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## Perceived Discrimination and Privilege in Health Care: The Role of Socioeconomic Status and Race

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### Abstract

**Introduction**—This study examined how perceived racial privilege and perceived racial discrimination in health care varied with race and socioeconomic status (SES).

**Methods**—The sample consisted of white, black, and Native American respondents to the Behavioral Risk Factor Surveillance System (2005–2013) who had sought health care in the past 12 months. Multiple logistic regression models of perceived racial privilege and perceived discrimination were estimated. Analyses were performed in 2016.

**Results**—Perceptions of racial privilege were less common among blacks and Native Americans compared with whites, while perceptions of racial discrimination were more common among these minorities. In whites, higher income and education contributed to increased perceptions of privileged treatment and decreased perceptions of discrimination. The pattern was reversed in blacks, who reported more discrimination and less privilege at higher income and education levels. Across racial groups, respondents who reported foregone medical care due to cost had higher risk of perceived racial discrimination. Health insurance contributed to less perceived racial discrimination and more perceived privilege only among whites.

**Conclusions**—SES is an important social determinant of perceived privilege and perceived discrimination in health care, but its role varies by indicator and racial group. Whites with low education or no health insurance, well-educated blacks, and individuals who face cost-related barriers to care are at increased risk of perceived discrimination. Policies and interventions to reduce these perceptions should target structural and systemic factors, including society-wide inequalities in income, education, and healthcare access, and should be tailored to account for racially specific healthcare experiences.

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## Introduction

Perceived racial discrimination, defined as a perception of unfair treatment because of one's race, is a prominent health risk factor associated with a range of adverse outcomes, from cardiovascular disease to low birth weight, smoking, and poor self-reported health.<sup>1-7</sup> Although discrimination can occur in various life domains, discrimination in healthcare settings is of particular concern because of its negative implications for preventive care. Patients who report perceived discrimination tend to forego preventive services,<sup>8-10</sup> postpone medical tests and treatment,<sup>11</sup> and underutilize health services in general<sup>12</sup>; they also report worse physician– patient communication and lower satisfaction with care,<sup>13,14</sup> which may contribute to poorer compliance and adherence.<sup>15</sup>

Perceived racial privilege is another aspect of racial relations<sup>16</sup> potentially relevant for healthcare delivery. Perceived racial privilege is the awareness of having an advantaged status because of one's racial background. Much like racial discrimination, racial privilege is a product of systemic racism and may contribute to health and well-being outcomes.<sup>17</sup> In health research, however, racial privilege is an understudied concept,<sup>18</sup> and its determinants are not well known.

The contribution of this study is examining how perceived racial privilege and perceived racial discrimination vary with race and SES, two critical social determinants of health. Prior research leaves little doubt that whites are less likely to report discrimination compared to other racial groups<sup>19</sup> and the evidence suggests that perceived racial discrimination further varies with SES. Higher income, for instance, has been linked to lower perceived discrimination in a diverse sample of Californians<sup>20</sup> and among white women.<sup>21</sup> Lower education has been associated with perceptions of discrimination in general, not limited to health care,<sup>21</sup> but experiences within the healthcare system may differ from those in other life domains. Unique health-related factors, such as insurance status<sup>22</sup> and cost-associated access barriers, may be important. This warrants examination of multiple dimensions of SES in relation to perceived racial treatment specifically in the area of health care.

In the sociologic literature, race and socioeconomic status are understood as fundamental causes of health, that is, distal causal factors that continuously generate downstream, proximate risk factors affecting population health across societies and historical contexts.<sup>23-25</sup> Consistent with this theory, whites typically have better health outcomes when compared with blacks and Native Americans.<sup>26-28</sup> Importantly, within each racial group, socioeconomic status stratifies health further, with socially advantaged individuals having better outcomes compared with their less advantaged counterparts.<sup>29,30</sup>

Building on the fundamental cause framework, it is expected that perceptions of privileged treatment will be more common among socially advantaged healthcare users, including whites (Hypothesis 1 [H1]) and individuals with higher SES (Hypothesis 2 [H2]), whereas perceptions of racial discrimination will be less common in these advantaged populations. In addition to income and education as two commonly studied dimensions of SES, the present study focuses on health insurance and foregone medical care because of cost, as they are additional aspects of SES with special relevance for health. The hypotheses are:

- H1: Blacks and Native Americans are more likely to report racial discrimination and less likely to report racial privilege in health care compared with whites.
- H2(a): Higher education is related to lower likelihood of reporting racial discrimination and higher likelihood of reporting racial privilege in health care.
- H2(b): Higher income is related to lower likelihood of reporting racial discrimination and higher likelihood of reporting racial privilege in health care.
- H2(c): Compared with individuals without health insurance, individuals with health insurance are less likely to report racial discrimination and more likely to report racial privilege in health care.
- H2(d): Individuals having foregone medical care due to cost are more likely to report racial discrimination and less likely to report racial privilege in health care compared with those who have not foregone medical care due to cost.

