

Health Disparities Due to Diminished Return among Black Americans: Public Policy Solutions

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Funding

Shervin Assari is supported by the Heinz C. Prechter Bipolar Research Fund and the Richard Tam Foundation at the University of Michigan Depression Center.

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as [doi: 10.1111/sipr.12042](https://doi.org/10.1111/sipr.12042).

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Acknowledgment

Author wishes to thank Stephanie Vidaillet Gelderloos, Brianna Preiser, and Maeva Adoumie to their contribution to the drafts of this paper.

Abstract:

There are persistent and pervasive disparities in the health of Black people compared to non-Hispanic Whites in the United States. There are many reasons for this gap; this paper explores the role of “Blacks’ diminished gain” as a mechanism behind racial health disparities. Diminished gain is a phenomenon wherein the health effects of certain socio-economic resources and psychological assets are systematically smaller for Blacks compared to Whites. These patterns are robust, with similar findings across different resources, assets, outcomes, settings, cohorts, and age groups. However, the role of diminished gain as a main contributing mechanism to racial health disparities has been historically overlooked. This article reviews the research literature on diminished gain and discusses possible causes for it, such as the societal barriers created by structural racism. Policy solutions that may reduce Blacks’ diminished gain are discussed.

Keywords: Social and Economic Inequalities, Racial and Ethnic Health Disparities, Socioeconomic Status, Structural Barriers, Racism, Social Policy, Public Policy

Introduction

Across almost all domains, people who self-identify as Black or African American experience worse health compared to people who self-identify as White (Williams & Collins, 1995, Williams, Priest, & Anderson, 2016). Racial health disparities start even before birth (Lu & Halfon, 2003) and extend throughout childhood (Caprio, et al., 2008), adulthood (McClellan, et al., 2006) and older adulthood (Pappas, Queen, Hadden, & Fisher, 1993). Some well-documented examples are greater infant mortality rate (MacDorman, 2011), greater incidence of childhood chronic disease (Miller, 2000) and higher mortality and morbidity of Blacks later in life (McClellan, et al., 2006; Murray, et al., 2006). Although the overall health of all Americans has improved over the past several decades, the racial health gap has remained relatively constant (National Center for Health Statistics. 2015). In the past, economic, social, and health policies and programs that have addressed these health disparities have been largely unsuccessful in narrowing the disparities in morbidity and mortality between Black and White Americans (Griffith, Evans, & Bor, 2017; Artiga, Damico, & Garfield, 2015). (Similar health disparities impact other minority groups including Hispanics and Native Americans but for reasons of length will not be discussed in this article)

There are multiple interactive reasons for the continued health gap between Black minority group member minorities and White majority group members, and no single model or cause can fully explain the complex bio-social mechanisms. Of course, the possibility exists that there are population-level genetic differences that result in differential incidence rates for some diseases, as well as differences in the way certain diseases develop and progress. Such differences as causes of health disparities merit examination, but it is highly doubtful that they can fully explain the racial/ethnic differences in health status. Other likely causes of health status disparities concern

inequities in the quality of healthcare received by different social groups (Nelson, Stith, & Smedley, 2002) as well as cultural differences of patients receiving healthcare (Caprio, et al., 2008). This paper almost exclusively focuses on racial health disparities due to the structural racism embedded in the U.S. social structure, meaning the system of socioeconomic stratification (e.g., the class structure), social institutions, or other patterned relations between large social groups (Krieger, 2012; Williams & Mohammed, 2013). The core thesis is that due to American social structure, economic resources (i.e. material and symbolic goods, which can be accessed and used in social actions) and psychological assets (i.e., personal attributes and traits such as optimism, coping, and mood) systemically generate larger health gains for White Americans than they do Black Americans.

This paper reviews research literature showing that first health is largely shaped by societal factors outside the health sector, and, second, social resources and psychological assets are essential for health (Link & Phelan, 1995). The next section summarizes research that shows Blacks experience diminished gains from certain socioeconomic resources and psychological assets. After discussion of the meaning of these findings, we propose five potential mechanisms that may explain such differential effects. Implications for theory, research, and policy are then addressed.

The primary sources for the data presented in this article are secondary analyses conducted by the author's research team. These studies are based on the following five national surveys or cohorts: 1) the Americans' Changing Lives (ACL) study, a 25-year cohort of 3600+ adults (1986-2011), 2) the Midlife in the United States (MIDUS) study, a 10-year cohort of 7100+ adults (1995-2004), 3) the Religion, Aging, and Health Survey (RAHS), a 3-year cohort of 1500 older adults (2001-2004), 4) Health and Retirement Study (HRS), an ongoing cohort of 37000+ older adults (1992-current), and 5) the National Survey of American Life (NSAL), a survey of 6000+ adults and 1100+ adolescents (2001-

2003). These studies have mostly recruited representative samples of children, adolescents, and adults living in the United States. As a result, the results are generalizable to the U.S. population. Although these studies have included several different racial/ethnic groups, most of these findings are relevant to health gaps between Black and Whites, as they are typically the largest and most extensively studied.

Economic and Social Resources, Personal Assets, and Health

The World Health Organization (WHO) Commission on Social Determinants of Health (2008) and many public health researchers (e.g., Marmot, Allen, Bell, & Goldblatt, 2012) have argued that people's health and illness are initially shaped by factors outside the health sector. That is, exposure to enduring social ills such as poverty, poor education, and unemployment are strong contributors to racial health disparities. Thus, many health problems have origins that may predate exposure to disparities in the quality of the healthcare Black patients receive. This view does not challenge the importance of healthcare disparities in health status disparity (Nelson, Stith, & Smedley, 2002) but instead argues that such disparities do not fully explain the large gaps in the health of Blacks and Whites.

Differential Effects versus Differential Exposures

Our model of health disparities argues that there are two related but distinct processes that cause the Black-White health gap in United States. The first is "differential exposure," in which Blacks are less likely to have access to certain resources (e.g. quality education, well-paying employment) and more likely to be exposed to certain risk factors (e.g. discrimination). The second process is "diminished gain" or "differential effects," in which Blacks are less likely to experience benefits, or positive consequences, from resources in their environment they do receive and assets

they do possess. Both “differential exposure” and “differential effects” contribute to the development of racial health disparities across the life course.

Economic and social resources are essential for maintaining health and avoiding illness (Link & Phelan, 1995). Mirowsky and Ross (2003) have described the health effects of socioeconomic resources, such as education, as enduring, consistent, and growing. Social determinants of health (SDH; i.e. the conditions in which people are born, grow, live, work, and age) and SES (i.e. individual's or family's economic and social position in relation to others, based on income, education, and occupation) provide access to material and human resources. These resources collectively minimize the risk of exposure to, and subsequent negative consequences of, illness (Phelan, Link, & Tehranifar, 2010). Multiple cross sectional and longitudinal studies of the factors that affect people's health (e.g., Health and Retirement Study (HRS) (Bowen & González, 2010), the Panel Study of Income Dynamics (McDonough, Williams, House, & Duncan, 1999), the Survey of Health, Aging and Retirement in Europe (SHARE) (Leopold & Engelhardt, 2013), and the Americans' Changing Lives (ACL) Study (Herd, Goesling, & House, 2007), find that education, employment, and income are among the most important social resources that reduce risk of premature morbidity (Gueorguieva, et al., 2009) and mortality (Hummer & Hernandez, 2013).

