

## **Socioeconomic Determinants of Health with an Emphasis on Occupation and Wealth**

**By Darrick Hamilton and William Darity, Jr.**

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The relationship between socioeconomic status (SES) – usually measured by educational attainment, occupational status, and/or income – and health is well documented across time and place (see for instance Kitgawa and Houser 1973; Marmot, 1994; E. Rogot et al., eds, 1992; Deaton, 2002). The relationship between SES and health is often referred to as the “gradient.” Generally the expectation is, if SES rises, health improves. Individuals and family members with higher SES are expected to have longer and healthier lives.

SES is commonly thought to affect health via three mechanisms: better access to quality health care, to healthier environments, and to healthier behaviors. What is less studied is the relationship between health and *wealth*. This white paper will delve into the health-wealth connection, while addressing other aspects of SES, such as employment and income volatility, as well as the general social determinants of health.

Although there are threshold effects associated with poverty, whereby those with the least resources may be particularly vulnerable to acute illness, unhealthy environments, and inferior health care access, there is also a gradient effect where health is known to vary with SES in a more gradual manner. For instance, the black rate in both neonatal (within the first 27 days of birth) and perinatal (after the first 27 days, but within the first year of birth) mortality was more than twice the white rate. Furthermore, the black/white ratio of infant mortality increases with higher levels of both education and income (Singh and Yu 1995; David and Collins 1991; Schoendorf, et al 1992). This suggests that socioeconomic status alone cannot explain racial and ethnic differences in the infant mortality gap. There are differences in the manner in which the socioeconomic status of mothers from different racial and ethnic groups translates into the production of healthy infants.

It is vital to determine the casual pathway and mechanisms by which SES affects health. Simple correlations are not enough. For instance, unhealthy behaviors themselves, such as smoking, alcohol abuse, drug abuse, poor eating habits and risky sexual activity may be directly related to stress and stigma associated with both racial position and class status. These endogenous relationships between the behaviors described above, SES and health make it difficult to control for behavioral factors in a stochastic (inferential statistic) context.

In short, existing statistical models that presume a causal pathway should be interpreted with extreme caution. There are often problems with “identification” when trying to estimate a causal relationship between two choice variables that very well may influence one another. Stochastic models are hampered by the classic “chicken and egg” problem. For instance, we may observe higher alcohol use among low-income individuals with

poor health, but what may be lurking underneath is exposure to “societal stress” associated with low-income status in the first place. This may reinforce poor health and cumulatively produce higher alcohol use, which in turn is associated with a desire self-medicate stress related to social status. In this way, stress may a latent variable related to both income and health.

## **Wealth and Health**

Wealth refers to the total stock of savings that an individual or family possesses at any given moment. It is most commonly measured by net worth: the value of total assets minus debts. Simply put, income is a flow of payments that comes to an individual or family periodically, usually based on the individual’s participation in the labor market, while wealth is the net value of the stock of assets that an individual or family can access (whether or not income is being earned). Assets are what you “own” (Hamilton and Chiteji, 2013); debts are what you “owe”. Thus, net worth or wealth is the different between what you own and what you owe.

Wealth is important because it represents a pool of resources, beyond income, that individuals or families can use to sustain themselves and to provide support for their offspring. It can be used to cushion against financial shocks that a family experiences. For example, when a family has a disruption to its normal income flow due to a family member suddenly becoming unemployed, the family can use its savings.

Similarly, if a family faces an unexpected and unavoidable rise in its expenditures, *often due to someone needing major medical attention*, the family can dip into its savings. Anirudh Krishna’s *One Illness Away* (2010), a study that examines movements into and out of poverty across the globe, finds that the expenses associated with health related problems are the most significant contributor to descent into poverty.