An important aspect of this study is evaluating the role of socioeconomic factors in perceived racial discrimination and privilege in health care by individual racial group. Racial comparisons of these factors have rarely been attempted, especially beyond black versus white. Such comparisons are important because different racial groups have different experiences in the healthcare system,<sup>31</sup> and perceptions of unfair or privileged treatment may operate uniquely within each group. This study specifically focuses on blacks and Native Americans, two minority groups with a high concentration of social disadvantage and poor health outcomes, and offers comparisons between these minorities and the majority population of whites.

## Methods

Data were obtained from the Behavioral Risk Factor Surveillance System (BRFSS), an annual cross-sectional survey fielded by Centers for Disease Control and Prevention. BRFSS uses random-digit-dial, disproportionate stratified sampling design and is administered over telephone to a representative sample of the U.S. population aged 18 years living in households.<sup>32</sup> The coverage ranged from 87% to 98% across states and was lower in the South, for minorities, and for the poor, because of their lower telephone coverage. Details of the BRFSS survey methodology are published elsewhere<sup>33,34</sup> (also [www.cdc.gov/BRFSS/](http://www.cdc.gov/BRFSS/)). BRFSS data collected between 2005 and 2013 were pooled together and analyzed in 2016.

## Measures

Perceived racial discrimination and privilege in health care was measured by the question: *Within the past 12 months when seeking health care, do you feel your experiences were worse than, the same as, or better than for people of other races?* Worse was interpreted as perceived discrimination and better as perceived privilege. This question is part of the BRFSS optional module on race. Optional modules are selected by individual states each

year. Between 2004 and 2013, the module on race was selected by 18 states, including Alabama, Arizona, Arkansas, Colorado, Delaware, Georgia, Indiana, Kentucky, Michigan, Mississippi, Nebraska, Ohio, Rhode Island, South Carolina, Virginia, Wisconsin, Washington, DC, and Wyoming.

Racial background was measured by the question: *Which one or more of the following would you say is your race?* Response options included *White, Black or African American, Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaska Native* (henceforth referred to as Native American), and *some other group*. The study focus was limited to mono-racial whites, blacks, and Native Americans. Hispanic ethnicity was assessed independently in a question that preceded the question measuring racial background. Respondents were asked: *Are you Hispanic or Latino?* Response options were *yes* and *no*. Following the U.S. Office of Management and Budget, Hispanic ethnicity was treated as independent of race, meaning that members of any racial group could be Hispanic or non-Hispanic, and Hispanics could be members of any racial group.

The multidimensional concept of SES is typically measured by indicators such as income, education, and occupational position.<sup>35–37</sup> These dimensions are inter-related, but each captures a different type of health-relevant resources.<sup>38</sup> The variables included in the study were highest completed school grade (less than high school, high school graduate, some college, college graduate or higher); annual household income from all sources measured in eight categories and recoded into 2004 dollars using the midpoint of each category and the Bureau of Labor Statistics Consumer Price Index inflation rates; and health insurance coverage measured by the question: *Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare? (yes/no)*. To capture foregone care because of cost, respondents were asked: *Was there a time in the past 12 months when you needed to see a doctor but could not because of cost? (yes/no)*. Finally, employment status was a dichotomy distinguishing between current wage earners versus all others.

Gender, age, and the language of the interview (English versus other) as a proxy for language abilities are also among social determinants of health<sup>39,40</sup> but in this study were treated as covariates because of scope limitations. Other covariates included availability of a personal doctor (*Do you have one person you think of as your personal doctor or health care provider?*), self-rated health (*poor=1, fair=2, good=3, very good=4, excellent=5*; treated as continuous), and year of the interview. U.S. Census Bureau region categories (South, Midwest, Northeast, and West) were included to examine geographic differences; categorization into individual states was not possible because of multicollinearity between state and year.

