likely than non-Hispanic White peers to inherit money from the prior generation, and when inheritances are received, they are smaller. African Americans are less likely than non-Hispanic Whites to be gifted sizeable amounts of money at times representing significant life events, for example receiving family financial assistance toward the purchase of a first home (Darity & Nicholson, 2005).

Therefore, we adopted a fairly pragmatic approach to the problem of defining SES within our sample. We designated families as LSES if their scores fell within the two lowest levels of the HI strata, and as MSES when scores fell within the two highest strata. The middle stratum (#3) was less clear, and designations were made on a case by case basis that considered occupation and gender. In particular, if the HI for a female head of household in one family and a male head of household in another both were 3, the female was considered LSES and the male MSES because of differential wages for males and females performing the same jobs (Spraggins, 2000).

Is the Black–White Achievement Gap just another manifestation of the Black–White Poverty Gap?

Are the poverty and achievement gaps between African American and non-Hispanic White Americans simply the same thing? This question has merit because so many African American children are impoverished and poverty disadvantages children for learning. The historical literature on achievement shows that the knowledge base on this topic was built in part upon the faulty practice of comparing LSES African American to MSES non-Hispanic Whites, so that past research designs often confounded race and socioeconomic status (Graham, 1992; Hill, Murry, & Anderson, 2005; McLoyd & Randolph, 1985). It would be unfortunate if improving our understanding of the methodological flaws of past research, results in a dismissive assumption that the achievement gap has no validity apart from the poverty gap. As Meier (2002) observed, the assumption that the Black-White Achievement Gap is really a poverty gap rather than a racial gap currently is more comfortable for many Americans. Poverty is a broad societal problem rather than a specific educational one. Therefore, if we believe that underachievement by African Americans is due to poverty, as educators we may feel little specific responsibility to address the problem. If, however, poverty is only part of the cause and other factors are involved, then we must rally our resources and find any education-based solutions with potential to ameliorate the problems causing underachievement.

The limited research on the language and literacy development of African American children provides remarkably little focused inquiry on the impact of SES. SES may be included as a sample descriptor for the African American participants, but SES is not often included as a control variable, nor examined for its potential as a predictor or covariate. This is unfortunate because, when considered as part of the research design, SES has been quite informative. To

illustrate, Craig, Connor, and Washington (2003) followed two cohorts of young African American students across the early elementary grades and found that their performance trajectories differed by SES. At time of project entry, Cohort #1 was comprised of preschoolers from LSES homes enrolled in a state-funded program for children at risk, which emphasized early language and literacy learning. Cohort #2 was comprised of kindergartners from MSES homes. All resided in the same community and attended the same schools. Despite differences in SES at the outset, by 1st grade, the LSES cohort was performing as well as the MSES cohort, and by 2nd and 3rd grades, the LSES cohort was outperforming the MSES cohort on standardized tests of reading. It appeared that the high-quality early childhood program experienced by the LSES preschoolers yielded measurable and durable benefits, which mitigated at least in part the effects of their economic disadvantage.

In addressing this question of explanatory overlap between the Achievement and Poverty Gaps, I draw from two data sources and focus specifically on achievement in reading. First, insights can be gleaned from published reports of national data bases. Second, I discuss trends apparent in data gathered during the last decade as a part of my own research program at the University of Michigan. I draw on these sources to lay out the case that poverty alone is an insufficient explanation for the Black–White Achievement Gap.

