SURMOUNTING THE CHALLENGES OF IMPROVING ACADEMIC PERFORMANCE: CLOSING THE ACHIEVEMENT GAP THROUGH SOCIAL-EMOTIONAL AND CHARACTER DEVELOPMENT

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ABSTRACT

While educators and policy makers have an intuitive understanding of the influence of socioeconomic factors and race on student achievement, these factors make the current emphasis on standardized test scores as a primary criterion for evaluating schools and teachers indefensible and ineffective. The research presented illustrates the limits of obtaining test score change and the impact of socioeconomic status and race on standardized achievement measures. Intentional efforts at generating a "success" mindset in students by improving school culture and climate and students' social-emotional and character development are viable steps to be taken alongside reductions of socioeconomic inequities. Indeed, these directions become even more important, given the long timeframe that such reductions are likely to require.

Introduction

Why is it so difficult to create sustained turnaround in troubled schools? Despite the best efforts of administrators, teachers, and staff, troubled schools often remain troubled schools. Most typically defined as having persistent histories of academic failure (usually a minimum of two consecutive years), troubled schools also tend to be schools characterized by relatively high rates of violence, relatively poor attendance, and high dropout; they are most typically found in high-poverty areas (Education Week, 2014; Hurlburt, Therriault, & Le Floch, 2012). Although a difficult task, trying to understand the resistance of these schools to intervention efforts is necessary in order to better assist these schools in both making and sustaining changes. Our recently completed research project looking at four hundred and eighty three schools across the state of New Jersey may provide some insights into this problem. We found a number of real world challenges embedded within any efforts at improving test scores. However, inherent in these issues are also potential solutions.

We have watched and assisted as dedicated school administrators and teachers have devoted extraordinary time and resources to improve students' academic performance on standardized tests. In preparing students for college and career readiness, school administrators must confront two all too familiar achievement gaps. The first is the differential performance of students of lower socioeconomic status (SES) relative to their peers of higher SES; the second is that of Black and Latino students relative to their White peers. While these challenges may be well known, the implications for school administrators of low-performing districts and for educational policy, have not been sufficiently explicated. Proceeding with conventional wisdom is highly likely to lead to results that are ineffective or, at best, short-lived.

The statistics involved are well known. In the United States, an estimated 22% of all children live in poverty with ethnic minorities disproportionately represented. African American children represent 14% of all children in the U.S., but constitute 26% of children living in

poverty, and likewise, while children of Hispanic origin represent 23% of all children, they make up about 32% of children living below the poverty line (U.S. Census Bureau, 2011). One of the purposes of the 2001 No Child Left Behind (NCLB) Act was to address the academic underperformance of youth who are from lower SES backgrounds and/or are ethnic minorities relative to their middle-class, non-ethnic minority counterparts (NCLB, 2002). NCLB and other such initiatives measure success by relying on standardized test scores.

However, there is legitimate concern that the relationship between SES, ethnicity, and achievement scores presents a serious dilemma when attempting to improve these scores. How do you improve the test scores of disadvantaged groups when it is their disadvantage that is influencing their performance on standardized tests? Educators are faced with fighting against a larger system of racial and economic issues that are rooted in a deep-seated history. But more than that, as the present study illustrates, there are statistical challenges that await well-intentioned efforts at turning around troubled schools. These challenges make it difficult to accurately measure intervention success using the typical array of standardized test scores.

In studies that have explored this gap from a wider perspective, the defining feature is typically the socioeconomic resources of those communities (Rothstein, 2004; Rumberger & Palardy, 2005). Socioeconomic status and ethnicity frequently are found to be interrelated, as students of Hispanic and Black ethnicity are often found in segregated, high-poverty schools with limited resources (Orfield & Lee, 2004).

The Current Study

School-level factors such as classroom size (Ehrenberg, Brewer, Gamoran, & Willms, 2001), school size (Leithwood & Jantzi, 2009) and teacher mobility (Borman & Dowling, 2008) have been shown to influence academic outcomes. However, while these factors are frequent targets of policy aimed at improving academics, the impact of a school's socioeconomic status and racial make-up on standardized test scores represent a metric by which to measure the success of such policies. If the NCLB Act has had success, then a school's percent of students passing a standard achievement test should be impacted more by these mutable factors rather than the socio-economic and racial make-up of the school - or at least we would hope to see an improvement over the 1966 data from the Coleman Report (Coleman et al., 1966). The purpose of the current study is to detail the independent influence of socioeconomic status and race, have on achievement scores. The results indicated that SES and race continue to impact school level test scores above the other predictive school level factors of class size, school size, and teacher mobility.

