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Adam W. Fingerhut
Loyola Marymount University, adam.fingerhut@lmu.edu

Cleopatra M. Abdou
University of Southern California

James S. Jackson
University of Michigan - Ann Arbor

Felicia Wheaton
University of Southern California

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Healthcare Stereotype Threat in Older Adults in the Health and Retirement Study

Cleopatra M. Abdou, PhD[1], **Adam W. Fingerhut, PhD**[2], **James S. Jackson, PhD**[3], and **Felicia Wheaton, PhD**[4]

[1]Davis School of Gerontology and Department of Psychology, University of Southern California, Los Angeles, California

[2]Department of Psychology, Loyola Marymount University, Los Angeles, California

[3]Institute for Social Research, Department of Psychology, and School of Public Health, University of Michigan, Ann Arbor, Michigan

[4]Davis School of Gerontology, University of Southern California, Los Angeles, California

Abstract

Introduction—Healthcare stereotype threat is the threat of being personally reduced to group stereotypes that commonly operate within the healthcare domain, including stereotypes regarding unhealthy lifestyles and inferior intelligence. The objective of this study was to assess the extent to which people fear being judged in healthcare contexts on several characteristics, including race/ethnicity and age, and to test predictions that experience of such threats would be connected with poorer health and negative perceptions of health care.

Methods—Data were collected as part of the 2012 Health and Retirement Study (HRS). A module on healthcare stereotype threat, designed by the research team, was administered to a random subset (n=2,048 of the total 20,555) of HRS participants. The final sample for the present healthcare stereotype threat experiment consists of 1,479 individuals. Logistic regression was used to test whether healthcare stereotype threat was associated with self-rated health, reported hypertension, and depressive symptoms, as well as with healthcare-related outcomes, including physician distrust, dissatisfaction with health care, and preventative care use.

Results—Seventeen percent of respondents reported healthcare stereotype threat with respect to one or more aspects of their identities. As predicted, healthcare stereotype threat was associated with higher physician distrust and dissatisfaction with health care, poorer mental and physical health (i.e., self-rated health, hypertension, and depressive symptoms), and lower odds of receiving the influenza vaccine.

Conclusions—The first of its kind, this study demonstrates that people can experience healthcare stereotype threat on the basis of various stigmatized aspects of social identity, and that

Address correspondence to: Cleopatra M. Abdou, PhD, Davis School of Gerontology and Department of Psychology, University of Southern California, 3715 McClintock Avenue, Suite 238, Los Angeles CA 90089-0191. cabdou@usc.edu.

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these experiences can be linked with larger health and healthcare-related outcomes, thereby contributing to disparities among minority groups.

Introduction

Health disparities exist on the basis of many aspects of identity, including racial/ethnic background,[1–3] SES,[4,5] gender,[6,7] age,[8,9] as well as indicators of healthy versus nonhealthy body weight.[10,11] Recently, it has been suggested that health-care stereotype threat (HCST) might be one of the overlooked pathways whereby minority and stigmatized identities contribute to health disparities.[12–15] Stereotype threat is the threat of being personally reduced to a group stereotype,[16–19] which can lead individuals to avoid stereotype-relevant domains. HCST, as a more specific form of stereotype threat, is the threat of being personally reduced to group stereotypes that commonly operate within the domain of health care, such as stereotypes regarding unhealthy lifestyles and inferior intelligence. The experience of HCST—although stemming from social cues and interpersonal experiences that result from group-level stereotypes—is a situational, psychosocial phenomenon that the authors propose contributes to population-level health disparities. Specifically, the authors propose that stereotypes: (1) are salient in healthcare settings for ethnic minorities and members of other socially stigmatized groups; (2) can serve as a form of identity threat; and (3) ultimately contribute to proximal and distal health disparities. HCST may affect the care one receives by impairing working memory[20] or creating anxiety,[21] which could lead a patient to forget or intentionally withhold important information or mistrust medical recommendations, and even lead to the avoidance or underutilization of care.[13,14] Importantly, unlike discrimination and other established social determinants of health disparities that can be difficult to address or modify, a vast literature shows that stereotype threat can be prevented or reduced, such as by emphasizing that a stereotyped trait (e.g., intelligence) is malleable,[22,23] creating identity-safe environments,[24] reframing threat as a challenge,[25] and utilizing self-affirmation,[26–28] among other methods. Stereotype threat can also be prevented and reduced from a societal standpoint (discussed in Inzlicht et al.[29]) and within the healthcare domain[13,14] via changes in social and health policies that do more to promote equality.

