Race, Socioeconomic Status, and Health

The Added Effects of Racism and Discrimination

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ABSTRACT: **Higher disease rates for blacks (or African Americans) compared to whites are pervasive and persistent over time, with the racial gap in mortality widening in recent years for multiple causes of death. Other racial/ethnic minority populations also have elevated disease risk for some health conditions. This paper considers the complex ways in which race and socioeconomic status (SES) combine to affect health. SES accounts for much of the observed racial disparities in health. Nonetheless, racial differences often persist even at "equivalent" levels of SES. Racism is an added burden for nondominant populations. Individual and institutional discrimination, along with the stigma of inferiority, can adversely affect health by restricting socioeconomic opportunities and mobility. Racism can also directly affect health in multiple ways. Residence in poor neighborhoods, racial bias in medical care, the stress of experiences of discrimination and the acceptance of the societal stigma of inferiority can have deleterious consequences for health.**

This paper provides an overview of the ways in which race and socioeconomic status (SES) combine to affect health status. It first considers patterns of racial differences in health and the role that SES plays in accounting for these disparities. It then describes the nature of racism—the ways in which policies linked to the historic legacy and the persistence of racism have created adverse living conditions that are pathogenic for minority populations. Residential segregation has restricted African-Americans' access to desirable educational and employment opportunities. In combination with other racist mechanisms, it has created the concentrated disadvantage characteristic of many minority communities. The stability of these societal processes has led to remarkable stability in racial economic inequality and in the nonequivalence of SES indicators across race. Finally, the paper considers the ways in which economic discrimination, discrimination in medicine, perceptions of racial bias, and the stigma of inferiority can have pathogenic consequences.

RACE, SES, AND HEALTH

In the United States, race and ethnicity predict variations in health. TABLE 1 illustrates these associations by comparing the mortality rates for all of the major racial/ethnic minority groups to those of the white population.[1] National mortality

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data reveal that the overall death rate for American Indians is similar to that of whites. However, compared to whites, American Indians have lower death rates for cardiovascular disease and cancer but higher rates of death from injuries, the flu and pneumonia, diabetes, suicide, and cirrhosis of the liver. It should be noted that mortality rates for American Indians who live on or near reservations are higher than the national rates for their group.[2] The overall mortality rates for the Hispanic population is lower than that of the white population but Hispanics have higher death rates for diabetes, cirrhosis of the liver, and HIV/AIDS than whites. For all of the leading causes of death in the United States, the Asian Pacific Islander population has mortality rates that are considerably lower than those of whites.

Several factors must be considered to put these data into perspective. First, a nontrivial proportion of nonblack minorities are misclassified as white on the death certificate. This numerator problem leads to an underestimate of the death rates for American Indians, Asian and Pacific Islanders, and Hispanics.[3–4] Second, there is considerable heterogeneity within each of the major racial/ethnic populations that importantly predicts variation in health status within each group. Third, a relatively high proportion of the Hispanic, and especially the Asian-American population, is foreign-born, and their health profile reflects in part the impact of immigration. Immigrants tend to enjoy better health status than the native-born population, even when those immigrants are lower in SES.[5–6] However, with increasing length of stay in the United States and adaptation to mainstream behavior, the health status of immigrants deteriorates.

African Americans (or blacks) have an overall death rate that is 1.6 times higher than that of the white population. Elevated mortality rates for the black compared to the white population exists for eight of the ten leading causes of death. These racial

TABLE 1. Age-adjusted death rates (per 100,000 population) for whites and minority/white ratios for the 10 leading causes of death, United States 1996[a]

Causes	White (W) (Rate)	Black/W Ratio	AmI[b]/W Ratio	API[b]/W Ratio	Hispanic/W Ratio
All causes	**466.8**	**1.58**	**0.98**	**0.59**	**0.78**
1. Heart disease	129.8	1.47	0.78	0.55	0.68
2. Cancer	125.2	1.34	0.68	0.61	0.62
3. Stroke	24.5	1.80	0.86	0.98	0.80
4. Pulmonary disease	21.5	0.83	0.59	0.40	0.41
5. Unintentional injuries	29.9	1.23	1.93	0.54	0.97
6. Flu and pneumonia	12.2	1.45	1.15	0.81	0.80
7. Diabetes	12.0	2.40	2.32	0.73	1.57
8. HIV/AIDS	7.2	5.75	0.58	0.31	2.26
9. Suicide	11.6	0.57	1.12	0.52	0.58
10. Liver cirrhosis	7.3	1.27	2.84	0.36	1.73

[a]Taken from the National Center for Health Statistics.[1]
[b]AmI, American Indian; API, Asian–Pacific Islander.