Methods

Setting and Participants

The data presented here utilizes the school as the unit of analysis, thus all factors examined are at the school level rather than the individual, mimicking NCLB's practice of evaluating schools. The data is from the 2009-2010 academic school year for 144 schools which included an 8th grade but not a 3rd grade or 9th grade (referred to as middle school). The majority of schools reflected grades 6-8 (see Table 1 for school demographic factors).

Table 1 School Demographic Factors

	Middle School Sample (n = 144)			
	M	SD	Range	
Total Enrollment	701.08	290.83	203 - 1879	
Average Class Size	19.52	3.72	6.30 - 27.40	
Faculty Mobility	5.04	10.57	0.00 - 109.40	
% Free or Reduced Lunch	24.40	23.04	0.00 - 86.42	
% Female	48.49	2.40	41.67 - 55.46	
% White	60.12	27.73	0.11 - 95.86	
% Black	14.58	20.06	0.00 - 95.18	
% Hispanic	15.55	17.59	0.00 - 95.15	
% Asian	8.73	9.51	0.00 - 44.96	
% Proficient and Advanced Proficient on Language	85.34	13.12	23.90 - 100.00	
% Proficient and Advanced Proficient on Math	71.77	16.04	13.10 - 97.60	

Measures

All variables came from two publically available data sources: 1) The New Jersey Department of Education (NJDOE) School Report Cards online database (State of New Jersey Department of Education, 2010) or 2) the Institute of Education Sciences (IES) of the National Center for Education Statistics (NCES) public school online database (Institute of Education Sciences, 2010). All predictor variables were centered by grade level to reduce multicollinearity. NJDOE variables included and analyzed for this study were total enrollment of students, average class size, faculty mobility rate, and standardized achievement tests. NCES variables included and analyzed for this study were free and reduced lunch status, race/ethnicity proportions, and male/female proportions for each school.

Public school students in New Jersey take the NJ Assessment of Skills and Knowledge (NJASK) each year and the current study reflects data from 8th graders tested in April-May, 2010. The NAEP, described as a "gold standard" for monitoring the educational progress of American students (Jones, Olkin, & American Educational Research Association, 2004), and the New Jersey state assessments differ in how some of the content and skills are measured as well as the method used for setting performance standards (i.e., the cut points for determining achievement levels). However, it is generally acceptable to consider the New Jersey state rating of "proficient" as comparable to a NAEP "basic" rating (U.S. Department of Education, Institute of Education Sciences, & National Center for Education Statistics, 2010). Finally, while these tests yield scaled scores for each individual taking them, the data presented here reflect school-level percentage of students who were proficient or advanced proficient. The criterion of "proficient" was used because this qualitative label is used to determine accolades and sanctions by the public and the government.

Data Analysis

Schools used in this study were part of the Developing Safe and Civil Schools Project (DSACS) or were identified as matched controls for a DSACS school, based on demographic variables including district, size, grade configuration, and other factors. The DSACS project was a publically funded, voluntary initiative aimed at improving school climate. The current study utilized the existing database developed for this project, but does not assess the DSACS project itself. All data were downloaded from the publically-available New Jersey Department of Education (NJDOE) School Report Cards online database (State of New Jersey Department of Education, 2010) and Institute of Education Sciences (IES) of the National Center for Education Statistics (NCES) public school online database (Institute of Education Sciences, 2010) for the school year 2009-2010. Schools were included in the study if they met grade-level inclusionary criteria and were not missing any variables of interest. Data were analyzed using SPSS version 20.