The application of stereotype threat to health care is a new phenomenon, with only a handful of papers addressing the topic.[13,14] In the first published experimental study of HCST, Abdou and Fingerhut[12] assessed black and white women's anxiety levels while waiting to ostensibly see a physician in a virtual healthcare setting. Those in the HCST condition were primed by being asked about their race and ethnic identification at the beginning of the study as opposed to at the end and by being exposed to images that were stereotypical (e.g., a poster of a young black pregnant woman) or neutral with respect to the reproductive health of black women, thus invoking threat or not. As predicted, highly identified black women reported higher levels of anxiety under threat than did their white counterparts, a difference that disappeared when threat was not present.

Thus far, the work on HCST has been limited in at least two ways. Among these is the singular focus, to date, on racial/ethnic identity as the source of HCST.[12–15] Second, existing work has yet to empirically demonstrate the link between HCST and downstream

health outcomes and larger health disparities. The objective of the present study was to begin remedying these limitations by assessing the extent to which people fear being judged in healthcare contexts on a variety of characteristics, not just race/ethnicity, and to connect these threats to larger health outcomes. To the extent that stereotype threat theory is applicable to the healthcare domain, people who possess a particular stigmatized identity should be more likely to report HCST, or the fear of being judged by that identity when seeking health care, and the people who are reporting fear of being judged should be more likely to experience disparities in health care and broader health outcomes.

Methods

Data Source

Data were collected as part of the 2012 wave of the Health and Retirement Study (HRS), including a module on HCST, which was designed by the research team. The HRS is a longitudinal study that began in 1992 and surveys approximately 26,000 Americans aged ≥50 years and their spouses every 2 years. The HRS collects extensive data on demographic, social, economic, and health characteristics. A random subsample (n=2,048) of the 20,555 individuals participating in the 2012 wave of HRS was administered the HCST module. A total of 1,746 answered preliminary questions, and, of those, 1,479 had seen a doctor in the previous 2 years and were asked HCST-related questions. In comparison to those who had seen a physician in the past 2 years, those who had not were more likely to report poor self-rated health and dissatisfaction with health care; they were also far less likely to have had the influenza vaccine. Given this, the sample may have been relatively healthier than the larger HRS and overall population.

Measures

HCST was measured with three questions across six different aspects of identity. Participants were asked: (1) *When you visit the doctor, do you worry that the doctor or other medical staff make judgments about you because of your [race/ethnic background, gender, age, weight, money, other reason]?*" and could respond *y*es or *no*. The "other reason" question was not included in this analysis because, ultimately, it was unclear whether individuals had identity-related concepts in mind when they chose this option and, therefore, whether the reasons were relevant in the context of HCST. The individuals who reported HCST with respect to a particular identity were then asked (2) if they worry that they might act in ways that justify such judgments and (3) whether they think that judgments affect the quality of health care they receive.

Health outcomes were selected to reflect global physical and mental health status. These included self-rated health, diagnosed hypertension, and depressive symptoms. Respondents were asked whether their health was excellent, very good, good, fair, or poor. Those who reported fair or poor health were considered to have poor self-rated health. Respondents were considered to have hypertension if they had ever been told by a doctor that they had high blood pressure or hypertension. Depressive symptoms were defined as feeling sad, blue, or depressed for ≥2 weeks in a row in the last 12 months.

Perceptions of health care were assessed as physician distrust and dissatisfaction with health care. Responses to three dichotomous items were averaged to calculate physician distrust, including disagreement with the statement (1) *you completely trust the doctor's judgment about your medical care* and agreement with the statements (2) *you worry that the doctor is judging you based on the private information you discussed* and (3) *you worry that the doctor is testing you for things that you don't know about*. Dissatisfaction with health care was defined as being somewhat or very dissatisfied overall about the quality, cost, or convenience of health care. Finally, preventative health care was indicated by whether or not in the past 2 years the respondent had received the influenza vaccine.

Control variables included age in years, gender, race/ethnicity, education, household income, and lack of health insurance. Race/ethnicity was defined as black, Latino, white, or other. Education was categorized as no degree, high school diploma or General Educational Development test, some college or college degree, and master's or other professional degree. Household income was the sum of all income reported by the respondent and their spouse (if applicable) in dollars. This measure was natural log transformed because of its skewed distribution. Lack of health insurance was defined as not having any type of public (e.g., Medicare, Medicaid) or private health insurance.