TABLE 2. Mortality rates for blacks and black/white ratios (age-adjusted death rates per 100,000 for the leading causes of death in 1995)[a]

	1950		1995	
Causes of Death	Black Rate	B/W Ratio	Black Rate	B/W Ratio
All causes	**1236.7**	**1.55**	**765.7**	**1.58**
1. Heart disease	379.6	1.26	198.8	1.49
2. Cancer	129.1	1.04	171.6	1.35
3. Cerebrovascular disease	150.9	1.81	45.0	1.82
4. Pulmonary disease	—	—	17.6	0.83
5. Unintentional injury	70.9	1.27	37.4	1.25
6. Flu and pneumonia	57.0	2.49	17.8	1.44
7. Diabetes	17.2	1.24	28.5	2.44
8. HIV/AIDS	—	—	51.8	4.67
9. Suicide	4.2	0.36	6.9	0.58
10. Cirrhosis	7.2	0.84	9.9	1.34
11. Homicide	30.5	11.73	33.4	6.07

[a]Taken from the National Center for Health Statistics.[1]

disparities have been documented for a long time and have been widening in recent years for multiple indicators of health status. TABLE 2 presents the mortality rates for blacks and the black/white mortality ratios for 1950 and 1995.[1] Although the overall mortality rate for African Americans has declined over time, for several causes of death (cancer, diabetes, suicide, cirrhosis of the liver, and homicide) the mortality rate is higher in 1995 than in 1950. Moreover, the black/white ratio for all-cause mortality in 1995 is virtually identical to that of 1950. Black/white mortality ratios over this 45-year period are virtually unchanged for some causes of death, such as stroke and unintentional injury, and smaller for two causes of death (the flu

TABLE 3. United States life expectancy, at age 45 by family income (1980 dollars)[a]

	Females			Males		
Family Income	White	Black	Difference	White	Black	Difference
All[b]	**36.3**	**32.6**	**3.7**	**31.1**	**26.2**	**4.9**
1. Less than $10,000	35.8	32.7	3.1	27.3	25.2	2.1
2. $10,000–$14,999	37.4	33.5	3.9	30.3	28.1	2.2
3. $15,000–$24,999	37.8	36.3	1.5	32.4	31.3	1.1
4. $25,000 or more	38.5	36.5	2.0	33.9	32.6	1.3

[a]1979–1989; Taken from the National Center for Health Statistics.[1]
[b]1989–1991; Taken from the National Center for Health Statistics.[7]

and pneumonia and homicide). However, the black/white mortality ratios in 1995 are larger than those in 1950 for heart disease, cancer, diabetes, and cirrhosis of the liver.

Socioeconomic status predicts variation in health within minority and white populations and accounts for much of the racial differences in health. TABLE 3 illustrates these data for life expectancy. At age 45, white males have a life expectancy that is almost five years more than their black counterparts.[7] Similarly, white females have a life expectancy at age 45 that is 3.7 years longer than that of their black peers. However, there is considerable variation in life expectancy within both racial groups.[1] Black men in the highest income group live 7.4 years longer than those in the lowest income group. The comparable numbers for whites was 6.6 years. Thus, the SES difference within each racial group is larger than the racial difference across groups. A similar pattern is evident for women, although the SES differences are smaller. At age 45, black women in the highest income group have a life expectancy that is 3.8 years longer than those in the lowest income group. Among whites, the SES difference is 2.7 years. Also evident in the life expectancy data is an independent effect of race even when SES is controlled. At every level of income, for both men and women, African Americans have lower levels of life expectancy than their similarly situated white counterparts. This pattern has been observed across multiple health outcomes and for some indicators of health status, such as infant mortality, the racial gap becomes larger as SES increases.[1]

RACE AND RACISM IN THE UNITED STATES

How do we understand these differences? What is race, and what contribution does racism make to these persisting patterns of racial differences in health? Our current racial categories were created before the development of valid scientific theories of genetics and do not capture biological distinctiveness.[8–10] The American Association of Physical Anthropology[11] recently stated that "Pure races in the sense of genetically homogenous populations do not exist in the human species today, nor is there any evidence that they have ever existed in the past." There is considerable biological variation in human populations, but our racial categories fail to capture it. There is more genetic variation within our existing racial groups than between them. Moreover, genetics is not static but changes over time as human populations interact with their natural and social environment. In the United States, our racial groups importantly capture differences in power, status, and resources. Three of the five official racial/ethnic categories were used in the inaugural census in 1790 and these groups were not regarded as equal. In compliance with the First Article of the United States Constitution, that census enumerated whites, blacks as three-fifths of a person, and civilized Indians (that is, Indians who paid taxes). The Thirteenth Amendment abandoned the three-fifths rule, and over time new racial categories were developed to keep track of new immigrants.[12]

Historically, racial categorization has been rooted in racism, and racial classification schemes have had an implicit or explicit relative ranking of various racial groups. Within the U.S. context, whites have always been at the top, blacks at the bottom, and other groups in between. The construct of racism can enhance our understanding of racial inequalities in health. By racism, I mean an ideology of inferi-

ority that is used to justify unequal treatment (discrimination) of members of groups defined as inferior, by both individuals and societal institutions. This ideology of inferiority may lead to the development of negative attitudes and beliefs towards racial outgroups (prejudice), but racism primarily lies within organized institutional structures and not in individual attitudes or behaviors.[13]

First, is the endorsement of an ideology of inferiority a relic of a bygone era? On the one hand, there have been dramatic improvements in the racial climate in the United States in the last 50 years.[14] For example, national data reveal that in 1942 only 32% of whites with school-aged children believed that white and black children should go to the same schools. Ninety-six percent of white parents supported that view in 1995. Similarly, in 1958 only 37% of whites stated that they would vote for a qualified black man for President of the United States. In 1997, 95% of whites indicated that they would vote for a black person for President. At the same time, other data indicate that racial attitudes are complex. Overwhelming support for the principle of equality coexists with a reluctance to support policies that would reduce racial inequalities.[14]