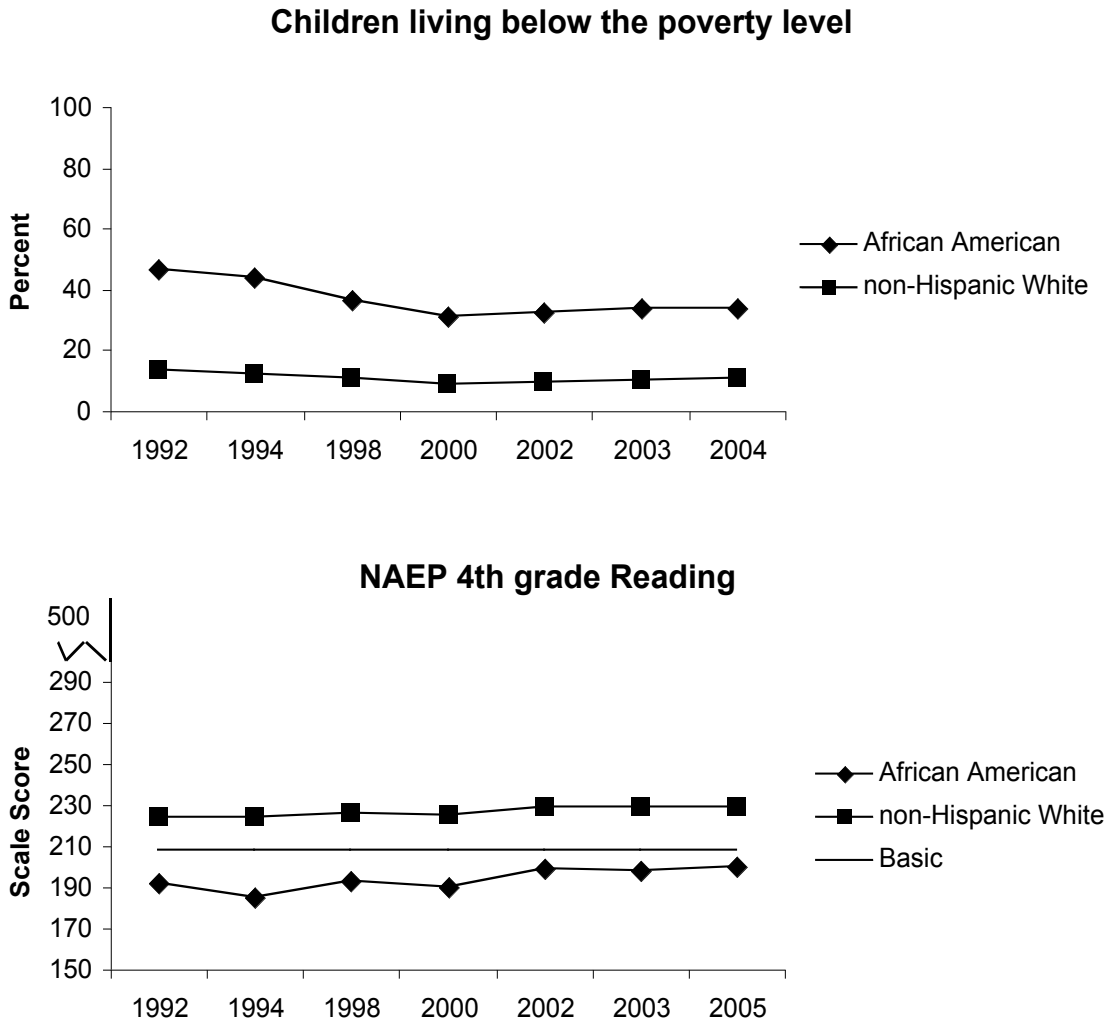
National trends based on family income

Figure 2 displays data gathered from national sources on the percentage of children under 18 years living in poverty (U.S. Census Bureau, n.d.) and on reading achievement (Perie et al., 2005) for approximately the same time frame, disaggregated by race. In 1992, 46% of African American children lived in poverty compared to 13% of non-Hispanic Whites, a gap of 33%. In 2004, the childhood poverty gap narrowed from 33% to 23% (34% for African American

children and 11% for non-Hispanic Whites in 2004). Between 1992 and 2004, therefore, there was an appreciable closing of the Black–White Poverty Gap. It is noteworthy that although 2% fewer non-Hispanic Whites were living in poverty, a remarkable 12% fewer African American children were living in poverty. By implication, if this rate of progress should continue, we might hope to see an end to the childhood poverty racial gap within our lifetimes.