However, Everson-Rose and Lewis (2004) assert that, at least some of the health effects of economic and social resources and SDH are mitigated by certain psychological or personal assets or resources. For example, mastery, sense of agency, and self-efficacy (i.e. beliefs about one's ability to meaningfully affect one's environment) all mediate the effects of economic adversities on physical and mental health outcomes (Everson-Rose, House, Mero 2004). Subsequent research by Surtees et

al. (2010) and Turiano, et al. (2014) have further supported the importance of personal assets in the maintenance of individuals' health.

One of the primary foci of the recent research by our team has been to use national data sets to determine the relative impact of exposure to social, economic, and psychological resources and the mitigating effects of certain personal assets or strengths on the health of Blacks and Whites.

Table 1 summarizes the results of more than twenty papers by my colleagues and I documenting the differential effects of social resources and psychological assets on health of Whites and Blacks. As previously suggested, these studies have consistently found smaller health benefits from access to social resources and possession of certain assets for Blacks compared to Whites. These findings seem to hold across developmental phases, as they are observed among young people (Assari, Thomas, Caldwell, & Mincy, 2017), adults (Assari & Lankarani, 2016a) and older adults (Assari & Lankarani, 2016b).

For example, a 25-year follow up of more than 3000 adults shows that educational attainment (Assari & Lankarani, 2016a) and employment (Assari, 2017a) have stronger protective effects on the life expectancy of Whites compared to Blacks. In another study, we found that having access to a higher number of social contacts (i.e. being a member of a larger social network) increased life expectancy of Whites but not Blacks in a sample over 25 years of age (Assari, 2017b). Similarly, higher levels of self-efficacy (Assari, 2017c) and sense of control over life (Assari, 2017d) may better reduce the risk of premature mortality for Whites than for Blacks over time. Holmes and Zajacova (2014) report similar findings.

Thus, not all racial/ethnic health disparities are simply due to lower SES (LaVeist, 2005), higher stress (Lantz, House, Mero, & Williams, 2005), higher levels of discrimination (Williams,

Neighbors, & Jackson 2003), and the inferior healthcare (Nelson, Stith, & Smedley, 2002) that Blacks and other minority groups are disproportionately exposed to. It is also the relative gain or loss of such factors that affects a person's health.

These findings suggest that there are multiple related causes of health disparities. That is, some people have argued that it is one's social class, rather than one's race, that contributes to their health status. Such arguments ignore the strong covariation between race, social class, and where one lives in the US. ("place"). Thus, others have persuasively argued that it is both race and the risk factors that covary with race that are responsible for the poor health of Blacks relative to Whites (Navaro, 1990). Some researchers (e.g., LaVeist 2005) have tried to disentangle the effects of race and place from SES, with the assumption that SES, place, and other risk factors (LaVeist, Pollack, Thorpe, Fesahazion, Gaskin 2011) fully explain racial health disparities.

Probably the most important contribution of this paper is to present convincing evidence that suggests not all of the health disparities are due to the differential exposure of Blacks and Whites to risk and protective factors. Instead, the same protective and risk factors result in various levels of health across racial groups. For instance, hypothesizing SES differences, place differences, or the additional exposure of Blacks to stress (e.g. discrimination) as the only causes of health disparities are over-simplistic. If that were true, equalizing SES, eliminating segregation, or eliminating discrimination would eliminate the Black-White gap in health. We argue that the picture is more complex: that part of these disparities will persist even if racial groups become equal in SES, place, and stress, because increasing SES is generates less health gains for Blacks than Whites.

In other words, we should not assume that there might be a third factor, or a set of third factors, that would simply explain (i.e., mediate) the effect of race on health. Therefore, it is not either race or SES but race and SES that generate the lower health status of Blacks compared to Whites. Supporting our results, Navaro (1990) has argued that it is “race and class” not “race or class” that explain health disparities. This is in contrast to the traditional view that third factors such as SES, place, or stress that covary with race and health may fully explain the effects of race on health (Lantz, House, Mero, & Williams 2005; Miller & Taylor 2012). Although “differential exposure” also plays a major role in shaping health disparities, the role of “differential effects” should not be overlooked. We argue that racial differences are not solely due to additional exposure to low SES or stress; rather at least some of them are due to the “diminished gain” experienced by Black people in the US, as well as other disadvantaged groups.

The protective health effects of psychosocial resources (e.g., education, employment, and neighborhood) and psychological assets are unequal between the socially privileged and the economically disadvantaged groups. The ability of a group to take advantage of any additional resource is conditional on other protective factors that are available to them. The effects of social and economic resources are diminished for Blacks due to structural factors, such as poverty, segregation, racism, and discrimination, hinder their ability to navigate the system and take advantage of new resources that become available to them (Krieger, 2012; Gee, & Ford, 2011; Williams & Mohammed, 2013; Agency for Healthcare Research & Quality, 2015).

A Paradoxical Effect

An interesting implication of the greater health gains from certain resources among Whites compared to Blacks is that, following this logic, Whites should also experience greater health loss

than Blacks when economic resources are reduced or eliminated. Data from national surveys on the impact of SES on health confirm this. That is, Whites gain more from a higher SES and lose more from a lower SES. Whites may also do worse than Blacks under conditions of adversity such as economic depression. For example, low education (Assari & Lankarani, 2016a) and living in poor neighborhoods (Assari, 2016a) reduce the life expectancy of Whites more than they do Blacks. Unemployment is associated with the largest decline in life expectancy among White men, while Black men lose minimum life expectancy due to unemployment (Assari, 2017a).

One method of examining the relative impact of certain protective and risk factors on health is to study the slopes when health is regressed onto these factors. Greater slopes can be interpreted as an indicator of relative advantage, but they reflect vulnerability (DiAngelo, 2011). As most social risk and protective factors show greater slopes for Whites than for Blacks, Whites' health seems to be more dependent upon presence of SDH and SES than Blacks. Stressful life events can also have larger effects on depression in Whites as compared to Blacks (Assari & Lankarani 2016d). For example, Whites have shorter life expectancies than Blacks when they have few positive emotions (Assari, Moazen-Zadeh, Lankarani, & Micol-Foster, 2016), poorer anger control (Assari, 2016b), lower self-efficacy (Assari, 2017c), and lower sense of agency (Assari, 2017d). Also, poor sleep (Assari, Sonnega, Leggett, & Pepin, 2016) and negative emotions (Assari, & Lankarani 2016c) have larger effects on the incidence of chronic disease for Whites compared to Blacks. These papers collectively suggest that health costs associated with fewer psychological assets are greater for Whites than Blacks.

Malat, Mayorga-Gallob, and Williams (2017) propose that Whites' greater vulnerability to risk factors relative to Blacks may be due to their higher social status and greater privilege. That is,

they may be less prepared than Blacks to respond to social and economic adversity. Thus, the Black-White difference in resilience in the face of unexpected difficulties is due to social rather than biological processes. However, vulnerability can be conceptualized as a cost of social privilege to Whites, and resilience can be thought of as a gift of adversity. In this view, vulnerability is secondary to the lack of preparedness of Whites to cope with adversity, given their social privilege overall. Compared to Blacks who have dealt with a wide range of economic and social stressors for centuries, Whites are less resilient to adversity (Keyes, 2009). An example of this lack of preparedness is the recent increase in death of despair (i.e. death due to suicide, overdose, and substance use) in White Americans documented by Case and Deaton (2015). They found that low SES Whites, particularly low SES White men, have recently experienced an increase in mortality due to high-risk behaviors. Research by Geronimus et al., (2015) also showed that adversity is associated with shortening of telomere length in Whites but not Blacks.

