

# Parental Educational Attainment and Black-White Adolescents' Achievement Gap: Blacks' Diminished Returns

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## Abstract

Recent research has documented Minorities' Diminished Returns (MDRs), defined as weaker protective effects of parental educational attainment and other socioeconomic status (SES) indicators for racial and ethnic minority groups. We aimed to explore racial differences in the associations between parental educational attainment and youth educational outcomes among American high schools. This cross-sectional study used baseline data from the Education Longitudinal Study (ELS-2002), a nationally representative survey of 10<sup>th</sup>-grade American youth. This study analyzed 10,702 youth who were composed of 2020 (18.9%) non-Hispanic Black and 8682 (81.1%) non-Hispanic White youth. The dependent variables were youth math and reading grades. The independent variable was parental educational attainment. Gender, parental marital status, and school characteristics (% students receiving free lunch, academic risk factors, urban school, public school) were the covariates. Race was the moderating variable. Linear regression was used for data analysis. Overall, higher parental educational attainment was associated with higher math and reading test scores. We found a significant interaction between race (Non-Hispanic Black) and parental education attainment on math and reading test scores. These interactions suggested that the boosting effects of high parental educational attainment on youth scores are systemically smaller for Non-Hispanic Black than for Non-Hispanic White youth. While high parental educational attainment promotes better educational outcomes for youth, this association is weaker for Non-Hispanic Black youth than non-Hispanic White youth. The diminished returns of parental education are beyond what can be

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explained by school characteristics that differ between Non-Hispanic Black and non-Hispanic White students. Thus, some upstream societal mechanisms, beyond quality of schooling, such as labor market discrimination and residential segregation may be also involved. Diminishing returns of parental educational attainment (MDRs) may be an unrecognized source of racial youth disparities. Equalizing SES would not be enough for equalizing outcomes. There is a need for public and economic policies that reduce diminished returns of SES for Black families.

## Keywords

Population Groups, Socioeconomic Position, Socioeconomic Status, Education, Youth, Adolescents, Academic Gap, School Achievement

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## 1. Introduction

The Black-White school achievement gap is a serious concern in the United States (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008). As academic achievement is an early contributor to the inequalities later in life (Chavous et al., 2008) and because school achievement closely correlates with several desired outcomes, elimination of racial disparities in school performance should be considered as a strategic goal by the US society. This is in part because the Black-White achievement gap is considered the gateway to the future racial health disparities later in life (Basch, 2011; Burchinal et al., 2011; Gorey, 2009; Hair, Hanson, Wolfe, & Pollak, 2015; Larson, Russ, Nelson, Olson, & Halfon, 2015).

Worse developmental outcomes of non-Hispanic Black youth compared to Non-Hispanic White youth are at least in part attributed to lower socioeconomic status (SES). For example, at least some of the Black-White gap in school achievement is attributed to racial inequalities in parental educational attainment (Albrecht & Gordon-Larsen, 2013; Arellano, Chavez, & Deffenbacher, 1998). The common belief is that the main reason developmental youth outcomes tend to be worse for non-Hispanic Black youth is lower SES in Black families (Benjet et al., 2009).

As race closely overlaps with SES indicators (e.g., parental educational attainment) (Butler, 2017; Carlo, Crockett, Carranza, & Martinez, 2011) and as parental educational attainment has a strong protective influence on academic achievement of youth, researchers have been interested in decomposing the contributions of race from those of SES (e.g., parental educational attainment) in causing the Black-White achievement gap (Jones, 2018; Lau, Lin, & Flores, 2012; Rossen & Schoendorf, 2012). The results of this line of research are conflicting. While some researchers attribute racial achievement disparities to racial inequalities in SES, other researchers have challenged these traditional assumptions (Navarro, 1989, 1990, 1991). For example, some recent research findings suggest that Black-White achievement inequalities sustain at high SES families as well

(Verlato et al., 2014). This is particularly of interest because the differential effects of parental educational attainment have been repeatedly shown across domains and outcomes (Assari, 2017; Assari, 2018). This work suggests that at least some of the Black-White achievement gap in youth is due to diminishing returns of SES rather than a lack of access to SES resources (Assari, 2017; Assari, 2018).

