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The Association between Self-Reported Discrimination, Physical Health and Blood Pressure: Findings from African Americans, Black Immigrants, and Latino Immigrants in New Hampshire

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Abstract: The relationship between perceived racial discrimination and both blood pressure and perceived physical health has been documented among African Americans. However, this association has not been well-studied for Black or Latino immigrants. We used multiple regression analysis with a cross-sectional sample of 666 African Americans, Black immigrants, and Latino immigrants from the New Hampshire Racial and Ethnic Approaches to Community Health 2010 Initiative to assess the relationship between discrimination and measures of physical health and blood pressure. The study found evidence of a significant U-shaped relationship between discrimination and systolic blood pressure for all three cohorts. Evidence was also found supporting a negative linear relationship between discrimination and physical health. In addition, the association between discrimination and physical health was attenuated for Latinos compared with the other groups. Future research should evaluate how factors associated with acculturation or cumulative exposure to discriminatory stressors may affect the protective resources of immigrants.

Key words: Racism, physical health, systolic pressure, diastolic pressure, New Hampshire, African Americans, Latinos, immigrants.

A growing body of evidence shows that the perception of racial discrimination is associated with poorer physical health among minority groups.[1–3] The literature suggests several mechanisms through which racial discrimination may influence physical health, including the structuring of socioeconomic opportunities, health care access, and exposure to environmental contaminants.[4–6]

Perceived discrimination may also represent the aggregation of chronic stressors, daily hassles, and life events associated with minority status.[7] These stressors can range from acute events, such as encountering a hate crime, to everyday micro-traumas of omission, such as being ignored by a clerk, and may lead to short-

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term sympathetic arousal as well as long-term accumulation of allostatic load.[8–11] In keeping with the stress perspective, researchers have reported an association between perceived discrimination and poorer self-rated health,[12–15] hypertension,[13] and elevated blood pressure.[8,9,11,16–19]

While evidence indicates that perceived discrimination may be associated with increased illness through stress, some studies have suggested that discrimination may operate through a secondary pathway, whereby certain people may not report discrimination in order to protect their self-concept.[18,20–21] Although this non-report may shield individuals from potential shame or anger, it may not shield them from physiological reactivity. Consistent with this idea, it has been found that individuals who do *not* report discrimination have higher blood pressure than those reporting discrimination.[18,21] These observations suggest that the relationship between perceived discrimination and blood pressure may exhibit a U-shape, with blood pressure highest among those who report the least and most discrimination. Despite these intriguing findings, prior studies of blood pressure, hypertension, and cardiovascular reactivity have generally modeled discrimination in a linear fashion.

Much work remains. Most work on discrimination and physical health has focused on African Americans, with less study of other minority groups. Relatively few studies have examined the association between perceived discrimination and physical health among Latinos.[12,22–23] In addition, while African and Caribbean immigrants have received some attention in the literature,[24–25] they too remain an understudied group in this area.

Based on these considerations, we investigated three hypotheses. First, we hypothesized that discrimination is associated with poorer physical health among African Americans, Black immigrants, and Latino immigrants. We examined two markers of health status, a self-reported marker of global physical health and blood pressure. Secondly, we investigated the hypothesis that perceived discrimination shows a non-linear (U-shaped) association with general health status and blood pressure. We did not make strong *a priori* distinctions between perceived physical health and blood pressure in this hypothesis. As previously noted, the literature generally reports a linear association between perceived discrimination and markers of general health status,[3] but it is unclear whether the relationship is truly linear or has resulted from studies simply not modeling potential curvature.

Our third hypothesis is that the relationship between discrimination and physical health would differ among African Americans, Black immigrants, and Latino immigrants. Two ideas inform this inquiry. The immigrant selection idea suggests that migrants are self-selected based on resources that may help protect them against adversity and change.[26–28] This idea suggests that Black and Latino immigrants may be more similar to one another than to U.S.-born Blacks. Further, if migrants do have special resources, one could predict that the associations between discrimination and health will be attenuated for immigrants compared with average U.S.-born members of minority groups. On the other hand, the group position view suggests that racial and ethnic groups occupy distinct social strata that vary in terms of their relations towards and acceptance by society.[29–30] Given this idea, one would predict that immigrant Blacks would be more similar to U.S.-born Blacks than they are

to immigrant Latinos. There is also limited evidence to suggest that the association between discrimination and health may be weaker for Latinos than for Blacks (immigrant and U.S.-born). For example, Latino residential segregation appears to decrease with increasing socioeconomic position (SEP), whereas African American segregation does not vary greatly by SEP.[31–32] It is said that African Americans appear hyper-segregated compared with other racial/ethnic groups.[31–32] Our study provides a preliminary examination of these hypotheses and ideas.

