

EFFECT OF RACE AND SOCIOECONOMIC STATUS ON CARDIOVASCULAR RISK FACTOR BURDEN: THE COOPER CENTER LONGITUDINAL STUDY

Objectives: This study examines the prevalence of cardiovascular risk factors and chronic disease burden among African Americans compared to Caucasians in a population of higher socioeconomic status.

Design: The current study is a cross-sectional, secondary data analysis of the Cooper Center Longitudinal Study.

Setting: Patients with a medical examination from 1970–2010 at the Cooper Clinic.

Participants: 762 African Americans and 40,051 Caucasians who met the criteria.

Outcome Measures: Racial differences in cardiovascular risk factors/burden of disease between African Americans and Caucasians.

Results: African Americans had higher prevalence of evaluated cardiovascular risk factors than did Caucasians after controlling for obesity, tobacco use, and physical fitness. Caucasians had greater likelihood of no risk factors while African Americans were more likely to have all three risk factors. Race was typically predictive of cardiovascular risk factors in African Americans compared to Caucasians.

Conclusions: Findings suggest that health differences persist despite greater socioeconomic status, and further investigations of biopsychosocial causes are warranted. (*Ethn Dis.* 2013;23[1]:35–42)

Key Words: Socioeconomic Status, Racial/ethnic Minorities, Preventive Medicine, Cardiovascular Risk Factors

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INTRODUCTION

Despite the increasing life expectancy for the US population, a greater burden of disease continues to exist among African American (AA) men and women compared to their Caucasian counterparts. In 2007, the age-adjusted death rate was 1.3 times greater for African Americans than Caucasians.¹ African Americans' lifespan is 4.8 years (on average) less than Caucasians.¹ Cardiovascular disease (CVD) in African Americans accounted for 44.6% and 46.9% of deaths in men and women, respectively, in 2006.^{2,3} Data from the Centers for Disease Control and Prevention further demonstrate racial/ethnic health disparities by a 32.3% higher mortality rate due to strokes among African Americans compared to Caucasians.³ In addition to CVD, African Americans also have a higher prevalence of cardiovascular risk factors including hypertension, obesity, diabetes mellitus, and physical inactivity.² For example, 48% of African Americans have multiple cardiovascular risk factors vs 37% of the remainder of the population.⁴ While race is commonly explored in the health disparities literature, its meaning and relationships to health are routinely discussed for additional clarity in these studies.

The meaning of race has varied over the decades to refer to physical traits or phenotypical features⁵ or a social political construct that places certain races above or below another race in a so-called hierarchy.^{6,7} The lack of a conceptual consensus, varied methods to assess, and nebulous operational definitions of race across disciplines has led to a growing methodological literature to further clarify the meaning,

influences, and related factors to race. For example, the construct of ethnicity, which is not synonymous with race, could replace race in health disparities research as this term refers to values, customs, behaviors, and/or traditions.⁸ This construct can be added to a study with an acculturation measure.⁹ The influence of genes and/or environment on race and health outcomes has advanced with the growth of technology, genetic research, and quantitative methodologies.¹⁰ Furthermore, theory-driven constructs that are strongly correlated to race or certain races (eg, discrimination), while not reinforcing stereotypes, can be used to better delineate the relationships between race and various outcomes.¹¹ Unfortunately, race has been confounded by low socioeconomic status (SES) over the past decades where it is not clear if low SES and/or race is contributing to specific poor health outcomes.¹²

Socioeconomic status pertains to occupation, income, employment, and at times ZIP Code and insurance status.¹³ While it is optimal to have all of these indicators of SES in health research, survey design, report bias, and privacy of the participant may prevent an actual or valid assessment of all indices. Race as previously defined does not explicitly explain or describe these prior areas of SES. Thus, the relationships are not between race and SES, and their influence on outcomes must be clearly defined in health research. Past research has attempted to do such where racial health inequality may stem predominantly from SES disadvantages in education, income, and employment status (ie, lower SES).^{14,15} The literature has attempted to address this prior relationship by statistically controlling

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