As such, wealth is a primary indicator of economic security. Moreover, wealthy families are better positioned to: finance elite independent school and college education, access capital to start a business, purchase homes in “good” neighborhoods with lots of amenities, exert political influence through campaign financing, purchase better counsel if confronted with the legal system, leave a bequest, and withstand financial hardship resulting from any number of emergencies, medical or otherwise. The ways that wealth provides advantages to families who have more of it are numerous. There is perhaps no other economic indicator in which Americans are so disparate nor where the black-white divide is so large (Hamilton and Darity, 2010).

**Research and public policy traditionally has focused on education and income as drivers of upward mobility and healthy outcomes.** There is compelling evidence, however, that education alone may be limited in explaining the source of different levels of economic well-being, especially across race. In their report entitled *Umbrellas Don’t Make it Rain: Why Studying and Working Hard is Not Enough for Black Americans*, Hamilton et al. (2015) demonstrate that observing an association between higher levels of educational attainment and higher levels of net wealth and concluding that education

produces wealth is tantamount to observing an association between the presence of umbrellas during rainfalls and concluding that umbrellas cause the rain. It is more likely that the relative wealth of different racial explains educational attainment differences across groups.

The coauthors conclude that, for black families, studying and working hard is not associated with the same levels of wealth amassed among whites. Black families whose heads graduated from college have about 33 percent less wealth than white families whose heads dropped out of high school. The poorest white families—those in the bottom quintile of the income distribution—have slightly more wealth than black families in the middle quintiles of the income distribution. The average black household would have to save 100 percent of their income for three consecutive years to overcome the obstacles to wealth parity by dint of personal savings activity.

### Identification Issues

Meer, Miller and Rosen (2001) use inheritance or substantial gifts as an instrument to identify the impact of the change in wealth over a five year period on the self-reported changes in health over that same period using the Panel Study of Income Dynamics (PSID). They ultimately find a small effect of a change in wealth on a change in health, but a few difficulties should be noted. First, their model includes initial period wealth (which is endogenous) and initial health as controls; inheritances or *in vivo* transfer might be anticipated and affect health outcomes. Moreover, both types of intergenerational transfers, themselves, are components of wealth, and cannot be treated legitimately as exogenous boosts to individual or family resources. Indeed, wealth as stock of resources, rather than a flow, may be more relevant with regards to duration/cumulative effects on health/long-term health.

### SES Gradient and Health

While SES is positively associated with health for all Americans, the black-white disparity in health outcomes still persists (and can worsen) at high SES levels. The table below is based on Jemal et al, (2008) and our additional calculations based on data from the National Vital Statistics System (NVSS) data administered by the National Center for Health Statistics. The table illustrates age adjusted mortality rates per 100,000 individuals for individuals between the ages of 25 and 64 by education, race, and sex overall, and for four disease types – cancer, heart disease, stroke and HIV infection for both 1993 and 2001. Higher levels of education are generally associated with reduced mortality rates, and this is the case across gender, years and race. Also, women and blacks, generally have higher mortality rates than men and whites across education, years and disease types.

**Trends in age-standardized death rates (per 100,000) among 25–64 year old U.S. adults by race, sex, and education, 1993–2001**

