social sciences

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Diminished Economic Return of Socioeconomic Status for Black Families

Shervin Assari [1,2]

[1] Center for Research on Ethnicity, Culture and Health (CRECH), School of Public Health, University of Michigan, Ann Arbor, MI 48109, USA; assari@umich.edu; Tel.: 1-734-232-0445
[2] Department of Psychiatry, University of Michigan, Ann Arbor, MI 48109, USA

Received: 7 April 2018; Accepted: 29 April 2018; Published: 2 May 2018

Abstract: Background: According to the Minorities' Diminished Return theory, socioeconomic status (SES) systemically generates larger gains for Whites compared to Blacks. It is, however, unknown whether the effects of baseline SES on future family income also varies between Blacks and Whites. **Aims:** Using a national sample, this study investigated racial variation in the effects of family SES (i.e., family structure, maternal education, and income) at birth on subsequent household income at age 15. **Methods:** This 15-year longitudinal study used data from the Fragile Families and Child Wellbeing Study (FFCWS), which followed 1471 non-Hispanic Black or White families from the time of birth of their child for 15 years. Two family SES indicators (maternal education and income) at birth were the independent variables. Family income 15 years later was the outcome. Maternal age, child gender, and family structure at baseline were covariates. Race was the focal moderator. Linear regression models were used for data analysis. **Results:** In the pooled sample, maternal education (b = 11.62, $p < 0.001$) and household income (b = 0.73, $p < 0.001$) at baseline were predictive of family income 15 years later. Race, however, interacted with maternal education (b = −12,073.89, $p < 0.001$) and household income (b = −312.47, $p < 0.001$) at birth on household income 15 years later, indicating smaller effects for Black compared to White families. These differential gains were independent of family structure, mother age, and child gender. **Conclusions:** The economic return of family SES is smaller for Black compared to White families, regardless of the SES indicator. Policies should specifically address structural barriers in the lives of racial and ethnic minorities to minimize the diminished return of SES resources across racial minority groups. Policies should also reduce extra costs of upward social mobility for racial minorities. As the likely causes are multi-level, solutions should also be also multi-level. Without such interventions, it may be very difficult if not impossible to eliminate the existing Black–White economic gap.

Keywords: socioeconomic status; income; education; ethnic groups; Blacks; ethnicity; families; parents

1. Introduction

Socioeconomic status (SES) indicators such as marital status, education, and income are among the most salient social determinants of health (SDH) (Bowen and González 2010; Mirowsky and Ross 2003; Leopold and Engelhardt 2013; Brunello et al. 2016). Higher SES reduces the risk of a wide range of physical and mental health outcomes across age groups (Leopold and Engelhardt 2013; McLoyd 1998). In contrast, low family SES is a main underlying mechanism for poor health over the life course (McLoyd 1990, 1998; Chen 2004). Variations, however, exist in the magnitude and mechanism of the effects of SES indicators on the health of populations across (Assari 2015a) and within (Assari et al. 2017a; Hudson et al. 2012; Assari and Lankarani 2016a; Assari 2018c) countries.

Minorities' Diminished Return theory (Assari 2018a, 2018b) can be defined as systemically smaller effects of SES on the health and wellbeing of minorities than Whites (Assari 2018a). In line with this theory, SES indicators such as education, income, and marital status may not equally protect all social groups (Assari 2018a, 2018b). An extensive research has shown that education (Assari and Lankarani 2016a; Hummer and Lariscy 2011), employment (Assari 2018c), and income (Assari 2018d) have smaller health effects for Blacks than Whites. Similar patterns are also shown for self-efficacy (Assari 2017a, 2017b; Assari and Lankarani 2017), affect (Assari et al. 2016; Assari and Burgard 2015; Assari 2017c), and sleep quality (Assari et al. 2017b).

Minorities' Diminished Return has been attributed to a wide list of societal processes, such as differential treatment by the society, differential access to the opportunity structure, difficulties leveraging their human capital resources, and extra costs of upward social mobility for minority families (Assari 2018a, 2018b; Baughcum et al. 1998). Minorities are in a disadvantage compared to the majority group in terms of leveraging their resources and navigating the social system, which are both essential for taking advantage of socioeconomic growth (Assari et al. 2017a; Hudson et al. 2012; Hudson 2009). As a result, the very same SES indicators, such as education, income, and marital status, better improve life conditions of the majority/dominant group compared to minority groups. Fighting this uphill battle will constantly lower racial minority groups' chance of transforming their human capital, such as education, to tangible outcomes such as health and well-being (Assari 2018a, 2018b).