Methods

Data. Data in this study come from the 2002–2003 New Hampshire Racial and Ethnic Approaches to Community Health 2010 (NH REACH) Initiative, a study conducted as part of the Centers for Disease Control and Prevention funded REACH 2010 program. The goal of NH REACH is to implement health promotion programs to decrease diabetes and hypertension and to collect and analyze data to assess minority community health needs. A survey was administered face-to-face to 190 African American and 490 Latino adults (18 years and older) in Hillsborough County, New Hampshire from March 2002 through December 2003. Surveys were administered in English or Spanish by trained bilingual staff. A snowball sampling methodology was used because the method allowed for the recruitment of respondents who may otherwise have been hesitant to participate and because a random sample would not efficiently capture racial and ethnic respondents in New Hampshire given their low numbers in the population.

In addition to completing the survey, respondents had their weight, blood pressure, and blood glucose measured and received education about diabetes, hypertension, and healthy lifestyles. Single systolic and diastolic blood pressure (SBP and DBP) readings were measured using a digital blood pressure monitor after the survey was administered.

Dependent variables. Participants' SBP and DBP were treated as continuous measures. In addition, the PCS-12, the physical health subscale of the 12-item short form health survey (SF-12) consisting of twelve questions which assess physical functioning, role-physical, bodily pain, and bodily health was treated as a continuous variable.[33] (One question related to physical functioning was translated incorrectly on the Spanish instrument and was excluded from the scale scoring for all study participants. The scale scores with and without the incorrectly translated question were correlated at $r=.988$ for English-speaking participants and $r=.990$ for Spanish-speaking participants, leading the authors to believe that the exclusion of this question likely does not alter the conclusions drawn from the analysis.)

The PCS-12 has been shown to be reliable and valid, correlating with chronic conditions, co-morbid conditions, acute symptoms, and age differences.[33] Henceforth, the PCS-12 measure will be called *physical health*.

Independent variables. Participants were asked three questions pertaining to their perception of racial/ethnic discrimination. The questions were adapted from the Reactions to Race module piloted on the 2002 Behavior Risk Factor Surveillance System. The first question (subsequently called *anger*) relates to the feeling

of anger or discomfort as a result of perceived discrimination: "How often do you feel discomfort or anger by the way others treat you in your everyday life because of your race? (constantly; once/day; once/week; once/month; once/year; never; other, specify)." The Spanish version of this question is phrased to include ethnicity as a source of discrimination in addition to race: "¿Cuántas veces se ha sentido incómodo o enojado por la forma en que es tratado en su vida diaría por su raza o etnicidad?" This question was classified as a five-category variable (once/day and once/week were combined; the category less than once/month but not never was created) to maintain the stability of response options in the analysis and was scored from 0 (never) to 4 (constantly).

The second question (subsequently called *goals*) asked: "Do you feel that racial discrimination diminishes your ability to achieve your goals fully?" and was scored 0 (no) and 1 (yes). This question pertains to a non-event that occurs as a result of discrimination: a goal that was desired but not achieved as a result of discriminatory barriers.

The final question (subsequently called *inferior care*) asked "Do you feel that you have been receiving less than the best health care because of your race? (yes, often; yes, some of the time; no, none of the time; don't know)." The question was classified as a trichotomous variable (yes, often; yes, some of the time; and no, none of the time) in the analysis and was scored from 0 (no, none of the time) to 2 (yes, often).

From these questions, a discrimination index ranging 0 to 3 was created by dividing each question by $n-1$ response options for each question: anger/4 + goals + inferior care/2. Participants who answered "don't know" or who had missing responses for any of the questions in the index were assigned missing values for the index (see Table 1) and were excluded from the main regression analyses.