	Whites	Blacks	Ratio: Black/White
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	<b>Men</b>	<b>1993</b>	<b>2001</b>	<b>1993</b>	<b>2001</b>	<b>1993</b>	<b>2001</b>
All		471.5	414.9	1019.3	807.8	2.16	1.95
<12 Years		836.8	931.1	1253.5	1283.1	1.50	1.38
12 Years		591.6	596	1251.7	1039.7	2.12	1.74
13–15 Years		348.9	296.2	631.5	472.7	1.81	1.60
16+ Years		284.7	212.7	596.2	381.6	2.09	1.79
Rate difference (<12 vs. 16+)		552.1	718.4	657.3	901.5	1.19	1.25
<b>Women</b>							
All		255.6	247.3	501.9	476.7	1.96	1.93
<12 Years		422.4	553.4	622.6	622.3	1.47	1.12
12 Years		296.1	321.8	612.9	634.2	2.07	1.97
13–15 Years		184.9	177.7	331.1	327.3	1.79	1.84
16+ Years		165.4	146.1	350.7	308.2	2.12	2.11
Rate difference (<12 vs. 16+)		257	407.3	271.9	314.1	1.06	0.77
<b>Cancer</b>							
<b>Men</b>							
All		127.9	110.2	221.1	173.5	1.73	1.57
<12 Yrs		195.3	208.3	256	246.8	1.31	1.18
16+ Yrs		85.6	66.4	125	85.2	1.46	1.28
Rate difference (<12 vs. 16+)		109.7	141.9	131	161.6	1.19	1.14
<b>Women</b>							
All		111.9	98	145.1	132.1	1.30	1.35
<12 Yrs		142	157.7	146.4	130.7	1.03	0.83
16+ Yrs		87.6	72.5	131	113.1	1.50	1.56
Rate difference (<12 vs. 16+)		54.5	85.2	15.4	17.6	0.28	0.21
<b>Heart Diseases</b>							
<b>Men</b>							
All		129.3	100.7	245.8	194.9	1.90	1.94
<12 Yrs		228.8	214.9	281.7	262.9	1.23	1.22
16+ Yrs		72.3	51.1	139.3	99.2	1.93	1.94
Rate difference (<12 vs. 16+)		156.5	163.8	142.4	163.7	0.91	1.00
<b>Women</b>							
All		44.8	37.9	122	106.1	2.72	2.80
<12 Yrs		84.4	97.8	151.4	132.9	1.79	1.36
16+ Yrs		20	16.9	73.1	62.8	3.66	3.72
Rate difference (<12 vs. 16+)		64.4	80.9	78.3	70.1	1.22	0.87
<b>Stroke</b>							

<b>Men</b>						
All	12	10.3	44.1	37.2	3.68	3.61
<12 Yrs	22.4	23.9	55.3	55.8	2.47	2.33
16+ Yrs	6.5	5	21.4	18.8	3.29	3.76
Rate difference (<12 vs. 16+)	15.9	18.9	33.9	37	2.13	1.96
<b>Women</b>						
All	9.9	8.6	30.2	28	3.05	3.26
<12 Yrs	15.9	19.2	34.4	35.4	2.16	1.84
16+ Yrs	5.9	4.6	21.5	15.7	3.64	3.41
Rate difference (<12 vs. 16+)	10.1	14.6	12.8	19.7	1.27	1.35
<b>HIV Infection</b>						
<b>Men</b>						
All	31.3	6.3	111.3	56.1	3.56	8.90
<12 Yrs	28.7	15.4	123.1	120.9	4.29	7.85
16+ Yrs	31.4	3.5	118.2	28.9	3.76	8.26
Rate difference (<12 vs. 16+)	-2.7	12	4.9	92	-1.81	7.67
<b>Women</b>						
All	1.9	0.9	23.1	21.7	12.16	24.11
<12 Yrs	5.7	5.4	41	52.9	7.19	9.80
16+ Yrs	0.8	0.1	8.9	5.9	11.13	59.00
Rate difference (<12 vs. 16+)	4.9	5.2	32.2	47.1	6.57	9.06

\*Table based on calculations by Jemal et al, (2008) and authors calculations of the data presented by Jemal et al, (2008) both from the National Vital Statistics System (NVSS) data administered by the National Center for Health Statistics.

The last two columns of the tables present summary information in the form of black to white ratios of mortality per 100,000 people, which facilitates interpretation of racial differences in mortality rates. For instance, the last column indicates that in 2001 black men and women had, respectively, a 95 and 93 percent higher mortality rate in comparison to their white men and women. Of course, mortality rates in excess of 90 percent demonstrates a very large difference, nonetheless, there are specific disease types in which the disparities are substantially even larger.

