

May 22nd, 4:30 PM - 6:00 PM

# Racial and Socioeconomic Disparities in Biological and Perceived Chronic Stress: Does Group Identification Matter?

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O'Brien, Kymerlee M.; Tronick, Ed; and Moore, Celia L., "Racial and Socioeconomic Disparities in Biological and Perceived Chronic Stress: Does Group Identification Matter?" (2012). *UMass Center for Clinical and Translational Science Research Retreat*. 49.  
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## **RACIAL AND SOCIOECONOMIC DISPARITIES IN BIOLOGICAL AND PERCEIVED CHRONIC STRESS: DOES GROUP IDENTIFICATION MATTER?**

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### **Abstract**

**Objective:** Hair cortisol has been recently identified as a biological index of stress via long-term alterations in HPA activity, although population norms and relationships to perceived stress measures have not yet been established.

In the present study, 135 adults (ages 18-66;  $M = 30.26$ ,  $SD = 12.80$ ; 87 females) from the diverse UMass Boston campus participated in a study assessing chronic stress (via hair cortisol), perceived stress (via self-reported indices), and health indicators (WHR and blood pressure). Since hair grows on average 1cm per month, we captured approximately 3 months of retrospective cortisol levels.

**Results:** Hair cortisol was uncorrelated with subjective stress indices, unless collapsed into a composite across several domains. Differences in objective and subjective stress measures were found for sociodemographic factors including racial/ethnic identity, sex, and SES. Specifically, highest hair cortisol levels were found by gender (males were higher) and race (minorities were higher), whereas subjective stress was positively associated with race (minorities were higher), and negatively associated with SES and age. Subjective stress was not significantly different by gender.

Examining interactions of predictors, results obtain that Race by SES predicted hair cortisol, perceived stress, well-being, and health indicators but in unexpected directions. Minorities in high SES had the greatest hair cortisol, subjective stress, systolic blood pressure, waist cm, and lower reported well-being, compared to the non-minority high SES group

The unexpected findings of deleterious outcomes for high SES minorities suggest the necessity of further studies examining social identity, the prevalence of discrimination in high SES, and potential protective factors.

Moreover, these findings give evidence that hair cortisol, as a biomarker of long-term HPA activity, may not always be correlated with perceptions of stress across specific domains, but rather may provide a broad non-specific assessment of chronic stress, where objective and subjective indices may be uncoupled.