There are a few recent studies that have more deeply explored the transgenerational effects of SES as well as how families differ in their reach of SES indicators (Assari 2018f). These studies propose smaller economic returns of family SES on offspring as a mechanism behind diminished return of SES for Black compared to White families. A recent study found Black–White differences in the effects of parental education on the ability of families to escape poverty (i.e., income-to-needs ratio). Black families have more difficulties, compared to their White counterparts, in translating parental education to upward social mobility and escaping poverty (Assari 2018f). In a 15-year follow up study using data from the Fragile Families and Child Wellbeing Study (FFCWS), smaller protective effects of maternal education were found on the health of youth at age 15 for Black compared to White families (Assari et al. 2018). These studies collectively propose that Minorities' diminished return may be due to the differential economic return of SES resources.

To extend existing knowledge on the Minorities' Diminished Return theory (Assari 2018a, 2018b) and to test the relevance of this theory for the economic return of family SES, the current study examined Black–White differences in the effects of baseline SES (parental education and household income) on future income, using a large national longitudinal sample of American families.

2. Methods

2.1. Design and Setting

This 15 year longitudinal study used data from the Fragile Families and Child Wellbeing Study (FFCWS), 2000–2015. FFCWS was a large population-based cohort of urban families. The FFCWS consisted of a national random sample of families from 20 large US cities with a population of at least 200,000. The FFCWS followed a cohort of new unwed parents and their children over time. The study collected data on about 4700 births (3600 non-marital and 1100 marital) in 75 hospitals in 20 US cities (Reichman et al. 2001; Waldfogel et al. 2010; McLanahan et al. 2003). More detailed information on the FFCWS sampling and methodology is available elsewhere (Reichman et al. 2001).

2.2. Ethics

The FFCWS study protocol was approved by the Institutional Review Board at Princeton University. Parents, caregivers, and legal guardians provided informed consent. Respondents received financial compensation for their participation.

2.3. Participants and Sampling

The original FFCWS sample was composed of 4655 families that were either Black (n = 2407), Hispanic (n = 1354), or White (n = 894). The FFCWS is not representative of the US population, given the oversampling of non-married couples (Reichman et al. 2001). Most FFCWS participants were in non-marital unions and had a lower SES. Data for the current analysis used wave 1 (baseline) and wave 6 (year 15). The analytical sample for this study consisted of 1471 families who were followed from birth to age 15, and were either non-Hispanic White or non-Hispanic Black families.

2.4. Measures

The independent variables were family SES indicators measured at wave 1 (baseline). The dependent variable was family income at wave 6 measured when the child was age 15.

2.5. Independent Variables

Family SES (i.e., maternal education and family income) at birth were the independent variables of this study, both of which were measured at the baseline interview (wave 1). Maternal education was measured as the following ordinal variable: (1) less than high school; (2) high school; (3) some college; and (4) college completed or graduate level. Family income at baseline and 15 years later was operationalized as household income divided by 1000. For both SES indicators, a higher score was indicative of higher SES (Dawid et al. 2014; Lincoln et al. 2003; Krause 2002).

2.6. Dependent Variable

Family income was defined as household income divided by 1000, measured 15 years after baseline. Family income was treated as a continuous measure, with a higher score being indicative of higher SES (Dawid et al. 2014; Lincoln et al. 2003; Krause 2002).

2.7. Covariates

This study had three covariates. The first was the gender of the child, operationalized as a dichotomous measure (male 0, female 1). The second was age of the mother at baseline, operationalized as a continuous measure. The third was family structure at baseline, operationalized as a dichotomous variable based on the marital status of the youth's father and mother, reported by the mother.

2.8. Moderator

Race was the effect modifier in this study. The race of the family was based on the race of the mother and the father of the child at birth. Self-attributed race of the mother and father was asked at the first interview following birth. Families were considered White if both parents were White. Families were considered Black if both parents were Black (or the mother was Black and the father was an absent father). All families were non-Hispanic Whites or Blacks.

2.9. Statistical Analysis

To analyze the data, we used SPSS 22.0 (IBM Corporation, Armonk, NY, USA). Frequencies and means (Standard Deviations) were reported for descriptive purposes. For bivariate analysis, we calculated Pearson correlation tests in the pooled sample and by race. We ran several regression models, first in the pooled sample and then specific to each race. In the pooled sample, we ran models that only included main effects of SES indicators. Then we ran models that included the following two interaction terms: (1) race $\times$ education; and (2) race $\times$ income. In all models, family income 15 years later was the dependent variable, two family SES indicators were the independent variables, and child gender, mother's age, and family structure at baseline were the covariates. Adjusted unstandardized regression coefficients (b), their 95% confidence interval (CI), and associatiated p values were reported. p values less than 0.05 were considered statistically significant.