Black women have a heart disease rate that is 2.8 times the rate for white women, that is a rate that is 180 percent higher. The racial difference in stroke mortality is even higher; black women and men, respectively, have 3.26 and 3.61 times the rate of white women and men. HIV infection rates are most extreme – black men have close to nine times (8.90) the rate of white men, and 24.11 for black women in comparison white women. The latter indicates that in 2001 black women between the ages of 25 and 64 were more than 24 times more likely to die from an HIV infection related death than their white counterparts even after adjusting for age.

What is ironic and perhaps even more daunting is that racial health disparities get even larger as education, the SES indicator used in this case, rises. When comparing the polar categories of education – those with less than a high school degree (<12 Yrs) and those with at least a bachelors degree (16+ Yrs), we can say that for all disease types listed in the table, the black-white gap gets larger. The last panel of the table illustrates that black women with a college degree are nearly 60 times (59.00) more likely to die from an HIV infection related reason than white women.

The last row of each panel in the table (Rate difference (<12 vs. 16+)) presents the mortality difference between college graduates and high school dropouts. Thus, the last two columns for these rows indicate the black-white ratios of education mortality rate differences; it summarizes whether the black mortality “gradient” is higher or lower than the white mortality gradient.

A ratio of one means the black health gradient (mortality difference between black college grads and black high school dropouts) is the same as the white health gradient – ratios higher than one indicate that the black gradient is higher than the white gradient, and lower than one indicates that the white gradient is higher. For males, the black mortality rate gradient is higher than the white gradient in general and all four specific disease types except heart disease in 2001 in which case the black and white gradients as measured by differences in educational rate difference is the same. For women, in 2001, black women had a lower gradient than white women in general and in the cases of cancer and heart disease, whereas, in the cases of stroke and HIV infection, white women have a higher gradient.

Nonetheless, the key point is that the racial differences in mortality rates rise with higher SES. It suggests that SES matters within group, but in terms of interracial health disparities, blacks are not protected by class in the same way that whites are. Ultimately, the table demonstrates that gender, SES, and disease type matter, and matter in a nuance way, except men generally have worse health than women, and blacks have worse health than whites, and that racial differences rise with SES, when comparing low education to high education.

### **The Role of “John Henryism” and Stress**

So what explains the large racial health disparities within SES? Sherman James (1994) hypothesized that “a strong behavioral predisposition to cope actively with psychosocial environmental stressors – interacts with low SES to influence the health of African Americans.” He labeled this “John Henryism” after the fable of the African American railroad work who in a challenge to dig a tunnel, ultimately, beats the machine – the man over machine metaphor – but at what cost? John Henry ultimately collapsed to his death, after beating the machine.

The theory is ultimately used to explain the disproportionate health risk of African Americans, even within SES. Disproportionate race related stress becomes the culprit,

particularly in the case of hypertension. Low SES individuals, particularly blacks, are presumed to be exposed chronically to psychosocial stress (threat of job loss, trying to make ends meet, social insults linked to race and class, etc.), and, thus, are required to exert considerable energy on a daily basis to cope with conditions of high anxiety of uncertainty. The unfortunate irony is that those with the highest “effortful active coping” to their difficult circumstances are the ones most susceptible to the greatest negative health consequences (e.g. high blood pressure). James (1994) developed a scale, which he labeled John Henryism, which measured individual’s effortful active coping. The John Henryism scale measures three elements: (1) efficacious mental and physical vigor, (2) a strong commitment to hard work, and (3) single-minded determinism to succeed.

James (1994), in a series of experiments performed in North Carolina, found that the combination of high John Henryism rankings and low SES was associated with high blood pressure. The sample of respondents with high John Henryism yielded an inverse gradient between SES and high blood pressure, while there was very little difference in blood pressure between high and low SES blacks with low John Henryism.

When these within race experiments were performed on whites, there was little to no difference in the SES-blood pressure gradient regardless of whether the respondent was high or low in terms of John Henryism ranking. Black individuals with low SES and high John Henryism were the respondents with the highest blood pressure. Again, the irony is that black respondents who attempt to cope with stressful situation with “high effort” face even greater pressures associated with worse health outcomes.