### Statistical Analysis

Analyses were conducted using Stata, version 14. After calculating descriptive and bivariate statistics, multiple logistic regression models of perceived racial discrimination and privilege in health care were estimated. Independent variables included race, Hispanic ethnicity, income, education, health insurance, foregone care because of cost, earning a wage, gender, age, language of the interview, self-rated health, having a personal physician, region, and

year. Curvilinear effects of income and age were examined. Models were estimated for the whole sample and separately for each racial group. Robust estimators to account for deviations from normality were used, and adjustment for design effects was performed using the “cluster” functionality in Stata.

## Results

Based on bivariate tests shown in Table 1, perceived racial discrimination in health care was most common among blacks (12.3%), followed by Native Americans (10.7%) and whites (2.3%). By contrast, racial privilege was reported most commonly by whites (14.9%), followed by Native Americans (13.0%) and blacks (8.0%). Whites had highest annual household incomes compared with other racial groups ( $p$ -values  $<0.001$ ) and highest proportion of college graduates ( $p$ -values  $<0.001$ ). Native Americans were least likely to have a college degree, be employed, or have a personal physician ( $p$ -values  $<0.001$ ) of all groups. Similarly to blacks, they lagged behind whites in health insurance coverage and self-rated health. They also more commonly reported forgoing care due to cost ( $p$ -values  $<0.001$ ).

After adjusting for covariates, the results generally supported H1 (Table 2). Compared with whites, the relative risk of reporting discrimination versus equal treatment nearly quadrupled for blacks (relative risk ratio [RRR]=3.94,  $p<0.001$ ), whereas their relative risk of reporting racial privilege decreased by 29% (RRR=0.71,  $p<0.001$ ). For Native Americans, the relative risk of reporting racial discrimination more than tripled compared with whites (RRR=3.06,  $p<0.001$ ). Interestingly, when compared with whites, Native Americans had a higher likelihood of reporting racial privilege versus equal treatment (RRR=1.32,  $p<0.01$ ). Whites who reported Hispanic origin had a 50% higher relative risk of perceived discrimination compared with non-Hispanic whites ( $p<0.01$ ).

Consistent with H2(a), the risk of reporting racial discrimination versus equal treatment increased among less educated whites. Compared to college graduates, the relative risk of perceived discrimination increased by 26% for those with less than high school ( $p<0.01$ ); by 20% for high-school graduates ( $p<0.01$ ); and by 16% for those with some college ( $p<0.05$ ); while the likelihood of reporting racial privilege decreased among whites with no college degree (less than high school, RRR=0.52; high school, RRR=0.47; some college, RRR=0.55;  $p$ -values  $<0.001$ ). By contrast, lower education among blacks was associated with lower likelihood of reporting discrimination (less than high school, RRR=0.68; high school, RRR=0.78;  $p$ -values  $<0.01$ ) and a higher likelihood of reporting racial privilege (less than high school, RRR=1.65,  $p<0.001$ ). For Native Americans, lower education was linked to lower perceived racial privilege (some college, RRR=0.60,  $p<0.05$ ) but also to lower discrimination (high school, RRR=0.54,  $p<0.05$ ).

Income had a U-shaped relationship with perceived racial discrimination among whites and blacks; for Native Americans, a similar trend existed but coefficients were not significant owing to the smaller sample size. For whites, the likelihood of perceived discrimination fell with increasing income up to approximately \$90,000 and plateaued afterward. For blacks, the nadir was reached at about \$70,000. Thus, H2(b) arguing inverse relationship between

income and perceived racial discrimination was supported for whites earning <\$90,000 and blacks earning <\$70,000. An increasing likelihood of reporting racial privilege at higher income levels was observed among whites (RRR=1.03,  $p<0.05$ ), but blacks were less, not more, likely to report privilege with higher income (RRR=0.85,  $p<0.01$ ). Consistent with H2(c), whites with health insurance reported discrimination less commonly than uninsured counterparts (RRR=0.67,  $p<0.001$ ); they also more commonly reported privilege (RRR=1.28,  $p<0.001$ ). Moreover, the risk of perceived discrimination more than doubled with foregoing care due to cost among blacks (RRR=2.10,  $p<0.001$ ) and Native Americans (RRR=2.28,  $p<0.001$ ); among whites, it nearly quadrupled (RRR=3.86,  $p<0.001$ ), lending support for H2(d).