Moreover, data on stereotypes reveal the persistence of negative images of minority racial/ethnic populations in the United States. National data reveal that 45% of whites believe that most blacks are lazy, 51% indicated that most blacks are prone to violence, 29% that most blacks are unintelligent, and 56% that most blacks prefer to live off welfare.[15] These data also reveal a reluctance to endorse positive stereotypes of African Americans. Only 17% of whites indicated that most blacks are hard-working, 15% that most blacks are not prone to violence, 21% that most blacks are intelligent, and 12% that most blacks prefer to be self-supporting. These data are even more striking when compared with whites' perceptions of themselves and other groups. In general, whites view all minority racial groups more negatively than themselves, with blacks being viewed more negatively than any other group. Hispanics tend to be viewed twice as negatively as Asians. Jews tend to be viewed more positively, and southern whites more negatively, than whites in general.

RACISM AND SES

How does racism affect health? First, and most importantly, racism has restricted socioeconomic attainment for members of minority groups. By determining access to educational and employment opportunities, segregation has been a key mechanism by which racial inequality has been created and reinforced.[16] It is generally recognized that there are large racial differences in SES, and health researchers routinely adjust for SES when examining the race–health association. However, SES is not just a confounder of racial differences in health but part of the causal pathway by which race affects health. Race is an antecedent and determinant of SES, and racial differences in SES reflect, in part, the successful implementation of discriminatory policies premised on the inferiority of certain racial groups.

Arguably, the single most important policy of this type that continues to have pervasive adverse effects on the socioeconomic circumstances and the health of African Americans is residential segregation. Beliefs about black inferiority and an explicit desire to avoid social contact with this out-group led to the development of policies

in the early 20th century that aimed at ensuring the physical separation of blacks from whites in residential areas.[17] This physical separation was possible through cooperative efforts of major societal institutions.[18] Between 1900 and the 1940s, federal housing policies, the lending practices of banks, restrictive covenants, and discrimination by the real estate industry, individuals and vigilant neighborhood organizations, ensured that housing options for blacks were restricted to the least desirable residential areas. Audit studies reveal that explicit discrimination in housing persists,[19] but most of the institutional discrimination that created segregation is now illegal. However, the structure of segregation and its consequences have remained relatively intact over time.

TABLE 4 shows the average levels of segregation in the 30 metropolitan areas with the largest black populations between 1970 and 1990.[20] Data are provided for two of the most commonly used measures of segregation. The index of dissimilarity, a measure of unevenness, captures the percent of blacks who would have to change neighborhood residence to achieve complete integration. The isolation index indicates the percent of blacks in the census tract where the average black person resides. Segregation is slightly higher in the North than in the South but in both regions the levels of segregation are very high. In 1990, for example, 78% of blacks in northern metropolitan areas would have to move in order to achieve a random distribution of blacks and whites. In the South, 67% of blacks would have to move. Similarly, in 1990 the average African American living in the North resided in a census tract that was 69% black. In the South, the average black lived in a neighborhood that was 65% black. There has been little change in these levels of segregation in the last 20 years. While other groups have experienced residential segregation in the United States, no immigrant population has ever lived under the high levels of segregation that currently characterize the living circumstances of African Americans.[16] Moreover, the high level of segregation of the black population is not self-imposed because blacks reflect the highest support for residence in integrated neighborhoods.[21]

Residential segregation has led to racial differences in the quality of elementary and high school education. Because the funding of education is at the local level, community resources importantly determine the quality of the neighborhood school.

TABLE 4. Average segregation in 30 metropolitan areas with largest black populations[a]

Area[b]	1970	1980	1990
Non-South			
1. Unevenness	84.5	80.1	77.8
2. Isolation	68.7	66.1	68.9
South			
1. Unevenness	75.3	68.3	66.5
2. Isolation	69.3	63.5	64.9

[a]Taken from Massey.[20]

[b]Unevennes, percent of blacks who would have to change residence to achieve an even spatial distribution; isolation, percent of blacks in the census tract where the average black person resides.

Residential segregation had led to the concentration of poverty in residential areas and thus the concentration of poverty in the classroom. Not withstanding a unanimous Supreme Court ruling in *Board vs. Board of Education,* elementary and high school public education in the United States today is still highly segregated and decidedly unequal.[22] Moreover, even in integrated schools, black students are disproportionately allocated or tracked into low-ability and non–college preparatory classes that are characterized by a less demanding curriculum and lower teacher expectations.[18]

Two-thirds of African-American students and three-fourths of Hispanic students attend schools where more than half the students are black or Latino.[23] The proportion of black and especially Hispanic students in predominantly minority schools has been increasing in recent years. There is nothing inherently negative with having most of one's fellow classmates being members of minority groups. The problem is the very strong relationship between racial composition of schools and concentrated poverty. In the United States a student in an intensely segregated African-American and/or Latino school is 14 times more likely to be in a high-poverty school than a student in a school where less than 10% of the students are black and Latino.[22] Nationally, the correlation between minority percentage and poverty is 0.66.[23] In metropolitan Chicago this percentage is 0.90 for elementary schools.[22] There are millions of poor whites in the United States, but most poor white families do not live in areas of concentrated poverty and thus have access to better options in terms of educational opportunities. In 96% of predominantly white schools in the United States the majority of the students come from middle class backgrounds,