So what explains the increasing racial disparities in health at higher levels of SES? A limitation of the James (1994) empirical findings is that it only examined the intersection of John Henryism, SES and health within race. While, James’ investigations do not *directly* indicate whether the John Henryism effect explains interracial differences. Although James (1994) found little evidence of high SES blacks who rated high on John Henryism having worse health in the domain of high blood pressure, it may be the case that John Henryism may explain inter-racial health disparities *in a manner that demonstrates that as SES rises, so does the level of stress faced by blacks relative to whites*.

In such, a scenario, low SES blacks may still face higher levels of stress than their high SES black peers, but as SES rises so does the difference in stress faced by high SES blacks, relative to their white high SES peers. This is related to a phenomenon described by stratification economists as a *functionality of discrimination* effect, which argues that as SES rises, so will the relative degree of racial competition for the high status and high reward position. As such, the dominant group that commands more resources and socioeconomic and political power will intensify their discriminatory practices toward the less dominant group to maintain their relative dominant position (Darity et al, 2015). An interesting research project, that could expand James’ (1994) John Henry thesis and provide an explanation for the growing racial disparities in health as SES rises, would to examine the intersection of race, SES, John Henryism and *inter-racial* health disparities.

In fact, black Americans with high SES status often suffer from elevated levels of stress. For instance, Jackson et al. (1995) tested Kanter's theory of proportional representation—previously used to address gender in the workplace—on race. The theory suggests that “tokens” in the workplace will suffer from more stress and other psychological effects than “non-tokens.”

Jackson and colleagues interviewed over 160 black leaders across the United States, including executives, members of Congress, high-ranking military officers, and HBCU presidents. They asked participants about the racial and gender composition of their workplaces. The researchers controlled for age, gender, and typical socioeconomic-related factors including education, income, and occupation and found that the “tokens” experienced higher levels of depression and anxiety. Leaders in workplaces with high representations of blacks had lower depression and anxiety. Similarly, both men and women experienced high anxiety in predominantly opposite-gender environments.

The finding that the SES-health outcome gradient for blacks can in some cases be flat – as is the case for infant mortality, is not solely based on race, and has also been observed among other social groups. Pearson and Geronimus (2010) found that after controlling for socioeconomic status (e.g. education and income), Jews' self-reported health matched that of blacks and was significantly worse than that of other whites. The paper also tested social ties and health using data from the Jewish Population Survey and National Survey on Religion and Ethnicity (NSRE).

Both Jews and blacks were significantly less likely to report good health. The Jewish group's health ratings were higher for those with strong social/cultural ties. The researchers also found that survey respondents' self-rated health was higher for those with more education and income—except for the small sample of blacks at the top of the black income scale (\$100,000+).

It is important to keep in mind that when examining the SES-health outcome gradient, few studies have used wealth as the SES determinant. As discussed above, wealth may be a much more robust and overall better indicator of SES positioning than education, occupation or income, and it is also the SES indicator in which blacks and whites are most disparate.

### **Measuring Disparate Health Treatment**

Similar to studies of labor market discrimination, it is difficult to document conclusive evidence of disparate treatment in health. There are obvious problems with simply asking individuals if they are victims of differential treatment. An individual may experience unfair treatment and not interpret it as such, or an individual may not experience unfair treatment but perceive that she/he did. However this may be less of a concern when examining mental health as an outcome, since perception might be particularly relevant.



Nonetheless, there are three basic types of study designs that can detect/measure disparate treatment: (1) qualitative studies, (2) quantitative studies using direct measures, and (3) quantitative studies using indirect measures. Qualitative studies may include ethnographies, focus groups and other forms of information gathering of both health care recipients, providers and administrators that are concerned with differential delivery of health care, as well as studies that examine documented incidences of disparate treatment. For example, these documented incidences may be found in the media, judicial cases, and legislative decisions that display biases against a particular group. Direct quantitative studies consist mainly of case-control designs, where pairs vary by race/ethnicity, but are matched according to attributes that predict health outcomes. If the study designers observe differential treatment of members of a particular ethnicity/race within the matched pairs, then that serves as evidence of disparate ethnic/racial treatment.

