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The importance of considering both racial and socioeconomic disparities: A response to Collins and Alpert

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We thank Collins and Alpert for their interest in and attention to our work in their commentary in this issue (Collins and Alpert, 2009). We also thank them for highlighting their recent publication (Collins, Somes, & Alpert, 2008) demonstrating racial/ethnic differences in pulse wave velocity (PWV) based on brachial-ankle compliance (as opposed to carotid-femoral PWV in our study).

Collins and Alpert indicate that our publication “only confirms previously published work” (Collins and Alpert, 2009). We agree that important prior work does demonstrate racial/ethnic differences in PWV. However, race/ethnicity and socioeconomic status (SES) have not been examined jointly, particularly in relation to markers of subclinical cardiovascular disease (SCD) among adolescents. This joint analysis is important given that African American adults and youth are more often in lower SES positions. Thus, SES and race can be confounded when examined in isolation. We are interested in their relative associations with SCD.

Collins and Alpert interpreted our findings to indicate that the only SES marker related to PWV in multivariable models was income (Collins and Alpert, 2009). We would like to clarify our findings. In multivariable models (controlling for age, gender, race/ethnicity, BMI, and SBP), income, neighborhood SES, and to a lesser extent education were all inversely related to PWV. Only when education and income were examined together in the same model (only individual-level predictors were in this last model) were significant effects observed for income alone in relation to PWV. In models stratified by race, we further found that low income was related to higher PWV primarily among African Americans, and low education was related to higher PWV primarily among Caucasians. We suggest that Collins and Alpert may find it informative to examine the joint association of race and SES in their adolescent sample.

Collins and Alpert question the clinical significance of our study findings given these race-specific findings. We do not believe these race-specific findings diminish the clinical

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significance of the overall study results. In fact, we believe they underscore that all SES indicators are not interchangeable, particularly across racial/ethnic groups. However, we urge readers to interpret these racial differences, particularly with respect to income, with caution given the low representation of Caucasians in the low income group.

In a related point, Collins and Alpert recommend comparing low SES Caucasians with high SES African Americans to understand the effect of SES on arterial stiffness. While this comparison is certainly an interesting one, we believe that it is more important to have the full SES range represented within both racial/ethnic groups to tease out the relative contributions of SES and race to health disparities. However, as we observed, given the concentration of African Americans within positions of poverty within the United States, this is not easily accomplished in population-based research.

Finally, Collins and Alpert state that “Before we can accept that racial differences in cardiovascular risk are closely related to SES, and perhaps not due to inherent genetic differences as the majority of extant literature would suggest, stronger and more consistent statistical results need to be found and reported” (Collins and Alpert, 2009). They thereby raise the specter of what has been termed “stormy debates over race, genetics, and health disparities” (Krieger, 2005). Our intention was not to address the issue of genetic versus environmental origins of disparities in our publication, nor are we attempting to attribute racial/ethnic differences in health solely to SES differences. Moreover, while Collins and Alpert’s caution against assuming that racial/ethnic differences reflect SES differences *per se*, we also caution against the tendency to attribute phenotypic differences by race/ethnicity to genotypic differences. Quoting from the American Academy of Pediatrics’ Committee on Pediatric Research Report of Race/Ethnicity, Gender, and Socioeconomic Status: “Racial disparities in health generally do not reflect biologically determined differences in the genome or physiology. Indeed, genetic differences between racial groups are small compared with genetic differences within groups, so racial differences in diseases are, to a significant degree, currently unexplained” (2000; 1349). In sum, there is yet much to be learned about the early development of SCD in adolescents of all racial backgrounds.

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