Attrition in the current study was exclusively due to the selective attrition of participating families over a 15 year follow-up period. From the total number of 2923 Black and White families who started FFCWS in 1998/2000, only 1781 Black and White families provided data 15 years later. Attrition was correlated with maternal education but not race, family structure, and income. As a result, most SES indicators did not have correlations with the Blacks' and Whites' surviviorship in the FFCWS. Therefore, the results are not particularly skewed due to differential attrition by race and SES.

3. Results

3.1. Descriptive Statistics

This study followed 1471 Black or White families from the birth of their new child for a 15-year period. Table 1 describes family SES at baseline and income 15 years later in the pooled sample, as well as by race. Baseline maternal education and family income were higher for White than Black families. While most White families were married at baseline, most Black families were unmarried. Black families had younger mothers at the time of child birth. Family income 15 years later was also higher for White compared to Black families.

Table 1. Descriptive statistics in the pooled sample and by race.

	All (n = 1471)		**Whites (n = 423)**		**Blacks (n = 1048)**	
	Mean	***SD***	***Mean***	***SD***	***Mean***	***SD***
Age of the Mother *	25.30	6.10	27.91	6.63	24.25	5.53
Baseline Education *	2.31	0.99	2.88	1.03	2.08	0.88
Baseline Income *	35.32	33.54	60.23	41.07	25.27	23.41
Subsequent Income *	64.56	66.98	109.71	93.02	46.34	40.68
	n	%	*n*	%	*n*	%
Race						
White	423	28.76	423	100.00	0	0
Black	1048	71.24	0	0	1048	100.00
Child Gender						
Male	795	54.04	224	52.96	571	54.48
Female	676	45.96	199	47.04	477	45.52
Marital Status *						
Unmarried	1083	73.62	167	39.48	916	87.40
Married	388	26.38	256	60.52	132	12.60

* $p < 0.05$ for comparison of Black and White families.

3.2. Bivariate Correlations

Table 2 summarizes the bivariate correlations in the pooled sample, as well as for White and Black families. Although most SES indicators at baseline and 15 years later were correlated, the magnitude of these links was generally stronger for White than Black families.

Table 2. Correlations in the pooled sample and by race.

	1	2	3	4	5	6	7
All (*n* = 1471)							
1 Race (Black)	1	−0.014	−0.272 **	−0.492 **	−0.365 **	−0.472 **	−0.428 **
2 Child Gender (Female)		1	0.016	0.015	−0.004	0.042	0.012
3 Mothers Age			1	0.478 **	0.461 **	0.391 **	0.290 **
4 Baseline Marital Status (Married)				1	0.492 **	0.550 **	0.445 **
5 Baseline Education					1	0.550 **	0.466 **
6 Baseline Income						1	0.576 **
7 Subsequent Income							1
Whites (*n* = 423)							
Child Gender (Female)		1.00	−0.04	−0.03	−0.01	0.00	0.00
Age			1.00	0.546 **	0.551 **	0.433 **	0.270 **
Baseline Marital Status (Married)				1.00	0.550 **	0.476 **	0.367 **
Baseline Education					1.00	0.516 **	0.444 **
Baseline Income						1.00	0.512 **
Subsequent Income							1.00
Blacks (*n* = 1048)							
Child Gender (Female)		1.00	0.04	0.03	−0.01	0.073 *	0.02
Age			1.00	0.317 **	0.319 **	0.214 **	0.144 **
Baseline Marital Status (Married)				1.00	0.275 **	0.353 **	0.220 **
Baseline Education					1.00	0.430 **	0.329 **
Baseline Income						1.00	0.411 **
Subsequent Income							1.00

* $p < 0.05$; ** $p < 0.01$.

3.3. Linear Regressions in the Pooled Sample

Table 3 shows the results of two linear regressions in the pooled sample, one without and one with race by family SES interactions. *Model 1* showed that in the pooled sample, higher family SES at baseline was predictive of higher family income 15 years later. Higher maternal education (b = 11.62, $p < 0.001$) and household income (b = 0.73, $p < 0.001$) at birth were positively associated with the higher income of the youth at age 15. *Model 2* showed significant interactions between race and both indicators of family SES at baseline, suggesting that the predictive effects of both indicators of family SES at baseline on family income 15 years later were smaller for Black compared to White families. The interaction between race and maternal education at birth was significant and negative (b = −12,073.89, $p < 0.001$), suggesting that maternal education at birth has a smaller effect on household income 15 years later for Black compared to White families. Similarly, the interaction between race and household income at birth was significant and negative (b = −312.47, $p < 0.001$), suggesting that high household income at birth has a smaller effect on household income 15 years later for Black compared to White families.

