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Neural Reactivity to Negatively Valenced Stimuli in Young Adults with Bipolar Disorder and a History of Bullying Victimization

BACKGROUND: Bullying victimization and alterations in emotion brain networks have both been associated with problematic drinking. There is a paucity of studies investigating bullying victimization in psychiatric illness such as bipolar disorder which carries high rates of alcohol use disorders (AUDs). This preliminary study investigates neural reactivity to emotional stimuli and associated drinking motives and alcohol use in young adults with bipolar disorder and a history of bullying victimization compared to diagnostic controls.

METHODS: To date, 30 young adults with bipolar disorder type I (10 with history of bullying victimization and 20 without, 73% female, mean_{age}±SD=21±2 years) completed the Retrospective Bullying Questionnaire, Childhood Trauma Questionnaire (CTQ), Drinking Motives Questionnaire, and Daily Drinking Questionnaire. Participants also completed the Continuous Performance fMRI Task with Emotional and Neutral Distracters (CPT-END). Between-group differences in neural reactivity to emotional stimuli were investigated, controlling for sex, total CTQ score, and age. Differences in drinking motives, alcohol use, and clinical phenotypes were also investigated.

RESULTS: Lower functional response to emotional stimuli was observed in ventral and dorsolateral prefrontal cortices in bipolar disorder with bullying victimization compared to those without ($p < 0.005$, ≥ 20 voxels). Those with a history of bullying victimization reported higher emotional abuse and conformity drinking motives, and earlier age of first manic episode ($p < 0.05$).

CONCLUSIONS: Preliminary results from this ongoing study suggest differences in prefrontal activation during emotion regulation in young adults with bipolar disorder and bullying victimization. Larger prospective investigations are needed to examine how bullying victimization affects emotion brain networks and may relate to increased risk of AUDs.

Keywords: Bipolar Disorder, Bullying Victimization, Alcohol Use Disorder, Young Adulthood, Functional Magnetic Resonance Imaging