Results

Hierarchical Regression Analysis Predicting School Language Proficiency

To test the hypothesis that the percentage of students in a school who are at the proficient or advanced proficient level on the NJ state language test is a function of the percentage of Black and Hispanic students after controlling for other school demographic factors, a hierarchical regression analysis was performed for each school type. Percent female, faculty mobility, total enrollment, and average class size were entered first, followed by the percentage of students receiving free or reduced lunch, and then the percentage of students who were Black and the percentage of students of Hispanic origin, independently; in the last step, interaction terms for percentage of students receiving free or reduced lunch by each of the two racial/ethnic groups were entered to help determine whether the relationship between race and test scores is moderated by SES. All continuous predictor variables were centered to reduce multicollinearity for hierarchical regression. All percent variables were coded on a 0.00-100.00% scale, so a one unit change on any of the predictor variables reflects a one unit change in the percentage of students in a school who are at the proficient or advanced proficient level on the language test.

For this study, we present data from middle schools, as these schools represented the modal trend shown in the data across school types. As shown in Table 2, the school demographic factors in Step 1 accounted for 17% of the variance in language proficiency. SES added an additional 58% of variance explained in Step 2 (R^2 change = 0.58, F = 319.60, p < .001). The addition of percent Black and Hispanic students in Step 3 increased the variance explained from 75% to 81% (F = 20.90, p < .001). Furthermore, the addition of the interaction between race and SES increased the variance explained by an additional 4% (F = 16.95, p < .001).

In the final model, the faculty mobility rate (b = -.12, p = 0.008), the percentage of students receiving free or reduced lunch (b = -0.16, p = .001), the percentage of students of Hispanic origin (b = -0.26, p = .001), and the percentage of Black students (b = -.13, p = .003) were all significant predictors of language proficiency, holding all other variables constant. Specifically looking at the impact of race, with every 10% increase in the percentage of students of Hispanic or Black ethnicity in a school, on average there is a 2.60% or 1.30% decrease, respectively, in the percentage of students who are proficient on the language test. In addition,

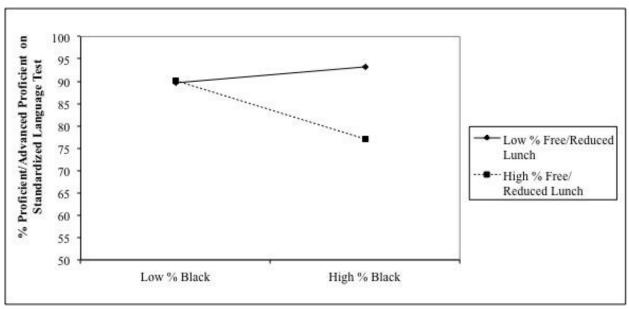
the interaction between the percentage of Black students and free/reduced lunch status was significant (b =-0.01, p < .001), suggesting that the relationship between the percentage of Black students and language test proficiency is significantly and negatively moderated by the percentage of students receiving free or reduced lunch. The higher the percentage of students receiving free or reduced lunch in a school, the more negative the relationship (or slope) between the percentage of Black students and language proficiency (Figure 1). The interaction between the percentage of Hispanic students by free/reduced lunch status was not significant.

Table 2
Summary of Hierarchical Regression Analysis Predicting School Language Proficiency (% of school at the proficient or advanced proficient level) for Middle Schools (n = 144)

	Model 1			Model 2			Model 3			Model 4		
	В	SE B	В	В	SE B	β	В	SE B	β	В	SE B	β
Constant % Female	84.79*** .43	1.02 .43	.08	85.61*** .005	.56 .24	.001	85.62*** .08	.50 .21	.01	87.69*** .03	.65 .19	.005
Faculty Mobility	21	.10	17*	19	.05	15**	18	.05	- .14***	12	.04	10**
Total Enrollment	.002	.004	.04	001	.002	03	.00	.002	.004	002	.002	04
Average Class Size	1.23	.28	.35***	.07	.17	.02	.11	.15	.03	.14	.14	.041
% Free or Reduced Lunch				48	.03	- .84***	21	.05	- .37***	16	.05	28**
% Black							26	.04	- .39***	13	.04	20**
% Hispanic							23	.05	- .30***	26	.07	- .35***
% Black x % Free/ Reduced Lunch										006	.001	_
% Hispanic x % Free/ Reduced Lunch										001	.001	06
R ²	0.17		0.75		0.81		0.85					
Change in R ²	0.17		0.58		0.06		0.04					
F for R ² change	7.21***		319.60***		20.90***		16.95***					

Note. All predictor variables are centered; *p < .05, **p < .01, ***p < .001

It is important to note that race/ethnicity, without SES interaction, did not become significant until middle school. And while elementary school test scores were significantly affected by percent free or reduced lunch, this effect was more significant in language than math. However, by high school, the impact of the racial make-up of the school became highly significant, particularly in math achievement. Additionally, for middle schools and high schools, SES was only a significant moderator between race/ethnicity and test proficiency when looking at the percentage of Black students in school, and generally not with students of Hispanic origins.