The items were aggregated into a single scale for the following reasons: (1) the individual items are similar in structure and content to those of other aggregated scales;[14] (2) the items were significantly correlated (Kendall's *tau b* ranging from .16 to .22, $p<.001$ for all) indicating shared variance and the existence of a common underlying construct; (3) single-item measures of discrimination tend to have poor reliability and may underestimate the true prevalence and variance of discrimination.[23,34]

Participants were asked to identify their race and ethnicity in two questions: "Are you Hispanic/Latino? (yes; no)" and then asked "What is your race? (Black/African American; Asian; Native Hawaiian/Pacific Islander; American Indian/Alaska Native, White, or Other)." Participants were then asked to identify their country of birth. Participants identifying themselves as Black/African American were categorized according to whether they were born in the United States (subsequently referred to as African Americans) or in another country (subsequently referred to as Black immigrants). U.S.-born Latinos were excluded from the analysis due to the group's small sample size ($n=14$) and the remaining Latinos ($n=476$) were categorized as Latino immigrants.

Statistical analysis. Participant characteristics were compared by ethnic group using chi-square tests for categorical variables and one-way analysis of variance for

continuous variables. The bivariate relationships between the measures of physical health and discrimination were then assessed.

In three separate sets of analyses for each dependent measure, SBP, DBP, and physical health were regressed on the discrimination index using ordinary least squares (OLS) regression, controlling for sex, age, household income, education, employment status, health insurance status, body mass index (BMI), moderate/ vigorous exercise, current smoking status, and current use of antihypertensive medication. Two regressions were run for each dependent measure, one including only the discrimination index and the other adding the discrimination index squared to test for a quadratic relationship. Next, two-way interaction effects were tested between the discrimination index (as well as the discrimination index squared) and the separate ethnicity variables. The interaction effects represent the relationship between perceived discrimination and the dependent variables for each of the racial/ethnic groups in the study.

After the main analysis, a secondary analysis was performed among the Black and Latino immigrants alone to assess whether the time they had spent in the United States was associated with perceived physical health or blood pressure. Three OLS regressions were performed for each of the dependent variables of interest, identical to the procedure above with the addition of time in the U.S. (logged) as an independent variable. Interaction effects were then tested between time in the U.S. and the discrimination index.

Because the sample was non-random, the data were not weighted to reflect population characteristics or selection probability. However, because some study participants lived in the same residence as another study participant, household-level clustering could result in artificially small standard errors for model coefficients, which would consequently increase the probability of Type I error.[35] To correct for this clustering, robust cluster variance estimators which accounted for within household correlation, were used to correct all standard errors reported in the regression analyses. Also, in order to facilitate interpretation and reduced multicollinearity, continuous predictors were mean-centered in the regression analyses.

Statistical analysis was performed using Stata version 9.0.[36]

Results

Participant characteristics. Table 1 shows the demographic and socioeconomic characteristics of the study sample. Women made up the majority of study participants for each cohort. Black and Latino immigrants tended to have lived in the U.S. for a similar length of time. African Americans and Black immigrants had higher household incomes and education levels than Latino immigrants and were also more likely to be employed. African Americans had much higher rates of health insurance than Black immigrants or Latino immigrants. African Americans also had a higher mean body mass index (BMI) and were more likely to smoke than Black immigrants or Latino immigrants. However, discrimination index scores were similar across the ethnic groups. Also, while African Americans and Black

Table 1.

SAMPLE CHARACTERISTICS BY ETHNIC GROUP

	African Americans (n=78)		Black immigrants (n=112)		Latino immigrants (n=476)		Whole sample (N=666)	
	% or mean	n	% or mean	n	% or mean	n	% or mean	n
Male (%)***	29.5	23	45.5	51	29.2	139	32.0	213
Mean age	38.0	78	35.8	112	38.8	476	38.2	666
Mean years in United States (logged)	—	—	4.75	112	4.47	476	—	—
Household income, in thousands (%)**								
Don't know/refused	6.4	5	11.6	13	17.2	82	15.0	100
Less than $10	28.2	22	18.8	21	23.5	112	23.3	155
>$10–<$25	20.5	16	33.0	37	39.1	186	35.9	239
>$25–<$50	25.6	20	25.0	28	14.1	67	17.3	115
$50 and above	19.2	15	11.6	13	6.1	29	8.6	57
Education (%)***								
Less than 9th grade	1.3	1	1.8	2	41.4	197	30.0	200
More than 9th grade; no diploma	18.0	14	11.6	13	22.5	107	20.1	134
High school/GED	28.2	22	29.5	33	17.0	81	20.4	136
Any college	52.6	41	57.1	64	19.1	91	29.4	196
Currently employed (%)***	56.4	44	67.9	76	51.9	247	55.1	299
Any insurance (%)***	75.6	59	55.4	62	36.1	172	44.0	293

