

# High sense of mastery reduces psychological distress for African American women but not African American men

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## Abstract

Recent research has suggested that relative to Whites, African Americans (AAs) may be at a systemic disadvantage regarding the health effects of socioeconomic position (SEP) indicators as well as psychological assets (e.g., sense of mastery). However, less is known about how these diminished returns differ between AA men and women. This study tested whether AA men and women differ in the mental health effects of high sense of mastery. The National Survey of American Life (NSAL, 2003) recruited 3570 AA adults who were either female (n = 2299) or male (n = 1271). Dependent variable was psychological distress. Independent variable was sense of mastery. Gender was the focal moderator. Age and educational attainment were the covariates. Multiple linear regression model was applied for statistical analysis. Overall, high sense of mastery was associated with lower psychological distress. Significant interaction was found between gender and sense of mastery on psychological distress suggestive of a stronger association for AA women compared to men. A smaller mental health gain of high sense of mastery for AA men compared to AA women is indicative of within race heterogeneity regarding diminished returns. Racism and discrimination may be why high sense of mastery does not translate to mental health gain for AA men.

**Keywords:** African-Americans, Blacks, Socioeconomic status (SES), Socioeconomic position (SEP), Racism, Distress, Mastery.

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## Introduction

Both high socioeconomic position (SEP) [1-3] and psychological assets [4,5] are protective against undesired mental health outcomes. For example, educational attainment and income [6,7] as well as high sense of mastery [8] are protective against depression and distress. These protective effects, however, are unequal across race and ethnic groups [9-19].

As argued by the Minorities' Diminished Return (MDR) theory [20,21], SEP indicators [22,23] and personal assets [24-26] have weaker effects on mental and physical health of African American (AA) and other race/ethnic groups compared to Whites. An extensive body of research has shown that SEP has weaker effects on diet [15], obesity [13,19], alcohol use [17], smoking [16], impulse control [18], chronic disease [14,22], suicidal ideation [27], anxiety [28], depression [20,29], self-rated health [30], and life expectancy [23] for AA individuals compared to White Americans.

There are, however, studies suggesting that even within AAs, men may be at a relative disadvantage compared to women. In a 25-year follow up study of White and AA men and women, AA men were the only group in which a high level of educational attainment was linked to an increase in depressive symptoms over time [20]. Another study showed that high-SEP youth, particularly males and those who were living in predominantly White neighborhoods, experienced more depressive symptoms over time, an effect which is probably due to discrimination

[29,31]. In another national study, AA boys from wealthy families showed higher risk of clinical depression compared to their low SEP counterparts [10].

As some research built on MDR theory has shown [20,21], SEP resources and psychological assets generate smaller protective effects on the mental health of AA individuals, particularly AA males [10,11,20]. It is, however, still unclear why this pattern is worse for males than females. To respond to this gap in the literature, this study aimed to explore gender differences in the association between sense of mastery and psychological distress among AA adults in the United States. To generate generalizable results, we used a nationally representative sample.

## Methods

### Design

This secondary analysis used data from the National Survey of American Life (NSAL 2003). NSAL is a cross-sectional survey of non-Hispanic Black/AA adults in the US [32-34]. We briefly describe the overview of the study design, sampling, and methods here. More details on the NSAL methods and sampling is published elsewhere [32-34].

### Setting

The NSAL enrolled a household probability sample. In the NSAL, AAs were selected from rural and urban areas [32-34]. Using a multi-stage sampling design, the NSAL followed the core sampling that the National Survey of Black Americans

(NSBA) applied.

### Eligibility and sampling

The NSAL participants were eligible only if they were adult (age 18 years or older), were residing in the coterminous US, were non-institutionalized, and could perform an interview in English. Any individual who was residing in a nursing home, a long-term medical care setting, or a prison/jail was excluded [35]. Race/ethnicity in the NSAL was measured using self-identified response. All participants in this analysis self-identified as non-Hispanic AA, defined as being black with no ties to Caribbean countries.

### Analytical sample

The analytical sample in this study composed of 3570 AA adults who were either female (n = 2299) or male (n = 1271).

### Study constructs

The variables entered in this study were gender, age, educational attainment, sense of mastery, and psychological distress.

**Educational attainment:** Educational attainment was self-reported and treated as an interval variable (years of schooling). A higher score was indicative of higher SEP.

**Sense of mastery:** Sense of mastery was measured using the scale developed by Pearlin. This questionnaire measures how much a person feels that he/she has control over events in his/her life [36]. Example item is “What happens to me in the future mostly depends on me” The responses ranges from (1) strongly disagree to (4) strongly agree. This variable was treated as a continuous measure. All items were reverse-coded so the higher score would indicate higher sense of mastery [37].

**Psychological distress:** To measure psychological distress, K6 was used. K6, developed by Ronald Kessler [38], is a six-item scale that is designed to evaluate nonspecific psychological symptoms such as anxiety and depression in the past month. Participants report how frequent they felt 1) sad, 2) hopeless, 3) worthless, 4) nervous, 5) restless, and 6) no interest over the past 30 days. The K6 has the potential to identify individuals who are at an increased risk for mental health problems and may require treatment [39]. Response item is on a 5-scale ranging from 1 (none of the time) to 5 (all the time), with a total score ranging from 6 to 30. Higher scores reflect more psychological distress [40,41] (Alpha=0.84).

