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## **Externalizing and Internalizing Genetic Pathways to Alcohol Consumption and Alcohol Use Disorder Symptoms in College Students**

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Previous research has proposed that the genetic effects on alcohol use operate through diverging pathways related to personality characteristics, namely externalizing and internalizing pathway. In the current study, we tested whether dimensions of impulsivity mediate the longitudinal effect of genetic risk on alcohol consumption and AUD symptoms. To assess genetic risk, we used polygenic risk scores (PRS) calculated for alcohol use problems (AUDIT-P; discovery sample UK Biobank) to represent the externalizing pathway, and PRS for major depressive disorder (MDD; discovery sample PGC) to represent the internalizing pathway. UPPS-P was used as a measure of personality, as it includes facets tapping into both externalizing and internalizing dimensions. AUD symptoms and alcohol use was indicated by four waves of data. The analytic sample included 2,789 participants of European ancestry, collected as part of a larger, university-wide longitudinal data collection. The results showed that negative urgency and sensation seeking significantly positively predicted AUD, whereas alcohol use was predicted by higher sensation seeking. The longitudinal effect of MDD PRS on AUD was fully mediated through negative urgency,  $\beta = .013$ , 95% BcCI [.001, .030], but no significant mediation was found for alcohol consumption. Further, no significant indirect effect of AUDIT-P PRS was found on AUD or alcohol consumption. The current results provide support for the importance of the internalizing pathway in the development of AUD symptoms and emphasize the utility of using personality dimensions for explaining the link between genetic risk and alcohol-related phenotypes.