Perceptions of discrimination versus equal treatment were lower among wage earners (whites, RRR=0.71,  $p<0.001$ ; blacks, RRR=0.53,  $p<0.001$ ; Native Americans, RRR=0.57,  $p<0.01$ ), individuals with a personal physician (whites, RRR=0.80,  $p<0.001$ ; blacks, RRR=0.80,  $p<0.05$ ), those with better self-rated health (whites and blacks, RRR=0.78,  $p<0.001$ ; Native Americans, RRR=0.81,  $p<0.05$ ), and women (whites, RRR=0.84,  $p<0.001$ ; blacks, RRR=0.74,  $p<0.001$ ; Native Americans, RRR=0.65,  $p<0.05$ ). They were higher among white Northeasterners and black Midwesterners compared with their Southern counterparts (RRR=1.33,  $p<0.001$  and RRR=1.32,  $p<0.05$ , respectively). They also increased with age up to 40–50 years, decreasing later.

By contrast, perceptions of racial privilege versus equal treatment were less common among wage earners (whites, RRR=0.43,  $p<0.001$ ; blacks, RRR=0.53,  $p<0.001$ ; Native Americans, RRR=0.42,  $p<0.001$ ). For whites, these perceptions were more common among individuals with a personal physician (RRR=1.25,  $p<0.001$ ) and better self-rated health (RRR=1.03,  $p<0.01$ ), as well as among Westerners (RRR=1.34,  $p<0.001$ ), Midwesterners (RRR=1.23,  $p<0.001$ ), and Northeasterners (RRR=1.32;  $p<0.001$ ) versus Southerners. For blacks, they increased with higher self-rated health (RRR=1.10,  $p<0.05$ ). White women were more likely to report privilege than white men (RRR=1.21,  $p<0.001$ ), whereas a reversed pattern was evident for Black women, who were less likely to report privilege than black men (RRR=0.68,  $p<0.001$ ).

## Discussion

This study makes several important contributions to the understanding of perceived racial discrimination and privilege among individuals who have recently sought health care. First, racial background clearly matters, with blacks and Native Americans more likely to perceive racial discrimination and less likely to perceive racial privilege even after adjusting for sociodemographic and health-related factors. These findings are congruous with prior research on racial disparities in patient experiences<sup>31</sup> and on subtle biases among healthcare providers.<sup>41,42</sup> Hispanic origin, however, is unrelated to perceived racial privilege and contributes to increased perceptions of discrimination among whites only. A potential explanation is that non-whites reporting Hispanic origin are commonly immigrants from the Caribbean and South America, who tend to have better health outcomes compared with their U.S.-born counterparts (e.g., Caribbean blacks are healthier than U.S.-born blacks).<sup>43</sup>



Second, socioeconomic disadvantages, including lack of health insurance, cost-related barriers to care, lower income, and lower education, are linked to increased perceptions of racial discrimination and decreased perceptions of racial privilege among whites. Among other racial groups, these relationships are more complicated. For blacks, low education contributes to lower perceived racial discrimination and higher perceived privilege. These results resonate with the literature suggesting that highly educated blacks may experience racism-related vigilance.<sup>44</sup> Many college graduates, for instance, take college courses that discuss racial injustices in various spheres of life; in addition, highly educated black professionals often experience discrimination on the job, including receiving lower pay and being treated as “token minority.”<sup>45</sup> These experiences may spill over and influence healthcare perceptions.

Interestingly, perceptions of racial privilege were unrelated to socioeconomic factors among Native Americans, and perceived racial discrimination in this population was linked to only a handful of hypothesized factors. The lower statistical power resulting from the relatively small number of Native Americans in the sample may have played a role, but the possibility remains that commonly examined socioeconomic indicators, such as income and education, are not as important in this population group. Eligibility for Indian Health Service<sup>46</sup> may have contributed to increased perceptions of privilege among some Native Americans and to limited importance of conventional socioeconomic indicators in the area of health care.