In contrast, many Blacks have found ways to manage their harsh environment, which may have helped them to develop a systematic resilience (Keyes, 2009), a phenomenon also called “Blacks’ flourishing” (Keyes, 2009; Ryff, Keyes, & Hughes, 2003). This hypothesis about Blacks’ resilience is in line with an extensive theoretical and empirical body of work regarding resilience (Lyons, Parker, Katz, & Schatzberg, 2009), defined as succeeding in the face of adversity (Zimmerman, Ramirez-Valles, & Maton, 1999). In this view, the social group that experiences adversities gradually becomes more efficient in mobilizing their available assets and resources to protect the individual and mitigate the impact of risk factors. As a result, despite several social and economic risk factors, Blacks may maintain their sense of well-being. This is also consistent with recent studies showing that Blacks with depression maintain higher levels of hope (Assari, &

Lankarani. 2016e), positive emotions (Lankarani, & Assari, 2017), and mastery (Assari, & Lankarani 2017f) compared to Whites.

Thus, at a minimum, we can conclude that some health disparities are shaped outside of the healthcare system. The U.S. social structure continually generates gaps between social groups. We argue that there is a significant parts of health disparities which are caused by the very nature of American social structure and how it functions. Unless this social structure is altered, racial health disparities will continue to grow. According to this explanation, disparities develop even before health care is needed. This suggests a needed shift in attention from a medical to a sociological model of health disparities. In the absence of any change, the U.S. social system will continue to generate smaller health gains from the same resources and assets for Blacks compared to Whites. While the gain is conditional on race, it is difficult to close racial gaps in health, without altering how the operation and functionality of the macro level system. In its current form, American society, even with equitable access to resources across social groups, results in reliable health disparities between the socially privileged and disadvantaged groups.

It is not wise for policy makers, evaluators, and others to assume that socioeconomic resources and assets will influence the health of all social groups equally, as risk and protective factors interact with sociodemographic characteristics on health (Mehta & Preston, 2016). As a result, there is a need to systematically test all potential interactions between race, ethnicity, and SES as indicators on health outcomes (Williams & Collins, 1995; Kessler & Neighbors, 1986). Disparities seem to be larger at the highest levels of SES, suggesting that a diminished gain may be greater at higher SES levels (Farmer & Ferraro, 2005). However, due to the substantial covariation between race and SES, and also due to residual and unmeasured confounding variables (i.e.

epidemiologic terms that indicate biases due to an inability to cancel the effects of all potential covariates / confounders), it is exceedingly challenging to decompose the effects of race and SES on health (Kaufman, Cooper, & McGee, 1997). In addition, residual and unmeasured confounding variables are a common threat to the validity of research on the effects of race and health (Fewell, Davey Smith, & Sterne, 2007). In many studies where the individual level, but not community level SES is measured, higher level SES may be an unmeasured confounder.

The Impact of Economic Inequalities of the Racial Health Gap

The racial gap in health may widen in the future as has happened before. Williams and Collins (1995) have provided a historical review regarding the widening of the racial gap in mortality and other health outcomes as a function of changes in economic conditions. They showed how a decline in Blacks' economic well-being and an increase in Black-White economic inequalities resulted in a widening Black-White health gap across a number of health indicators. For example, between 1980 and 1991, the racial life expectancy gap grew from 6.9 years to 8.3 years. Black men and women's life expectancy significantly declined from 1984 to 1989 (National Center for Health Statistics, 1994; Williams & Collins, 1995). The age-adjusted Black to White death ratio increased from 1980 to 1991, with the annual excess of deaths increasing by 6,000 in Blacks compared to Whites. During the same period, the age-adjusted death rate decreased more rapidly for American Whites than for American Blacks (Williams & Collins, 1995). Freeman (1993) used mortality data over this 20-year period from 1960 to 1980 in Harlem, New York, and Blacks and Whites on the national level. Although there was a steady decline in national mortality rate; there was no considerable gain in life expectancy for Blacks who lived in Harlem, New York, over the same period. There were also differences in the incidence of certain diseases. For example, the decline in the incidence of heart

disease was less for Blacks compared to Whites, which likely resulted in a widening of the racial gap in life expectancy (Kochanek, Maurer, & Rosenberg, 1994). The racial health gap widens when the racial economic gap widens. In the 1980s, the ratio of Blacks earnings to White earnings was smaller, relative to the ratio of earnings in the 1970s. In concert with the widening of the economic gap, racial health disparities also widened for a range of health indicators (Williams & Collins, 1995). From 1984 to 1989, while the life expectancy of Whites showed a consistent increase, the life expectancy of Blacks declined (Williams & Collins, 1995).

Between 1960 and 1984, the protective effect of education against the risk of mortality increased substantially for White but not Black men (Feldman, Makuc, Kleinman, & Cornoni-Huntley, 1989). The gap in rate of mortality among groups of differing levels of SES increased from 1960 to 1986 (Pappas, Queen, Hadden, & Fisher, 1993). From 1969 to 1989, breast cancer mortality declined for high SES women, however, the mortality rate increased for low SES women during the same period (Wagener & Shatzkin, 1994). From 1980 to 1991, preterm delivery and low birth weight increased among Black women, while the same statistics remained unchanged for White women. This resulted in a widening of the racial gap in infant mortality rates during this period (Rowley & Hogue, 1993). There was also widening of the racial gap in the rates of sexually transmitted diseases from 1980 to 1991 (Castro, 1993).

These are all historical examples of the racial health gap widening as a direct result of economic factors. Widening of the racial gap is not limited by or specific to a single health outcome, as it has occurred across domains, and spillover effects may impact multiple health domains. In the absence of political and public policy changes working to address higher level societal and structural

factors such as residential segregation and institutional racism, Blacks are unlikely to gain from resources at the same level as Whites (Assari, 2017e).

Possible Mechanisms behind Differential Effects

The following section discusses five potential mechanisms behind the “diminished gain” or “differential effects” experienced by Blacks. These mechanisms include: 1) labor market preferences and practices, 2) income and wealth generation and purchasing power, 3) interpersonal, institutional and structural discrimination, 4) cumulative gain due to initial advantage, and 5) extra cost associated with upward social mobility among Blacks. These mechanisms operate across levels and range from public policies to individual characteristics). While some of these explanatory mechanisms are related to the social structure and operate at the macro level, some others may predominantly exert their effects through group or individual levels. They are interconnected as the labor market may result in racial gap in income, and racial differences in purchasing power may cause upward social mobility of Blacks to be more costly. Additionally, these mechanisms are not mutually exclusive, and some may be more relevant than others depending on the resource and asset, age group, cohort, and racial group. For instance, differential life expectancy gain from education and employment are mostly due to racial differences in education quality and labor market practices. Interpersonal discrimination, however, may offer a better explanation for why high SES may not protect Black men against depression (Assari 2017g).

