

Public Abstract

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Title:Gene and Environmental Influences on Impulsivity and Coping Motives for Alcohol across Emerging and Young Adulthood.

Variation in the gene encoding the dopamine D4 receptor (DRD4) may moderate the influence of environments (i.e., a gene-environment interaction, GXE) on personality traits and motives associated with alcohol use disorders. This project examines whether variation in DRD4 moderates the environmental influence of childhood adversity on personality (including replication attempts of reported GXE) as well as coping motives. Primary analyses were conducted in the Alcohol, Health, and Behavior (AHB; for current analyses $n_s=236-252$) dataset, a prospective, high-risk sample of college students who were assessed seven times from ages 18-35. Replication analyses were conducted in the Missouri Adolescent Female Twin Study (MOAFTS, for current analyses $n_s=1,017-1476$), a study of a birth cohort of female like-sex twin pairs. Analyses involving DRD4 2- and 5- repeat allele carriers vs. others yielded findings inconsistent with the existing GXE personality studies. Although results varied, 7-repeat carriers appeared to be more susceptible to environmental influences on novelty seeking, and to a lesser extent impulsivity, in the AHB data; this finding largely failed to replicate in MOAFTS. No GXE on coping motives were identified. These findings provide limited support that DRD4 status modifies the influence of childhood adversity on personality and have implications for replication-focused research involving GXE.