(Continued on p. 122)

Table 1. ***(continued)***

	African Americans (n=78)		Black immigrants (n=112)		Latino immigrants (n=476)		Whole sample (N=666)	
	% or mean	**n**	**% or mean**	**n**	**% or mean**	**n**	**% or mean**	**n**
Body mass index (mean)**	30.1	78	26.4	112	28.3	476	28.2	666
Current smoker (%)***	31.2	24	10.7	12	13.0	62	14.7	98
Do either moderate or vigorous exercise (%)*	44.9	35	37.5	42	31.9	152	34.4	229
Take antihypertensive medication (%)	16.7	13	9.8	11	11.6	55	11.9	79
Discrimination index (mean)	.91	59	.94	79	.97	419	.96	557
Systolic blood pressure (mean)***	132.0	78	135.1	112	126.7	474	128.7	664
Diastolic blood pressure (mean)***	84.5	78	84.3	112	77.6	474	79.6	664
Physical health (PCS-12) (mean)	48.9	77	49.4	112	48.6	470	48.8	659
Diagnosis with hypertension (%)*	28.2	22	14.7	16	20.4	97	20.4	135

Note: Chi-square tests are used for all between group significance tests except for age and body mass index where a one-way ANOVA is performed.
*$p<.10$, **$p<.05$, ***$p<.01$.

immigrants tended to have higher blood pressure than Latino immigrants, physical health was similar across the three cohorts.

Relationship between discrimination, physical health, and blood pressure. Table 2 shows that the discrimination index was significantly correlated with the physical health scale ($r=-.16$, $p<.001$) but was not associated with SBP or DBP. It also shows that while SBP and DBP were highly correlated, physical health was not correlated with either blood pressure measure.

Table 3 shows the results of the OLS regressions with SBP, DBP, and physical health. In Models 1, 3, and 5, which include only the linear specification of discrimination, being male was positively and significantly associated with SBP and DBP but was not associated with physical health. Age was also positively and significantly associated with SBP and DBP and was negatively and significantly associated with physical health. Black immigrants had higher SBP than African Americans ($b=3.45$, $p=.009$) but did not differ with regards to DBP or physical health. Latino immigrants had lower SBP ($b=-5.69$, $p<.001$) and DBP ($b=-6.34$, $p<.001$) than African Americans, but did not differ in physical health. The discrimination index was associated with increased SBP ($b=1.41$, $p=.045$) and decreased physical health ($b=-1.66$, $p=.001$), but was not associated with DBP, controlling for other covariates.

When the squared discrimination index term was added to the SBP model, a U-shaped relationship emerged (see Figure 1). The model indicates that individuals who reported some discrimination had lower blood pressures than those who reported no discrimination while those reporting a substantial amount of discrimination had higher blood pressure than both those who reported no or some discrimination. A similar trend is seen for DBP, although the coefficients are not significant. Supplemental analyses (not shown) that added time in the U.S. found that time was not associated with SBP, DBP, or physical health among Latino and

Table 2.

CORRELATION MATRIX BETWEEN DISCRIMINATION INDEX AND DEPENDENT MEASURES

	Discrimination index	Systolic blood pressure	Diastolic blood pressure	Physical (PCS-12)
Discrimination index	1	—	—	—
Systolic blood pressure	–.01	1	—	—
Diastolic blood pressure	.00	.65*	1	—
Physical health (PCS-12)	–.16*	–.02	.03	1

*$p<.01$.

Table 3.

REGRESSION COEFFICIENTS FOR SYSTOLIC, DIASTOLIC, AND PHYSICAL HEALTH OLS MODELS

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Systolic 1 (n=554)		Systolic 2 (n=554)		Diastolic 1 (n=554)		Diastolic 2 (n=554)		Physical health (PCS-12) 1 (n=549)		Physical health (PCS-12) 2 (n=549)	
	b	se	b	se	b	se	b	se	b	se	b	se
Male (centered)	9.25***	1.27	9.11***	1.26	3.55**	1.65	3.50**	1.65	.27	.63	.31	.62
Age (centered)	.54***	.04	.54***	.04	.24***	.04	.24***	.04	–.07**	.03	–.07**	.03
Black immigrant	3.45***	1.30	3.73***	1.36	–.57	1.29	–.47	1.29	–.80	1.00	–.88	.99
Latino immigrant	–5.69***	1.47	–5.08**	1.62	–6.34***	1.24	–6.13***	1.20	–.41	.71	–.59	.70
Discrimination index (centered)	1.41**	.70	.69	.70	.67	.60	.41	.57	–1.66***	.50	–1.44***	.46
Discrimination index (centered) squared	—	—	2.18***	.77	—	—	.79	.68	—	—	–.64	.45

