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Associations between risky decision making and alcohol use in young adults

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Keywords

risk taking, alcohol, decision making, impulsivity, substance use

Abstract

Studies examining the association between laboratory-based assessments of risk-taking propensity and alcohol use have produced mixed results. Heterogeneity in the existing literature may be attributable to variable definitions of risk (e.g., conflating risk taking with learning) and lack of nuanced assessments of patterns of responding (e.g., variability in risk taking). Nineteen participants (mean age: 26.7, 12 female) completed the Automatic Balloon Analogue Risk Task to assess risk taking behavior, where they inflated a balloon to earn money, but lost their earnings if the balloon exploded. To avoid conflation between risk taking and learning, although each balloon has a unique explosion point, participants were told the ideal pump number across all trials. To enhance motivation, payment was based on performance. Participants also self-reported frequency and quantity of alcohol use and completed the Young Adult Alcohol Consequences Questionnaire and the Alcohol Use Disorders Identification Test. Greater risk taking (i.e., more pumps) was associated with greater frequency of alcohol use ($r = 0.473$, $p = 0.041$), with a similar trend observed with symptoms of alcohol use disorder ($r = 0.441$, $p = 0.059$). Greater variability in risk taking behavior (i.e., standard deviation in pumps), was positively correlated with more heavy drinking ($r = 0.717$, $p < .001$) and negative consequences of alcohol use ($r = 0.600$, $p = 0.007$). No other significant associations between risk taking behavior and alcohol use were detected. Our findings are consistent with prior studies, showing a positive association between risk taking and alcohol use, and provide new information about how variability in risk taking is linked to heavy alcohol with negative consequences. Longitudinal and mechanistic studies are needed to determine if risk taking is associated with escalating patterns of alcohol use overtime and to identify the biopsychosocial risk factors linked to individual differences in risk-taking behavior.