Residential segregation also adversely affects SES by having a profound negative impact on employment. Several mechanisms appear to be at work. William Julius Wilson[24–25] has documented that the selective out-migration of whites and some middle class blacks from the core areas of cities (where most blacks reside) to the suburbs over the last several decades has been accompanied by the movement of high-pay, low-skill jobs to the suburbs. This movement of jobs is related to larger processes of urbanization and industrialization, but some evidence suggests that considerations of race have explicitly played a role. African Americans have had significantly higher rates of industrial job losses than whites in recent decades, and research reveals that both U.S.-based and foreign companies explicitly use the racial composition of areas in their decision-making process regarding where to locate new plants.[26] This is true both for the placement of new plants and for the relocation of other plants to more rural and suburban areas. Consistent with this evidence, a *Wall Street Journal* analysis of over 35,000 U.S. companies that report to the Equal Employment Opportunity Commission found that blacks were the only racial group that experienced a net job loss during the 1990–1991 economic downturn.[27] African Americans had a net job loss of 59,000 jobs, compared with net gains of 71,100 for whites, 55,100 for Asians, and 60,000 for Latinos. These job losses did not reflect individual discrimination but rather were the result of restructuring, relocation, and downsizing. In many cases, they reflected the movement of employment facilities to suburban, rural, and southern areas where the proportion of blacks in the labor force was low.

Discrimination at the individual level also plays a role in reducing employment opportunities for minority group members. Studies of white employers reveal that

they consciously and deliberately use negative racial stereotypes to deny employment opportunities to black applicants.[28–29] Some of the best evidence of the persistence of discrimination in employment comes from audit studies conducted by the Urban Institute. In these studies, white applicants were favored over black applicants with identical qualifications 20% of the time.[19] Thus, negative racial stereotypes of African Americans appear to play a role both when individual employers evaluate potential applicants, as well as when corporate decision makers deliberate about the location of employment facilities.

Impoverished segregated areas have multiple adversities that may combine in additive and interactive ways to adversely affect SES. Lack of access to jobs produces high rates of male unemployment. There is a strong relationship, for both blacks and whites, between rates of marriage and rates of male unemployment and average male earnings. Thus, the concentration of economic disadvantage in impoverished segregated areas is a major force underlying high rates of out-of-wedlock births and female-headed households and the consequent feminization of poverty that occurs in many urban areas.[30–31] The resulting concentration of poverty isolates youth in segregated communities from both role models of stable employment and social networks that can provide linkages to employment opportunities.[24] Long-term exposure to these conditions can undermine a strong work ethic and devalue academic success.

Racism can also affect SES attainment through the impact of negative racial stereotypes on educational outcomes. Steele[32] has reviewed the evidence that suggests that the negative cultural images of blacks may adversely affect academic performance. He indicates that there is little racial difference between blacks and whites on standardized tests in the first grade. However, a racial gap widens with each year in school and is two full grade levels by the sixth grade. This pattern is not explained by either SES or group differences in skills. Moreover, achievement gaps between blacks, as well as non-Asian minorities, are evident at all levels of SES and sometimes widen with increasing SES. Further, at every skill level, non-Asian minorities receive lower grades than whites. A similar pattern exists for women relative to men but only in those areas of academic performance where women are sterotypically viewed as deficient (such as in the physical sciences and in advanced math courses). Research from the U.K., Israel, Japan, India, and other countries reveal that groups viewed as lower in social status consistently have lower academic achievement.[33] Steele[32] suggests that among lower SES blacks the internalization of negative societal stereotypes may become a self-fulfilling prophecy leading to low performance. In contrast, among high SES, self-confident blacks, the threat of poor performance in a stereotype-relevant domain may lead to anxieties that adversely affect academic performance.

STABILITY OF RACIAL INEQUALITY

Institutional policies have played a major role in creating large racial differences in SES. Because of the persistence of the institutional mechanisms underlying racial inequality, there has been remarkable stability in the racial gap in SES over time. The President's Council of Economic Advisors' recent review of trends in racial econom-

TABLE 5. Median income and poverty rates for whites and blacks, United States 1978–1996[a]

	Median Income			Poverty Rate		
Year	Whites	Blacks	B/W Ratio	Whites	Blacks	B/W Ratio
1978	42,695	25,288	0.59	8.7	30.6	3.52
1980	41,759	24,162	0.58	10.2	32.5	3.19
1982	40,379	22,317	0.55	12.0	35.6	2.97
1984	41,809	23,302	0.56	11.5	33.8	2.94
1986	44,105	25,201	0.57	11.0	31.1	2.83
1988	44,981	25,636	0.57	10.1	31.3	3.10
1990	44,315	25,717	0.58	10.7	31.9	2.98
1992	43,245	23,600	0.55	11.9	33.4	2.81
1994	43,284	26,148	0.60	11.7	30.6	2.62
1996	44,756	26,522	0.59	11.2	28.4	2.54

[a]Taken from the Economic Report of the President.[34]

ic inequalities documented that the expansion of the black middle class and the convergence toward equality between blacks and whites was greatest in the 1960s.[34] In spite of current efforts to dismantle affirmative action policies, the data clearly show that the economic progress of blacks relative to whites stalled in the mid-1970s, and there has been 20 years of stagnation since then. Moreover, income inequality has increased since 1970 overall and within both racial groups.