Note: In addition to gender and age, all models control for income, education, employment status, health insurance status, body mass index, smoking, exercise, and hypertension medication.
*p<.10, **p<.05, ***p<.01

Black immigrants and did not change the aforementioned associations between discrimination and SBP and physical health.

For physical health, both the discrimination index and the squared discrimination index coefficients were negative, and the squared term was non-significant, when entered simultaneously into the model. Thus, the analyses do not support a quadratic relationship between the discrimination index and physical health (see Figure 2).

Interactions were tested between the discrimination index (linear and squared) and the two ethnicity dummy variables in the systolic and diastolic models. No interactions were significant at $p<.10$.

Interactions were also tested between the discrimination index and the ethnicity dummy variables in the physical health model. Here, a significant negative interaction was found between the discrimination index and the Latino immigrant variable ($b=2.60$, $p<.001$), attenuating the negative association between perceived discrimination and health status for Latino immigrants relative to African Americans and Black immigrants (see Figure 2). That is, although discrimination was associated with decreased physical health for all groups, the strength of association was similar between African Americans and Black immigrants and relatively weaker for Latinos. Because these ethnic differences might be confounded with acculturation, we ran additional analyses that included time in the U.S. The interaction shown in Figure 2 remained unchanged.

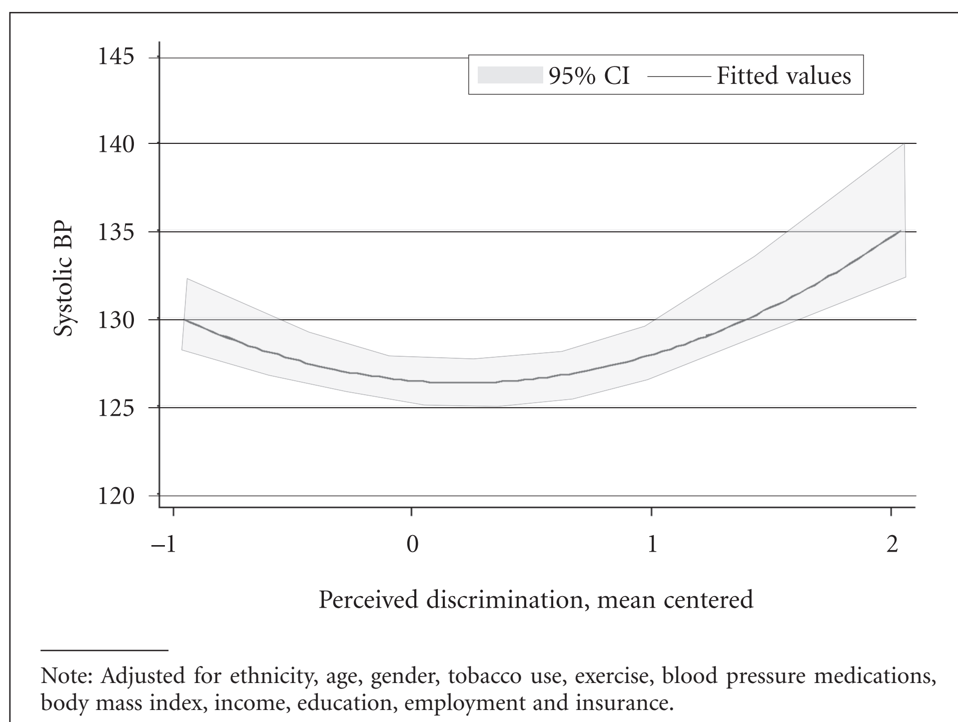

Figure 1. Association between perceived discrimination and systolic blood pressure.