Minorities' Diminished Returns (MDRs) refer to “*less than expected*” effects of SES indicators, particularly educational attainment, on tangible developmental outcomes for racial minorities, particularly non-Hispanic Blacks, compared to non-Hispanic Whites (Assari, 2017; Assari, 2018). MDRs are an overlooked mechanism of racial disparities because this field has traditionally attributed such inequalities to mean differences in SES (Assari, 2017; Assari, 2018). MDRs framework, however, suggests that even when racial groups are equal in their mean SES, inequalities in outcomes sustain because of disparities in slope (due to diminished translation of resources to outcomes in Blacks than Whites). Thus, MDRs focus on inequalities that are beyond racial differences in access to SES resources.

Thus, MDRs provide a paradigm shift for understanding the historically overlooked underlying mechanisms behind the racial disparities, particularly those that affect middle-class Blacks (Assari, 2017; Assari, 2018). A major contribution of the MDRs framework is that it provides an explanation for the persistence of racial disparities over decades after the end of slavery in America and despite decades of investments made to eliminate inequalities (Apter & Casillas, 2009; Dankwa-Mullan et al., 2010; Yearwood, 2009). MDRs also provide an answer to the questions such as why programs such as Head Start have had disappointing results in closing the Black-White achievement gap (Assari, 2017; Assari, 2018).

Literature has been established on MDRs of SES on youth outcomes. Worse than expected educational outcomes are found among Black youth with highly educated and high-income families (Assari, 2018f) (Assari, 2019a; Assari & Caldwell, 2020), (Assari, 2018e), (Assari, 2019). For example, parental education has been shown to better to enhance mental health (Assari, 2018f), school performance (Assari, 2019a; Assari & Caldwell, 2020), school attainment (Assari, 2018e), and school bonding (Assari, 2019b) for White than Black youth and young adults. These patterns are believed to be systemic and robust as similar patterns (i.e., diminished returns) of parental educational attainment are reported for self-rated health (Assari, 2018f), depression (Assari & Caldwell, 2018a; Assari, Lankarani, & Caldwell, 2018), anxiety (Assari, Caldwell, & Zimmerman, 2018), obesity (Assari, 2018c; Assari, Thomas, Caldwell, & Mincy, 2018), asthma (Assari & Moghani Lankarani, 2018), impulse control (Assari, Caldwell, & Mincy, 2018a), attention deficit hyperactivity disorder (Assari & Caldwell, 2019), health care use (Assari & Hani, 2018), and smoking (Bachman, O'Malley, Johnston, Schulenberg, & Wallace, 2011). With no exception, all these

studies have documented worse than expected outcomes for youth from non-Hispanic Black compared to Non-Hispanic White families.

The above research, however, is not conclusive mainly because of one remaining dilemma. The central gap in knowledge is that we still do not know to what degree Black-White inequalities in educational quality has a role in explaining the MDRs of educational outcomes in Black families. Answering this research dilemma requires well-controlled studies that can adequately adjust for differences in the school characteristics that Black and White youth tend to attend. For example, we know that Black youth are more likely to attend low-resourced public schools located in urban areas with a higher density of low-income Black peers. Contrary to predominantly Black schools, White youth have a higher tendency to attend schools that are located in suburban areas schools with predominantly White students. White youth are also more likely to attend private schools that are known to provide better educational outcomes.

Thus, we still do not know if parental educational attainment generates fewer tangible outcomes for Black than White youth simply because Black youth have a higher tendency to attend low resourced urban schools which means lower quality schooling. Being able to answer that question is crucial because it will tell us if eliminating the gap in schooling between White and Black youth would be enough for equalizing the return of education for Black and White youth. If the Black-White differences would, however, sustain despite controlling for educational quality, then diminished returns are not merely because of differential school quality but some upstream societal processes that are beyond educational system (e.g. racism, discrimination, labor market practices, etc.). As mentioned above, we are not aware of any previous studies on diminished returns of parental education on youth outcomes, which has fully controlled for Black-White differences in school characteristics.