Labor Market Preferences and Practices

At least some of Blacks’ diminished health return of SES is due to the smaller effect of education on employment and income for Blacks compared to Whites, which is due to racism in the labor market. From 1954 until 2013, Black unemployment rate has been consistently double that of

Whites (Desilver, 2013). When Blacks do find employment, due to the existing racial gap in pay, they earn less than Whites (Jencks & Mayer, 1990). They also enter different types of occupations from Whites, as Blacks more commonly enter occupations that increase their exposure to environmental risk factors (U.S. Department of Labor, 2011). Blacks must often take minimum wage, repetitive jobs that increase their risk for poor mental health, substance abuse, and health problems (O'Campo & Rojas-Smith 1998). As a result, an increase in education and employment may result in more tangible health gains for Whites than Blacks (Monnat, 2014).

The labor market is one of many American institutions that suffer from structural and institutional racism (Huffman & Cohen, 2004). Compared to White counterparts, college-educated Blacks are much less likely to be employed, which reduces any health gain from employment (Wilhelm, 1987). The income gap is larger at higher levels of education. In 2006, among men with a master's degree, Blacks earned \$27,000 less than Whites (IWPR 2010). Despite a similar job experience and education, employed Blacks are more routinely exposed to occupational hazards and carcinogens than their White counterparts (Williams & Collins, 1995). These differences all serve to explain why education and employment result in smaller health gains for Blacks.

Income and Wealth Generation and Purchasing Power

Income (i.e. the flow of economic resources to the household or family) and wealth (i.e. the reserve of economic resources) are both lower in Blacks than Whites. In fact, higher wealth of Whites may explain why the same income results in smaller health gains for Blacks than Whites. Across the same levels of income, Black households have less wealth, which has enormous direct and indirect implications for health across generations (Oliver, & Shapiro, 2006). In the Fragile Families and Child Well-being Study (FFCWS), family SES at birth better protected White youth

against poor self-rated health (SRH) and high body mass index (BMI) than it did Black youth. That is, an increase in family SES at birth was a better promoter of future health for White youth than Black youth (Assari, Thomas, Caldwell, & Mincy, 2017). These papers suggest that diminished gain starts early in life, and includes multigenerational aspects (parental SES on offspring health).

Lower accumulation of wealth in Black families is cited as the result of a long history of racism and discrimination (Oliver & Shapiro, 2006). As houses are major assets, and location is the major determinant of housing value (Shapiro, 2006), residential segregation has played a major role in shaping the racial gap in wealth (Oliver & Shapiro, 2006). In addition to wealth differences, enormous racial differences also exist in income generation. Compared to Whites, Black households have a higher tendency to rely on multiple earners who collectively contribute to the total household income (Dressler, 1993). Among middle-class families, Blacks are more recent and less established in their social class, compared to Whites, which diminishes their health gains from social class (Collins, 1983).

As argued by Marmot (2015), how social groups can expend their available resources may be even more important than their SES resources. At any given income or wealth level, Blacks have lower purchasing power than Whites. Due to residential segregation, food deserts, and limited access to high quality resources in inner cities, Blacks must accept paying a higher price than Whites for the same goods and services (Williams, Priest, & Anderson, 2016).

Discrimination

One mechanism that offers an explanation for the diminished health gain of Blacks from SES resources is discrimination (Hudson, Bullard, Neighbors, Geronimus, Yang, & Jackson, 2012). Discrimination negatively impacts a wide range of health outcomes (Mays, Cochran, & Barnes,

2007). Chronic exposure to discrimination increases risk of psychiatric disorders (Hope, Assari, Cole-Lewis, & Caldwell, 2017). Additionally, experiencing discrimination carries consequences for physical health including higher rates of heart disease (Lewis, Williams, Tamene, & Clark, 2014), hypertension (Mezuk, Kershaw, Hudson, Lim, & Ratliff, 2011), obesity (Hickson, et al., 2012), and mortality (Barnes, de Leon, Lewis, Bienias, Wilson, & Evans, 2008). Discrimination also influences biological markers such as cortisol levels, which reflect stress responses (Lee et al., 2017), oxidative stress, which reflects inflammation (Szanton et al., 2012), and telomere length, which reflects aging (Chae et al., 2014). Given the recent trends in the racist rhetoric and public presence of White supremacy, discrimination may have a growing impact in American society in the coming years. Events such as those in Charlottesville and Ferguson suggest that racism and discrimination are still present in the United States.

Discrimination also minimizes the health gains from SES resources (Hudson, Bullard, Neighbors, et al. 2012). Hudson, et al., (2012) found the protective effects of SES among Black adults are smaller in the presence of discrimination. Assari and Caldwell (2017c) also used a national sample of Black youth and found that discrimination has a stronger effect on Major Depressive Disorder (MDD) of Black boys with higher levels of SES compared to low levels of SES. This finding is supported by other research which has shown that discrimination is more consequential for Black males than Black females (Assari, Lee, Nicklett, Moghani Lankarani, Piette, & Aikens, 2017). The Black men most vulnerable to MDD as a result of discrimination also hold high hegemonic masculinity beliefs (Caldwell, Antonakos, Tsuchiya, Assari, & De Loney, 2014).

Discrimination is not limited to between individuals. Blacks are systematically discriminated against in educational and correctional settings. Historically, race has had an effect on education in

the United States (Grogger, 1996; Steele 1992), with Blacks typically attending lower quality schools (Card & Krueger, 1992). Both individual level race and racial composition of schools are major determinants of educational resources and schooling quality (Roscigno & Ainsworth-Darnell, 1999). Exclusionary disciplines are disproportionately applied to Black children (Fenning & Rose, 2007). The result is huge Black-White gaps in school performance (Jencks & Phillips, 2011). Due to an increased risk of discrimination from their teachers (Noguera, 2009), Black boys are at an exceptionally high risk of school dropout (Rumberger, 1983), which contributes to the school to prison pipeline (Wald, & Losen, 2003). Seaton and Douglass (2014) showed that Black youth report a daily average of 2.5 discriminatory events that increase their depressive symptoms on the following day. Another institution that systematically discriminates against Blacks is the banking system (Ross, & Yinger, 2002). Black families often pay much higher interest rates on their mortgages than do White families. According to the Home Mortgage Disclosure Act (HMDA) data, even high-income Blacks pay more subprime (high) mortgage rates than comparable high-income Whites (Bocian, Ernst, & Li, 2008). Mortgage discrimination will directly result in Black-White differences in foreclosure rates (Bocian, Li, & Ernst, 2010).

Cumulative Disparities Due to Initial Advantage

Gains are typically larger for the “Haves” (i.e. the majority and the social advantaged groups) than the “Have Nots” (i.e. the minority and marginalized groups that are at economically disadvantage conditions) (Ceci & Papierno, 2005). As a result, policy makers, program planners, and evaluators should be aware that many interventions that increase overall access of the society to resources may not reduce disparities between groups. This is possibly because socially and

economically privileged groups are better equipped to capitalize on new programs that become available to them, compared to marginalized groups.

An initial advantage, characterized by the availability of SES resources and cognitive assets (coping and affect), disproportionately advances the majority group, explaining why Whites gain more than Blacks from any additional resources later in life (Ceci & Papierno 2005). Over time, this disparity accumulates, widening pre-existing gaps between social groups and their ability to gain from available resources and assets. As stated in the Cumulative Advantage Theory, having an initial advantage results in further cumulative advantage, and an initial disadvantage is accentuated over time (Shaywitz, Shaywitz, Pugh, & Constable, 1995).