TABLE 5 shows that in 1978, the median family income of blacks ($25,288) was 59 cents for every dollar earned by whites in median family income ($42,695). In 1996, the black/white ratio of median family income was identical to that of 1978, and there had been little change during the intervening 23 years. Similarly, the poverty levels for both blacks and whites have been relatively stable over time.[34] The poverty rate of blacks (30.6%) was 3.5 times higher than that of whites (8.7%) in 1978. The black poverty rate declined to 28.4 in 1996, and the poverty rate of whites increased somewhat to 11.2 in 1996. Thus, the black/white ratio fell slightly, with blacks being 2.5 times more likely to live in poverty in 1996, compared to whites. Longer trend data tell the same story. TABLE 6 presents the unemployment rates for blacks and whites from 1950 to 1995.[34] Since 1950, African Americans have had unemployment rates that have been about twice as high as that of whites. Over time, the unemployment of both blacks and whites have moved up and down with the business cycle, but the changes for African Americans have been at about twice the rate for whites. There have been modest gains in unemployment in the last few years, but in 1995 blacks still had an unemployment rate that was twice that of whites. These data provide striking evidence of persistent racial inequality in the United States.

Because of the operation of these large-scale societal processes, indicators of SES are not equivalent across racial groups. That is true at the level of the community, the household, and the individual. Because of residential segregation, black and white

TABLE 6. Unemployment rates for blacks and whites, 1950–1995[a]

Year	Black	White	B/W Ratio
1950	9.0	4.9	1.84
1955	8.7	3.9	2.23
1960	10.2	5.0	2.04
1965	8.1	4.1	1.98
1970	8.2	4.5	1.82
1975	14.8	7.8	1.90
1980	14.3	6.3	2.27
1985	13.7	6.2	2.21
1990	11.4	4.8	2.38
1995	9.6	4.9	1.96

[a]Taken from the Economic Report of the President.

neighborhoods differ dramatically in the availability of jobs, family structure, opportunities for marriage, educational quality, and exposure to conventional role models. They also differ in the quality of life and access to resources and amenities that sustain health. For example, Sampson and Wilson[35] found that in the 171 largest cities in the United States, there is not even one city where whites live in ecological equality to blacks in terms of poverty rates and rates of single-parent households. In fact, Sampson and Wilson concluded that, "The worst urban context in which whites reside is considerably better than the average context of black communities."[35]

TABLE 7 presents racial differences in the income return from education for blacks, whites, and Hispanics in 1996.[36] These national data reveal that at every level of education blacks and Hispanics have lower levels of income than whites. Although part of this difference may be due to differences in educational performance and quality, some evidence suggests that other factors are at work. For example, a recent study documented that even after taking racial differences in test scores into account, young black males earned 7.5% less than their white counterparts.[37] Other

TABLE 7. Median income by educational attainment for whites, blacks, and hispanics aged 18 years and older, United States 1996[a]

Education Level	White	Black	Hispanic
Not a high school graduate	$9,762	$7,365	$9,486
High school graduate	$16,331	$13,294	$13,408
Some college or associate degree	$23,480	$20,249	$20,225
Bachelor's degree or more	$30,121	$26,160	$25,302
Professional degree	$56,436	$42,237	—

[a]Taken from the U.S. Bureau of the Census.[36]

data reveal that blacks have higher costs for goods and services than whites due to higher prices on average for a broad range of services such as housing, food, and insurance in the central city areas where blacks live than in suburban areas where most whites reside.[38]

Moreover, racial differences in income understate the true magnitude of the racial differences in economic resources. National data reveal that at every level of income there are large racial differences in wealth. For example, white households have a median net worth that is 10 times that of African-American households.[39] Whites in the lowest quintile of income have a median net worth of $10,257 compared to $1 for comparable blacks. Because much of the wealth of most American families exists in the form of home equity, a substantial part of this racial difference is linked to housing policies and institutional discrimination experienced in the past.[40] These racial differences in economic circumstances are consequential to the day-to-day struggle for survival for minority group members. In the early 1990s, the Census Bureau's Survey of Income and Program Participation collected data on the economic hardship experienced by American households. These data reveal that after adjustment for SES (income, education, transfer payments, home ownership, employment status, disability, and health insurance) and demographic factors (age, gender, marital status, the presence of children, and residential mobility), African Americans were more likely than whites to experience six of nine hardships examined: unable to meet essential expenses, unable to pay for rent or mortgage, unable to pay full utility bill, had utilities shut off, had telephone service shut off, and evicted from apartment or home.[41] There were no racial differences on lacking visits to a doctor and not having enough food. Blacks were less likely than whites to have no visit to a dentist.

RACISM AND HEALTH: DIRECT EFFECTS

A growing body of research also suggests that in addition to its effects on health indirectly through socioeconomic position, exposure to racism and discrimination can also more directly adversely affect health. First, residential segregation can create pathogenic housing and living conditions. Segregation is often a key determinant of quality of life in neighborhoods. Residents of highly segregated neighborhoods have less access to a broad range of services provided by municipal authorities.[42] Reductions in spending and the delivery of services leads to the neglect and deterioration of the physical environment in poor neighborhoods. The redlining by banks can result in the disproportionate representation of undesirable land uses, such as deserted factories, warehouses, and landfills in segregated areas. Persons who reside in segregated neighborhoods may also be disproportionately exposed to environmental toxins and poor-quality housing. The largest black–white difference in mortality noted earlier was for homicide. Research reveals that the combination of concentrated poverty, male joblessness, and residential instability leads to high rates of single parent households and these factors together account for variation in the levels of violent crime.[35] Importantly, the association between these factors and violent crime for whites was virtually identical in magnitude with the association for African Americans.