Building on our prior research on diminished returns of SES indicators (Assari, 2017; Assari, 2018) and using a nationally representative dataset that has rich data on school characteristics (Statistics, 2005), this study compares non-Hispanic Black and non-Hispanic White youth for the associations between parental educational attainment and math and reading standardized test scores. As explained above, the unique contribution of the current study is that it is one of the firsts to control for educational quality. If MDRs remain after controlling for school characteristics, we would argue that MDRs are probably due to some upstream social factors beyond education system (e.g. racism, marginalization, and discrimination) that disproportionately impact the daily lives of Blacks.

## 2. Methods

### 2.1. Design and Settings

This cross-sectional study was a secondary analysis of Wave 1 of the Education Longitudinal Study (ELS) (Statistics, 2005). The ELS sample is representative of United States youth in 10<sup>th</sup> grade. Funded by the US Department of Education,

ELS is a state-of-the-art study of educational outcomes of American youth. Although ELS has enrolled 10<sup>th</sup> graders across all race/ethnic groups, we only included 10,702 youth who were composed of 2020 (18.9%) non-Hispanic Black and 8682 (81.1%) non-Hispanic White youth. Any student with mixed race, missing data on race, or race other than White or Black was excluded. This included individuals who were Asian American, American Indians/Alaska Natives, mixed-race, or unknown race/ethnicity. We also excluded youth who reported Hispanic/Latino ethnicity.

## 2.2. Ethics

All youth participants in the ELS study provided written assent. Youth parents or guardians also provided written informed consent. The institutional review board (IRB) of the Department of Education approved the ELS study protocol. Given the publicly available data, the current secondary analysis was exempted from a full review according to the rules of the National Institute of Health (NIH) as well as Charles Drew University of Medicine and Science.

## 2.3. Sample and Sampling

The ELS study's youth samples in Wave 1 were enrolled in the private, public, or Catholic schools in Urban, Suburban, or Rural settings. The ELS study used a multi-stage stratified probability sampling to recruit the participating youth. The analytical sample was 10,702 youth.

## 2.4. Study Variables

The study variables were as follow: race/ethnicity (moderator), parental educational attainment (predictor/independent variable), youth math and reading test scores (outcomes/dependent variables), demographic factors [gender, family income, number of siblings, and family structure], and school characteristics [% students receiving free lunch, academic risk factors, urban school, public school] (covariates). All the study variables were measured at an individual level.

*Race.* Race (1 non-Hispanic Black versus 0 non-Hispanic White) was self-identified. Race/ethnicity was operationalized as a dichotomous variable.

*Parental Educational Attainment.* Parent educational attainment was a three-level categorical variable: 1) less than high school graduate, 2) high school graduate, 3) college graduate.

*Demographic Factors.* Gender, region, and family structure were demographic covariates. Family structure was a dichotomous variable (1 married, 0 unmarried) and calculated based on parents' marital status. Gender was 1 = male 0 = female. Region was a nominal variable: Northeast, Midwest, South, and West.

*School characteristics.* School characteristics included urban school, catholic school, rural school, public school, and % of students receiving free lunch.

*Outcomes.* Our dependent variables were standardized test scores of math and reading. These variables were transformed into z scores, which helps the com-

parison of the students and interpretation of the regression coefficients.

## 2.5. Statistical Analysis

We analyzed the ELS Wave 1 data using SPSS 23.0 (IBM Corporation, Armonk, NY). To analyze the ELS data, we needed to adjust for survey weights due to the multi-stage sampling design of the study (clustered stratified sampling). As we adjusted for survey weights, the results are representative of the US youth population. Taylor series linearization was applied to re-estimate the variance of our variables. We had normally distributed outcomes, thus could perform linear regression. We also did not find evidence of multicollinearity. Our model passed the assumption of homoscedasticity (e.g., random distribution of error terms). As we had two outcomes, we ran similar models for each outcome. This strategy also helped us with the comparability of MDRs across our two outcomes. We ran two hierarchical linear regression models per outcome in the pooled sample that included non-Hispanic Whites and non-Hispanic Blacks. The first block of variables only included race/ethnicity, gender, region, and parental marital status. Our second block included educational attainment (high school graduation, college graduation). Our third block included school characteristics. Our fourth block included two interaction terms between educational attainment (high school and college graduation) and race/ethnicity. From our linear regression models, we reported beta (b), 95% Confidence Intervals (95% CI), and *p*-values. *P*-values less than 0.05 were considered statistically significant.