Statistical Analysis

First, the authors examined the demographic and health-related characteristics of the sample and examined the prevalence of HCSTs. Second, logistic regression was used to test whether each type of HCST was associated with the specific stigmatized social identity (e.g., race predicts race-related HCST). Third, the association between HCST and each health outcome (poor self-rated health, diagnosed hypertension, and depressive symptoms) was tested in logistic regression models controlling for sociodemographic characteristics. Fourth, logistic regression was used to test whether HCST was associated with dissatisfaction with health care and use of preventative care, controlling for sociodemographic characteristics and also health status (poor self-rated health, six chronic health conditions, and an index of symptoms experienced in the past 2 years), as health is likely to influence one's utilization of health care (or contact with the healthcare system). Ordinary least squares regression was employed for the model of physician distrust, a continuous measure that was converted to z-score for analysis. Finally, logistic regression was used to identify sociodemographic and health characteristics associated with belief that one acts in ways that justify judgments and that judgments affect care among those who reported one or more threats. All analyses were performed using the SVY command, which accounts for complex sampling design in Stata, version 13.1.

Results

Table 1 summarizes the sociodemographic characteristics of the sample as well as descriptive statistics for the HCST measures and dependent variables. Mean age was 65.9 (SD=10.1) years, and 56% were female. Approximately 10% were black, 5% were Latino, 82% were white, and 3% were other. The majority of respondents (56%) had a high school

diploma or General Educational Development test. Median household income was $47,000 and about 5% lacked health insurance.

Seventeen percent of respondents reported HCST with respect to one or more aspect of their identities, with the prevalence of specific types of HCST ranging from just >2% for race/ethnicity and gender to 8.3% for age and weight (Table 1). Logistic regression results indicated that age was positively associated with age-related HCST (OR=1.03, p=0.005). Compared with whites, blacks (OR=7.44, p<0.001) and Latinos (OR=11.05, p<0.001), but not those of other race, had higher odds of reporting race-related HCST. Household income and level of education were not significantly associated with money-related HCST, except that relative to those with no degree, those with a master's or professional degree had marginally statistically significant lower odds of reporting HCST (OR=0.18, p=0.053). Gender was not significantly associated with gender-related HCST; however, the OR was in the predicted direction (with women reporting higher levels of HCST than men). Finally, compared with normal-weight individuals, those who were overweight (OR=3.58, p=0.004) or obese (OR=25.40, p<0.001) had significantly higher odds of reporting weight-related HCST.

Regarding health outcomes (Table 2), logistic regression analyses showed that those who reported experiencing HCST on the basis of one or more aspects of identity had higher odds of poor self-rated health, hypertension, and depressive symptoms compared with those who experienced no HCST, holding sociodemographic characteristics constant.

Findings for healthcare perceptions and use of preventative care are summarized in Table 3. Ordinary least squares regression results for physician distrust indicated that those who experienced one or more types of HCST reported higher average physician distrust, with a greater effect size among those who perceived two or more types of HCST. Similarly, those who reported two or more types of HCST had higher odds of being dissatisfied with health care and had lower odds of receiving the influenza vaccine compared with those who reported no threat.

Finally, among those who reported one or more types of HCST, those who reported two or more types of HCST had 3.8 times greater odds of worrying that they acted in ways that justified judgment(s) by healthcare providers and 8.3 times greater odds of thinking that judgment(s) by healthcare providers affect the quality of care they receive (Table 4).

Discussion

This naturalistic observation of older adults is an important demonstration of the existence of HCST. In addition to corroborating the first set of experimental findings to exist on the topic of HCST (i.e., Abdou and Fingerhut[12]), this study demonstrates that HCST exists in relation to aspects of social identity beyond race/ethnicity (e.g., age, gender). Additionally, these data are the first to show that the experience of HCST is associated with important proximal and distal health consequences. Specifically, those reporting one or more types of HCST were more likely to exhibit poorer global physical and mental health, as indicated by self-rated health, diagnosed hypertension, and depressive symptoms. HCST was also

associated with greater distrust of physicians and dissatisfaction with health care. Finally, HCST was associated with lower odds of receiving the influenza vaccine, a preventative measure that is now largely accessible via coverage under the Affordable Care Act, and recommended for all individuals aged 50 years and older.

