

## **The moderating roles of peer group deviance and parental monitoring on polygenic risk for alcohol use across adolescence**

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**BACKGROUND.** Peer group deviance (PGD) and parental monitoring (PM) are among the most salient predictors of adolescent alcohol use (AU). Twin studies have shown that these risk factors moderate latent genetic variance in adolescent AU, but there has only been one study to date that has relied on measured, aggregate estimates of risk and analyzed their interaction with PM and PGD to predict AU at age 14. Thus, the effects of PGD and PM on polygenic risk for adolescent AU within and across time remain unknown. The aims of the present study are to examine whether polygenic risk predicts AU across late adolescence and if PD and PGD moderate the impact of polygenic risk on AU. **METHODS.** Using genome-wide association estimates of AU frequency from the Australian Twin Registry, we tested whether polygenic risk predicts AU frequency at four ages (ages 16, 17, 18, and 20) in an independent sample using univariate linear regressions. We then tested whether PGD and PM moderated polygenic risk for AU at the four ages in the independent sample using multiple linear regressions with polygenic risk-by-environment interactions. **RESULTS.** PGD at age 12 increased AU at ages 16 and 17, and PGD at age 15 increased AU at ages 16, 17, 18, and 20, while PM at ages 12, 13, and 15 decreased AU at age 16. Higher polygenic risk for AU predicted increased AU at age 20. Further, PM at age 12 moderated polygenic risk for AU at age 20, such that polygenic risk for AU at age 20 was less influential under conditions of high PM at age 12. **CONCLUSIONS.** High PGD and low PM were associated with increased AU. Early PM moderated polygenic risk for AU at age 20. These findings have important prevention and intervention implications for reducing adolescent AU.