## 3. Results

### 3.1. Descriptive Statistics of the Participants

**Table 1** summarizes descriptive statistics for our sample. This study included 10,702 American 10<sup>th</sup> grader youth. This number was composed of 2020 (18.9%) non-Hispanic Black and 8682 (81.1%) non-Hispanic White youth. Non-Hispanic Black students were more likely to attend urban, public schools with higher % of students receiving a free meal.

### 3.2. Intersections of Race/Ethnicity and Parent Education

**Table 2** presents the mean (SD) of our education outcomes based on the intersections of race/ethnicity and parental educational attainment. This table shows how students' math and reading scores change as a function of educational attainment for non-Hispanic White and non-Hispanic Black youth. Although a significant trend existed in both racial groups, the magnitude of change was larger for non-Hispanic White than non-Hispanic Black youth.

### 3.3. Multivariable Models

**Table 3** presents the summary of two hierarchical linear regression models in the pooled sample. Based on the main model, race (non-Hispanic Black) and parental

**Table 1.** Descriptive statistics in the overall sample and by race/ ethnicity (10,702).

	All N = 10,702		Non-Hispanic Whites n = 8682		Non-Hispanic Blacks n = 2020	
	n	%	n	%	n	%
<b>Gender</b>						
Female	5401	50.5	4385	50.5	1016	50.3
Male	5301	49.5	4297	49.5	1004	49.7
<b>Family Structure (Parents Marital Status)*</b>						
Non-Married	4311	40.3	2943	33.9	1368	67.7
Married	6391	59.7	5739	66.1	652	32.3
<b>Region*</b>						
Northeast	1997	18.7	1696	19.5	301	14.9
Midwest	3151	29.4	2763	31.8	388	19.2
South	4349	40.6	3151	36.3	1198	59.3
West	1205	11.3	1072	12.3	133	6.6
<b>Parental Educational Attainment*</b>						
Less than High School Graduate	267	2.5	177	2.0	90	4.5
High School Graduate	6056	56.6	8505	98.0	1930	95.5
College Graduate	4646	43.4	3983	45.9	663	32.8
<b>Urban School*</b>						
No	5188	62.4	4386	67.1	802	45.2
Yes	3127	37.6	2153	32.9	974	54.8
<b>Catholic School*</b>						
No	9203	86.0	7347	84.6	1856	91.9
Yes	1499	14.0	1335	15.4	164	8.1
<b>Rural School*</b>						
No	8315	77.7	6539	75.3	1776	87.9
Yes	2387	22.3	2143	24.7	244	12.1
<b>Public School*</b>						
No	2613	24.4	2372	27.3	241	11.9
Yes	8089	75.6	6310	72.7	1779	88.1
	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
<b>% Students Receiving Free lunch*</b>	2.91	1.85	2.61	1.66	4.20	2.02
<b>Reading Scores*</b>	51.61	9.79	53.06	9.46	45.36	8.69
<b>Math Scores*</b>	51.42	9.64	53.06	9.14	44.35	8.46

\* $p < 0.05$  for comparison of non-Hispanic White and non-Hispanic Black youth.

**Table 2.** Mean youth outcomes by the intersection of race/ethnicity and parental educational level.

	Non-Hispanics White (n = 8682)			Non-Hispanics Black (n = 2020)			All (n = 10,702)		
	Low Education	Mid Education	High Education	Low Education	Mid Education	High Education	Low Education	Mid Education	High Education
Reading*	46.39 (8.49)	50.82 (9.05)	55.91 (9.11)	42.30 (8.06)	44.50 (7.93)	47.41 (9.71)	45.01 (8.55)	49.44 (9.20)	54.70 (9.67)
Math*	44.83 (8.77)	50.86 (8.67)	55.92 (8.75)	41.80 (7.01)	43.40 (7.81)	46.52 (9.37)	43.81 (8.33)	49.23 (9.03)	54.58 (9.44)

\* $p < 0.05$  for trend (comparison of % outcome across educational levels within racial group).