Given the links presented here between HCST, on one hand, and mental and physical health outcomes, perceptions of healthcare providers, and use of preventative care, on the other hand, more research and attention to policy implications are warranted. As for research, data are needed to better understand how each of the identity dimensions assessed in the current study become activated within healthcare contexts, as well as the ways in which each identity becomes more versus less important across life stages. Additionally, though the current study improves on other stereotype threat research, and HCST research specifically, by examining threats along multiple identity dimensions, it is limited in that it treats each identity as a unique, orthogonal construct. An important next step is to engage intersectionality theory to examine specific combinations of threats and what they mean for the health outcomes examined here. For example, to the extent that gender and weight create threats within healthcare environments, how do the experiences of overweight women differ from overweight men and average-weight women and men? In what ways do various combinations of identities predict exacerbation or perhaps amelioration of threat?

From a policy standpoint, interventions borrowed from other areas of stereotype threat research need to be examined and introduced in the healthcare domain.[30] As an example, research has shown that creating an identity-safe environment by emphasizing equality and similarity between individuals of different groups can reduce the effects of stereotype threat.[24] Research such as this shows that reducing the threat related to a particular identity dimension can ameliorate the negative consequences generally associated with identity threat. However, complicating matters, the present study shows that threat can be experienced across a variety of identity dimensions, perhaps simultaneously. Given this, we need to better understand how influencing threat based on one identity may (or may not) transfer to other identities. Some research has suggested that general cues that diversity, broadly construed and operationalized, is valued can reduce identity threat based on any particular identity or perhaps set of identities.[31] As a result, cues placed in doctor's offices and hospitals that signify that the spaces are identity safe, such as visible nondiscrimination polices, may reduce the experience of HCST overall. Finally, research has shown that providing information about stereotype threat to potentially susceptible individuals can arm them in the face of a threat experience.[32] In other words, simply knowing that stereotype threat exists and is potentially present in a given context can help individuals to combat it. Although such interventions have largely been conducted in the academic arena, similar effects should be found in other domains as well, and are worth exploring in the context of health care.

Limitations

The data and sample were limited in a variety of ways that should be accounted for in future research. To reduce participant burden, only participants who had seen the doctor in the previous 2 years were presented the HCST items. Future research should also include those

who have not recently seen a doctor, as one hypothesized outcome of HCST is avoidance of the healthcare domain. Given this, the percentage of individuals reporting threat or multiple threats may be under-reported in this sample. Additionally, the sample is comprised of older adults. There is no reason to believe that the process of HCST works differently in younger versus older individuals; however, it may be the case that as some identities become more versus less salient over time, threat related to those identities waxes or wanes with age. Finally, and also related to efforts to minimize participant burden, the module questions (i.e., *When you visit the doctor, do you worry that the doctor or other medical staff make judgments about you because of your gender?*) were answered as yes/no questions. Using a dichotomous variable greatly restricted the variability in responses and likely contributed to a lower proportion of the module sample reporting HCST at all. Future research should use a response set with a wider range to capture subtle variations in the experience of HCST. The findings of the present study are particularly compelling in light of such limitations. For all of the practical reasons listed here, the authors expect that these are highly conservative estimates of the range and consequences of HCST in general and with respect to specific aspects of identity, including but not necessarily limited to race/ethnicity, gender, age, weight, and social class.

Conclusions

The study presented here represents an important first step in demonstrating that people can experience HCST on the basis of various stigmatized aspects of social identity and that these different types of HCST can be linked with larger health and healthcare-related outcomes. Theoretically significant, this work extends stereotype threat research beyond academics and other performance domains into the public health arena. It also examines longer-term consequences of stereotype threat that are not typically measured, including avoidance of domains that are directly critical to livelihood, such as healthcare utilization. Practically significant, this research provides new insight into the persistence of health disparities and their prevention, including the need to identify alternative approaches to the delivery of health services and health communications that may inadvertently invoke HCST, particularly when targeting specific or high-risk groups.

