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Mediators of Discrimination and Self-rated Health among African Americans

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Abstract

Objectives—To examine whether stress and depressive symptoms mediated relationships of perceived discrimination and self-rated health among African Americans.

Methods—A nonparametric bootstrapping procedure was used to assess mediation, controlling for sociodemographic variables, among 1406 cohort study adults (age=45.5±12.6, 25.1% male).

Results—Greater discrimination was associated with poorer self-rated health ($\beta=-.010$, SE=.003, $p=.001$). Stress and depressive symptoms were each significant mediators of this relationship in single and multiple mediator models ($p \leq .05$).

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Human Subjects Statement

Study procedures were approved by the Institutional Review Board at The University of Texas MD Anderson Cancer Center, and written informed consent was obtained from all participants.

Conflict of Interest Statement

The authors have no competing interests pertaining to this research.

Conclusions—Perceived discrimination may contribute to poorer self-rated health among African Americans through heightened levels of stress and depression. Interventions addressing these mechanisms might help reduce the impact of discrimination on health. Definitive results await longitudinal study designs to assess causal pathways.

Keywords

discrimination; self-rated health; depression; stress

Racial and ethnic health disparities represent persistent problems for African Americans in the United States.¹ For example, the prevalence and associated mortality rates of coronary heart disease, stroke, and many cancers are higher among African Americans as compared to Latinos, non-Latino Whites, Asian Americans, and American Indians.^{2–4} There are a number of mechanisms that account for the health disparities encountered by African Americans, including socioeconomic inequities, reduced access to healthcare, and lower quality of healthcare.⁵ These socioeconomic and healthcare factors, however, do not wholly explain the extant health disparities experienced by African Americans. Research suggests that factors such as racial/ethnic discrimination, and its psychological and physiological consequences, may also play an important role in creating and maintaining health disparities.^{5–10}

The experience of discrimination is common among African Americans in the United States,^{11,12} and perceived discrimination has been associated with poorer physical, as well as psychological health.^{8,13–16} The literature on the relationship between perceived discrimination and health outcomes, however, is mixed.¹⁷ Overall, more consistent associations have been demonstrated between perceived discrimination and negative psychological health outcomes than physical health outcomes.^{11,12,16–18} Most prominently, perceived discrimination has been linked with elevated stress and depressive symptoms^{9,17} as well as other more non-specific factors including serious/severe psychological distress.^{11,18} Because of this, some researchers have suggested that the effects of perceived discrimination on health may be best understood within a bio-psychosocial framework, whereby discriminatory events are considered stressors that result in a cascade of psychosocial, behavioral, and biochemical events (eg, depression, stress, health risk behaviors, elevated blood pressure, heart rate, cortisol secretions), which eventually result in poor physical health and a lower quality of life, especially among those with limited coping resources.¹⁶ Moreover, repeated experiences of discrimination can serve as a chronic stressor that depletes psychological resources and increases vulnerability to poor physical health over time.¹⁹ Therefore, it may be that the mixed results in the literature on relations between perceived discrimination and physical health outcomes reflect that a more complex model is needed to improve understanding of the pathways that underlie those relations. For example, it might be that the relationship between perceived discrimination and health outcomes is understood better through the indirect effects of psychological mediators, such as elevated stress and depressive symptoms. To our knowledge, no previous studies have investigated the relative impact of stress and depressive symptoms as potential mediators of the relationship between discrimination and self-rated health. Improving understanding of the mechanisms underlying the discrimination-health association would be valuable for informing prevention and intervention efforts to reduce health disparities in populations at high risk for discrimination, including African Americans. Therefore, additional research is needed in this area.

The current study examined associations of perceived discrimination and self-rated health in a large church-based sample of African American adults and assessed whether those relationships were mediated by elevated stress and/or depressive symptoms. There have

been a handful of community-based studies examining the relationship of perceived discrimination and self-rated health among African Americans, and results have been mixed.^{11,20–23} As a result, we had no specific hypotheses about the total effects of perceived discrimination on self-rated health in the current sample. However, based on the literature linking perceived discrimination with stress and depression,²² and the documented relationship between these psychological factors and poor health outcomes,^{24,25} we hypothesized significant indirect effects of perceived discrimination on self-rated health through stress and depressive symptoms.