**Table 3.** Summary linear regressions on the interactive effects of race and parental educational attainment on reading score.

	Model 1			Model 2			Model 3			Model 4		
	b	95% CI	p	b	95% CI	p	b	95% CI	p	b	95% CI	p
Race	-7.17	-7.70 -6.65	0.000	-6.47	-6.98 -5.96	0.000	-5.61	-6.15 -5.07	0.000	-2.74	-5.38 -0.10	0.042
Male	-1.55	-1.96 -1.14	0.000	-1.57	-1.97 -1.18	0.000	-1.55	-1.94 -1.17	0.000	-1.55	-1.94 -1.16	0.000
Parents Married/Live	2.91	2.48 3.35	0.000	2.36	1.93 2.78	0.000	1.92	1.50 2.35	0.000	1.92	1.50 2.35	0.000
Midwest	-0.23	-0.93 0.48	0.527	0.14	-0.53 0.82	0.676	-0.17	-0.84 0.51	0.625	-0.14	-0.81 0.53	0.685
Northeast	0.53	-0.22 1.28	0.163	0.68	-0.05 1.40	0.068	0.22	-0.50 0.95	0.549	0.25	-0.48 0.97	0.506
South	-0.28	-0.96 0.41	0.428	-0.21	-0.87 0.45	0.525	-0.05	-0.70 0.61	0.890	-0.06	-0.71 0.59	0.863
College Graduate				4.47	4.07 4.88	0.000	3.66	3.24 4.08	0.000	3.98	3.52 4.44	0.000
High school Graduate				3.24	1.88 4.59	0.000	2.81	1.47 4.15	0.000	3.91	2.15 5.66	0.000
Free lunch							-0.58	-0.71 -0.44	0.000	-0.58	-0.72 -0.44	0.000
urban							0.44	0.01 0.87	0.045	0.43	0.00 0.86	0.050
catholic							1.01	0.30 1.72	0.005	1.05	0.34 1.76	0.004
public							-0.83	-1.51 -0.15	0.017	-0.75	-1.43 -0.06	0.032
Black × High school Graduate										-1.60	-2.60 -0.60	0.002
Black × College Graduate										-2.35	-5.06 0.35	0.088

CI: Confidence Interval. Model 1: Demographic Model; Model 2: Demographic + Parental Education Model; Model 3: Demographic + Parental Education + School Characteristics Model; Model 4: Demographic + Parental Education + School Characteristics + Interactions Model.

educational attainment were associated with the outcome. Model 2 showed a statistical interaction between race and parental educational attainment on youth reading scores. This interaction suggests that the boosting effect of high parental educational attainment on youth reading grade is smaller for non-Hispanic Black than for Non-Hispanic White youth. That is, non-Hispanic Black youth have low reading scores even when they have highly educated parents, which are indicative of Blacks' diminished returns of parental education on reading scores, regardless of school quality.

**Table 4** presents the summary of two hierarchical linear regression models in the pooled sample. In these models, race (non-Hispanic Black) and parental educational attainment were the independent variables, and the math score was the outcome. Both race and parental educational attainment were associated with math scores. Model 2 showed a statistical interaction between race and parental



**Table 4.** Summary of linear regressions on the interactive effects of race and parental educational attainment on math score.