After controlling for all other attributes, indirect quantitative studies rely on residual group differences in the health outcome to measure disparate health treatment. Omitted variable bias is the main line of criticism of this approach; the argument is that the residual difference in the models is driven by some omitted variable(s) that are linked to health productivity. In addition, these studies are limited in their ability to determine the exact mechanism of the disparate treatment. For example, Rathmore et al. (2000) use a case-control design that illustrates that physician bias could lead to disparate quality of health care treatment, whereas reliance on residuals to determine disparate treatment makes it difficult to isolate a specific mechanism of the disparate treatment, like health care quality identified by Rathmore et al. (2000).

Consistent with the omitted variable criticism that is described above, a charge can be made that the ethnic/racial rate of return differential is not due to differential treatment but rather the result of genetically distinct health producing abilities. However, there is evidence to counter this claim, especially in the case of infant mortality. In nine out of ten cause-specific infant deaths, the black incidence exceeded the white incidence, with an exception occurring in the congenital abnormality category, which is the category most linked to intergenerational heritability (David and Collins 1991).

### **Employment/Occupation and Health Insurance**

Even after the passage of the Patient Protection and Affordable Care Act, the vast majority of Americans remain covered through an employer-sponsored health insurance. However, even with the ACA mandates requiring more firms to offer coverage, as well as minimum required that have to be offered by this coverage, there is still considerable variability in jobs that offer health insurance, and the quality of care offered across jobs.

Hamilton (2006) finds that over 85 percent of U.S. occupations are characterized by racial over-representation (typically blacks in low earning occupations and whites in high earning occupations), even after accounting for occupational educational attainment requirements. In terms of job sectors, blacks, Latinos and immigrants are more likely to be employed in industries that offer less insurance and lower quality of coverage. For example, blacks, Latinos and immigrants have a substantially higher proportional

representation in service occupations and a lower proportional representation in managerial and professional occupations than their white and native-born counterparts (Crow, Harrington and McLaughlin, 2002).

Workers may sort themselves into occupations and industries in part based on their demand for health insurance. But that is only part of the story. Employer decisions and institutional factors unrelated to employee choice may force members of “vulnerable” populations into certain occupations and industries, which ultimately affect their health insurance coverage. Finally, this job sorting may affect the labor market experiences and/or expectations of these groups, which in turn may influence their decisions to search for certain jobs or any jobs at all.

About 40 years ago Barbara Bergmann (1971) hypothesized that labor market discrimination against black males is manifest in a “crowding” effect, which results in lower earnings for them. White employers’ refusal to hire blacks in certain occupations forces them to cluster and creates crowding in less desirable jobs, which reinforces a condition of lower earnings in those occupations. An extension of Bergmann’s thesis is that there is a link between occupation or job crowding and the sub-par health insurance coverage for vulnerable populations.

However, even within occupational categories, the health insurance type for blacks and Latinos may be of lower quality than that of their white peers, suggesting that actions across specific firms and firm types may be a source of their subpar coverage. Hamilton, Goldsmith and Darity (2010) provided a new explanation for these health insurance disparities, hypothesizing that firms with predominantly non-white workforces (non-white firms), those with largely black and Latino workforces, are less likely to offer health insurance than comparable firms with predominantly white workforces (white firms).

Prior to ACA, we uncovered evidence that the racial composition of firm workforce influenced whether it offers employees health insurance coverage. We found that employment at firms with predominantly white workforces is associated with higher likelihood of employer sponsored health insurance, and employment at firms with predominantly non-white workforces is associated with a lower likelihood, both relative to racially diverse firms, even after controlling for a large set of known determinants of employer sponsored health insurance. In addition, firms with large male workforces have a greater proclivity to offer health insurance than those that are largely female. It would be useful to update these results to examine whether the racial composition of firm workforce continues to be associated with quality of health insurance coverage.