METHODS

Participants and Procedures

Data were from the baseline data collection of a longitudinal cohort study designed to investigate associations of bio-psychosocial factors with health and health behaviors among African American adults. Participants (N = 1501) were recruited from a large mega-church in Houston, Texas. Recruitment strategies included printed and televised media within the church and in-person solicitation during church services and at a church health fair. Individuals were eligible to participate if they were 18 years old, residents of the Houston area, had a functional telephone number, and attended church (church membership was not a requirement).

Participants were enrolled in the study and data were collected between December 2008 and July 2009. Surveys were completed in person at the church. Participants viewed questionnaire items on a computer screen and entered responses into the computer using the keyboard, and they were compensated with a \$30 Visa Debit Card following survey completion. Study procedures were approved by the Institutional Review Board at the University of Texas MD Anderson Cancer Center; informed consent was obtained from all participants. Only participants with complete data on the measures described below (N = 1406) were included.

Measures

Sociodemographics—Sociodemographics included age, sex, partner status (married/living with partner or single/widowed/divorced), total annual household income (<\$40,000, \$40,000–79,999, or \$80,000), educational level (< bachelor's degree, bachelor's degree, or master's degree), and employment status (employed or unemployed). Sociodemographics were treated as covariates in the analyses due to known associations with health.

Discrimination—The Day-to-Day Unfair Treatment Scale was used to assess perceived discrimination. This scale was selected because it is a widely used, validated measure with good psychometric properties.²⁶ It describes 10 examples of discrimination (eg, at work, getting medical care, getting services in a store or restaurant) and asks respondents to indicate how often they experience these situations in their day-to-day lives based on their race/ethnicity or skin color, where the response categories were 1 = “4 or more times,” 2 = “2 or 3 times,” 3 = “once,” or 4 = “never.” Responses were reverse scored and summed with a potential range of 4 to 40, where higher scores were indicative of greater perceived discrimination. Cronbach's alpha for the Day-to-Day Unfair Treatment Scale in this sample was 0.91.

Perceived stress—The Perceived Stress Scale-4 (PSS-4) was used to assess perceived stress.²⁷ The PSS-4 is a 4-item self-report scale designed to assess the degree to which respondents find their lives to be stressful. The PSS-4 asks respondents to indicate how often they experienced certain situations, such as “In the last month, how often have you felt that

you were unable to control the important things in your life?” and “In the last month, how often have you felt that things were going your way?” (reverse scored). Responses were summed with a potential range of 0 to 16, where higher scores indicate greater perceived stress. Cronbach’s alpha for the PSS-4 in this sample was 0.73. The PSS-4 has demonstrated construct validity, a good factor structure, and has been predictive of health outcomes among racially/ethnically diverse samples.²⁸

Depression—Depressive symptoms were assessed using the Center for Epidemiological Studies Depression 10-item scale (CESD-10).^{29,30} This scale was developed to measure depressive symptoms in community non-clinical populations, and assesses the degree of depressive symptoms experienced over the past week. It includes items such as “I was bothered by things that usually don’t bother me,” and “I felt hopeful about the future” (reverse scored). Responses were summed with a potential range of 0 to 30, where higher scores indicate more depressive symptoms. Cronbach’s alpha for the CESD-10 in this sample was 0.82. The CESD-10 has demonstrated construct validity and has been used to assess depressive symptoms among diverse populations.^{31–33}

Self-rated health—Self-rated health was assessed with a single item asking participants to rate their health in general, with 5 response options: 1 = “poor,” 2 = “fair,” 3 = “good,” 4 = “very good,” and 5 = “excellent.” Research suggests this item is a reasonable substitute for multi-item measures and has good psychometric utility in assessing general health.^{34–40}

Data Analysis

This study was designed to examine the total effect of perceived discrimination on self-rated health (ie, the *c* path, Figure 1) and the indirect effects of perceived discrimination on self-rated health through stress and depression (ie, the *ab* paths, Figure 1). Figure 1 shows the conceptual model. First, participant characteristics were summarized using frequencies and descriptive statistics, and differences in characteristics by sex were explored using chi-square tests for categorical variables and t-tests for continuous variables. Then, interrelations between participant characteristics were examined using correlational analyses. Next, a preliminary linear regression analysis was conducted to explore the relations between each sociodemographic variable and perceived discrimination (while controlling for the other sociodemographic variables). Finally, the main analyses consisted of 2 single mediation models to assess the indirect effects of perceived discrimination on self-rated health through stress and depressive symptoms, respectively, and a multiple mediator analysis that included both stress and depressive symptoms in the same model. Each model was adjusted for age, sex, partner status, total annual household income, educational level, and employment status. These models were run using an INDIRECT macro in SPSS 19.0,⁴¹ which also provided information regarding the total effects of perceived discrimination on self-rated health (ie, the direct associations between these variables). Indirect effects were tested using a non-parametric, bias-corrected bootstrapping procedure.⁴² The bootstrapping procedure generated an empirical approximation of the sampling distribution of the product of the estimated coefficients in the indirect paths using 5000 resamples from the data set. The proportion of the effect that was mediated (PME) in each model was calculated by dividing the indirect effect by the total effect ($PME = ab/c$).⁴³ In addition, the effect sizes of the indirect effects were estimated by dividing the standard deviation of the independent variable by the standard deviation of the dependent variable; the quotient is multiplied by the coefficient of the indirect effect.⁴⁴