At the same time, less often examined socioeconomic factors, namely cost-related barriers to care, emerged as critical for Native Americans as well as other racial groups. In fact, the statistical effects of foregone care due to cost were stronger than the effects of health insurance. This is noteworthy because cost barriers have rarely been investigated in relation to perceived racial treatment among healthcare users of different racial backgrounds. Even with health insurance, individuals who find the out-of-pocket costs of care prohibitive may be at risk of perceived unfair treatment and potentially of other negative outcomes yet to be examined. This finding is especially relevant in the current context, when insurance coverage is expanding after the Affordable Care Act but out-of-pocket costs are concurrently rising for many Americans.<sup>47,48</sup>

## Limitations

It is important to note the limitations of this study. First, the measure of perceived discrimination and privilege in health care pertained to experiences during the past 12 months. The sample therefore excludes individuals who did not seek health care in the past year, including those who had no contact with the healthcare system because of access barriers. This likely contributed to the underrepresentation on non-whites in the sample. In general, BRFSS under-represents non-whites regardless of recent healthcare use.<sup>33,34</sup> Mixed-race individuals (1.3% of the overall BRFSS sample), were not considered because their low numbers precluded meaningful statistical analysis. Future research with larger samples of these populations is warranted, as mixed-race groups have experienced unprecedented demographic growth in recent decades.

This study pooled several annual samples. To account for the possibility that samples varied, models controlled for the year. Because of the design of BRFSS, state was multicollinear

with year and could not be included in models. To partially address this issue, adjustments were made for region, and supplementary analyses by region were conducted. Although these analyses revealed little regional variation in the relationships of social determinants with perceptions of racial treatment, it cannot be determined to what degree the study results apply to states not included in the sample. The pooling is an important strength of the study, as it yielded an adequately large analytic sample of Native Americans, a rarely studied population group. The pooling is only possible when the same measures are used across years. For instance, to measure perceived racial treatment in health care, BRFSS has used a single question with three response categories since 2004, even though more comprehensive, multi-item, psychometrically tested scales of perceived discrimination have become available in recent years.

## Conclusions

This study suggests that although SES is an important social determinant of perceived racial treatment in health care, its role varies by indicator and racial group. Whites with low education or no health insurance, well-educated blacks, and individuals who face cost-related barriers to care are at increased risk of perceived discrimination. Importantly, policies and interventions to reduce these perceptions should primarily target structural and systemic factors, including society-wide inequalities in income, education, and healthcare access. Such policies and interventions must be tailored to the specific needs of each racial group, in consideration of their unique experiences in the healthcare system, and informed by scientific knowledge of the factors that shape these experiences, including the factors addressed by this study.

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Table 1

Characteristics of the Sample by Racial Background

Characteristic <sup>a</sup>	White N=90,477 (90.6%)		Black N=8,250 (8.3%)		Native American N=1,093 (1.1%)	
	Percentage/ Mean <sup>b</sup>	SD	Percentage/ Mean <sup>b</sup>	SD	Percentage/ Mean <sup>b</sup>	SD
Perceived racial treatment in health care						
Discrimination	2.3%		12.3%	***	10.7%	***
Privilege	14.9%		8.0%	***	13.0%	***
Equal treatment	82.7%		79.7%	***	76.4%	***
Hispanic	2.3%		1.6%	***	12.3%	***
English interview	99.5%		99.7%	***	98.1%	***
Woman	60.3%		67.8%	***	58.0%	***
Income, \$10,000s (0.5-11.41)	5.66	(3.27)	3.74	(2.78)	3.77	(2.89)
Education						
Less than high school	6.5%		13.6%	***	17.2%	***
High school graduate	31.4%		34.1%	***	34.7%	***
Some college	27.7%		28.2%	***	31.5%	***
College degree	34.4%		24.1%	***	16.6%	***
Employed for wage	50.3%		52.3%	***	45.0%	***
Has health insurance	91.0%		82.8%	***	81.2%	***
Foregone medical care due to cost	10.4%		19.9%	***	19.7%	***
Has personal physician	89.2%		84.1%	***	77.8%	***
Self-rated health (1-5)	3.52	(1.07)	3.25	(1.09)	3.15	(1.15)
Age, years (18-99)	53.44	(16.43)	47.31	(15.73)	47.79	(15.37)
Region						
South	20.9%		49.7%	***	16.7%	***
West	13.4%		4.3%	***	33.2%	***
Midwest	52.4%		35.4%	***	39.4%	***
Northeast	13.4%		10.5%	***	10.8%	***