Did this considerable improvement in childhood well-being for African American students correspond to an appreciable gain in reading scores? Examination of NAEP 4th, 8th, and 12th grade data indicates that this was not the case. By way of example, during approximately the same time span, from 1992 to 2005, an examination of 4th grade reading scores from the NAEP for African American students revealed a gain of 8 Scale Score points, so that as a group they were performing closer to the basic level (score of 208). However, non-Hispanic Whites improved as well, up 5 Scale Score points. These improvements for both populations, therefore, netted only a very small narrowing of the reading gap, by 3 points. Overall, as the poverty gap decreased, the reading test score gap also decreased, but negligibly. See Figure 2 for the 4th grade data. By implication, if this rate of progress were to continue in the forthcoming decades, it could take approximately 150 years to close the Black–White Test Score Gap in reading. Overall, there is regrettably little evidence from these national trends that a significant decrease in poverty levels will yield a measurable improvement in reading levels. Based on these national data, it seems unlikely that eliminating the Black–White Poverty Gap will eliminate the Black–White Achievement Gap for reading.

Figure 2. The percentages of African American and non-Hispanic White children under 18 years living in poverty in the U.S. (U.S. Census, n.d.), and NAEP Scale Scores for 4th grade reading during the same time span from 1992–2004/5



The University of Michigan data

Approximately 270 African American students enrolled in the elementary grades in public schools in southeast Lower Michigan have participated in studies within our research program. Included in the data collected from these students were their scores on standardized reading tests. Most of the students (n = 155, 76%) were residents of an urban-fringe community

of Detroit. Approximately half were male and half female, and included children from both LSES (46%) and MSES (54%) homes. When interpreting their reading performances, it is noteworthy that students in the LSES and MSES groups showed no significant performance differences on a non-discriminatory measure of general cognitive skill, the Triangles subtest of the Kaufman Assessment Battery for Children (K-ABC, Kaufman & Kaufman, 1983). Therefore, any achievement differences observed between the two groups was not due to significant differences in cognitive skill. Reading tests were administered by the schools, and included the Metropolitan Achievement Test (MAT, 1993) for second and third graders, and the Michigan Educational Assessment Program (MEAP, 1999–2001) for 4th graders. Test scores were converted to *z*-scores for analysis purposes.

When the data were collected, the research questions focused specifically on the language and literacy development of typically developing African American students. Although the focus of this research was not on the role of poverty, information about SES has been collected consistently. Therefore, this data set situates us very well to ask how African American students from LSES homes are faring academically, compared to other members of the same population, particularly African American students living in the same communities and attending the same schools, but from MSES homes.

Table 2. The oral language comprehension and production measures

Domain	Skill	Performance Measure
Oral Language Comprehension	Vocabulary size and diversity	Standard Scores, Peabody Picture Vocabulary Test-3rd edition (PPVT-III; Dunn & Dunn, 1997)[a]
	Understanding requests	# targeted responses on a Wh-questions task (Wh-q; Craig & Washington, 2000)

Oral Language Production	Narrative Sentence Production (Craig, Washington, & Thompson, 2005)	Complex Syntax Rates (Csyn) Mean Length of Communication Units, in words (MLCU) Number of different words in sample (NDW)

[a] PPVT-III, a non-discriminatory revision of the earlier versions of the Peabody Picture Vocabulary Test

Oral language comprehension and production and standardized scores of reading achievement were available for all students. See Table 2 for the oral language measures. Examination of the data using factor analysis revealed a fairly clear pattern in which there were two oral language skill components (see Table 3). Component I was labeled a Comprehension Factor (COMP) representing the common unobserved variable that was strongly related to PPVT and Wh-q, and Component II was labeled a Production Factor (PROD), representing the common latent variable that was strongly related to Csyn, MLCU, and NDW. Component I explained 29%, Component II 44%, and the two components together explained 73% of the total variation among the five performance measures. See Table 3.

Table 3. Varimax-Rotation Principal Components Analysis

Performance Measure	Component I	Component II	Communalities
PPVT	.834	.105	.707
Wh-q	.828	.119	.700
Csyn	.066	.858	.740
MLCU	.056	.939	.884
NDW	.245	.739	.606
% Total Variance	28.99	43.76	72.75

Direct effects of SES on reading achievement

For the purposes of the present discussion, structural equation modeling (SEM) was adopted because of its utility in examining the relative strengths of potential inter-relationships among variables, especially when latent factors are involved (Kline, 2005). The SEM was tested with the covariance matrix of 269 participants, using Amos 6.0 (Arbuckle, 2005). Using SEM, relationships among our binary LSES, MSES groupings, oral language skills (COMP and PROD), and reading (READ) were examined. See Table 4. The model was a good fit to the data. $_^2$ (9) = 14.949, p = 0.092, RMSEA = 0.050, 90% CI = (0, 0.093).[1]