RESULTS

Participant Characteristics

The current study consisted of the 1406 participants with complete data. Participants (25.1% male) were 45.5 years old on average ($SD = 12.6$). Three-fourths of participants were employed, 49.3% reported at least a bachelor's degree, and 35.3% reported an annual household income of at least \$80,000. Table 1 displays all participant characteristics, including comparisons by sex. Men reported better self-rated health and greater perceived discrimination, and less stress and depressive symptoms than women. There were also significant differences between men and women on educational level, income, and partner status.

Preliminary Analyses

Table 2 displays the interrelations between participant characteristics. Table 3 displays results of a preliminary analysis assessing differences in perceived discrimination as a function of sociodemographic variables. Controlling for the other sociodemographic variables, results indicated that men reported higher levels of perceived discrimination than women.

Main Analyses

A significant total effect was found, such that greater perceived discrimination was associated with poorer self-rated health in adjusted analyses ($\beta = -.010$, $SE = .003$, $p = .001$). Although perceived discrimination was treated as a continuous variable in analyses, scores were subsequently arranged as quartiles to explore the magnitude of the relationships with self-rated health further. The adjusted mean for self-rated health was 3.41 among those indicating the least discrimination (lowest quartile) versus 3.22 among those endorsing the most discrimination (highest quartile).

In single mediator models, stress and depressive symptoms were each significant mediators of the total effect of discrimination on self-rated health (p -values $< .05$; Table 4). Greater perceived discrimination was associated with greater perceived stress and more depressive symptoms, and greater stress and more depressive symptoms were each associated with poorer self-rated health. A one standard deviation (SD) increase in perceived discrimination was associated with a decrease of .035 in self-rated health indirectly via perceived stress. This model accounted for 42.0% of the PME. A one SD increase in perceived discrimination was associated with a decrease of .046 in self-rated health indirectly via depressive symptoms. This model accounted for 54.9% of the PME.

Although stress and depressive symptoms are conceptually distinct, they were highly correlated in this sample ($r = .68$, $p < .01$). Therefore, a multiple mediator analysis was conducted to take into account any shared variance. Results indicated that stress and depressive symptoms were independently as well as jointly significant mediators of the total effect (p -values $< .05$; Table 4 and Figure 1). Again, greater perceived discrimination was associated with greater stress and depressive symptoms, and greater stress and depressive symptoms were associated with poorer self-rated health. Results indicated that for every one SD increase in perceived discrimination there was an associated .016 and .034 decrease in self-rated health via perceived stress and depressive symptoms respectively. The PME accounted for by stress was 18.6% and the PME accounted for by depressive symptoms was 40.2% in this model.

Exploratory Analysis

Because preliminary analyses indicated a significant difference in perceived discrimination by sex, a moderated mediation analysis was conducted using a PROCESS macro in SPSS 19.0.⁴⁵ Results indicated that perceived stress was a significant mediator in the relationship between perceived discrimination and self-rated health for women ($\beta = -.005$, $SE = .001$, $p = .05$), but not for men ($\beta = -.002$, $SE = .001$, $p > .05$). Depressive symptoms, however, yielded significant indirect effects for both women ($\beta = -.007$, $SE = .001$, $p = .05$) and men ($\beta = -.003$, $SE = .001$, $p = .05$).