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Table 1

Characteristics of the Sample (*n*=1,479)

Characteristics	Values
Age (years; M [SD])	65.9 (9.5)
Female (%)	56.4
Race	
Caucasian	81.8
African American	9.9
Latino	5.4
Other	2.9
Education	
No degree	10.5
High school diploma/GED	55.8
2- or 4-year college degree or some college	22.9
Master or professional degree	10.8
Median household income ($)	47,000
No health insurance (%)	4.7
Stereotype threat	
Types of stereotype threat	
Race/ethnicity	2.1
Gender	2.3
Age	8.3
Weight	8.3
Money	3.0
Number of stereotype threats	
0	82.7
1	12.4
2	3.1
3	1.6
4	0.2
5	0.1
1+ Threats	17.3
2+ Threats	4.9
Among those who report 1+ threats	
Act in ways that justify judgment(s) (*n*=254)	34.2
Believe judgment(s) affects care (*n*=261)	41.1
Health outcomes	
Poor self-rated health	24.1
Hypertension	58.8
Depressive symptoms	13.1

Characteristics	Values
Healthcare outcomes	
Physician distrust (M [SD])	0.21 (0.27)
Dissatisfied with healthcare (%)	7.9
Influenza vaccine	66.3

GED, General Educational Development test.

Table 2

OR From Logistic Regression of Health Outcomes

	Poor self-rated health, OR (95% CI)	Hypertension, OR (95% CI)	Depressive symptoms, OR (95% CI)
Stereotype threats (ref=0)			
1	**1.99**** (1.25, 3.17)	**1.66*** (1.01, 2.79)	**2.30***** (1.44, 3.69)
2+	**2.04*** (1.04, 4.01)	**1.78*** (1.05, 3.02)	**3.33**** (1.62, 6.84)
Age (years)	1.01 (0.99, 1.02)	**1.04***** (1.03, 1.06)	0.98 (0.96, 1.00)
Female	1.09 (0.79, 1.50)	0.77 (0.55, 1.08)	1.37 (0.89, 2.13)
Race (ref=Caucasian)			
African American	1.36 (0.91, 2.04)	**2.77***** (1.89, 4.04)	0.99 (0.61, 1.61)
Latino	**1.85**** (1.19, 2.88)	0.70 (0.41, 1.19)	1.18 (0.57, 2.44)
Other	0.86 (0.32, 2.31)	0.85 (0.39, 1.83)	1.21 (0.36, 4.04)
Education (ref=no degree)			
High school diploma/GED	**0.40***** (0.25, 0.64)	0.69 (0.44, 1.10)	0.60 (0.34, 1.06)
2- or 4-year degree/some college	**0.31***** (0.18, 0.53)	**0.53*** (0.31, 0.93)	**0.49*** (0.26, 0.91)
Master or professional degree	**0.25***** (0.13, 0.49)	**0.35***** (0.20, 0.61)	0.65 (0.25, 1.72)
Household income (natural log)	**0.82***** (0.75, 0.89)	0.89 (0.79, 1.00)	**0.87*** (0.78, 0.99)
No health insurance	1.23 (0.60, 2.55)	1.11 (0.50, 2.45)	1.71 (0.82, 3.57)
Wald test	**6.34*****	**11.01*****	**6.91*****
n	1,479	1,477	1,479

Note: Boldface indicates statistical significance (

* $p<0.05$,

** $p<0.01$,

*** $p<0.001$).

GED, General Educational Development test.

Table 3

Ordinary Least Squares and Logistic Regression Results From Models of Healthcare Outcomes