Table 3. Summary of two linear regressions in the pooled sample.

	Model 1 (*n* = 1471) Main Effects			**Model 2 (*n* = 1471) Main Effects + Interactions**		
	b	***95% CI***	***p***	***b***	***95% CI***	***p***
Race (Black)	−22.50	−29.59–15.42	<0.001	20,128.18	3415.02–36,841.34	0.018
Child Gender (Female)	−0.74	−6.12–4.65	0.788	−183.48	−5508.50–5141.55	0.946
Mother's Age (years)	−0.18	−0.71–0.34	0.500	−304.01	−824.57–216.55	0.252
Baseline Marital Status	13.97	5.75–22.18	<0.001	11,411.48	3209.52–19,613.44	0.006
Baseline Education	11.62	8.14–15.09	<0.001	20,649.24	14,767.53–26,530.95	<0.001
Baseline Income	0.73	0.62–0.84	<0.001	846.49	703.62–989.35	<0.001
Race × Baseline Education	-	-	-	−12,073.89	−19,003.18–5144.59	<0.001
Race × Baseline Income	-	-	-	-312.47	−517.19–107.75	0.003
Constant	29.30	14.78–43.82	<0.001	982.35	−16,657.54–18,622.24	0.913

3.4. Linear Regressions in Each Race

Table 4 shows the results of linear regressions specific to race. Based on *Model 3* and *Model 4*, both family SES indicators at baseline were associated with higher family income 15 years later for White and Black families, however, the magnitude of these associations was larger for White families. The effect of baseline maternal education on future income was larger for White (b = 21.42, $p < 0.001$) than Black (b = 8.22, $p < 0.001$) families. Similarly, the effect of baseline household income on income 15 years later was larger for White (b = 0.85, $p < 0.001$) than Black (b = 0.54, $p < 0.001$) families.

Table 4. Summary of two linear regressions by race.

	Model 3 Whites (*n* = 423)			**Model 4 Blacks (*n* = 1048)**		
	b	***95% CI***	***p***	***b***	***95% CI***	***p***
Child gender (Female)	0.58	−14.29–15.45	0.939	−0.62	−5.09–3.84	0.784
Mother's age (years)	−1.09	−2.54–0.35	0.138	0.02	−0.41–0.46	0.917
Baseline Marital Status	19.00	−0.84–38.84	0.060	7.32	−0.09–14.73	0.053
Baseline Education	21.42	11.81–31.03	<0.001	8.22	5.32-11.13	<0.001
Baseline Income	0.85	0.63–1.07	<0.001	0.54	0.44–0.65	<0.001
Constant	15.67	−19.72–51.05	0.385	14.37	3.61–25.12	0.009

4. Discussion

We found racial differences in the economic return of family SES, with systemic disadvantages for Black compared to White families. Although higher SES was predictive of an increase in income over the 15 year follow up, this economic return was smaller for Blacks than Whites. Baseline SES indicators had systematically stronger effects on subsequent family income 15 years later for White than Black families, and this was true regardless of the type of SES indicator and was not due to racial differences in family structure at baseline.

The results should be interpreted with regard to the substantial economics literature on race and social mobility in the US (Chetty et al. 2018). The findings are in line with the results reported by Chetty et al. 2018 (Chetty et al. 2018) regarding race, gender, and upward social mobility in the United States. These authors used de-identified longitudinal data from 1989–2015 and showed three sets of results. First, Black Americans, compared to Whites and Hispanics, had substantially lower rates of upward mobility and higher rates of downward mobility, leading to large income disparities that persisted across generations. Second, at each level of parent income, the Black–White income gap was entirely found to be driven by large differences in wages and employment rates between Black and White men as there were no such differences between Black and White women. Third, differences in family characteristics, such as parental marital status, education, and wealth, explained very little of the Black–White income gap, conditional on parent income. Fourth, differences in ability failed to explain the patterns of intergenerational mobility that were observed. Fifth, the Black–White gap persisted even among boys who grew up in the same neighborhood, as controlling for parental income, Black boys had a lower income in adulthood than White boys in 99% of Census tracts. Sixth, although both Black and White boys had better outcomes in low-poverty areas, Black–White gaps were larger in such neighborhoods. Black–White gaps were relatively small in low-poverty neighborhoods with low levels of racial bias among Whites (Chetty et al. 2018).