DISCUSSION

This study was the first to examine the associations of perceived discrimination and self-rated health in a large church-based sample of African American adults and to assess whether those relationships were mediated by elevated stress and/or depressive symptoms. Results indicated that greater perceived discrimination was significantly associated with poorer self-rated health, and that both stress and depression were significant mediators of this relationship. The findings supporting a total effect of perceived discrimination on self-rated health are similar to some²² but not all¹¹ prior studies examining these factors in community-based samples of African American adults. Results add to a growing literature in this area and extend findings supporting a link between discrimination and health to church-going African American adults. This is an important extension, as data suggest that up to 55% of African Americans regularly attend church services.⁴⁶ Moreover, significant relationships were demonstrated despite the characteristics of the current sample, which include that participants were generally well-educated and of relatively high socioeconomic standing. These results suggest the ubiquity of racial discrimination^{11,12} and complement previous research indicating that higher socioeconomic standing affords no significant reprieve from this unfortunate aspect of the African American experience.⁴⁷

A greater potential contribution of this study to the literature, however, relates to its findings about indirect effects. Consistent with our hypotheses, stress and depressive symptoms each uniquely mediated the relationship between perceived discrimination and self-rated health, over and above the effects of key sociodemographic variables including age, sex, partner status, income, education, and employment status. Moreover, significant indirect effects for both stress and depressive symptoms remained even when both were included in the same mediation model. Further, the 2 mediators combined accounted for more than half of the estimated variance in the association between perceived discrimination and self-rated health. Although some previous studies have linked perceived discrimination to mental health outcomes,^{15,16} including elevated stress and depressive symptoms,^{9,17} few have examined the indirect effects of stress and depressive symptoms on associations of perceived discrimination and health, and none of which we are aware have examined their relative effects. The current findings suggest that, even in a sample of African Americans benefitting from the supportive elements church attendance provides (eg, social support, spiritual support⁴⁸), discrimination experiences are associated with poorer self-rated health through their relationships with greater stress and depressive symptoms.

In this sample, depressive symptoms accounted for a greater proportion of the association between perceived discrimination and self-rated health than stress. Future research should seek to determine explanations for this pattern. For example, perhaps many experiences of discrimination are perceived as ambiguous in nature, resulting in a more internal dispositional attribution that leads to depressive symptoms.⁴⁹ An alternative explanation may be that the psychological consequences of discrimination change over time, similar to temporal relations between anxiety and depression seen among community and clinical populations.⁵⁰ In this middle-aged sample, perhaps depressive symptoms have replaced

what were previously stress responses pursuant to discrimination experiences. It is also possible that the chronic experience of day-to-day discrimination (not assessed in the present study) predominantly engenders feelings of hopelessness and futility (ie, depressive symptoms) rather than a traditional stress response. The historical context of the African American experience, including forced immigration and long-standing societal stigmatization, also may contribute to the predominance of depressive reactions to discrimination (pursuant to social exclusion and other factors⁵¹). Finally, it may be that in the current sample, church attendance represents a coping mechanism for stress, including the stress engendered by perceived discrimination, which accounts for the relatively attenuated indirect effects for stress relative to depressive symptoms. A different pattern of findings might emerge among African Americans who do not attend church. Of course, these are all suppositions that require additional research.

It is also important to note that although both stress and depression were mediators of the association between perceived discrimination and self-rated health in this predominantly female sample, exploratory analyses indicated that significant associations between perceived discrimination and self-rated health through perceived stress were found in women only. One potential reason for this pattern of findings is that women may ruminate on negative experiences, like perceived discrimination, more than men,⁵² leading to relatively higher levels of stress. Supporting this supposition is normative data indicating that women report higher stress levels than men.²⁸ Another potential explanation might be that women are more likely to report symptoms of stress than men because they place more emphasis on the need for managing stress.⁵³ In addition, social and cultural norms of masculinity may preclude the reporting of stress among men. Any of these factors might have contributed to a stronger indirect relationship between perceived discrimination and health through stress for women than men. Also, data indicate that a lower percentage of men attend church than women,⁴⁶ and that African American men may be less likely to participate in health-related research than African American women.⁴⁸ These trends were evident in the current sample as well, and it is possible that the smaller sample size of men in this study contributed to non-significant indirect effects of stress found in the moderated mediation analysis. Future studies should examine the moderating effects of sex on these relationships in greater depth to confirm this study's findings.