Characteristic <sup>d</sup>	White N=90,477 (90.6%)		Black N=8,250 (8.3%)		Native American N=1,093 (1.1%)	
	Percentage/Mean <sup>b</sup>	SD	Percentage/Mean <sup>b</sup>	SD	Percentage/Mean <sup>b</sup>	SD
Year						
2004	20.1%		<b>42.1%</b>	***	<b>23.3%</b>	+++ **
2005	8.8%		<b>16.4%</b>	***	<b>6.7%</b>	+++ **
2006	6.6%		6.9%		<b>4.4%</b>	+++ **
2007	2.9%		<b>1.1%</b>	***	<b>2.6%</b>	+++
2008	14.5%		<b>5.9%</b>	***	<b>8.5%</b>	***+++
2009	16.3%		<b>8.5%</b>	***	<b>8.8%</b>	***
2010	12.6%		<b>13.6%</b>	**	<b>7.1%</b>	***+++
2012	15.9%		<b>3.9%</b>	***	<b>31.1%</b>	***+++
2013	2.3%		<b>1.6%</b>	***	<b>7.6%</b>	***+++

Source: Behavioral Risk Factor Surveillance System 2004-2013.

Notes: Boldface indicates statistical significance

\*  $p < 0.05$ ;

\*\*  $p < 0.01$ ;

\*\*\*  $p < 0.001$  two-tailed tests comparing blacks and Native Americans to whites on each variable;

+  $p < 0.05$ ;

++  $p < 0.01$ ;

+++  $p < 0.001$  two-tailed tests comparing blacks to Native Americans on each variable).

<sup>d</sup>Ranges for continuous variables in parentheses.

<sup>b</sup>Percentages are given for dichotomous variables; means are given for continuous variables, with SD in parentheses.

Income, annual household income from all sources.

**Table 2**  
**Multiple Logistic Regression Models Of Perceived Racial Discrimination/Privilege In Health Care For The Whole Sample And By Race**

