

## **Bio-Ancestry and Social Construction of Race and Ethnicity**

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Two sharply divided perspectives concerning the nature of racial distinction have developed over the past two decades. On one hand, the consensus has long been established among academics that racial and ethnic categories are the invention of social construction. On the other, a number of genetic studies point to a bio-ancestral base for the major racial/ethnic categories used in the contemporary United States. Instead of treating the two perspectives as diametrically opposed, this application proposes to examine evidence for the coexistence of socially-constructed and bio-ancestrally-rooted racial identity in the contemporary United States.

The overarching goal of this application is to investigate whether adding estimates of bio-ancestry will significantly advance our understanding of social construction of race and ethnicity. In previous studies of social construction of race, racial identities have been considered socially constructed. In this application, we investigate whether and why self-reports of race and ethnicity depart from bio-ancestry. The project will draw on decades of scholarship in race and ethnicity, recent advances in human genetics, and data resources from the National Longitudinal Study of Adolescent Health (Add Health) (Harris, Florey, Tabor et al. 2003) and the Human Genome Diversity Project (HGDP) (Cann, de Toma, Cazes et al. 2002).

This proposed project has two broad objectives. First, we assess the accuracy of a panel of 186 genetic ancestral informative markers in predicting self-reported race/ethnicity in the contemporary United States using a racially and ethnically diverse sample of 17,000 individuals from Add Health. Previous studies of bio-geographic ancestry were carried out for the purpose of understanding the history of human evolution (Li, Absher, Tang et al. 2008; Rosenberg, Pritchard, Weber et al. 2002) or population admixture in the context of genetic association studies (Tang, Quertermous, Rodriguez et al. 2005). These studies did not directly address the relation between bio-ancestry and racial/ethnic identity using a US-based racially- and ethnically-diverse population sample. Second, we take advantage of estimated bio-ancestry and use it in an investigation of the social

construction of race and ethnicity in the US. We examine to what extent self-reports of race and ethnicity follow the one-drop rule -- the century-old social practice of treating individuals with any amount of African ancestry as black in the US. We address whether and why individuals change their racial/ethnic identity under different social circumstances. We then examine the relationship between bio-ancestry and friendship social network in a school context.