Nonequivalence of childhood SES has been used to explain why high SES during adulthood is less protective for Blacks than Whites (Warner & Hayward, 2006; Colen, 2011). Holmes and Zajacov (2014), for example, attributed differential health effects of SES resources across races to racial differences in childhood SES. There are, however, studies whose findings do not support such an explanation (Brown, O'Rand, & Adkins 2012). Overall, it has not been determined whether or not racial gap in childhood SES is exclusively responsible for the differential health effects of adulthood SES.

Cost of Upward Social Mobility

To climb the social ladder, Blacks have a tendency to use effortful coping (Sellers, & Neighbors, 1999). Blacks report high levels of goal-striving stress (Sellers, & Neighbors, 2008) defined as the "discrepancy between aspiration for and achievement of a better way of life, weighted by the subjective probability of success, and the level of disappointment experienced if those life goals were not realized" (Neighbors, Sellers, Zhang, & Jackson, 2011, p. 51). One example is John

Henryism, a well-studied, effortful coping strategy that is commonly exercised by Black men to deal with discrimination in their daily life and aid in upward social mobility. John Henryism is, however, not the only form of coping that Blacks use for upward social mobility. Blacks and Whites employ different coping strategies to deal with stress (Conway, 1986). For instance, compared to Whites, Blacks have a higher tendency to rely on social support and religion to cope with adversities (Reevy, & Maslach, 2001).

Effortful coping strategies come with psychological and physiological costs (Bennett, et al., 2004; James, 1994; Sellers & Neighbors, 2008). Although most of the literature has focused on the undesired mental health effects of John Henryism (Hudson, et al., 2016), the health risk associated with John Henryism goes beyond merely a psychological cost (James, Strogatz, Wing, & Ramsey, 1987). Whether John Henryism promotes health or impairs health seems to depend on one's access to other resources such as SES and social support (Hudson, et al., 2016). John Henryism may function as a resource or as a health hazard (Mujahid, James, Kaplan, & Salonen, 2017). John Henryism is most damaging when it covaries with low access to SES resources and social support (James, 1994). John Henryism increases cardiovascular risk (Mujahid, James, Kaplan, & Salonen, 2017). As a result, John Henryism may have a unique role in shaping health disparities, particularly in higher SES levels. These processes could explain the smaller health gain due to educational achievement for Blacks compared to Whites (Fuller-Rowell, Doan, and Eccles, 2012).

Policy Implications

This section discusses potentially relevant social and economic policies based on the findings discussed above. Unlike other resources discussed, income has similar effects on mortality among Blacks and Whites (Assari & Lankarani, 2016a; Fedewa, McClellan, Judd, Gutiérrez, & Crews, 2014).

Thus, we believe that income redistribution policies are a central policy strategy to reduce Blacks' diminished gain. Second, it is necessary to distance ourselves from any policy or program that stimulates or supports widening of the racial health gap. Simultaneously, there is a need to enforce policies that reduce tolerance for discrimination at all levels against Blacks and other minority groups. As equal access generates differential impact across populations, policy solutions should go beyond simply equalizing access and address barriers in the life of Blacks. These policy solutions should be at multiple levels (e.g. individual, organizational, and institutional levels). Finally, we argue that religion and social support should be leveraged as they show particularly beneficial effects among Blacks.

Income Redistribution Policies

As just noted, income is one of the few exceptions to the Blacks' diminished health return (Assari & Lankarani, 2016a; Fedewa, et al., 2014). While many SES indicators and/or psychological assets better protect Whites than Blacks (Table 1), each unit increase in income shows the same increase in life expectancy for Whites and Blacks (Assari & Lankarani, 2016a). The observation that all groups similarly gain health from income is very promising and argues for income redistribution policies as a main solution to close the racial gap in health. For example, policy solutions may include 1) increasing the minimum wage for jobs often occupied by Blacks, 2) reducing the racial wage gap in the U.S. labor market, and 3) tax policies that help low income families to accumulate more wealth over time. Helping Blacks achieve higher incomes may be one of the most effective solutions to health disparities, given income is one of the fewest economic resources that similarly translates to health gain, regardless of race (Assari & Lankarani, 2016a). There is empirical evidence suggesting that income redistribution predicts well-being (Cheung 2017). Countries where income is distributed

evenly have a higher level of health status (Kawachi, & Kennedy, 1997). This is particularly important as Blacks are over-represented in low paying jobs. Policies providing temporary financial incentives and cash assistance may also have a role in addressing needs of people in deep poverty (Bitler & Hoynes, 2016).

Avoiding Policies that May Widen the Health Gap

A critical step to reduce the health gap is avoiding policies or programs that disproportionately improve the health of the socially advantaged majority group. Policy analysts who evaluate the impact of social policies should consider the differential effects of the same policies on Whites and Blacks, in addition to evaluating the overall effects on the total population. There is also a particular need to identify policies that minimize Blacks' diminished return (Lorenc & colleagues, 2013). It is important to identify sub-population differences in factors that alter the uptake and impact of the interventions across population sub-groups. Some of the factors that impact service provision or access of interventions across sub-groups include differential intervention efficacy, population variation in trust and acceptability of the program, as well as variation in compliance (Lorenc et al., 2013). Low trust, poor participation rate, and low adherence of Blacks can be traced to historical factors such as formal racist laws and informal racist social customs (Kennedy, Mathis, & Woods, 2007). To regain Blacks' trust, there is a need for considerable efforts and investments at all levels in the healthcare system and other institutions.

Zero Discrimination at All Levels

More legislation is required to reduce discrimination. Additionally, stronger enforcement of existing anti-discrimination policies should be in place. To reduce the ongoing structural discrimination in education quality (Roscigno & Ainsworth-Darnell, 1999), we must invest more in

the schooling and education of Blacks (Card & Krueger, 1992). Such investments may help schools reduce discrimination against Black children, and specifically address school dropout rates among Black boys (Rumberger, 1983). A particularly supportive policy would be the education of teachers and principals of predominantly Black schools to reduce disproportionate disciplinary actions against Black boys (Fenning & Rose, 2007). Teachers who work at majority Black schools, in particular, should receive training to minimize discrimination and bias among teachers, particularly against Black boys (Noguera, 2009). Governmental or state level policies should minimize disparities in availability of educational resources across social groups (Jencks & Phillips, 2011). Systematic evaluations of educational systems are necessary to monitor how these policies reduce the existing gaps in school performance between the majority and minority populations. Policies and programs that increase education quality in majority Black schools, particularly those that are least resourced (Grogger, 1996), may increase protecting effects of education on health of Blacks. Such investment would produce returns in community growth due to the salient role of education quality in the economic growth of our communities (Hanushek & Wößmann, 2007).

Similar to the educational system, we must abnegate discrimination in other sectors such as banking, housing, the correctional system, and policing. Federal enforcement agencies have the responsibility to more stringently enforce the existing anti-discriminatory laws, such as fair lending laws. Such careful monitoring may reduce discrimination across systems (White, 2009).

