The Role of Parental Genotype in the Intergenerational Transmission of Externalizing Behavior: Evidence for Genetic Nurturance

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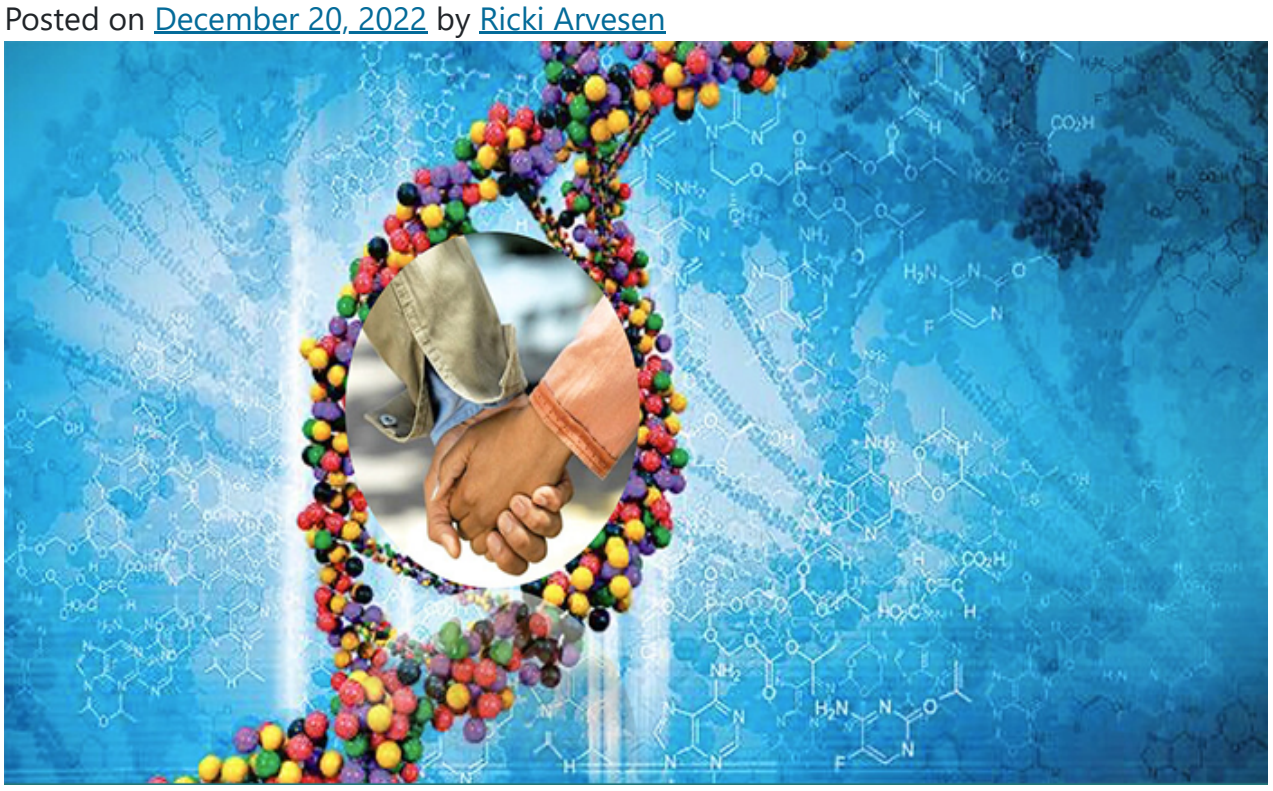

In this analysis, we examined the pathways by which genetic risk associated with externalizing is transmitted in families. We used phenotypic and genetic data from parents and offspring to test the genetic and environmental pathways contributing to adolescent externalizing behavior. Genetic liability for externalizing problems was operationalized in the form of polygenic scores. In addition to direct transmission of parental genotypes to the child, we found evidence for genetic nurture such that parental genotype influences offspring externalizing behavior by shaping the environment. Parental externalizing psychopathology partly explained the relationship between parental genotype and adolescent externalizing behavior. This suggests that parental externalizing psychopathology represents both genetic and environmental risk.

We also found evidence for gene-environment correlation, whereby adolescent genetic liability for externalizing was associated with characteristics in parent-adolescent relationship. Our results demonstrate that in addition to genetic transmission, genes influence offspring behavior through the influence of parental genotypes on their children's environmental experiences, and the role of children's genotypes in shaping parent-child relationships.

Kuo SI, Poore HE, Barr PB, Chirico IS, Aliev F, Bucholz KK, Chan G, Kamarajan C, Kramer JR, McCutcheon VV, Plawecki MH, Dick DM (2022) The role of parental genotype in the intergenerational transmission of externalizing behavior: Evidence for genetic nurturance. Development and Psychopathology:1-11. PMID: 36200344; DOI: 10.1017/S0954579422000700.

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