### Statistical analysis

As the NSAL is a survey with a complex sampling design, Stata 15.0 (Stata Corp., College Station, TX, USA) was used to perform the data analysis. Standard Errors (design-based SEs) were estimated using Taylor series approximation. Thus, all inferences, means, and proportions are generalizable to the US AA population. Using Svy commands with sub-pop options, we used survey linear regression models for multivariable analysis. Sense of mastery was the main independent variable, psychological distress was the dependent variable, gender was the moderator, and age and educational attainment (SEP) were covariates. First, we ran two linear regressions in the pooled sample that included both men and women. Model 1 did not include any interaction term. Model 2, however, included an

interaction term between sense of mastery and gender. Then we ran two gender- stratified models, one for AA women and one for AA men (Models 3 and Model 4). Adjusted b, SE, Confidence Interval (CI), and p-values were reported.

## Results

### Descriptive statistics

From the participating 3570 AA adults, 2299 were women and 1271 were men. Table 1 describes age, SEP (educational attainment), sense of mastery, and psychological distress overall, as well as by gender.

### Multiple linear regressions in the overall sample

Table 2 depicts the summary of the results of multiple linear regression models in the pooled sample. In the pooled sample, high sense of mastery was associated with lower levels of psychological distress beyond confounders. In the pooled sample, we found a significant interaction between gender and sense of mastery on psychological distress. This suggests that high sense of mastery is more strongly associated with low psychological distress for AA women than AA men (Table 2).

### Gender-stratified multiple linear regression models

Table 3 presents the results of our gender-stratified linear regression models. In AA women (Models 3) but not AA men (Models 4), high sense of mastery was correlated with less psychological distress (Table 3).

## Discussion

This study found that in a nationally representative sample, high sense of mastery is associated with lower psychological distress for AA women but not AA men. That is, AA men are at a relative disadvantage compared to AA women in gaining mental health from their sense of mastery. Although this study did not measure racism, we attribute this finding to the stronger effect of structural racism facing AA men than AA women.

**Table 1.** Descriptive characteristics in the overall sample.

	Mean	SE	95% CI	
<b>All</b>				
<b>Age (Years)</b>	41.85	0.51	40.82	42.88
<b>Education (Years)</b>	12.48	0.09	12.3	12.65
<b>Sense of Mastery</b>	27.2	0.1	26.98	27.41
<b>Psychological Distress (K-6)</b>	4.81	0.13	4.54	5.08
<b>Women</b>				
<b>Age (Years)</b>	42.04	0.56	40.91	43.17
<b>Education (Years)</b>	12.47	0.1	12.27	12.68
<b>Sense of Mastery</b>	27.04	0.12	26.8	27.27
<b>Psychological Distress (K-6)*</b>	5.17	0.14	4.88	5.45
<b>Men</b>				
<b>Age (Years)</b>	41.6	0.64	40.3	42.9
<b>Education (Years)</b>	12.48	0.12	12.25	12.72
<b>Sense of Mastery</b>	27.4	0.15	27.1	27.71
<b>Psychological Distress (K-6)</b>	4.36	0.18	3.99	4.72

\*  $p < 0.05$  for a comparison of men and women.

**Table 2.** Linear regressions in the overall sample of African American adults.

	<i>b</i>	<i>SE</i>	<i>95% CI</i>		<i>t</i>	<i>P</i>
<b>Model 1 (All)</b>						
<b>Gender (Men)</b>	-0.67	0.16	-0.99	-0.36	-4.32	<0.001
<b>Age (Years)</b>	-0.05	0	-0.06	-0.04	-11.69	<0.001
<b>Education (Years)</b>	-0.17	0.03	-0.23	-0.11	-5.71	<0.001
<b>Sense of Mastery</b>	-0.44	0.02	-0.49	-0.39	-19.2	<0.001
<b>Intercept</b>	21.35	0.71	19.91	22.79	30.17	<0.001
<b>Model 2 (All)</b>						
<b>Gender (Male)</b>	-3.48	1.24	-5.99	-0.96	-2.81	0.008
<b>Age (Years)</b>	-0.05	0	-0.06	-0.04	-11.9	<0.001
<b>Education (Years)</b>	-0.17	0.03	-0.23	-0.11	-5.76	<0.001
<b>Sense of Mastery</b>	-0.48	0.02	-0.53	-0.44	-20.41	<0.001
<b>Sense of Mastery * Gender (Men)</b>	0.1	0.04	0.02	0.19	2.43	0.02
<b>Intercept</b>	22.55	0.75	21.02	24.08	30	<0.001

Standard Errors (*SE*), 95% Confidence Interval (*CI*).