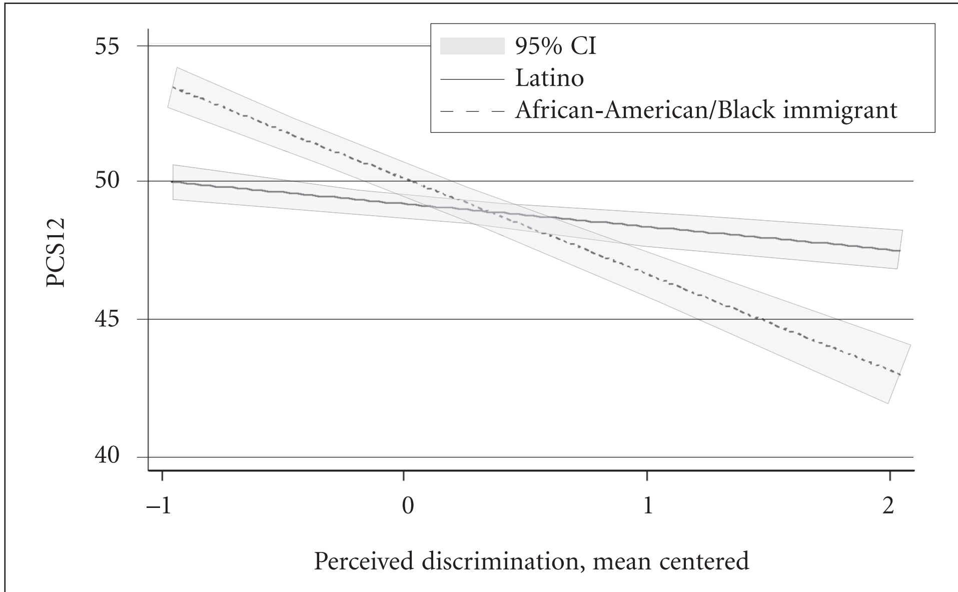

Figure 2. Association between perceived discrimination and physical health (PCS-12).

Discussion

Data from the New Hampshire REACH 2010 study show that the perception of racial discrimination is significantly associated with poorer perceived physical health and higher SBP among African Americans, Black immigrants, and Latino immigrants. However, perceived discrimination is not significantly associated with DBP for any of these groups. The findings show that the first hypothesis (linear effect of discrimination) was supported for physical health, the second hypothesis (non-linear effect of discrimination) was supported for SBP, and the third hypothesis (moderation of discrimination by ethnicity) was supported for physical health.

These results are consistent with prior studies demonstrating associations between blood pressure and perceived discrimination. In addition, our data suggest that the association between perceived discrimination and systolic blood pressure is non-linear. SBP was higher among those reporting the least and most discrimination, compared with those reporting intermediate levels of discrimination. Similarly, Krieger and Sidney[18] found that among working class Black women, those reporting no situations of discrimination and those reporting three or more situations of discrimination had higher systolic blood pressure than those reporting one to two situations of discrimination. Theoretically, these findings suggest that discrimination may exert its effects on systolic blood pressure when individuals are at greatest exposure to discrimination as well as when individuals are apt to use denial to cope with discrimination.[21] We caution, however, that we do not directly measure denial, coping, or exposure. Future studies are needed to continue to examine these potential pathways. Additionally, future studies should carefully examine the

functional form of discrimination, as there is a potential for Type II error when discrimination is tested only as a linear effect.

Diastolic blood pressure was not associated with perceptions of discrimination in any of the tested models. The literature on DBP does not paint a consistent picture. For example, Krieger and Sidney[18] found reports of discrimination were not associated with DBP among Black women. However, discrimination was associated with decreased DBP among professional Black men and increased DBP among working class Black men. It may be that our results are related to sampling differences. Alternatively, SBP could simply be a better marker for hypertension and related illnesses than DBP.[37–39]

An intriguing pattern emerged in our analysis of physical health status. This finding is consistent with the group position view and not consistent with the immigrant selection view. These preliminary results might suggest that regardless of potential differences in socialization, culture, and resources associated with immigrant status, Black persons in the U.S. face similar discrimination.

However, the data also show that African Americans, Black immigrants and Latino immigrants all report similar levels of discrimination. Why three groups would report similar levels of discrimination, yet differ in their association with physical health is unclear and awaits future study. These differences are not accounted for by age, sex, income, education, employment, BMI, hypertension medication, smoking, exercise, or time in the U.S. However, the differences might be explained by unmeasured coping resources (e.g. racial or ethnic identity, social support) that are differentially distributed by group.[40] A fuller exploration of these ideas awaits future study.