Table 4. Regression Weights Estimates for the model

	Estimate	Standard Error	Standardized Estimate	Critical Ratio	*p*
SES → COMP	4.034	1.728	.178	2.335	.020
SES → PROD	.023	.021	.078	1.098	.272
COMP → READ	.051	.012	.535	4.414	***
PROD → READ	1.177	.552	.161	2.131	.033
SES → READ	.247	.123	.114	2.017	.044

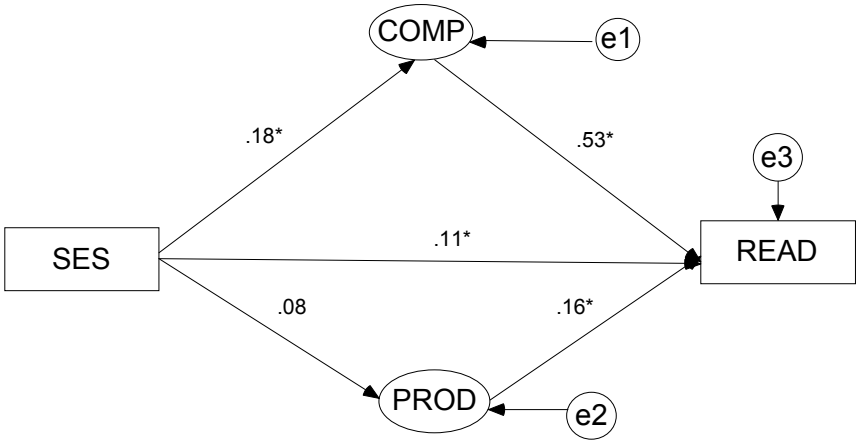
*** $p < 0.001$

The SES model showed a statistically significant direct effect of SES group on READ after controlling for COMP and PROD. See Figure 3. Although the direct pathway was statistically significant, the effect was not a strong one (unstandardized coefficient = .247; p = 0.044). The finding that SES exerted a direct effect on reading achievement for African American students is consistent with a recent study by Nievar and Luster (2006), which examined the reading recognition skills of African American students in one of the very few studies of SES and reading with this population. Their measurement of SES was an income to poverty ratio, and when a variety of other variables were controlled that related to family

[1] For RMSEA (root mean square error of approximation): < = 0.05: close approximate fit, > 0.05 and < 0.08: reasonable error of approximation, good fit (McDonald & Ho, 2002)

processes, income in early childhood was found to exert a significant direct effect on later reading recognition scores.

Figure 3. The relationships among SES based on the LSES, MSES groupings, the oral language factors (COMP, PROD), and reading outcomes (READ)



* Statistically significant, see Table 4 for *p* values

Comparison of reading outcomes by SES group

Whereas SES exerted a direct, although not strong influence on reading, differences in reading performances between the two groups were probed further. Within our larger data set we have standardized reading achievement scores for 155 1st through 4th grade boys and girls from LSES and MSES homes, all residing in the same urban-fringe community, and I draw from this subset in the discussion that follows.

Regardless of SES, 2nd, 3rd, and 4th graders all performed below the expected standard *z*-score mean ($M = 0$). See Table 5. The reading tests were normed on the general population, and as such the test means (*M*) and Standard Deviations (*SD*) provide an estimate of the performance of the Michigan sample of African American students compared to state and national samples of