Note. All predictor variables were centered.

Figure 1. Percentage of Black Students and Percentage of Students Receiving Free and Reduced Lunch as Predictors of the Percentage of Students at the Proficient or Advanced Proficient Level on the Standardized Language Test in Middle Schools (n = 144)

Discussion

Consistent with prior research (Campbell, Hambo, & Mazzeo, 1999; Campbell, Pungello, Ramey, Miller, & Burchinal, 2001;), the current study found that race/ethnicity accounts for a significant and meaningful amount of variance in students' test scores. This significance was over and above a highly significant amount accounted for by school demographic factors and SES. Additionally, results indicated that SES moderated the relationship between race and test scores, and that the interaction between race and SES gains significance by 8th grade, representing a medium effect size increment in language proficiency test scores. Our data also suggest that the interaction effect strengthens in high school. Clearly, students in schools with greater Black and Latino populations experience an especially challenging educational climate. As well, ethnicity and the interaction between it and SES significantly explained additional variability in test scores for the high schools in our sample, suggesting that something else is going on beyond the impact of SES on scores.

Specifically, we found that the effect of ethnic make-up on school test scores was stronger in schools with higher rates of students receiving free or reduced lunch. This, in essence, indicates that high poverty, high minority population schools face a particular constellation of factors that when combined, make showing progress in substantial academic test score performance extremely difficult. Given this, questions can clearly be raised in education policy around the appropriateness of the emphasis on high-stakes testing in the United States, and particularly doing so on the kinds of assessments that are currently administered. Further, the way in which test scores are used in evaluating teachers from schools in low SES areas with a relatively high percentage of students of Black and Hispanic ethnicity requires considerable rethinking.

Reversing the Inequities for which Test Scores are a Proxy

From the data, but equally so from our reading of the literature and our experience working in diverse schools over many years, we suspect that certain mechanisms are likely to be operating at the intersection of ethnicity and SES. It is these mechanisms that can and must be effectively targeted for change. At the individual level, recent work has identified the pervasive impact of racial microaggressions, the "subtle insults (verbal, nonverbal, and/or visual) directed toward racial minorities, often automatically or unconsciously" (Solorzano, Ceja, & Yosso, 2000) that are hidden in everyday interactions and widen the gap of racial realities. The cumulative nature of these innocuous expressions is detrimental to racial minorities as, inherent in the ambiguous nature of the aggressions, the interaction causes stress which then impairs performance in multitude of settings (Omi, 1994; Sue et al., 2007). Indeed, studies have found that interpersonal racial oppression has been found to harm the mental well-being and academic performance of minority students (Rovai, Gallien Jr, & Wighting, 2005).

These mechanisms are relevant not just at the individual level but within the context of the school. While the current study explored only the school level impact of SES, a large scale study of Austrian students found that as the mean SES of a school increased, there were consistent increases in students' academic achievement, and that this relationship was similar for all students regardless of their individual SES (Perry & McConney, 2010). Further, in the larger context of schools, there is the internalized oppression that results when children are in an environment in which they feel devalued and inferior and perceive little or no likelihood of their status changing (Garcia Coll et al., 1996; Kloos et al., 2012). Under such circumstances, children are likely to experience a mindset of academic defeat, rather than the tenacity or perseverance that has been empirically linked to their success (Blackwell, Trzesniewski, & Dweck, 2007; Farrington et al., 2012). What appears to happen, as reported by Ou and Reynolds (2008) in the Chicago schools, is that students engage in a vicious cycle of lowering academic aspirations, which eventually, if indirectly, leads to lower employment expectations, lowered health and life aspirations, and the informal enforcement of anti-achievement norms and stereotype threat that serves as a self-fulfilling prophecy for those who attempt to break out of the pattern. Alternatively, those students who have not internalized oppression are more likely to transfer to another—hopefully more positive—school environment, in the unusual case that their external circumstances allow.