Several studies have found a positive association between both adult and infant mortality and residence in segregated areas. One recent study has documented elevated mortality rates for both blacks and whites in cities high on two indices of segregation compared to cities with lower levels of segregation.[43] This pattern suggests that beyond some threshold of segregation, the adverse conditions linked to highly segregated cities may negatively affect the health of all persons who reside there.

Another mechanism by which discrimination can affect health status is through access to medical care. The stigma of racial inferiority appears to affect the way that minority group members are treated in the health care system. A large body of evidence indicates that even after adjustment for SES, health insurance, and clinical status whites are more likely than blacks to receive a broad range of specific medical procedures.[44] Especially striking is data from the Veterans Administration Hospital System[45] and from analyses of the receipt of diagnostic and treatment procedures among black and white inpatients covered by Medicare.[46] Among Medicare inpatients, blacks were less likely than whites to receive all of the 16 most common procedures. Further examination revealed that there were only four procedures that blacks were more likely to receive than whites. Blacks were more likely than whites to have the amputation of a lower limb, the removal of both testes, the removal of tissue related to decubitus ulcers and the implantation of shunts for renal dialysis.[46] These procedures all reflected delayed diagnosis or initial treatment, poor or infrequent medical care and the failure in the management of chronic disease.

A recent study by Hannan *et al.*[47] demonstrated that African Americans were less likely than whites to receive bypass surgery when rigorous criteria demonstrated that the procedure was appropriate, as well as when rigorous criteria indicated that it was necessary. Similarly, a study by Peterson *et al.*[48] documented that blacks were less likely than whites with comparable disease to receive bypass surgery even among those patients with the most severe disease and with the greatest predictive benefit of survival. Moreover, this study found that the five-year survival rate was significantly lower for blacks. Other recent research indicates that patient preferences and patient refusals play little role in racial differences in the receipt of medical procedures.[47] Taken together, these studies suggest that consciously or unconsciously, a nontrivial proportion of the health care workforce discriminates against African Americans.

Some research also suggests that the subjective experience of discrimination may be an important type of stress that can adversely affect health. A review of these studies reveals that exposure to stress in a laboratory setting can lead to cardiovascular and psychological reactivity among blacks, as well as for a broad range of other groups.[49] In addition, population-based epidemiologic studies also reveal that experiences of discrimination are adversely related to both physical and mental health. One recent study of a major metropolitan area characterized exposure to a broad range of unfair treatment experiences.[50] This study documented that compared to whites, African Americans experienced higher levels of both chronic and acute measures of discrimination and markedly higher levels of discrimination based on race or ethnicity. Importantly, analyses of these data documented that most of the racial difference in physical health was accounted for by SES. However, the consideration of experiences of discrimination made an incremental contribution in accounting for racial differences in self-reported measures of physical health. Studies of the health

consequences of experiences of discrimination are still in their infancy, and there is an urgent need for prospective studies that would identify the temporal ordering of the relationship between discrimination and health.

What does it mean for a child to grow up in a society where he or she is viewed as being inferior and where those messages are routinely communicated in multiple ways? A small body of research suggests that the prevalence of negative stereotypes and cultural images of stigmatized groups can adversely affect health status. Researchers have long identified that one response of minority populations would be to accept the dominant society's ideology of their inferiority as accurate. Several studies have operationalized the extent to which African Americans internalize or endorse these negative cultural images. These studies have found that internalized racism is positively related to psychological distress, depressive symptoms, substance use, and chronic physical health problems.[51–53]

CONCLUSION

Striking racial differences in health and their persistence over time are not acts of God. Neither can they be understood as simply reflecting racial differences in individual behavior or biology. Instead, considerable evidence suggests that they reflect, in large part, the successful implementation of specific policies. Racism has been responsible for the development of an organized system of policies and practices designed to create racial inequality. Research is needed that would identify how large societal forces shape individual beliefs and behavior and combine with preexisting resources and vulnerabilities to affect health status. Social factors ultimately affect health through specific physiological mechanisms and processes. The concept of allostatic load provides a useful framework for tracing the pathways from environmental exposure to adverse changes in health status via explicit physiological processes.[54] Racial differences in health importantly reflect the impact of the social environment and the cumulation of adversity across multiple domains. Efforts to improve the health of racial minority group members and reduce racial disparities in health may have to be equally comprehensive in the implementation of strategies that address the fundamental underlying causes of these disparities.

ACKNOWLEDGMENTS

Preparation of this paper was supported by Grant 1 RO1 MH59575 from NIMH and the John D. and Catherine T. MacArthur Foundation Research Network on Socieoeconomic Status and Health. I wish to thank Scott Wyatt and Colwick Wilson for research assistance and Car Nosel for preparing the manuscript.

REFERENCES

1. National Center for Health Statistics. 1998. Health, United States, 1998 with Socioeconomic Status and Health Chartbook. USDHHS. Hyattsville, MD.
2. Department of Health and Human Services-Indian Health Service. 1997. Regional Differences in Indian Health. DHHS. Rockville, MD.

