Can Genes Explain Human Personality? Doubtful!

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Abstract

Session: The Status and Prospect of Genetic Explanations of Behavior (Maria Kronfeldner, Pierre L. Roubertoux, Kenneth F. Schaffner, and James Tabery) The five factor model of personality (FFM) is a widely accepted model in psychology. But in spite of the claimed strength of the FFM, genetic approaches to personality applying the model have regressed to their "infancy." The story behind this regression is of even more general interest, since it is a corollary of what has developed in the past six years in behavioral and psychiatric genetics. These changes were required by what has amounted to a major revolution occasioned by the development of the genome-wide association studies (GWAS) methods. The application of GWAS methods has also generated the controversial problem of "missing heritability," in which GWAS results only account for a very small portion of the variance of traits of interest. But more importantly, GWAS has led to the clearer realization that genes typically will have tiny effects, and there will be a huge number of them-probably thousands of genes affecting relatively simple traits. The bottom line currently is two major investigators in the area, South and Krueger, state "that molecular personality genetics is in its infancy as a field," and that GWAS findings suggest that there are likely thousands of genes of small effect size that influence personality, and that at present these results "tell us little about the biological pathways involved in personality and psychopathology." This presentation will review these issues, and point the way that pathway analyses may be offering some future solutions.

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