



Three Puzzles in Gene by Environment Socio-Behavioral Research with Applications to Depression

Invitation

Prof. Dalton Conley, New York University

Thursday May 3, 2012
5 p.m., Room A 300

Sociologists are fond of claiming that the effects of genes depend on social context. While providing descriptively rich findings, in all studies supporting this claim environmental conditions are potentially endogenous to the unmeasured genetic characteristics of the subjects and their families. Thus, however appealing the contingency of genetic effects on social environment is to sociologists, individual gene-gene interactions cannot be ruled out.

A second problem with respect to G x E interactions relates to estimating narrow-sense heritability: When genes and environment co-vary in the same direction (i.e. more related individuals share more similar environments) by an amount we cannot measure, models for genetic effects remain underspecified. Third, what do we actually mean by environment: do the very genes of those around us – the metagenome – form part of the social environment over-and-above the behaviors (phenotypes) of these socially-salient peers?

We offer a map out of this empirical morass. Using data from the National Longitudinal Survey of Adolescent Health (Add Health) and a candidate gene approach, we examine how genetic variation in the serotonin transporter (5HTT or SERT) interacts with exogenous prenatal environment to affect likelihood of depression; how this locus may act as a phenotypic capacitor (i.e. affect the variance in outcomes, not just the mean); and how it may be subject to frequency dependent selection (i.e. how the metagenome may matter). Finally, also examining depression, we deploy the natural experiment of genetically misclassified twins to interrogate the equal environments assumption (EEA) of classic behavioral genetics research.

Please register per email to bgss@hu-berlin.de.

Dalton Conley is Dean for the Social Sciences and University Professor at New York University. Conley's research focuses on the determinants of economic opportunity within and across generations. He holds a Ph.D. in Sociology from Columbia University, and is currently pursuing a Ph.D. in Biology at the Center for Genomics and Systems Biology at NYU.

The workshop is organized by the project group „Demography and Inequality“ and cosponsored by the Social Science Research Center (WZB) and the Berlin Graduate School of Social Sciences (BGSS).



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