Going Beyond Equalizing Access

As equal resources and assets result in unequal gain (Assari, 2017e), social, public, and economic policies that merely equalize distribution of populations to resources and assets, but ignore the barriers not equally distributed across social groups, may unintentionally exacerbate

existing racial and SES health inequities. Despite good intentions, such universal policies do little to reduce, and even have the potential to aggravate, the racial health gap in the United States. Policies should go beyond universal investments. Any policy that over-emphasizes equal access without considering the structural barriers that maintain the relative disadvantages of Blacks should be regarded as a policy which risks widening the racial and SES health gap. Given the greater likelihood of Whites to derive benefits from any additional resource, programs should include racial comparisons in their evaluations and ensure that no social group is left behind in translating those resources to tangible and measurable health gains.

One solution is to consider more tailored interventions and programs that address the specific needs of Blacks and other marginalized groups. Policies should target the societal and structural barriers and constraints that limit Blacks' ability to convert their available economic resources and psychological assets into health outcomes. Policies should address socioeconomic barriers prevalent in the life of Blacks who live in urban communities with limited resources. Simultaneously targeting barriers and providing additional resources may increase the efficacy and return of investment of any social or economic policy, which would, cumulatively, reduce racial health disparities.

With specific regard to employment and education policies, significant attention should be given to the quality of education, type of occupation, and income generated by such resources. Education and employment initiatives that disregard the deeply rooted structural and societal inequalities that Blacks face will not be sufficiently impactful.

In addition, there is a need for purposeful policies to reduce the racial residential segregation that still exists in the United States. Such segregation operates as structural and

contextual barriers in the lives of many Blacks today. A majority of Black neighborhoods are distant from high paying jobs and high-quality education (Lewis, James, Hancock, & Hill-Jackson, 2008). In addition, the disproportionate number of fast food restaurants and liquor stores in black neighborhoods are responsible for increasing risks of obesity and chronic diseases such as stroke, hypertension, and diabetes for Blacks (Morgenstern, et al., 2009). Black neighborhoods are also poor in resources for health care. Finally, social disorder, crime and gang violence limit the ability of Blacks in urban areas to thrive (Thomas, Caldwell, Assari, Jagers, & Flay, 2016).

Discriminatory lending practices still continue. The existing anti-discrimination laws in lending practices must be imposed more dependably. To minimize discriminatory lending practices does not require new laws, but simply a better implementation and enforcement of the existing laws. Equitable economic policies have a unique importance in preventing health disparities between the social groups. Discriminatory mortgage and loan practices that exist should be prohibited. If needed, new policies should prohibit higher bars and more restricted thresholds that Blacks must meet to qualify for loans. Policies should also enforce equal interest rates and mortgage down payments for Blacks and Whites (Pager & Shepherd, 2008).

As already established, without extra help, Blacks will have difficulty competing with Whites to secure high paying jobs and educational opportunities. Our findings expand on the past research and conclude that comparable resources consistently generate less positive impact on the lives of Blacks compared to Whites. These results advocate for the implementation of affirmative action policies. However, affirmative action is one of the most controversial public policies that focuses on the redistribution of resources and opportunities (Katz & Taylor, 2013). In the view of many Whites,

affirmative action is reverse discrimination (Dansby, 1996), and not every group views it as fair and just (Peterson, 1994). These counter concerns make affirmative action politically charged, particularly in the current political climate (Crosby, 2004). As a result of this resistance, it is very difficult to get bipartisan political support for affirmative action policies. Still, there is a need for reevaluation of the actual effects of affirmative action policies (Rabinowitz, Sears, Sidanius, & Krosnick, 2009) and its impact on groups not targeted by affirmative action policies and practices. Affirmative action would still seem to offer one powerful remedy to the differential exposure and differential gain typically experienced by Black people in the US.

Policy analysts should investigate the gap-widening potential of interventions and policies that only increase the access of populations to resources. Given that the system prefers Whites to Blacks, and given the current political climate, interventions may elevate the economically advantaged populations to a greater degree than their less advantaged counterparts. It is the responsibility of researchers to study in which conditions a policy can inadvertently widen the existing racial and SES gaps (Ceci & Papierno, 2005). Lorenc et al., (2013) reviewed public health interventions aimed to promote the overall health of the population, but are at risk for increasing inequalities. They called such programs *Interventions-Generating Inequalities*. Although media campaigns and workplace smoking bans have the potential to generate inequalities, provision of resources; fiscal interventions (e.g. tobacco pricing), and structural workplace interventions are likely to reduce the racial and SES gaps. Graham and Kelly (2004) have provided conceptual and theoretical frameworks that help to identify interventions-generating inequalities. Lorenc et al., (2013) also distinguish the 'upstream' interventions that focus on social or policy-level determinants such as reducing price barriers from 'downstream' interventions that focus on individual factors such as education. Overall, Lorenc et al., (2013) argue that downstream interventions do not appear to

reduce inequalities, and may increase them. They propose that upstream resource provision interventions may effectively reduce disparities.

Policy Responses Should be Multi-level

Given that we attribute most of the findings we have reported as due to various kinds of racism, we suggest that the solution should be multi-level and target all aspects of racism that hinder Blacks' lives. This section reviews how Williams and Mohammed (2013), Bailey et al., (2017), Reskin (2012), and Gee & Ford (2011) conceptualized Black-White health disparities as the byproduct of the structure and function of American society. Williams and Mohammed (2013) have argued that racial disparity is a product of multi-level processes. They theorize a wide range of procedures by which racism adversely impacts the health of Blacks. Institutional racism systematically reduces Blacks' access to safe and high-quality housing, neighborhood, schooling, employment, and other desirable material and human resources in society (Williams & Mohammed, 2013). Bailey et al., (2017) define structural racism as "the totality of ways in which societies foster [racial] discrimination, via mutually reinforcing [inequitable] systems..(e.g. in housing, education, employment, earnings, benefits, credit, media, health care, criminal justice, etc.) that in turn reinforce discriminatory beliefs, values, and distribution of resources", (p. 1455) reflected in history, culture, and interconnected institutions.

Building on a systems perspective, Reskin (2012) defined racism as a discrimination system that constantly generates racial disparities across several life domains including but not limited to schooling, housing, residential location, employment, health, credit, banking, lending, and justice. Gee and Ford (2011) also argue that racial health disparities have structural, rather than individual causes. Societal and structural factors such as social segregation and economic policies that operate

through intergenerational mechanisms are responsible for health inequalities. As a result, policy solutions should attack a wide range of dimensions of the social structure as they collectively result in health disparities (Gee & Ford, 2011). Reskin (2012) argues that an appropriate response should include policies and interventions that operate simultaneously across subsystems, and directly challenge all the processes of racism across the subsystems in which racism operates. Thus, to eliminate health disparities, policy solutions should consider the reciprocal interrelations between the components of the integrated system that is generating the health disparities. All these require better representation of Blacks in high-level policy making, which itself depends on an increase in political participation (e.g. voting) of Blacks and other minority populations (Hamilton & Ture, 2011).

Geronimus, et al., (2016) introduced the “Jedi Public Health (JPH)” as one solution to the effects of racism. This framework, “...focuses on changing features of settings in everyday life, rather than individuals, to promote population health equity, a high priority, yet, elusive national public health objective” (p105). Geronimus et al., (2016) have argued that there is a need for expansion as well as a re-orientation of efforts to eliminate population health inequities. In the JPH framework, policies and interventions should remove all the discrediting cues in daily life of Blacks and other minority groups. Such Jedi Public Health policies will disrupt the continuously harmful physiological and psychological processes that fuel racial health inequities.