	Model 1				Model 2				Model 3				Model 4			
	B	95% CI		p	b	95% CI		p	b	95% CI		p	b	95% CI		p
Race (Black)	-8.32	-8.83	-7.81	<0.001	-7.59	-8.08	-7.10	<0.001	-6.48	-7.00	-5.96	<0.001	-1.53	-4.07	1.01	0.239
Gender (Male)	1.21	0.81	1.60	<0.001	1.18	0.80	1.56	<0.001	1.21	0.84	1.59	<0.001	1.22	0.85	1.59	<0.001
Parents Married	2.97	2.55	3.39	<0.001	2.40	1.99	2.81	<0.001	2.00	1.59	2.41	<0.001	2.00	1.60	2.41	<0.001
Region																
West	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Midwest	-0.12	-0.80	0.56	0.729	0.26	-0.39	0.92	0.434	0.10	-0.55	0.74	0.773	0.13	-0.52	0.78	0.702
Northeast	0.72	-0.01	1.45	0.052	0.87	0.17	1.57	0.015	0.48	-0.21	1.18	0.175	0.51	-0.18	1.21	0.150
South	0.23	-0.43	0.89	0.496	0.30	-0.33	0.94	0.352	0.53	-0.09	1.16	0.095	0.52	-0.11	1.15	0.103
College Graduate					4.52	4.13	4.91	<0.001	3.72	3.32	4.12	<0.001	4.08	3.63	4.52	0.000
High school Graduate					4.17	2.87	5.48	<0.001	3.76	2.47	5.04	<0.001	5.75	4.06	7.44	<0.001
% Students Receiving Free lunch									-0.76	-0.89	-0.63	<0.001	-0.76	-0.89	-0.63	<0.001
Urban School									0.12	-0.29	0.54	0.564	0.12	-0.30	0.53	0.579
Catholic School									-0.23	-0.91	0.45	0.509	-0.17	-0.86	0.51	0.619
Public School									-0.72	-1.38	-0.06	0.031	-0.62	-1.27	0.04	0.067
Black × High school Graduate													-1.83	-2.80	-0.87	<0.001
Black × College Graduate													-4.43	-7.04	-1.83	0.001

CI: Confidence Interval. Model 1: Demographic Model; Model 2: Demographic + Parental Education Model; Model 3: Demographic + Parental Education + School Characteristics Model; Model 4: Demographic + Parental Education + School Characteristics + Interactions Model.

educational attainment on youth math performance. This interaction suggests that the boosting effect of high parental educational attainment on youth math grade is smaller for non-Hispanic Black than for Non-Hispanic White youth. This means that non-Hispanic Black youth, on average, would have low math grades even when they have highly educated parents. This finding is suggestive of Blacks' diminished returns of parental education on math performance regardless of education/school quality.

#### 4. Discussion

The current study showed that 1) overall, high parental educational attainment is associated with higher math and reading score in youth; however, 2) these associations are weaker for non-Hispanic Black than for Non-Hispanic White families. That means youth with highly educated parents would remain at educational risk, a level of risk that is unexpected and disproportionate to their parental educational attainment.

As MDRs remained despite adjusting for Black-White differences in school characteristics, we hypothesize that a probable cause for the observed diminished returns of parental educational attainment on youth school outcomes and also health outcomes (shown by previous studies) are some upstream social forces not

merely lower education quality of Blacks (Assari & Caldwell, 2020).

In a recent paper (Assari & Caldwell, 2020), we found higher than expected tobacco dependence, aggression, psychological distress, and chronic diseases, and also worse school performance in Black youth with high parental education. Similar to other studies, (Mirowsky & Ross, 2015; Ross & Mirowsky, 1999, 2011), a plausible conclusion seems to be some upstream and distal social processes that may diminish the effects of parental education for non-White families (Assari & Caldwell, 2020). Thus, the MDRs of parental education are not all because Black youth attend worse schools and receive lower quality schooling.

Educational inequalities may not be the only reason we see worse outcomes for Black youth in the middle class with highly educated parents. Research has shown that risk of asthma (Assari & Moghani Lankarani, 2018), Attention Deficit Hyperactivity Disorder (Assari & Caldwell, 2019), mental health problems (Assari, 2018f), depression (Assari & Caldwell, 2018a; Assari, Lankarani, & Caldwell, 2018), obesity (Assari, 2018c; Assari, Thomas, Caldwell, & Mincy, 2018), dental health problems (Assari, 2018g), inadequate health care use (Assari & Hani, 2018), poor school outcomes (Assari, 2019a), poor school attainment (Assari, 2018e), weak school bonding (Assari, 2019b), impulse control (Assari, Caldwell, & Mincy, 2018a), and cigarette smoking (Bachman et al., 2011) remain high in high SES Black families, a risk that is disproportionate to their high parental education. Similar patterns are shown for Black adults (Assari, 2018a, 2018b, 2018d), Black youth (Assari, Caldwell, & Mincy, 2018a; Assari, Caldwell, & Mincy, 2018b; Assari, Thomas, Caldwell, & Mincy, 2018), Hispanic adults (Assari, 2019; Assari, Farokhnia, & Mistry, 2019; Shervin & Ritesh, 2019), and Hispanic youth (Assari & Caldwell, 2020). The universal nature of these patterns points to the hypothesis that upstream underlying mechanisms such as social stratification, structural racism, and marginalization are the source of these diminished returns (Assari & Caldwell, 2020).