	Physician distrust, *B* (95% CI)	Dissatisfied (health care), OR (95% CI)	Influenza vaccine, OR (95% CI)
Stereotype threats (ref=0)			
1	**0.50***** (0.33, 0.68)	1.43 (0.79, 2.59)	1.17 (0.72, 1.89)
2+	**1.12***** (0.78, 1.45)	**2.99*** (1.16, 7.71)	**0.45*** (0.24, 0.83)
Age (years)	0.01 (0.00, 0.01)	**0.96*** (0.93, 0.99)	**1.05***** (1.03, 1.07)
Female	**−0.24**** (−0.39, −0.09)	0.78 (0.43, 1.41)	1.00 (0.69, 1.45)
Race (ref=Caucasian)			
African American	0.17 (−0.03, 0.37)	0.88 (0.55, 1.41)	**0.51*** (0.31, 0.85)
Latino	0.20 (−0.12, 0.51)	**0.29*** (0.11, 0.79)	0.90 (0.49, 1.65)
Other	0.41 (−0.10, 0.92)	1.03 (0.25, 4.30)	1.05 (0.46, 2.41)
Education (ref=no degree)			
High school diploma/GED	**−0.33**** (−0.56, −0.10)	**0.39*** (0.18, 0.85)	1.15 (0.74, 1.79)
2- or 4-year degree/some college	**−0.33*** (−0.59, −0.07)	0.69 (0.28, 1.73)	**1.87*** (1.11, 3.17)
Master or professional degree	**−0.61***** (−0.88, −0.34)	**0.28*** (0.07, 1.08)	**2.74**** (1.54, 4.89)
Household income (natural log)	0.02 (−0.01, 0.05)	**1.49***** (1.18, 1.87)	1.10 (0.99, 1.23)
No health insurance	0.05 (−0.23, 0.33)	**6.94***** (2.90, 16.62)	**0.43*** (0.22, 0.84)
Poor self-rated health	0.02 (−0.14, 0.19)	**1.84*** (1.04, 3.25)	1.28 (0.82, 1.99)
Chronic conditions			
Hypertension	−0.11 (−0.24, 0.03)	1.47 (0.67, 3.20)	1.27 (0.88, 1.84)
Diabetes	0.01 (−0.15, 0.17)	1.25 (0.74, 2.14)	**1.72**** (1.18, 2.50)
Heart condition	−0.05 (−0.23, 0.13)	**0.50*** (0.25, 0.97)	1.05 (0.75, 1.47)
Stroke	−0.05 (−0.24, 0.15)	**2.61**** (1.39, 4.91)	1.32 (0.67, 2.60)
Lung condition	0.00 (−0.20, 0.20)	1.52 (0.79, 2.96)	0.88 (0.50, 1.55)
Cancer	−0.11 (−0.25, 0.02)	**0.29*** (0.09, 0.95)	**1.70*** (1.06, 2.70)
Sum of 7 symptoms	**0.07**** (0.03, 0.12)	**1.33**** (1.13, 1.55)	1.06 (0.94, 1.19)
Wald test	—	**10.01*****	**5.27*****
R^2 (%)	14.6	—	—
n	1,475	1,473	1,475

Note: Boldface indicates statistical significance (

* $p<0.05$,

** $p<0.01$,

*** $p<0.001$).

GED, General Educational Development test.

Table 4

OR From Logistic Regression Among Those Who Report Stereotype Threat

	Justify judgments, OR (95% CI)	Judgments affect care, OR (95% CI)
2+ Threats	**3.78**** (1.43, 9.98)	**8.31***** (3.72, 18.58)
Age (years)	1.02 (0.98, 1.06)	0.99 (0.95, 1.03)
Female	**0.36*** (0.14, 0.92)	0.93 (0.40, 2.14)
Race (ref=Caucasian)		
African American	**0.13**** (0.03, 0.47)	2.96 (0.83, 10.56)
Latino	0.91 (0.27, 3.06)	3.05 (0.82,11.27)
Other	2.17 (0.40, 11.80)	0.72 (0.05, 11.51)
Education (ref=no degree)		
High school diploma/GED	**0.20**** (0.06, 0.63)	1.09 (0.36, 3.31)
2 or 4-year degree/some college	**0.10***** (0.03, 0.31)	0.55 (0.15, 2.04)
Master or professional degree	**0.15*** (0.03, 0.69)	0.42 (0.08, 2.23)
Household income (natural log)	0.89 (0.72, 1.11)	1.23 (0.94, 1.61)
No health insurance	5.64 (0.85, 37.24)	4.55 (0.88, 23.65)
Poor self-rated health	0.82 (0.28, 2.41)	1.20 (0.50, 2.87)
Chronic conditions		
Hypertension	1.27 (0.54, 2.98)	**0.39*** (0.16, 0.93)
Diabetes	**2.57*** (1.04, 6.34)	**3.12*** (1.11, 8.80)
Heart condition	1.35 (0.64, 2.83)	1.19 (0.44, 3.22)
Stroke	1.93 (0.48, 7.82)	0.32 (0.09, 1.21)
Lung condition	0.60 (0.13, 2.81)	3.17 (0.82, 12.18)
Cancer	0.95 (0.34, 2.68)	1.77 (0.61, 5.16)
Sum of 7 symptoms	1.03 (0.82, 1.29)	0.92 (0.72, 1.16)
Wald test	**2.77****	**2.66****
n	245	252

Note: Boldface indicates statistical significance (

* $p<0.05$,

** $p<0.01$,

*** $p<0.001$).

GED, General Educational Development test.