There are a number of explanations for why comparable non-white workforce firms might offer different coverage than white firms. Among the possible explanations are (1) higher premiums faced by firms to cover workers from non-white groups due to lower health status, (2) lower profitability of these non-white firms, (3) lower collective bargaining power to negotiate health insurance coverage for workers at firms that employ relatively more black and Latino employees, (4) lower demand for coverage from

predominantly black and Latino workforces, and, lastly, (5) workers employed at firms with large shares of non-white workers may be more susceptible to structural barriers unrelated to their work characteristics such as labor market discrimination and as a result be offered less insurance coverage.

The large racial disparity in quality and quantity of health insurance coverage in conjunction with the heightened vulnerability and financial insecurity of black Americans due to low levels of wealth, particularly liquid wealth, are important when understanding the social determinants of health. There are well-documented explanations for health insurance coverage disparities, but they tend to focus on differences in individual socioeconomic and demographic characteristics of group members (see Crow, Harrington and McLaughlin, 2002). Hamilton, Goldsmith and Darity (2010) offer an alternative perspective, that the racial composition of a firm's workforce influences the likelihood and quality of coverage that firms offer employees.

We provide evidence that employment at firms with predominantly white workforces is associated with a higher likelihood of employer sponsored health insurance, and firms with predominantly non-white workforces are associated with a lower likelihood, both relative to racially diverse firms, even after controlling for a large set of known determinants of employer sponsored health insurance. In addition, we find that firms with predominantly male workforces have a greater proclivity to offer insurance than those that are largely female. This finding persists even after controlling for a myriad of factors that influence a firm's health insurance offers.

Given the link between the racial composition of firms and their provisions for health insurance, we need to acknowledge the limitations of a health insurance system so heavily reliant on employer-sponsored health insurance as its cornerstone. In the midst of the Great Recession, the January 2010 unemployment rates for whites stood at 8.7 percent, and at 16.5 percent-- nearly twice as high--for blacks (based on the U.S. Census' Current Population Survey).

In addition, there are large racial disparities among those workers who have dropped out of the workforce altogether, due to discouragement from prolonged bouts of unemployment. Finally, the systemic structures that lead to racial sorting with respect to occupations also highlight the limitations of reforms that maintain an employer sponsored system as its core.

### **SES Volatility and Health**

Unemployment lasting several weeks has mental health consequences (Diette, Goldsmith, Hamilton, and Darity, 2012; Paul and Moser 2009; McKee-Ryan et al. 2005). Diette, Goldsmith, Hamilton, and Darity (2012) use a retrospective mental health diagnosis indicator and data from two large nationally representative data sources – the National Comorbidity Survey Replication (NCS-R) and the National Latino and Asian American Study (NLAAS) – to identify and estimate the impact of both short-term and long-term unemployment on measures of emotional health.

Involuntary joblessness is associated with feelings of “helplessness” (Seligman 1975), which damages mood (i.e., depression, anxiety) and self-perception. As a result, unemployment relates to psychological distress (Jackson and Warr, 1984). The effects of unemployment can be cumulative -- each additional week of unemployment leads to more emotional damage – such that long-term unemployment is more damaging than short-term unemployment (Eisenberg and Lazarsfeld 1938; Harrison 1976).

As is the case with other literature examining the impact of SES on health, it is difficult to tease out the casual effect of unemployment on mental health given the simultaneous relationship between the two variables. On the one hand unemployment may cause poor mental health; on the other hand, poor mental health may increase the odds of unemployment.