Overall, results suggest that African Americans who perceive greater discrimination tend to also indicate greater perceived stress and depressive symptoms, as well as poorer self-rated health. However, the current study was cross-sectional, and definitive results about causal pathways await longitudinal study designs. Additional research is needed to elucidate exactly how stress and depressive symptoms might contribute to the association between perceived discrimination and health. For example, increased stress and depressive symptoms may lead to poor self-care, triggering health risk behaviors (eg, smoking, substance abuse¹⁶) that lead to poorer self-rated health and negative health outcomes. It is also possible that increased stress and depressive symptoms contribute to increasing physiological changes (eg, increased cortisol, blood pressure, and inflammatory markers) that ultimately increase risk for chronic diseases and related morbidity.⁵⁴ Future research should explore these possibilities, with a focus on informing interventions to address the harmful effects of discrimination on health. The current findings suggest that interventions addressing elevated stress and depressive symptoms pursuant to discriminatory experiences may help to reduce the myriad of health disparities experienced by African Americans, but more research in this area is needed. In addition, more work is needed on a societal level to eliminate racism by combatting the structural and social determinants of discriminatory practices in the United States.

Limitations of this study include design, measurement, and sampling issues. The study used a cross-sectional design, which precluded assumptions of causality in the relationship between discrimination and health. Also, the potential for reverse causality in mediational analyses using cross-sectional data cannot be ruled out. Future studies might examine mediational pathways between discrimination and self-rated health using longitudinal data that can elucidate temporal associations more completely. The few studies in this field using such designs have supported expected directional relations.¹⁵ Another limitation concerns the sole use of self-report measures. Future studies should use objective measurements (eg, cortisol as a biochemical indicator of stress responding). In addition, the single-item measure of self-rated health is unidimensional and does not encompass multiple aspects of health or relate to specific health conditions. Because the current study was focused on self-rated health rather than specific health conditions, its direct relevance to extant health disparities among African Americans is necessarily limited. In addition, single-item measures of constructs (such as self-rated health) tend to be less stable, precise, and reliable than multi-item measures. It is also worth noting that there are multiple ways to measure discrimination, including discrimination experienced over a lifetime, and the current study focused on only one measure, day-to-day discrimination. Previous research supports a meaningful distinction between chronic experiences of discrimination and daily experiences of discrimination, and suggests that they should be examined jointly for their influence on health to improve understanding of their interrelationships.⁵⁵ This study examined only 2 potential psychological mediators of the relationship between discrimination and health. Future research might include other psychosocial mechanisms of potential interest (eg, decreased social networking leading to reduced social support). Finally, the study focused on a relatively well-educated, predominantly female, convenience sample of church-based African American adults from a large metropolitan city in the southern United States that generally viewed their health as good to very good. Therefore, results may not be generalizable to other samples that differ from the present sample on any of these factors. However, these results suggest a link between perceived discrimination and greater perceived stress and depressive symptoms, and in turn, lower health ratings. Although more research is needed to determine causal relations, psychosocial interventions aimed at reducing discrimination-related stress and depressive symptoms might help to reduce the health consequences of discrimination in African Americans.

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Figure 1. Hypothesized Conceptual Model of the Total (*c* path) and Indirect Effect (*ab* paths) of Perceived Discrimination on Self-rated Health through Proposed Mediators

**** $p < .01$**

Note.

Mediational results presented in Figure 1 represent those from the multiple mediator analysis.

Table 1

Participant Characteristics, Including Comparisons by Sex

Participant Characteristics	Male N = 353		Female N = 1053		p value	Total Sample N = 1406	
	N/Mean	%/std	N/Mean	%/std		N/Mean	%/std
Age	44.9	13.5	45.7	12.3	.3500	45.5	12.6
Education Level					.0167		
< Bachelor's degree	198	56.1	514	48.8		712	50.6
Bachelor's degree	103	29.2	318	30.2		421	29.9
Master's degree	52	14.7	221	21.0		273	19.4
Annual Household Income					.0001		
< \$40,000	70	19.8	287	27.3		357	25.4
\$40,000–79,999	127	36.0	426	40.5		553	39.3
\$80,000	156	44.2	340	32.3		496	35.3
Partner Status					< .0001		
Married/Living with partner	221	62.6	396	37.6		617	43.9
Single/Widowed/Divorced	132	37.4	657	62.4		789	56.1
Employment Status					.1948		
Employed	274	77.6	781	74.2		1055	75.0
Unemployed	79	22.4	272	25.8		351	25.0
Self-rated Health	3.4	0.9	3.2	0.9	.0042	3.3	0.9
Discrimination	21.5	8.2	20.1	7.0	.0031	20.5	7.4
Stress	4.3	3.0	4.7	3.1	.0341	4.6	3.1
Depression	5.2	4.7	6.0	5.1	.0130	5.8	5.1

Note.

