

## **Race/Sex Group Modification of the Association between Allostatic Load and Depression: Findings from the National Health and Nutrition Examination Survey, 2005-2010**

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### **Abstract**

**Objective:** We assessed whether the relationship between depression and chronic stress as measured in allostatic load (AL) differs by race and sex among US black and white adults.

**Methods:** Using data from the National Health and Nutrition Examination Survey (NHANES) 2005-2010, we examined race/sex modification of the relationship between AL and depression in black and white women and men aged 18-64 years (n=6431). AL scores, ranging from 0-9, were calculated using 9 cardiovascular, metabolic, and immunologic biomarkers; scores  $\geq 4$  were considered "high-risk". Depression was assessed using the PHQ-9; scores  $\geq 10$  indicate clinical depression. Logistic regression models estimated odds of elevated depressive symptoms as a function of AL for each race/sex group; age and socioeconomic status were included as covariates in each model. All analyses were weighted to represent U.S. adults.

**Results:** The association between AL and depression was strongest among white women (OR=2.1, 95% CI: 1.5, 3.0), followed by black men (OR=1.7 95% CI: 1.0, 2.9), and not statistically significant among black women (OR=1.1 95% CI: .60, 2.0) or white men (OR=1.4 95% CI: .82, 2.5).

**Conclusions:** Our findings that the association between AL and depression was strongest and statistically significant only among white women and black men despite black women having the highest mean AL and depression scores suggests a measure of psychological resistance to chronic stress among those coping with intersecting pressures of systemic race and gender-based discrimination. These results also suggest that social inequality may shape the manner in which chronic stress is expressed. Further research should explore other potential racialized and gendered manifestations of chronic stress in order to better understand social factors influencing health inequity.

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