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**Lippard E.T.C., Radpour S., Weber W.A., Fromme K., and Strakowski S.M.**

**Neuroanatomical Variation and Associations With Drinking Behavior, Drinking Motives, and Risk-Taking in Young Adults With Bipolar Disorder.**

**BACKGROUND:** Alcohol use disorders (AUDs) occur at a higher rate in individuals with bipolar disorder than the general population. We previously reported lower gray matter volume (GMV) in several prefrontal regions in adolescents with bipolar disorder who subsequently reported alcohol use problems, compared to those that did not. How neuroanatomical variation translates into risk is unclear. Therefore, we are now investigating neuroanatomical variation in bipolar disorder and behavioral associations.

**METHODS:** To date, 17 young adults (6 with bipolar disorder and 11 healthy participants) with no prior AUDs (82% female, mean<sub>age</sub>±stdev= 22±2 years) have completed structural magnetic resonance imaging and a battery of alcohol-related measures including the Daily Drinking Questionnaire, Drinking Motives Questionnaire, and the Iowa Gambling Task (IGT). In this preliminary analysis, we investigated group differences in drinking patterns over the last three months and relationships between drinking patterns and variation in prefrontal cortical GMV within bipolar disorder.

**RESULTS:** Individuals with bipolar disorder reported greater frequency of drinking ( $p=0.02$ ) but did not differ in quantity consumed or rate (drinks consumed per hour) of drinking. Greater quantity consumed was associated with lower ventral prefrontal GMV while increased rate of drinking was associated with lower rostral and dorsolateral prefrontal GMV ( $p<0.005$ ,  $\geq 20$  voxels). Lower ventral GMV was associated with greater coping motives for drinking while lower rostral and dorsolateral GMV was associated with greater risk-taking on the IGT ( $p$ 's $<0.05$ ).

**CONCLUSIONS:** These preliminary results from our ongoing study suggests that variation in prefrontal GMV in bipolar disorder may increase risk of developing AUDs.