The appropriate policy response would include a wide range of multi-level policies that operate across various sub-systems. Policies that target societal, as well as individual level, discrimination are needed. There is a need for policies that improve neighborhood safety as well as those that increase availability of educational resources at majority Black schools. Policies should increase access and improve the quality of medical care for Blacks. These policies, and others, would

help Blacks take control of their lives, which has implications for improving their health (Williams & Mohammed, 2013). In a seminal paper published recently in the journal *Lancet*, Bailey et al., (2017) argue that efforts to dismantle structural racism have historically encountered serious resistance from institutions, communities, and individuals seeking to preserve their racial privilege. They argued, however, that a focus on structural racism would be a concrete, feasible, and promising approach towards advancing health equity in United States.

Leveraging Religion and Social Support in Communities

While Blacks gain less than Whites from several economic resources and psychological assets, religion and social support are exceptions to this general rule. Increases in religious involvement and social support provide larger health gains for Blacks compared to Whites. Several studies have documented Blacks' advantage in gaining health from religion and social support (Lincoln, Chatters, & Taylor, 2003). To give an example, religious attendance is associated with 13 and seven extra years in life expectancy for Blacks and Whites, respectively (Hummer, Ellison, Rogers, Moulton, & Romero, 2004). In a national sample, church-based social support fully mediated the effect of religious involvement on the well-being of Blacks but not Whites (Assari, 2013). Each unit of increase in positive social relations had a larger protective effect against depression for Blacks than Whites (Lincoln, Chatters, & Taylor, 2003). Church has also become a source for forgiveness, resilience, and very strong relations with God, which all protect the health of Blacks. In addition to a place of worship, the church has traditionally been a social institution that provides goods and tangible services for Black families, regardless of social status (Krause, 2002).

Social relations are also more extended in Blacks than Whites as they include supportive relations from fictive kin relations (defined as social ties that are based on neither consanguineal

(blood ties) nor affinal ("by marriage") ties [Ebaugh & Curry. 2000]), friends, and community members (Taylor & Chatters, 1991). Thus, social support and religion might have operated historically as cultural refuges by Black communities to cope with oppression and economic adversity. Although it is plausible to argue that Blacks have mastered their ability to mobilize their social support, research is still needed on whether social support and religion can mitigate Blacks' diminished return or not. However, these findings argue for allocating additional resources for promotion of positive family relations, extended social relations, and faith-based programs in Black communities. Although it is not easy to draw a causal inference between religious involvement and health, and reverse causality is always a concern (healthier individuals may attend church more frequently), the association between various aspects of religion and health are stronger for Blacks than Whites.

All this said, we recognize that given the current political climate, there are enormous barriers to the implementation of the policies discussed. It is always easier to describe than solve the problem. However, as stated by David Williams (2012) as a society, we need to demand and challenge the current political system for appropriate alleviative policies that are needed for an equitable society.

Theoretical Implications

This review shows that although Blacks suffer worse physical health outcomes, their minority status per se does not reflect greater physical or psychological vulnerability (Dowd & Bengtson, 1978). As explained in this paper, it is Whites not Blacks for whom economic and psychological risk factors have systematically stronger effects. This pattern is indicative of Blacks' resilience rather than vulnerability. This is important given that in discussing some health disparities,

scholars often use the terms vulnerable and minority populations interchangeably (Hutchinson, et al., 2007). For instance, Double Jeopardy (Dowd & Bengtson, 1978), Triple Jeopardy (Bowleg, Huang, Brooks, Black, & Burkholder, 2003), and Multiple Jeopardy (King, 1988) and Multiple Disadvantage (Grollman, 2014) hypotheses have traditionally conceptualized minority populations as vulnerable groups that are more susceptible to the effects of any additional risk factor (King, 1988). Most of these frameworks conceptualize synergistic effects of race and additional risk factors. The results reviewed in this paper, however, suggest that in most cases, race, per se, does not have synergistic effects with additional risk factors. In contrast to all these theories, this line of research has methodically documented Blacks' systemic resilience instead of their vulnerability. The reason Blacks suffer worse health outcomes is not because they are vulnerable, but because they are disproportionately exposed to a large number of economic and social adversities, and have less access to economic and social buffers. Ironically, exposure and vulnerability move in opposite directions. The social group that experiences more exposures to risk factors at the same time actually shows a lower level of vulnerability.

As a social group, Blacks suffer poor health outcomes despite their consistent resilience to each individual risk factor. This phenomenon can be understood by the law of small effects (Brown, et al., 2014). According to this law, health disparities are not a consequence of a few large factors, but rather are shaped by multiple sets of smaller factors. Jackson, Govia, and Sellers (2010) have used the term "rule of small effects" to describe social origins of racial health disparities. Findings by our research team show that each risk factor results in a smaller health decline for Blacks than Whites. While the term "rule of small effects" is still true, the phrase "rule of smaller effects" may be more accurate, as most of the effects are systematically smaller for Blacks, compared to Whites.

Research Implications

Further research is needed on population variation and mechanisms behind such variations in the effects of SDH and SES and the resulting health disparities due to such diminished gain. For instance, additional research is needed on differential social, psychological, and biological costs of upward social mobility among Blacks, particularly Black men (Fuller-Rowell & Doan, 2010). More research on relative contribution of the education system, labor market, correctional system, and segregation in shaping differential effects based on race. This is very important given the historic emphasis on the role of different distribution of SES and SDH (Marmot, Allen, Bell, Bloomer, & Goldblatt, 2012) as causes of health disparity.

We also need to ascertain the most effective economic and social policies that enable diverse populations to equally gain from their available resources. Overall, we know very little about programs and policies that can undo “*diminished return*” (Farmer & Ferraro, 2005) or “*differential effects*” (Assari & Caldwell, 2017a) among Blacks. In addition, there is a need to identify and flag the interventions that have the potential to improve the health of the population overall but may widen the health inequalities and the gaps across population groups (Ceci & Papierno, 2005; Lorenc et al., 2013). SES and SDH historically play a role in the causes of health disparity, thus in the interest of alleviating this health disparity, it is important to identify causes of this disparity across racial groups and to be able to identify and change social and economic policies that disproportionately favor the initially advantaged as opposed to the initially disadvantaged.

As the mechanisms that cause this health disparity across racial groups are complex and multifaceted, research into its many sides and their intersections, particularly research on the intersection of policy, social psychology, economics, sociology, and public health, is required. We still

do not know to what extent these differential effects are due to culture and what proportion of them are due to social structure (i.e., higher-level policies and procedures that are in place as a part of social structure and how the society functions as a system) (Krieger, 2012; Gee & Ford, 2011). More research is also required in the areas of culture, gender, and individual behaviors to explain the effect of poverty and economic disadvantage on health.