These results should be interpreted with the economic literature on the intergenerational transmission of inequality in mind (Currie and Moretti 2007; Aizer and Currie 2014; Corak 2013). Previous research on race and education has suggested that past discrimination in education provision for Blacks has had long lasting, multiple generation effects on the human capital of their children, grandchildren, and great grandchildren. That is, at each given educational attainment, Whites have higher human capital than their Black counterparts because Whites have more educated parents, grandparents, and great grandparents (Canaday and Tamura 2009; Tamura et al. 2016;

Turner et al. 2018). Thus, focusing on the current education of a parent does not fully account for past discrimination over multiple generations. More research is needed on the multi-generational impacts of education on human capital across races.

These findings should not be interpreted as high SES Black families are less ambitious, less motivated, have a lower tendency for upward social mobility, or are not very effective in taking advantage of their SES resources. Such argument would be victim blaming (Adler and Stewart 2009). In contrast, despite their ambitions, the US social structure differentially treats Whites and Blacks, and, as a result, Blacks are at a systemic disadvantage even with similar SES. Systemic disadvantages among Blacks in using SES resources are due to the structural racism, segregation, and discrimination that still exist in American society (Assari 2018a, 2018b). Black families face several more societal barriers in their lives that hinder their ability to transition their resources, even when they have successfully climbed the social ladder. All these factors suggest that it is more expensive for Blacks to live a middle-class life, than their White counterparts.

The current findings support the results of a recent study, in which the effect of parental education on families' ability to escape poverty was smaller for Black compared to White families (Assari 2018f). That study, however, had several limitations. First, the study was cross-sectional, which limits causal conclusions. This is particularly important given that education, marital status, income, and poverty all have bidirectional associations. Second, the study only focused on differential effects of education on poverty, and other SES indicators, such as family structure and income, were left out. Given these conceptual and methodological limitations, the authors warned that the results presented should be interpreted with caution. The authors also highlighted a need for replication of the findings using a longitudinal design, allowing multiple observations of SES indicators over time across social groups (Assari 2018f). Current study extends the above study while avoiding most of these limitations.

These findings also provide an explanation for the growing literature on unequal health gains from SES indicators such as education, income, employment, and marital status between Whites and Blacks. These results suggest that the same SES at each time point is reflective of higher SES in future for Whites than Blacks. Thus, SES may not be very comparable across racial groups. This differential effect of SES on income may be one mechanism behind the Minorities' Diminished Return (Assari 2015a, 2017e, 2018b, 2018e; Assari and Lankarani 2016b), which is smaller health gains from SES for Blacks than Whites. Baseline education (Assari and Lankarani 2016a), employment (Assari 2018c), neighborhood quality (Assari and Caldwell 2017), and social contacts (Assari 2017d) all generate smaller gains in life expectancy for Blacks than Whites.

Compared to Whites, Blacks face greater difficulty using their SES indicators. That is, highly educated Black families will make systemically less future income, compared to highly educated White families. The results of this study provide an economic explanation for the Minorities' Diminished Return theory (Assari et al. 2017a; Assari and Lankarani 2016a; Assari 2014, 2015b). Several studies have documented racial differences in the returns of education attainment (Hout 2012). Racial differences in living standards due to education, for instance, are well documented (Canaday and Tamura 2009; Tamura et al. 2016; Turner et al. 2018).

These results suggest that long term economic processes are involved in shaping Minorities' Diminished Return, and some of these processes start early in life. These findings are important because family SES is a major contributor to racial health disparities during childhood (Assari et al. 2018; Assari 2017f). Our study showed that each SES indicator reflected lower SES decades later for Black than White families.

This study used data from the FFCWS and supported previous findings from the National Survey of Children's Health (NSCH) (Assari 2018f). Future research should also use the American Community Survey (ACS) and Current Population Survey (CPS), which both generate valid SES information in the United States. We also did not include Hispanics. In addition, household income was not adjusted for local cost of living differences nor changes in local cost of living, which may bias the results. The study

did not measure community level factors, such as the density of racial groups or higher-level SES. Future research should test other minority groups as well.

In summary, this study documented Black–White differences in the economic return of SES indicators 15 years apart, and showed a systemic disadvantage for Blacks compared to Whites, and a pattern that could be seen for SES indicators, namely education and income. This pattern was not because of family type at baseline. These results suggest that very same SES at each time point is reflective of higher SES in future for Whites than Blacks. As a result, one time measurement of SES is not enough and will result in bias across racial groups.

Acknowledgments: Research reported in this publication was supported by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) of the National Institutes of Health under award numbers R01HD36916, R01HD39135, and R01HD40421, as well as a consortium of private foundations. We also acknowledge support from the Columbia Population Research Center, which is supported under award P2CHD058486. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Conflicts of Interest: The author declares no conflict of interest.

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