Additionally, perceptions of the culture and climate within the school may provide a partial explanation for the achievement and discipline gaps across ethnicities. This is because ethnic minority students have been found to perceive their environment as less safe and report lower levels of achievement motivation than White youths, even after controlling for classroom-and school-level factors (Koth, Bradshaw, & Leaf, 2008). It is not a reasonable expectation for ethnic minority youth who do not feel safe or valued in school to sustain a strong commitment to learning, particularly when also aware of the long-standing gap between themselves and their White, advantaged peers. Furthermore, if the adults, whose professional role is to educate them, accept them through open school doors for 180 days each school year but cannot provide a welcoming and supportive environment, or at least keep them safe, what can these students reasonably expect from the wider society?

Research is showing with increasing clarity that the school environments within which students learn exercise great influence on them (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Children ultimately are hopeful; indeed, the elementary school-level data

from our study do not show the same level of achievement gap, and there is reason to believe that a supportive school environment within which students can learn core social, emotional, and academic skills may be a catalyst for a true turnaround process (Cohen & Elias, 2011; Zins, Weissberg, Wang, & Walberg, 2004).

Social and emotional learning (SEL) can be defined as the capacity to recognize and manage emotions, solve problems effectively, set and achieve positive goals, appreciate the perspectives of others, establish and maintain positive relationships, make responsible decisions, and handle interpersonal situations constructively (Elias et al., 1997). It follows from this definition that social and emotional *competencies* are a combination of behaviors, cognitions, and emotions that can be seen in the effective application of the knowledge, attitudes, and skills necessary to recognize and manage emotions; have and express care and concern for others; ability to make responsible decisions; establish positive relationships; and ability to capably handle challenging situations (Zins & Elias, 2006).

It is difficult to imagine a classroom, or any school context, that can be engaging and productive in the absence of students' possession of these competencies. But these capacities cannot be learned informally or haphazardly. They must be learned systematically and in schools with climates and cultures that value student competence in areas other than academic content (Cohen & Elias, 2011). These skills are learned best and most deeply when students are in collaboration with their teachers and learning cooperatively with their peers. Schools attempting a turnaround, or otherwise seeking to better their students' academic performance, must realize that academic development cannot be fostered unless students' social-emotional and character development is also fostered (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). This is especially true of schools attempting to implement the Common Core in contexts with poor histories of academic success (Elias, 2014).

Recommendation for Policy and Practice

To have a chance of countering the powerful convergence of SES and ethnicity on disadvantaged learners, school administrators must support evidence-based and continuous interventions. These interventions can and should work to improve the culture and climate of schools and address students' sense of meaning and purpose, voice and value, and the social, emotional, and character competencies needed to enact the opportunities students are given. Students must be actively involved in shaping policy. This is true for the range of school-based interventions, from service learning, to cooperative learning, to student involvement in designing classroom and school rules addressing school problems such as harassment, intimidation and bullying, drugs and alcohol, obesity, dropout, or lack of academic support at home. This involvement builds a sense of civic participation that can be a source of empowerment—a sense of "I can"—upon which academic skills may be built.

This is not a small point; if students do not believe they can succeed or that it benefits them to succeed, it will not matter how much the curriculum is revised and assessments are changed (Farrington et al., 2012). There must be "both/and" thinking in our educational policy and practice. The urgency of improving students' academic skills does not automatically mean educators can or should focus all of their efforts on those skills. Indeed, that is a prescription for failure because we lead our youth into 180 days each school year of immersion in their deficiencies. How can this be a source of positive motivation and turnaround?

Our findings are sobering, and do not absolve those in power and those who make policy from

reducing the socioeconomic inequalities in our society, creating more and more visible pathways to success for our most disadvantaged youth, and rethinking an inherently unfair testing regimen. But for educators now, particularly those in leadership roles, our findings also point to a set of large and deeply entrenched obstacles to students' academic success. These obstacles cannot be blasted through with the usual tools of academic remediation. They must be eroded persistently through a nurturing school culture and climate, and then bypassed by providing a solid emphasis on social-emotional learning and character development that will provide students with the fortitude and grit to face and surmount the tests of life.

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