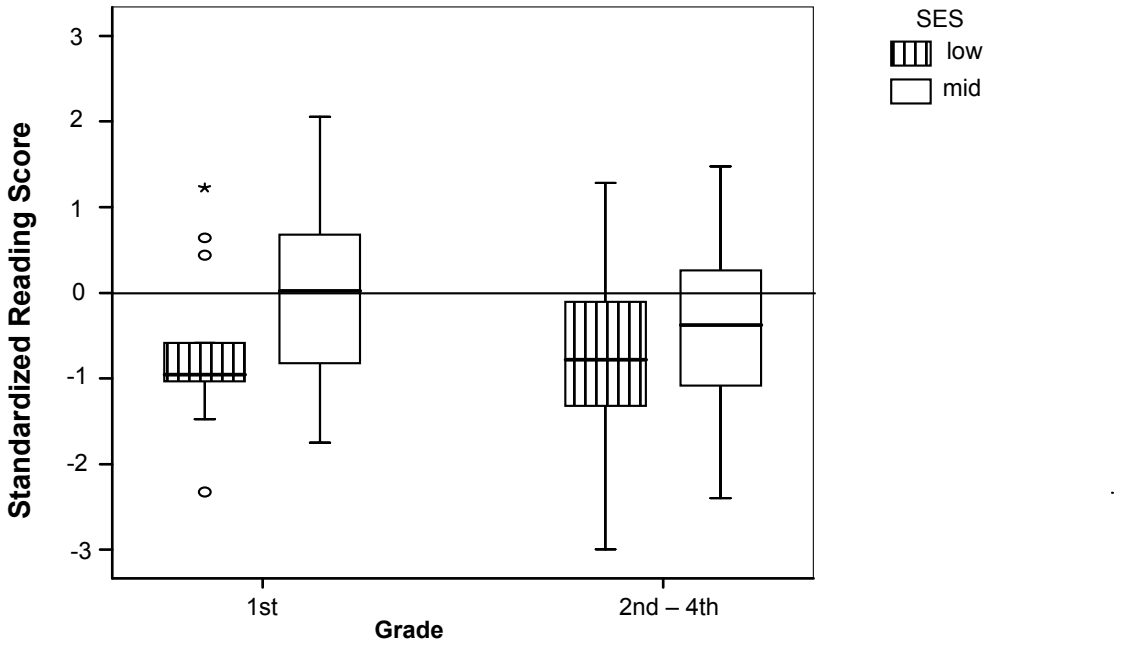
students. Accordingly, the Michigan students were not performing at test levels expected for the general population. Their performance was within normal expectations but falling in the lower half of the expected performance distribution, consistent with national trends.

Table 5. Mean (*M*) and standard deviation (*SD*) reading achievement z-scores for African American 1st–4th graders by SES

		1st	2nd	3rd	4th
LSES	*M*	-.69	-.62	-.74	-.65
	SD	.90	1.00	.88	1.04
	n	15	13	16	4
MSES	*M*	.02	-.46	-.49	-.66
	SD	.99	.90	.86	1.01
	n	39	28	21	19
Difference		**.71**	.16	.25	.01
	p	**.019***	.608	.397	.993

We expected SES to contribute to the reading outcomes of African American students, and this was observed. In our Michigan data set, however, the effects were grade sensitive. See Table 5. At first grade, significant differences were observed between groups, with the MSES students performing close ($M = .02$) to the expected *z*-score mean ($M = 0$) whereas the LSES students were considerably lower ($M = -.69$). After first grade, performance differences by SES group largely disappeared. For 2nd-4th graders, most students performed below the standard *z*-score mean, regardless of SES group membership (73% of LSES and 69% of MSES). The mean *z*-scores were not significantly different by SES [$t(99) = .810$, $p = .420$], and the amount of score dispersion was comparable by group as well. Figure 6 displays these relationships as box plots.

Figure 6: Box plot of reading achievement *z*-scores for 1st graders and for 2nd–4th graders by SES



It is not surprising that children look most like their families early in the school years, when the potential influences of schooling have not yet had an opportunity to take effect. These trends are consistent with the observations of Lee and Burkham (2002) that poverty exerts its greatest impact at the time of school entry. For African American children, schooling seems to level the effects of poverty and close the performance gap between LSES and MSES African American students. It appears that this is accomplished by having the MSES students lose ground the longer they attend school, in terms of their relative position to the expected test score means. Unfortunately, the leveling effect is not accomplished by having the LSES students make substantial gains.

The role of oral language in early literacy experiences

When searching for potential factors contributing to the Black–White Achievement Gap, linguistic differences between African American and mainstream children are important considerations because early oral language skills lay the foundation for literacy growth (Snow, Burns, & Griffin, 1998). Although often framed in educational contexts as an emergent reading skill, for African American students it is also important to consider the oral language processes that underlie introductions to literacy.