Diette, Goldsmith, Hamilton, and Darity (2012) attempt to shed further light on the question of causality by examining whether psychologically resilient persons (i.e., individuals who have always exhibited sound emotion well-being) exposed to unemployment in the past year are more likely to experience their first spell of poor emotional well-being than persons employed throughout the past year. The paper finds that long-term unemployment— but not short-term unemployment—promotes psychological distress among “resilient (e.g. those with no prior episodes of mental health disorders)” persons. Negative psychological consequences of long-term unemployment exist even within various other demographic and socioeconomic mental health buffers.

Diette, Goldsmith, Hamilton, and Darity, (2015) perform an intersectional analysis by formally evaluating whether the deleterious impact of unemployment on mental health increases as skin shade (an indicator of Afrocentric phenotype) darkens for black women in the U.S. The colorism literature characterizes societies that have experienced European colonization as allocating privilege and disadvantage according to the lightness or darkness of one’s skin, with favoritism granted to those with lighter skin. Thus, this construct posits that pooling all blacks together may mask intra- and inter-racial differences in outcomes associated with complexion.

In general, the higher exposure to low incomes, which are associated with poorer health, along with exceptional altruistic obligations to support kin due to larger network of family and friend poverty rates, can operate to place a unique burden of stress and strain on black women in the United States. In addition, in major part due to the shortage of “marriageable black males” (Wilson 1987, Darity and Myers 1992, Hamilton et al. 2009), less than three-fifths of black women are married by the age of 30, which leads to single-family households that further reduces time, income and asset inflows for black women. These conditions arise in the context of the ever present threat of both race and gender discrimination in labor and other financial markets. Thus, black women rely heavily on a discriminatory labor market to obtain income, while simultaneously having to do homework including raising children, often without support of a partner (Chiteji and Hamilton 2002, Brown and Keith 2003).

As a consequence of this array of pressures, Brown and Keith (2003) argue that black women are especially vulnerable to mental health consequence, and, thus, unemployment is even more likely to cause income insecurity relative to women from other groups. Unemployment may simply overwhelm their strained adaptive and coping capabilities, resulting in harm to their emotional well-being. Moreover, Brown and Keith (2003) assert that black women with more Afrocentric features, who have historically been subject to poorer treatment than black women with more European phenotypes, may be, quite justifiably, particularly fearful and anxious about unemployment. Thus, unemployment fosters substantial stress for black women, especially among those with more Afrocentric appearances.

Diette, Goldsmith, Hamilton, and Darity, (2015) finds strong evidence of a gradient on depression between skin shade and unemployment for black women. Unemployed black women with darker complexions are significantly more likely to suffer their first onset of depression than unemployed black females with lighter skin shade. Moreover, the findings are robust to various definitions of skin shade.

### **Income volatility**

Problems of income and work hour volatility are gaining attention, alongside existing concerns with wealth and income inequality, but a comprehensive picture is missing, especially as it relates to health. It would especially be important to better understand these variations by race and ethnicity (Hardy and Ziliak, 2014 and Tippett, et al, 2014).

It is noteworthy that all income volatility is not the same. The swings of investment income accrued by high-worth individuals, for example, are likely to be buffered by ample stocks of wealth. But income volatility for low income individuals with low levels of wealth tends to leave costly coping strategies, which may include use of predatory financial products and greater exposure to health risks and foregone healthy input consumption/utilization.

In an upcoming paper, Darity, Hamilton, Hardy and Morduch stratify across wealth and income, and examine the role of race and determinants of income volatility as well as associated economic vulnerabilities.

In some preliminary analysis Darity, Hamilton, Hardy and Morduch have found that income volatility is widely felt but disproportionately experienced by lower income households; black and Latino households are disproportionately likely to have low income and low wealth, and are also disproportionately likely to face high income volatility; most households exposed to high levels of volatility report having weak financial cushions; those least likely to be equipped to manage income volatility - i.e., those most likely to face both low income and low wealth - tend to be black or Latino; and controlling for income and wealth, black and Latino households are not more likely to face high income volatility than others. A useful extension of the analysis would incorporate health outcomes to examine the interaction between income, wealth, race and volatility as they translate into health.

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