In a separate study, we find a similar moderation of ethnicity and discrimination for mental health outcomes.[27] Those interactions are explained by years in the U.S. Furthermore, the longer immigrants are in the U.S., the stronger the association between discrimination and poor mental health. In the current study, time in the U.S. and nativity did not explain the moderation of discrimination by ethnicity for physical health, but it may be that these two factors are inadequate proxies for the socialization experiences of immigrants with regard to physical health outcomes. Future work should evaluate whether factors associated with acculturation and/or cumulative exposure to discriminatory stressors may wear away the protective resources of immigrants, and whether this effect varies across ethnic groups.[22,34,41–42]

Several caveats apply. First, the study design is cross-sectional and the lack of panel data limits our ability to make causal statements. It might, for example, be argued that illness may cause discrimination.[43] However, longitudinal studies support the study's premise, showing that discrimination predicts health over time, but that health does not predict reports of discrimination.[44–45] Second, self-reporting of individual characteristics may lead to response factors, such as recall and socially desirable reporting. We partially offset this concern with the use of objective measures of blood pressure, but acknowledge that development of still more objective measures of discrimination is important. That said, numerous other studies have found robust associations between self-reported discrimination and health.[3]

Third, the discrimination index used in this study measures three very different domains of perceived discrimination and assumes that the ordinal scales of each question have cardinal properties when combined in the discrimination index. The scale also measures three different facets of the discriminatory experience, each with a single item. Although more comprehensive scales of discrimination [23,46–48] would have been preferable, we were limited by the use of secondary data in this analysis. Future research should use more comprehensive scales in order to examine findings like those we present here more fully.

Another limitation is that blood pressure is often derived from the average of three readings. In our study, only one reading was taken, a trade-off made in order to reduce the time burden for peer educators and to increase community participation. However, the proportion of participants for whom screening indicated that they had high blood pressure (26.4% for Latino immigrants, 43.6% for African Americans, and 46.4% for Black immigrants) is similar to that reported elsewhere,[49] supporting the validity of the measurement.

Finally, the sample was non-randomly selected, raising questions as to potential selection biases. Our sample is unusual in certain respects, over-representing immigrants, those who are younger, and those with lower incomes (and education in the case of Latinos) relative to the population of Latinos and Blacks in Hillsborough County.[50] As a result, we are not able to generalize our findings with confidence to Hillsborough's minority populations.

However, recent reviews note the paucity of research on minorities other than African Americans and call for such research among these groups.[3] Our snowball sampling technique allowed for more efficient identification of members of the target population. In addition, few studies of minority discrimination have focused on areas where minorities are rare. To address health disparities, it is important to have full knowledge about the diversity of experiences among racial/ethnic minorities living in different circumstances across the nation.

Despite its limitations, this study contributes to the literature on the impact of perceived discrimination on physical health in several ways. First, it confirms the idea of a non-linear relationship between discrimination and blood pressure and provides empirical support for a quadratic relationship between these constructs. The study found such non-linearity for systolic blood pressure, but not for diastolic blood pressure or general physical health status. The reasons for this are unclear and should be the topic of future inquiry.

Second, prior studies of perceived discrimination and blood pressure have focused on African Americans and Whites. We are aware of only one other study that has examined perceived discrimination and blood pressure among Latinos in the United States. James[51] reported that perceived racial discrimination was associated with blood pressure among a combined sample of Black and Latino workers. Future research is merited to verify our findings and to examine whether these relationships vary across Latino groups (e.g. Mexicans versus Cubans) and also to other racial/ethnic groups (e.g., Asian Americans and Pacific Islanders, American Indians, and Alaskan Natives). Additionally, there needs to be continued examination of heterogeneity within the Black population, especially among Black immigrants.

Conclusion

Our study suggests that the systematic elimination of discrimination may not only be a moral prerogative, but also a health promotion priority. Since discrimination reflects the structuring of inequality within society, population-level interventions and policy change may be more cost-effective than individual level change.[4,6,52] Recent resolutions passed by the American Public Health Association[53] highlight the need to eliminate structural and interpersonal discrimination as a preventive health action and as a remedy to prior inequalities. A systematic and coordinated effort to eliminate all forms of oppression will help promote a healthier society.

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