Prior to school entry, many African American students have early language–literacy experiences that differ from mainstream peers. Early exposure to stories in African American homes often takes the form of oral, collaborative, fictionalized narratives (Heath, 1983; Vernon-Feagans, 1996). This oral tradition differs from the storybook reading which characterizes early language–literacy linkages for non-Hispanic Whites and that is so predictive of later reading skills in the general population (Bus, van IJzendoorn, & Pelligrini, 1995; Scarborough & Dobrich, 1994). Further, compared to their non-Hispanic White peers, African American preschoolers own fewer books and may not be read to on a daily basis (Federal Interagency Forum on Child and Family Statistics, FIFCFS, 2003; Nettles & Perna, 1997). First experiences with print may arise from environmental exposures, for example learning to recognize trademarks or signage (Craig & Washington, 2004b; Purcell-Gates, 1996), and these environmental forms may not present conventional sound–symbol correspondences. Although all children experience environmental print at an early age, the primacy of this exposure for urban African American children is noteworthy because of the lack of balance with storybook reading. Early grade teachers, therefore, may play a particularly critical role for African American students by helping these children disentangle the variations adopted for public and commercial purposes and the rules underlying conventional sound–letter associations found in books. Parents

can become important allies in this process. For example, African American parents read to their children the books that are sent home by teachers (Connor, 2002; Robinson, Larsen, & Haupt, 1996). In the context of increasing adult literacy levels among African American adults, home book programs may be of special importance for African American families in increasing the number of books in the home and frequencies of daily book reading activities (Robinson et al., 1996), and forging the associations between conventional sound–symbol correspondences.

The role of oral language for elementary-grade students

Over the last decade, the oral language skills of African American elementary-grade students have been the focus of intensive inquiry, motivated in part by the recognition that oral language skills play an important role in reading acquisition, and yet tools for examining the oral language skills of African American students were biased (Arnold & Reed, 1976; Taylor & Payne, 1983; Wiener, Lewnau, & Erway, 1983). For example, the widely used Peabody Picture Vocabulary Test-Revised (PPVT-R , Dunn & Dunn, 1981) has consistently been shown to discriminate against African American students (Adler & Birdsong, 1983; Krescheck & Nicolosi, 1973; Washington & Craig, 1992) but continues to be used as a major measure of their oral language skill (NICHD ECCRN, 2005).

Oral language reference profiles for syntax and semantics in the form of both expressive and receptive skills, as well as tools for their assessment, are now available for African American preschoolers through 5th graders (Craig & Washington, 2006; Craig et al., 2005; Jackson & Roberts, 2001; Seymour, Roeper, & de Villiers, 2003; Seymour, Bland-Stewart, & Green, 1998; Thomas-Tate, Washington, Craig, & Packard, 2006). Although studies of the inter-relationships among specific oral language skills and reading in this population are scarce, those available are promising. They show that early preschool syntax and phonological knowledge predict 2nd and

3rd grade reading skills of African American students (Craig, Connor, et al., 2003; Poe, Burchinal, & Roberts, 2004), and it is well-established that both of these aspects of language are amenable to change (Castles & Coltheart, 2004; Fey, Cleave, Long, & Hughes, 1993).

Although in the Michigan data set SES made a statistically significant contribution to reading achievement scores, oral language skills contributed more. See Figure 3. Both of the language factors were significantly related to READ (COMP: $p < 0.001$; PROD: $p = 0.033$). SES was significantly related to one of the language factors, COMP ($p = 0.020$), but not to PROD ($p = 0.272$). COMP had a higher prediction power (.53) on reading than SES (.11). For every one *SD* increase in COMP, READ increased by approximately one-half a standard deviation. The predictive power of PROD was much lower (.16). There was a statistically significant indirect effect of SES on READ through COMP (Sobel test, $z = 2.046$, $p = 0.041$), but there was no indirect effect through PROD (Sobel test, $z = 0.974$, $p = 0.330$). The total effect of SES on READ (sum of direct and indirect effects = .29) was less than the effect of the oral language factor COMP (.53) on READ.