**Table 3.** Linear regressions for African American men and women.

	<i>b</i>	<i>SE</i>	<i>95% CI</i>		<i>t</i>	<i>p</i>
<b>Model 3 (Women)</b>						
<b>Age (Years)</b>	-0.06	0	-0.07	-0.05	-13.53	<0.001
<b>Education (Years)</b>	-0.23	0.04	-0.31	-0.15	-5.92	<0.001
<b>Sense of Mastery</b>	-0.48	0.02	-0.53	-0.43	-19.28	<0.001
<b>Intercept</b>	23.75	0.79	22.14	25.36	29.99	<0.001
<b>Model 4 (Men)</b>						
<b>Age (Years)</b>	-0.04	0.01	-0.05	-0.02	-5.04	<0.001
<b>Education (Years)</b>	-0.09	0.04	-0.18	-0.01	-2.16	0.038
<b>Sense of Mastery</b>	-0.39	0.04	-0.47	-0.31	-9.81	<0.001
<b>Intercept</b>	17.54	1.16	15.19	19.89	15.16	<0.001

Standard Errors (*SE*), 95% Confidence Interval (*CI*).

The findings can be interpreted with the MDR theory in mind [14,15]. According to this theory, AAs gain less health from their available resources than Whites. Across age groups including children [42], youth [43,44], adults [16], and older adults [45], SEP and personal assets better improve health for whites than non-whites.

This study suggests that even within various social identities such as race and ethnicity, other social identities shape advantage or disadvantage. The intersection of multiple social identities such as gender and race determine how much health follows from SEP resources and psychological assets. Among AA individuals, males are at a dual disadvantage as they do not gain mental health from the very same SEP and psychological resources. Most of the papers built on the MDR theory, however, have merely compared race/ethnic groups [14,15], with less information being available on the nuances such as gender differences within race.

The weak effect of SEP resources such as educational attainment and psychological assets in lowering psychological distress among AA men is in line with previous research [9,20]. Similarly, there is some research suggesting that SEP and

psychological assets have smaller effects on chronic disease [22], health behaviors [15,16], obesity [19], and mortality [23] for AA individuals, particularly males [10,11,46]. More research is needed on the interplay of race/ethnicity, SEP, and gender on health.

Discrimination, which is probably responsible for reduced health gains of SEP resources and psychological assets, [47] is more common in male than female AA individuals [31,46]. In addition, AA men are considerably more sensitive to the effects of discrimination and related stressors on psychological distress [41,47,48].

## Implications

The results suggest that AA men with high sense of mastery still report high levels of psychological distress. High-mastery AA women, however, report lower psychological distress. Thus, while AA men with high mastery still need screening, diagnosis, and treatment of mental problems, however, a high sense of mastery is protective for AA women. As mental health protection that follows a high sense of mastery differs for AA men and women, AA men and women with psychological distress may have very different needs. High sense of mastery is linked to better mental health [8]. That means, AA men need other support in addition to their individual sense of mastery to overcome racism. Personal factors such as sense of mastery convey less information regarding psychological distress for AA men than other groups. This is another reason interventions and programs benefit from tailored design based on the intersections of race/ethnicity, gender/sex, and SEP/class. Such approach may be superior to universal programs that do not take into account specific needs of each subsection of the society [49].

## Limitations

The current study is not without limitations. First, with a cross-sectional design, this study is limited in making any causal inferences. While sense of mastery impacts psychological distress, psychopathology also reduces sense of mastery. Whether there is causal association, reverse causality, or confounding due a third factor, sense of mastery and distress seem to differently correlate in AA men and women. Second, sample size was larger for females than males. Given that we did not find an association in the group with lower sample size, differential statistical power may have biased our results. However, there are always fewer AA men than AA women in national surveys. Although differential statistical power may have affected our gender-stratified models, sample size would not be a source of bias in our pooled sample model with an interaction term. Third, the main outcome here was symptoms of distress rather than a clinical disorder (e.g., diagnosed by a psychiatrist). Fourth, very limited number of potential confounders was controlled. A wide range of individual and contextual factors may be associated with both sense of mastery and psychological distress [50]. Fifth, psychological distress and sense of mastery may be differently prone to measurement bias in AA men and women. Overall, women better disclose their emotional symptoms, while men tend to hide them. Sixth, we argue that the reason AA men and women differ in these associations is structural racism, oppression, injustice, and discrimination [51-53]. We, however, did not measure any explanatory factor that could

potentially explain our gender differences. Finally, as there are more AA men who are institutionalized (e.g., imprisoned) than AA women, selection bias may be a more severe source of bias for AA men than AA women in national surveys. There is a need to replicate our findings using newer, longitudinal data, with more comprehensive list of confounders. Also, there is a need to extend the MDR to within race comparison of diminished returns [54-58].

## Conclusion

To conclude, a higher sense of mastery is associated with lower psychological distress for AA women but not AA men. This observation extends the MDR theory by documenting within-race heterogeneity in the diminished returns by gender. Diminished returns may be worse for AA men compared to AA women. This finding has implications for practice and policy concerning mental health and well-being of AA men.

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## Conflicts of Interest

The author declares no conflicts of interest.

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