



Mid Atlantic Regional Chapter of the American College of Sports Medicine

46th Annual Scientific Meeting, November 3rd - 4th, 2023
Conference Proceedings

International Journal of Exercise Science, Issue 9, Volume 12



Association of In-Group Colorism with Vascular Function in Black Emerging Adults

Emily F. Blake, Michelle Sobambo, Lauren E. Eagan, Cynthia M. Weiner, Shannon E. Khan, Sara E. Mascone, Fanita A. Tyrell, Sushant M. Ranadive. University of Maryland, College Park, MD.

Emerging adulthood is a critical developmental stage characterized by identity exploration, which is associated with increased exposure and vulnerability to internalizing negative discriminatory and other race-related experiences. Chronic experiences of discrimination during this period lead to exaggerated stress responses that influence health outcomes, to which internalization of these experiences may increase susceptibility to maladaptive psychological and physiological responses. Colorism is discrimination or prejudice based on skin tone. Individuals who identify as Black or African American who have darker skin tones are subject to both race- and color-based discrimination. Internalizing colorism, or self-assigning greater meaning and significance to skin tone may serve as a unique psychosocial stressor that impacts physiological functioning and more specifically vascular function, thus increasing risk for diseases such as hypertension (HTN). **PURPOSE:** To evaluate the relationships between self-assigned significance/meaning to skin tone and vascular function using the flow-mediated dilation (FMD) technique. **METHODS:** Brachial artery responses to 5-minutes of forearm ischemia via FMD [(peak post-occlusion diameter – baseline diameter)/baseline diameter]*100) were assessed in a sample of 97 Black emerging adults (20 ± 1 yrs, 33M/64W) at the University of Maryland. Participants also completed a 20-item In-Group Colorism Scale (IGCS) on a 5-point Likert scale to assess self-assigned significance and meaning to skin tone. **RESULTS:** IGCS scores were not correlated with FMD ($\rho = -0.06, p = 0.55$). However, in sex-specific analyses, women with higher IGCS scores had higher resting diastolic blood pressure ($\rho = 0.31, p = 0.01$) and mean arterial pressure ($\rho = 0.28, p = 0.03$), associations that were not present in men. **CONCLUSION:** While self-assigned significance and meaning to skin tone was not associated with vascular function in Black emerging adults, there may be a sex-specific impact on blood pressure at rest. This relationship may help explain the increased HTN prevalence seen in Black women. **SIGNIFICANCE/NOVELTY:** Vascular dysfunction is a major precedent to cardiovascular diseases, including HTN. There are significant health disparities in HTN, in which individuals who identify as Black or African American experience disproportionate rates, often earlier in life than other race/ethnic groups. This project seeks to understand the potential impact of race-related stressors, specifically internalized colorism, on vascular function in Black emerging adults, during a critical developmental period and in a context where they are underrepresented (primarily white institution/PWI).

Funding – UMD Human Integrative Physiology and Resilient Adaptation across Culture and Context Laboratories