The model outcomes underscore the importance of oral language skills for reading achievement, and further indicate that SES exerted both direct and indirect effects on these reading outcomes of African American students. The indirect effects of SES exerted their influence through oral language comprehension, and overall, oral language comprehension skills were the strongest predictor of reading achievement in the model.

The contribution of dialect to reading outcomes

Not considered in this model is the potential impact of another important language characteristic, the student's status as a dialect speaker. The heritage language of many African American students is African American English (AAE), a rule-governed variety of English that

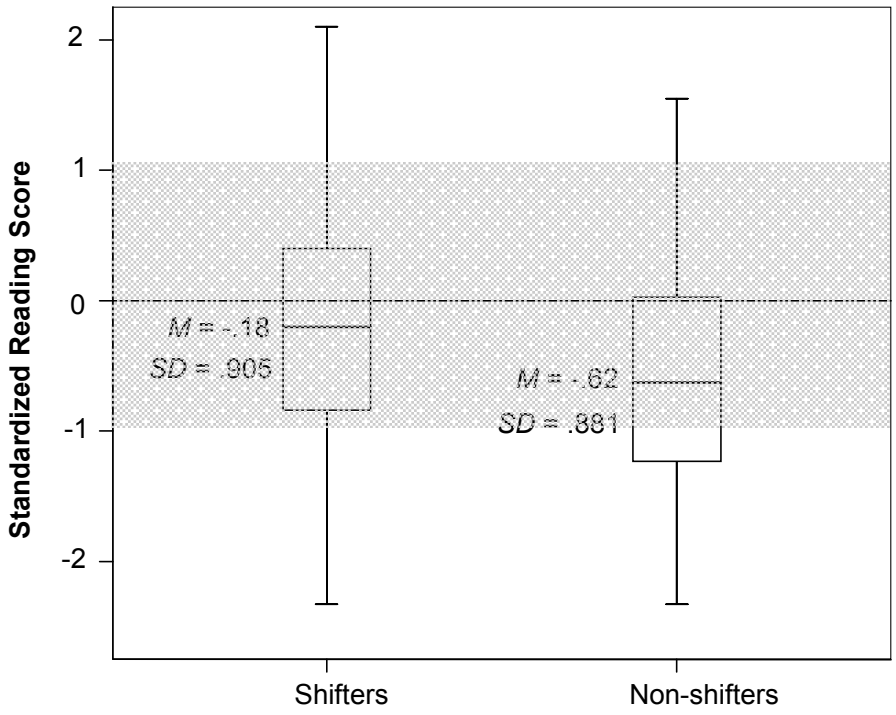
represents African American culture. In our northern U.S. sample of African American students, we observed approximately 40 different AAE features characterizing the spontaneous discourse of school-age children (Craig, Thompson, Washington & Potter, 2003; Washington & Craig, 1994). These features evidenced systematic morphological and phonological variations from other varieties of English. For children from LSES homes, greater AAE feature production rates were positively correlated with more sophisticated syntactic and semantic skills at the time of school entry (Craig & Washington, 1994, 1995). In other words, for young African American students, being a heavy dialect user was not a deficiency; it was a sign of greater linguistic skill.

A number of scholars have proposed that African American students shift away from AAE toward SAE with increased exposure to the mainstream dialect, particularly during schooling (Adler, 1992; Battle, 1996; Fishman, 1991; Ratusnik & Koenigsknecht, 1975). Recent studies (Charity, Scarborough, & Griffin, 2004; Connor & Craig, 2006; Craig & Washington, 2004a) have demonstrated that AAE feature production rates bore an important relationship to reading achievement. African American students who shifted away from their heritage dialect forms in school contexts and adopted the SAE forms of classrooms and the curriculum scored better on standardized tests of reading achievement.