3. SORLIE, P.D., E. ROGOT & N.J. JOHNSON. 1993. Validity of demographic characteristics on the death certificate. Epidemiology **3:** 181–184.
4. HAHN, J.A. 1992. The state of federal health statistics on racial and ethnic groups. JAMA **267:** 268–271.
5. SINGH, G.K. & S.M. YU. 1996. Adverse pregnancy outcomes: differences between U.S.- and foreign-born women in major U.S. racial and ethnic groups. Am. J. Public Health **86:** 837–843.
6. HUMMER, R.A., R.G. ROGERS, C.B. NAM & F.B. LECLERE. 1999. Race/ethnicity, nativity, and U.S. adult mortality. Soc. Sci. Q. **80:** 136–153.
7. NATIONAL CENTER FOR HEALTH STATISTICS. 1997. U.S. Decennial Life Tables for 1989–91. Hyattsville, MD. U.S. Life Tables **1**(1): 12–29.
8. MONGATU, A. 1964. The Concept of Race. New York Press, Glenco.
9. GOULD, S.J. 1977. Why we should not name human races: a biological view. *In* Ever Since Darwin. S.J. Gould, Ed.: 231–236. W.W. Norton, New York.
10. LEWONTIN, R.C. 1972. The apportionment of human diversity. *In* Evolutionary Biology. Vol. 6. T. Dobzhansky, M.K. Hecht & W.C. Steere, Eds.: 381–386. Appleton-Century-Crofts, New York.
11. AMERICAN ASSOCIATION OF PHYSICAL ANTHROPOLOGY. 1996. AAPA statement on biological aspects of race. Am. J. Phys. Anthropol. **101:** 569–570.
12. ANDERSON, M. & S.E. FEINBERG. 1995. Black, white, and shades of gray (and brown and yellow). Chance **8:** 15–18.
13. BONILLA-SILVA, E. 1996. Rethinking racism: toward a structural interpretation. Am. Sociol. Rev. **62:** 465–480.
14. SCHUMAN, H., CH. STEEH, L. BOBO & M. KRYSAN. 1997. Racial Attitudes in America: Trends and Interpretations. Rev. edit. Harvard University Press, Cambridge.
15. DAVIS, J.A. & T.W. SMITH. 1990. General Social Surveys, 1972–1990 NORC edit. National Opinion Research Center, Chicago.
16. MASSEY, D.S. & N.A. DENTON. 1993. American Apartheid: Segregation and the Making of the Underclass. Harvard University Press, Cambridge.
17. CELL, J. 1982. The Highest Stage of White Supremacy: The Origin of Segregation in South Africa and the American South. Cambridge University Press, New York.
18. JAYNES, G.D. & R.M. WILLIAMS. 1987. A Common Destiny: Blacks and American Society. National Academy Press, Washington, D.C.
19. FIX, M. & R.J. STRUYK. 1993. Clear and Convincing Evidence: Measurement of Discrimination in America. Urban Institute Press, Washington, D.C.
20. MASSEY, D. 1999. Residential segregation and neighborhood conditions in U.S. metropolitan areas. *In* America Becoming: Racial Trends and Their Consequences. William Julius Wilson & Faith Mitchel, Eds. National Research Council Commission on Behavioral and Social Sciences and Education. National Academy of Sciences Press, Washington, DC. In press.
21. BOBO, L. & C.L. ZUBRINSKY. 1996. Attitudes on residential integration: perceived status differences, mere in-group preference, or racial prejudice? Soc. Forces **74:** 883–909.
22. ORFIELD, G. & S.E. EATON. 1996. Dismantling desegregation: The Quiet Reversal of *Brown v. Board of Education.* The New Press, New York.
23. ORFIELD, G. 1993. The growth of segregation in American schools: changing patterns of separation and poverty since 1968. A report of the Harvard Project on School Desegregation to the National School Boards Association.
24. WILSON, W.J. 1987. The Truly Disadvantaged. University of Chicago Press, Chicago.
25. WILSON, W.J. 1996. When Work Disappears: The World of the New Urban Poor. Alfred A. Knopf, New York.
26. COLE, R.E. & D.R. DESKINS, JR. 1988. Racial factors in site location and employment patterns of Japanese auto firms in America. Calif. Manage. Rev. **31:** 9–22.
27. SHARPE, R. 1993. In latest recession, only blacks suffered net employment loss. Wall St. J. **LXXIV:** no. 233.
28. KIRSCHENMAN, J. & K.M. NECKERMAN. 1991. "We'd love to hire them, but…": the meaning of race for employers. *In* The Urban Underclass. C. Jencks & P.E. Peterson, Eds.: 203–232. The Brookings Institution, Washington, D.C.