These results have considerable implications. Racial inequalities and disparities are not all due to lower SES of Blacks, as inequalities can also be seen in middle-class people. Thus, other social mechanisms are at work to cause inequalities across racial groups, even for families with the highest levels of parental education and human capital.

Bold and innovative policies and public health programs are needed to reduce racial disparities that sustain across SES levels and expand to middle-class families. Since some of the inequalities and disparities are shaped by the differential effects of SES, the type of policies that are needed that go beyond exclusively focusing on equal access and also address the broader social processes that place middle-class Black families at a relative disadvantage. As these patterns are national and systemic, there is a need for national as well as local policies that specifically equalize the return of family SES. Such policies may reduce inequalities that occur in high SES levels (Assari, 2017; Assari, 2018b, 2018g; Assari, Caldwell, & Mincy, 2018a; Assari, Caldwell, & Zimmerman, 2018; Assari, Farokhnia,

& Mistry, 2019; Assari & Hani, 2018; Assari & Mistry, 2018a, 2018b; Assari, Thomas, Caldwell, & Mincy, 2018). We need policies and program solutions that equalize highly educated Black families' abilities to leverage their educational attainment (Assari, 2017; Assari, 2018). Some suspect cause of MDRs is labor market practices and preferences (Assari, 2018b). There are strong anti-discrimination laws. However, enforcement of such existing policies may be needed to minimize the existing diminished returns of educational attainment among Black families. Communities, where the majority of residents are Black, may benefit from higher and more quality jobs that facilitate translation of educational attainment into tangible, real-life outcomes (Hazelzet, Picco, Houkes, Bosma, & de Rijk, 2019). Programs should help highly educated Black parents successfully compete with Whites and secure high paying jobs. At the same time, we may need to minimize the societal and environmental barriers that are common in the everyday life of the Black population. At the same time, we should invest in educational programs and investment in urban public schools that Black youth attend. Finally, we need to minimize how Black youth are treated in urban schools (Assari & Caldwell, 2018b; Chavous et al., 2008).

This study had a few methodological limitations. Due to the cross-sectional design of our study, we cannot make any causal inferences. An imbalanced sample size across racial groups prevented us from running race-specific models. This study only included Non-Hispanic Blacks and Non-Hispanic Whites. Other ethnic minorities such as Hispanics, Asians, and Native Americans should be included in future studies. We only studied the differential effect of parental educational attainment. Other family SES indicators such as wealth, income, employment, and area-level SES should be studied. This study did not include geocoded data. Thus, educational policies were not included. Despite these limitations, this study still makes an important contribution to the existing literature on MDRs as well as the racial gap in school achievement. Some strengths include a large sample size, a random sample, a representative sample that resulted in generalizable findings to the US, and standardized tests. This was the first study that tested MDRs and also controlled for school characteristics that non-Hispanic Black and non-Hispanic White youth attend.

## 5. Conclusion

In the United States, non-Hispanic Black youth remain at a relative disadvantage compared to Non-Hispanic White youth regarding the magnitude of the association between parental educational attainment and their educational outcomes. Such diminished returns of parental education do not seem to be fully due to school differences that non-Hispanic White and non-Hispanic Black youth tend to attend.

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### Author Contributions

Assari has developed the MDRs theory. He conceptualized the study, analyzed the data, prepared the first draft of the paper, and acquired the funding. Bazaragan and Caldwell contributed to the revision and conceptualization of the study. Assari had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. All authors approved the final draft.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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