Specifically, Charity et al. (2004) observed that greater linguistic familiarity with SAE as measured by exact repetition of SAE sentences correlated with higher scores on the Woodcock Reading Mastery Tests-Revised (WRMT-R, Woodcock, 1987) for 2nd–5th grade African American students. In the Michigan data, we observed that AAE feature production rates underwent two shifts, and have proposed that the significance of the shifting process is not circumscribed to the spoken linguistic domain, but has an important impact on reading success. We found that students who were speakers of AAE demonstrated a significant downward rate of

feature production during oral discourse between the middle to end of kindergarten and the middle to end of 1st grade (Craig & Washington, 2004a). We observed a second shift, at 3rd grade, during oral reading (Craig, Thompson, Washington & Potter, 2004). The first shift substantially reduced the rate of morphological features, and the second shift substantially reduced the rate of phonological features. It is noteworthy that the first shift corresponded to the transition to full day instruction and the second to the curricular transition away from emphasizing the decoding of text to a focus on comprehension. This pattern of linguistic adaptation characterized the discourse of approximately two-thirds of the African American 1st–5th graders in our sample of African American students. However, approximately one-third of students showed no evidence of dialect shifting (Craig & Washington, 2004a). It is noteworthy that students who shifted away from their heritage language forms toward the SAE of classrooms and text did so in the absence of direct instruction in SAE. Of particular importance for the present discussion, the shifters scored better on standardized tests of reading achievement than those who did not make this shift (Craig & Washington, 2004a). As can be seen in Figure 6, most of the dialect shifters scored within one *SD* of the expected reading *z*-score mean, and their average group score was considerably better than that of the students who did not shift, independent $t(197) = 3.21$, $p = .002$, effect size $d = .72$.

Figure 6. Box plots of *z*-scores for 1st–5th graders who shifted toward SAE in their discourse and those who did not (The shaded areas correspond to $\pm$ 1 *SD*, the expected performance range.)



A major limitation in much of this research is the cross-sectional nature of the research designs. Lower dialect production levels across grades, and differences in dialect production rates with language and literacy contexts, have been interpreted as evidence that individual students are shifting their morphological and phonological forms away from AAE toward SAE. In the Michigan data, we do have repeated measures on 22 typically developing African American students assessed first as preschoolers or kindergartners, and a second time as 1st through 5th graders. Dialect production rates decreased over time again for most students (approximately two-thirds), confirming the relationship observed in our cross-sectional data between grade and dialect shifting (Craig, Hensel, & Quinn, 2005).

African American elementary-grade students also showed differences in their feature production rates by context, providing further support for the view that many African American students undergo a process of linguistic adaptation as part of early schooling. Thompson, Craig, & Washington (2004) compared the feature production of 3rd grade students in three different

language–literacy contexts, using repeated measures analyses. Every student produced AAE features during oral narratives, most did so when reading aloud text written in SAE (92%), but only 62% produced AAE features during a spontaneous writing task involving the generation of a brief story. In other work, Connor and Craig (2006) observed that more linguistically skilled preschoolers showed evidence of dialect shifting between production contexts even at this early grade. Preschoolers who used AAE features with greater frequencies during oral narrative production generally demonstrated better knowledge of SAE compared to students who were lower feature producers, as evidenced by better imitation of SAE sentences. For many of these children, we found that heavy AAE use in preschool was related to greater linguistic flexibility and metalinguistic awareness, placing these children at less risk for later reading difficulties.

Together, these language studies indicate that African American students who beat the odds, regardless of early economic disadvantage, are children with strong oral language skills. Better oral language skills at school entry include being strong dialect speakers. Across the elementary grades, these children have the linguistic flexibility to learn to adapt to the discourse practices of the curriculum and text, which is advantageous in their performance on standardized tests of reading achievement.

Conclusions and implications

The Black–White Achievement Gap is not well explained by poverty. It is the case that a Black–White Poverty Gap also exists, but as discussed in this paper, SES does not account for the magnitude or for the durability across grades of the disparities between African American and non-Hispanic White students.

With a focus on reading achievement, this paper examined recent published research reports on language–reading linkages for African American students, trends in national data sets,

and multiple subsets of data within the Michigan project on African American language and literacy development. Together these research sources demonstrated that although SES exerted statistically significant direct and indirect effects on reading, oral language skills – especially oral language comprehension skills – were a much stronger influence on reading achievement outcomes. By implication, early strategic instruction in oral language skills designed to develop linguistic flexibility and adaptation abilities, has particular potential to improve the reading outcomes of African American students. Resolution of the Black–White Achievement Gap needs education-based solutions, and research about how to provide early language instruction with this population should be a priority.

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