Variable	Whole sample		White		Black		Native American	
	RR	R 95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI
<b>Perceived discrimination</b>								
<i>Race<sup>a</sup></i>								
Black	<b>3.94</b>	( <b>3.60, 4.30</b> ) <sup>***</sup>						
Native American	<b>3.06</b>	( <b>2.52, 3.72</b> ) <sup>***</sup>						
Hispanic origin	1.24	(1.00, 1.53)	<b>1.50</b>	( <b>1.18, 1.90</b> ) <sup>**</sup>	0.53	(0.27, 1.06)	0.86	(0.43, 1.71)
English interview	1.29	(0.84, 1.97)	1.53	(0.97, 2.43)	1.71	(0.34, 8.59)	1.00	(0.19, 5.15)
Woman	<b>0.82</b>	( <b>0.77, 0.89</b> ) <sup>***</sup>	<b>0.84</b>	( <b>0.77, 0.91</b> ) <sup>***</sup>	<b>0.74</b>	( <b>0.65, 0.85</b> ) <sup>***</sup>	<b>0.65</b>	( <b>0.45, 0.95</b> ) <sup>*</sup>
Income, \$10,000s	<b>0.86</b>	( <b>0.82, 0.90</b> ) <sup>***</sup>	<b>0.84</b>	( <b>0.79, 0.89</b> ) <sup>***</sup>	<b>0.85</b>	( <b>0.78, 0.94</b> ) <sup>**</sup>	0.85	(0.67, 1.07)
Income squared	<b>1.01</b>	( <b>1.003, 1.01</b> ) <sup>**</sup>	<b>1.01</b>	( <b>1.004, 1.01</b> ) <sup>**</sup>	<b>1.01</b>	( <b>1.005, 1.02</b> ) <sup>**</sup>	1.01	(0.99, 1.03)
<i>Education<sup>b</sup></i>								
Less than high school	0.96	(0.84, 1.11)	<b>1.26</b>	( <b>1.06, 1.49</b> ) <sup>**</sup>	<b>0.68</b>	( <b>0.54, 0.87</b> ) <sup>**</sup>	0.60	(0.30, 1.21)
High school	1.00	(0.91, 1.11)	<b>1.20</b>	( <b>1.06, 1.36</b> ) <sup>**</sup>	<b>0.78</b>	( <b>0.64, 0.94</b> ) <sup>**</sup>	<b>0.54</b>	( <b>0.30, 0.98</b> ) <sup>*</sup>
Some college	1.04	(0.94, 1.15)	<b>1.16</b>	( <b>1.02, 1.32</b> ) <sup>*</sup>	0.86	(0.71, 1.04)	0.93	(0.54, 1.60)
Employed for wage	<b>0.64</b>	( <b>0.59, 0.70</b> ) <sup>***</sup>	<b>0.71</b>	( <b>0.64, 0.78</b> ) <sup>***</sup>	<b>0.53</b>	( <b>0.45, 0.61</b> ) <sup>***</sup>	<b>0.57</b>	( <b>0.38, 0.86</b> ) <sup>**</sup>
Health insurance	<b>0.75</b>	( <b>0.68, 0.83</b> ) <sup>***</sup>	<b>0.67</b>	( <b>0.59, 0.76</b> ) <sup>***</sup>	0.96	(0.80, 1.15)	0.96	(0.59, 1.54)
Foregone care due to cost	<b>3.15</b>	( <b>2.89, 3.42</b> ) <sup>***</sup>	<b>3.86</b>	( <b>3.48, 4.28</b> ) <sup>***</sup>	<b>2.10</b>	( <b>1.79, 2.46</b> ) <sup>***</sup>	<b>2.28</b>	( <b>1.51, 3.43</b> ) <sup>***</sup>
Has personal physician	<b>0.83</b>	( <b>0.75, 0.91</b> ) <sup>***</sup>	<b>0.80</b>	( <b>0.71, 0.89</b> ) <sup>***</sup>	<b>0.80</b>	( <b>0.67, 0.96</b> ) <sup>*</sup>	0.94	(0.59, 1.48)
Self-rated health	<b>0.77</b>	( <b>0.74, 0.79</b> ) <sup>***</sup>	<b>0.78</b>	( <b>0.74, 0.81</b> ) <sup>***</sup>	<b>0.78</b>	( <b>0.72, 0.83</b> ) <sup>***</sup>	<b>0.81</b>	( <b>0.68, 0.97</b> ) <sup>*</sup>
Age, years	<b>1.04</b>	( <b>1.03, 1.06</b> ) <sup>***</sup>	<b>1.04</b>	( <b>1.03, 1.06</b> ) <sup>***</sup>	<b>1.04</b>	( <b>1.02, 1.07</b> ) <sup>**</sup>	<b>1.11</b>	( <b>1.03, 1.20</b> ) <sup>**</sup>
Age squared	<b>0.9995</b>	( <b>0.9994, 0.9996</b> ) <sup>***</sup>	<b>0.9995</b>	( <b>0.9994, 0.9997</b> ) <sup>***</sup>	<b>0.9995</b>	( <b>0.9992, 0.9997</b> ) <sup>***</sup>	<b>0.9988</b>	( <b>0.9980, 0.9996</b> ) <sup>**</sup>
<i>Region<sup>c</sup></i>								
West	<b>1.25</b>	( <b>1.05, 1.48</b> ) <sup>*</sup>	1.13	(0.92, 1.38)	1.35	(0.97, 1.87)	0.89	(0.39, 2.06)
Midwest	1.07	(0.94, 1.23)	0.94	(0.80, 1.11)	<b>1.32</b>	( <b>1.02, 1.70</b> ) <sup>*</sup>	1.05	(0.49, 2.27)
Northeast	<b>1.17</b>	( <b>1.03, 1.34</b> ) <sup>*</sup>	<b>1.33</b>	( <b>1.14, 1.55</b> ) <sup>***</sup>	0.86	(0.65, 1.14)	0.87	(0.36, 2.10)