29. NECKERMAN, K.M. & J. KIRSCHENMAN. 1991. Hiring strategies, racial bias, and inner-city workers. Soc. Problems **38:** 433–447.
30. TESTA, M., N.M. ASTONE, M. KROGH & K.M. NECKERMAN. 1993. Employment and marriage among inner-city fathers. *In* The Ghetto Underclass. W.J. Wilson, Ed.: 96–108. Sage, Newberry Park.
31. WILSON, W. & K.M. NECKERMAN. 1986. Poverty and family structure: the widening gap between evidence and public policy issues. *In* Fighting Poverty. S.H. Danziger and D.H. Weinberg, Eds.: 232–259. Harvard University Press, Cambridge.
32. STEELE, C.M. 1997. A threat in the air: how stereotypes shape intellectual identity and performance. Am. Psychol. **52:** 613–629.
33. FISCHER, C.S., M. HOUT, M.S. JANKOWSKI, S.R. LUCAS, A. SWIDLER & K. VOSS. 1996. Race, ethnicity and intelligence. *In* Inequality by Design: Cracking the Bell Curve Myth. C.S. Fischer, M. Hout, M.S. Jankowski, S.R. Lucas, A. Swidler & K. Voss, Eds. Princeton University Press, Princeton.
34. ECONOMIC REPORT OF THE PRESIDENT. 1998. U.S. Government Printing Office, Washington, DC.
35. SAMPSON, R.J. & W.J. WILSON. 1995. Toward a theory of race, crime, and urban inequality. *In* Crime and Inequality. J. Hagan & R.D. Peterson, Eds.: 37–54. Stanford University Press, Stanford.
36. U.S. BUREAU OF THE CENSUS. 1997. Income by educational attainment for persons 18 years old and over, by age, sex, race, and Hispanic origin: March 1996, Current Population Report. U.S. Government Printing Office, Washington, D.C.
37. NEAL, D.A. & W.R. JOHNSON. 1996. The role of premarket factors in black–white wage differences. J. Polit. Econ. **104:** 869–895.
38. WILLIAMS, D.R. & C. COLLINS. 1995. U.S. socioeconomic and racial differences in health. Ann. Rev. Sociol. **21:** 349–386.
39. ELLER, T.J. 1994. Household Wealth and Asset Ownership: 1991. U.S. Bureau of the Census, Current Population Reports, P70–34. US Government Printing Office (USGPO), Washington, D.C.
40. OLIVER, M.L. & T.M. SHAPIRO. 1997. Black Wealth/White Wealth: A New Perspective on Racial Inequality. Routledge, New York.
41. BAUMAN, K. 1998. Direct measures of poverty as indicators of economic need: Evidence from the survey of income and program participation. U.S. Census Bureau Population Division Technical Working Paper No. 30.
42. ALBA, R.D. & J.R. LOGAN. 1993. Minority proximity to whites in suburbs: an individual-level analysis of segregation. Am. J. Sociol. **98:** 1388–1427.
43. COLLINS, C. & D.R. WILLIAMS. 1999. Segregation and mortality: the deadly effects of racism? Sociol. Forum **14**(3): 493–521.
44. COUNCIL ON ETHICAL AND JUDICIAL AFFAIRS. 1990. Black–white disparities in health care. JAMA **263:** 2344–2346.
45. WHITTLE, J., J. CONIGLIARO, C.B. GOOD & R.P. LOFGREN. 1993. Racial differences in the use of invasive cardiovasular procedures in the Department of Veterans Affairs. N. Engl. J. Med. **329:** 621–626.
46. MCBEAN, A.M & M. GORNICK. 1994. Differences by race in the rates of procedures performed in hospitals for Medicare beneficiaries. Health Care Finan. Rev. **15:** 77–90.
47. HANNAN, E.L., M. VAN RYNE, J. BURKE, D. STONE, D. KUMAR, D. ARANI, W. PIERCE, S. RAFII, T.A. SANBORN, S. SHARMA, J. SLATER & B.A. DEBUONO. 1999. Access to coronary artery bypass surgery by race/ethnicity and gender among patients who are appropriate for surgery. Med. Care **37:** 68–77.
48. PETERSON, E.D., L.K. SHAW, E.R. DELONG, D.B. PRYOR, R.M. CALIFF & D.B. MARK. 1997. Racial variation in the use of coronary-revascularization procedures—Are the differences real? Do they matter? N. Engl. J. Med. **337**(7): 480–486.
49. WILLIAMS, D.R., M. SPENCER & J.S. JACKSON. 1999. Race-related stress and physical health: is group identity a vulnerability factor or a resource? *In* Self, Social Identity, and Physical Health: Interdisciplinary Explorations. R.J. Contrada & R.D. Ashmore, Eds.: 71–100. Oxford University Press, New York. In Press.

50. WILLIAMS, D.R., Y. YU, J. JACKSON & N. ANDERSON. 1997. Racial differences in physical and mental health: socioeconomic status, stress, and discrimination. J. Health Psychol. **2:** 335–351.
51. TAYLOR, J. & B. JACKSON. 1990. Factors affecting alcohol consumption in black women, part II. Int. J. Addict. **25:** 1415–1427.
52. WILLIAMS, D.R. & A-M. CHUNG. 1999. Racism and Health. *In* Health in Black America. R. Gibson & J.S. Jackson, Eds. Sage Publications, Thousand Oaks. In press.
53. TAYLOR, J., D. HENDERSON & B.B. JACKSON. 1991. A holistic model for understanding and predicting depression in African American women. J. Commun. Psychol. **19:** 306–320.
54. MCEWEN, B.S. & T. SEEMAN. 1999. Protective and damaging effects of mediators of stress: elaborating and testing the concepts of allostasis and allostatic load. Ann. N.Y. Acad. Sci. **896:** this volume.