T-tests and chi-square tests were used to evaluate significant differences between male and female participants. Std = standard deviation. Discrimination = Day-to-Day Unfair Treatment Scale; Stress = Perceived Stress Scale; Depression = Center for Epidemiological Studies Depression 10-item scale.

Table 2

Interrelations between Participant Characteristics

Participant Characteristics	1	2	3	4	5	6	7	8	9	10
1. Age	1.000									
2. Sex	.026	1.000								
Female										
Male (REF)										
3. Education Level	.050	.090**	1.000							
< Bachelor's degree (REF)										
Bachelor's degree										
Master's degree										
4. Annual Household Income	.051	-.137**	.341**	1.000						
< \$40,000 (REF)										
\$40,000–79,999										
\$80,000										
5. Partner Status	.179**	-.218**	.045	.420**	1.000					
Married/Living with partner										
Single/Widowed/Divorced (REF)										
6. Employment Status	-.103**	-.035	.199**	.291**	.043	1.000				
Employed										
Unemployed (REF)										
7. Self-rated health	-.045	-.076	.126**	.150**	.080**	.049	1.000			
8. Discrimination	-.014	-.086**	-.004	-.020	.012	-.019	-.080**	1.000		
9. Stress	-.178**	.057*	-.138**	-.173**	-.058*	-.052*	-.235**	.160**	1.000	
10. Depression	-.106**	.066*	-.171**	-.211**	-.104**	-.113**	-.273**	.188**	.681**	1.000

**
p < .01;*
p < .05

Note.

Interrelations between participant characteristics were evaluated using Pearson correlations for continuous-continuous variable associations, Point-biserial correlations for continuous-binary associations, Spearman correlations for continuous-ordinal and ordinal-ordinal associations, Phi coefficients for binary-binary associations, and Rank biserial coefficient for ordinal-binary associations. Discrimination = Day-to-Day Unfair Treatment Scale; Stress = Perceived Stress Scale; Depression = Center for Epidemiological Studies Depression 10-item scale. REF= Reference group.

Table 3

Adjusted Relations of Sociodemographics and Perceived Discrimination

Variables	<u>Unstandardized Coefficients</u>			
	β	Std. Error	t	p
Age	-.009	.016	-.570	.570
Sex				
Female	-1.545	.465	-3.32	.001
Male (REF)	-	-	-	-
Education				
< Bachelor's degree (REF)	-	-	-	-
Bachelor's degree	-.548	.469	-1.17	.243
Master's degree	1.036	.558	1.86	.064
Income				
< \$40,000 (REF)	-	-	-	-
\$40,000–79,999	-.194	.528	-.370	.713
\$80,000	-.358	.601	-.600	.551
Partner Status				
Married/Living with partner	.016	.444	.040	.971
Single/Widowed/Divorced (REF)	-	-	-	-
Employment Status				
Employed	-.310	.475	-.650	.514
Unemployed (REF)	-	-	-	-

Note.

Results represent relations between each sociodemographic variable and perceived discrimination controlling for the other sociodemographic variables, as assessed using linear regression.

Results of Single and Multiple Mediator Models

Table 4

Proposed Mediator	Single Mediator Models				
	Estimate of Indirect Effect		BCa 95% CI		
	1	2	SE	Lower	Upper
Depression	-.0056	-.0056	.0010	-.0078	-.0037
Stress	-.0042	-.0042	.0009	-.0061	-.0026
Multiple Mediator Model					
Proposed Mediators	Estimate of Indirect Effect		BCa 95% CI		
	1	2	SE	Lower	Upper
	p				
Depression	-.0041	-.0041	.0010	-.0064	-.0023
Stress	-.0019	-.0019	.0008	-.0038	-.0006
Combined	-.0060	-.0060	.0011	-.0083	-.0042

Note.

Results were calculated using the SPSS INDIRECT macro syntax for estimating models with continuous (or binary) outcomes and continuous mediators. Ordinary least squares regression is used for continuous outcomes.

1 = The indirect effect calculated in the original sample

2 = The mean of the indirect effect estimates calculated across 5000 bootstrap samples

SE = The standard deviation of the 5000 bootstrap estimates of the indirect effect

BCa 95% CI= Bias corrected and accelerated 95% confidence interval

Discrimination = Day-to-Day Unfair Treatment Scale

Stress = Perceived Stress Scale

Depression = Center for Epidemiological Studies Depression 10-item scale