Title: Emotional Faces and Working Memory in Children with High Autistic and Anxiety Traits.

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While the impact of anxiety and autism on working memory has been investigated, conflicting findings have been reported. For both conditions, working memory has been reported to be intact, impaired, or improved, or variously modulated by other factors, including emotional content of stimuli, and neuroimaging findings have been varied. When looking at the combined effect of comorbidity, the picture is even less clear. Here, we determined whether a classic finding in the cognitive neuroscience of anxiety—increased salience and attention to negative emotional stimuli—varies across children who do or do not also have elevated autistic traits. Specifically, we used the *Adolescent Brain Cognitive Development* (ABCD) study dataset to compare threat or negative emotion bias across 4 well-matched subgroups of 9–10-year-old children: 1) high anxiety and low autistic traits (ANX; *N*=54), 2) high autistic traits and low anxiety (AUT; *N*=48), 3) high anxiety *and* autistic traits (ANX+AUT; *N*=51), and 4) low anxiety and low autistic traits (CTRL; *N*=52). We examined an n-back task that probed visual working memory and utilized emotional face stimuli (EN-Back), which allowed us to look at the behavioral and neural correlates of emotional faces on working memory in these groups. Behavioral Results showed no group differences in accuracy, reaction time, or d-prime scores across groups, indicating preserved working memory across groups, but main effects of stimuli were present, showing that emotional faces did alter working memory. Amygdala recruitment was sensitive to faces but not valence. Some modest evidence for enhanced neural recruitment in response to negative stimuli in high anxious and dual groups. This did not impact behavior.