Variable	Whole sample		White		Black		Native American	
	RR R	95% CI	RRR	95% CI	RRR	95% CI	RRR	95% CI
<b>Perceived privilege</b>								
Race <sup>a</sup>								
Black	<b>0.71</b>	<b>(0.65, 0.77)</b> ***						
Native American	<b>1.32</b>	<b>(1.11, 1.56)</b> **						
Hispanic origin	0.99	(0.87, 1.13)	0.98	(0.85, 1.13)	1.29	(0.74, 2.23)	1.21	(0.71, 2.06)
English interview	<b>0.51</b>	<b>(0.39, 0.67)</b> ***	<b>0.44</b>	<b>(0.33, 0.59)</b> ***	1.95	(0.41, 9.34)	1.02	(0.27, 3.86)
Woman	<b>1.17</b>	<b>(1.12, 1.21)</b> ***	<b>1.21</b>	<b>(1.16, 1.26)</b> ***	<b>0.68</b>	<b>(0.58, 0.80)</b> ***	0.89	(0.63, 1.26)
Income, \$10,000s	1.00	(0.98, 1.03)	<b>1.03</b>	<b>(1.00, 1.06)</b> *	<b>0.85</b>	<b>(0.77, 0.95)</b> **	1.07	(0.86, 1.33)
Income squared	<b>1.003</b>	<b>(1.001, 1.01)</b> **	1.00	(1.00, 1.004)	1.01	(1.00, 1.02)	0.99	(0.97, 1.01)
Education <sup>b</sup>								
Less than high school	<b>0.58</b>	<b>(0.53, 0.63)</b> ***	<b>0.52</b>	<b>(0.48, 0.57)</b> ***	<b>1.65</b>	<b>(1.26, 2.16)</b> ***	1.04	(0.60, 1.79)
High school	<b>0.50</b>	<b>(0.48, 0.52)</b> ***	<b>0.47</b>	<b>(0.45, 0.50)</b> ***	1.19	(0.96, 1.49)	0.83	(0.51, 1.35)
Some college	<b>0.56</b>	<b>(0.53, 0.58)</b> ***	<b>0.55</b>	<b>(0.52, 0.58)</b> ***	0.85	(0.67, 1.08)	<b>0.60</b>	<b>(0.36, 1.00)</b> *
Employed for wage	<b>0.43</b>	<b>(0.41, 0.45)</b> ***	<b>0.43</b>	<b>(0.41, 0.45)</b> ***	<b>0.53</b>	<b>(0.44, 0.64)</b> ***	<b>0.42</b>	<b>(0.27, 0.64)</b> ***
Health insurance	<b>1.22</b>	<b>(1.13, 1.32)</b> ***	<b>1.28</b>	<b>(1.17, 1.39)</b> ***	1.04	(0.83, 1.32)	1.07	(0.68, 1.67)
Foregone care due to cost	1.01	(0.94, 1.08)	1.02	(0.94, 1.09)	1.01	(0.81, 1.24)	0.83	(0.51, 1.33)
Has personal physician	<b>1.21</b>	<b>(1.14, 1.30)</b> ***	<b>1.25</b>	<b>(1.17, 1.34)</b> ***	1.11	(0.88, 1.39)	1.10	(0.69, 1.75)
Self-rated health	1.04	(1.02, 1.06)***	<b>1.03</b>	<b>(1.01, 1.05)</b> **	<b>1.10</b>	<b>(1.01, 1.19)</b> *	1.00	(0.85, 1.17)
Age, years	<b>0.97</b>	<b>(0.96, 0.98)</b> ***	<b>0.97</b>	<b>(0.96, 0.97)</b> ***	1.00	(0.98, 1.03)	<b>1.07</b>	<b>(1.00, 1.14)</b> *
Age squared	<b>1.001</b>	<b>(1.0004, 1.001)</b> ***	<b>1.001</b>	<b>(1.0004, 1.001)</b> ***	1.00	(1.00, 1.0002)	1.00	(0.999, 1.000)
Region <sup>c</sup>								
West	<b>1.29</b>	<b>(1.19, 1.40)</b> ***	<b>1.34</b>	<b>(1.23, 1.46)</b> ***	0.69	(0.45, 1.06)	1.51	(0.74, 3.06)
Midwest	<b>1.20</b>	<b>(1.12, 1.28)</b> ***	<b>1.23</b>	<b>(1.14, 1.32)</b> ***	0.87	(0.63, 1.19)	1.73	(0.85, 3.50)
Northeast	<b>1.30</b>	<b>(1.22, 1.38)</b> ***	<b>1.32</b>	<b>(1.24, 1.41)</b> ***	1.05	(0.79, 1.40)	1.27	(0.59, 2.71)

Notes: Robust estimators and adjustment for clustering in survey design are used. All models control for year. Reference category:

<sup>a</sup>White;

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<sup>b</sup> College graduate;

<sup>c</sup> South. N=99,820 for the whole sample, 90,477 for whites, 8,250 for blacks, and 1,093 for Native Americans. Source: Behavioral Risk Factor Surveillance System 2004-2013.

Boldface indicates statistical significance

\*  $p < 0.05$ ;

\*\*  $p < 0.01$ ;

\*\*\*  $p < 0.001$  two-tailed tests.

RRR, relative risk ratio