There is also a need to study how culture and individual behaviors explain the effect of poverty and economic disadvantage on health. Culture and social norms may be particularly important in explaining Black-White differences in diet, obesity, and diabetes (Carter & Assari, 2017). Racial and ethnic groups use different coping behaviors that are learned from their culture (LaVeist, Thorpe, Pierre, Mance, & Williams, 2014). For instance, Black women may have a higher tolerance toward larger body sizes and obesity, as a cultural adaptation to economic adversity and neighborhood danger (Pope, Corona, Belgrave, 2014). As a result, larger body size is not perceived as obesity and may not initiate weight control behaviors in Black women, which has implications for high prevalence of obesity, even at higher SES levels (Assari & Lankarani, 2015). While Black women may have a higher tendency to turn to comfort food to cope with stress, Black men may have a higher tendency to turn to substances, particularly alcohol (Jackson, Knight, & Rafferty, 2010). These patterns may explain why high SES may fail to protect Black women against obesity (Assari, Nikahd, Malekahmadi, Lankarani, & Zamanian, 2016). For example, Black men and Black women show different associations between obesity and depression (Assari, 2014). Surprisingly, depression reduces rather than increases the risk of obesity for Black men; this is not true for Black women (Assari, 2014). These findings speak to the complex and multiplicative effects of race, gender, SES, culture, and behaviors on health (Assari, 2014).

Because of this complexity, future research should consider an intersectionality framework to study the non-linear and multiplicative effects of race, gender, and class on health. The concept that it is not simply race but the intersection of race, gender, and class, that shapes access to opportunity structure and the impact of stress is a cornerstone of the intersectionality framework (Bauer, 2014). According to this theory, it is not each individual identity, but the intersection of multiple identities that determines exposures and vulnerabilities to risk and protective factors (Collins, 2015; Hancock, 2007). This is supported by the considerable theoretical and empirical work on cultural moderation hypothesis (Markus and Kitayama 1991). Based on this hypothesis, cultural groups differ in the associations between SES, emotions, and health outcomes. For instance, the associations between SES, affect, inflammation, and health outcomes are also stronger for Whites than Asians (Kitayama & Park, 2010). Among Blacks, men and women differ in the type of health outcomes that follow their exposure to stress (Assari & Lankarani, 2017; Assari, Smith, Caldwell, & Zimmerman, 2015).

Summary

Refuting the arguments that racial health disparities are due to biologically inherent deficits in Blacks (e.g., Herrnstein & Murray, 2010), this paper demonstrates that racial differences in health are due to social rather than biological processes. In contrast to the argument by Herrnstein & Murray (2010) who conceptualize racial differences in assets due to biological (i.e. fixed and unmodifiable) factors, the current paper provides evidence that Black-White differences are primarily due to society's hindrance of Blacks' potential to achieve tangible gains from the resources in their environment. Blacks' diminished health gain does not indicate an inability to use the resources that become available to them nor a mismanagement of assets. Rather, Blacks' diminished

gain should be viewed as a consequence of American society's historical mistreatment of Blacks.

Similarly, the larger effects of risk factors for Whites should not be interpreted as Whites' fragility (i.e., due to biology). The finding that Whites exhibit a greater health decline in response to a decline in resources should be attributed to their social dominance and having lived a privileged life.

Neither Whites nor Blacks should be blamed for the differential effects discussed here. Such differential effects are not innate but due to American social structure. Such differential effects will continue until structural racism in U.S. institutions is eliminated. Unless a drastic change is made, Blacks and Whites will not similarly benefit from the same social and economic resources. In the absence of such changes, upward social mobility will be always associated with extra social, psychological, and physiological costs for Blacks compared to Whites. Of course, these findings should not encourage redirection of investments from Blacks to Whites, with the excuse that such investment would have larger returns.

In closing, we must acknowledge that most of the findings cited in this article are correlational. Thus, causality can be only suggested, but not proven. Many of these findings derived from longitudinal studies come with measurement biases, residual confounding variables, selection bias due to differential attrition, and low sample size for. These all threaten the validity of any causal conclusions. However, we do not believe these findings can be easily explained by methodological shortcomings, as they are robust across settings, predictors, outcomes, cohorts, and age groups. Further, the causal inferences made in this article seem to be the most reasonable and parsimonious interpretations of the associations we have reported.

It seems quite unlikely that ethical experimental studies in which, for example, resources are systematically provided to one group and not to another can ever be conducted. Perhaps,

however, more sophisticated analytical methods may permit stronger causal inferences. Such methods and further research on differential exposure and differential gain should provide us with more insight into the causes of racial disparities in health and lead to new policies to address these disparities.

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Author

Table 1. Differential effects of psychosocial factors on health of Blacks than Whites

Data set	Panel	Follow Up	Predictor	Outcome	Author
ACL	+	25 Years	Education	Mortality	Assari & Lankarani, 2016a
ACL	+	25 Years	Employment	Mortality	Assari, 2017a
ACL	+	25 Years	Neighborhood Safety	Mortality	Assari, 2016a
ACL	+	25 Years	Social Contacts	Mortality	Assari, 2017b
ACL	+	25 Years	Self-Rated Health	Mortality	Assari, Lankarani, & Burgard, 2015
ACL	+	25 Years	Depression	Mortality	Assari, Moazen-Zadeh, Lankarani, & Micol-Foster, 2016
ACL	+	25 Years	Anger & Hostility	Mortality	Assari, 2016b
ACL	+	25 Years	Self-Efficacy	Mortality	Assari, 2016c
RAHS	+	3 Years	Sense of Control	Mortality	Assari, 2017d
ACL	+	25 Years	Depression	Mortality	Assari & Burgard, 2015

NSAL	-	-	Depression	Obesity	Assari, 2014
FFWS	+	15 Years	Family Socioeconomic Status	Obesity	Assari, Thomas, Caldwell, & Mincy, 2017
ACL	+	25 Years	Depression	Chronic Disease	Assari, Burgard, & Zivin, 2015
ACL	+	25 Years	Restless Sleep	Chronic Disease	Assari, Sonnega, Leggett, & Pepin, 2017
FFCWS	+	15 Years	Family Socioeconomic Status	Self-Rated Health	Assari. Caldwell, & Mincey, 2017
HRS	+	6 Years	Education	Sleep, Body Mass Index , Exercise	Assari, Nikahd, Malekahmadi, Lankarani, & Zamanian, 2016
RAHS	-	-	Life Purpose	Body Mass Index	Assari, 2016c
NSAL	-	-	Education	Suicidal Ideation	Assari, 2015

RAHS	-	-	Education	Alcohol Use	Assari & Lankarani, 2016d
NSAL	-	-	Stress	Depression	Assari & Lankarani, 2016c
NSAL	-	-	Income	Depression	Assari & Caldwell 2017e
ACL	+	25 Years	Education	Depression	Assari, 2017b
ACL	+	15 Years	Depressive Symptoms	Depression	Moazen-Zadeh & Assari, 2016
ACL	+	25 Years	Neuroticism	Depression	Assari, 2017f
NSAL	-	-	Obesity	Intention to reduce weight	Assari & Lankarani, 2015

ACL, Americans' Changing Lives; HRS, Health and Retirement Study; RAHS, Religion, Aging, and Health Survey; FFCWS, Fragile Families and Child Wellbeing Study; NSAL, National Survey of American Life

Author Bio

Shervin Assari's health services research centers around community mental health settings, spanning issues of suicide, violence, drug use, and other high-risk behaviors, as well as the comorbidity of chronic mental health and medical conditions. He also focuses on studying health disparities due to race, gender, and socioeconomic status. Dr. Assari received his M.D. in Primary Health Care from Shahrekord University, and an M.P.H. in Health Behavior and Health Education from the University of Michigan.