

Public Abstract

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Title:Dopamine and Emotion Processing in Schizotypal Anhedonia

Three studies examined emotion processing and dopamine regulation in anhedonia. In Study 1, in multiple assessments of emotional experience (e.g., naturalistic and lab contexts and social and nonsocial situations), people with elevated social anhedonia ( $n = 40$ ) reported less intensity of positive affect than both controls ( $n = 30$ ) and people with elevated perceptual aberration-magical ideation ( $n = 29$ ). Social anhedonia was also associated with providing less emotional content when describing what it is like to experience positive situations. In contrast, both social anhedonia and perceptual aberration-magical ideation were associated with increased frequency of negative affect for their daily experiences. Moreover, social anhedonia was not associated with a decrease specifically in high-arousal emotions. In Study 2 ( $n = 339$ ), social and physical anhedonia (but not perceptual aberration-magical ideation) were again associated with decreased self-reported positive affect to lab stimuli. Overall, results suggest anhedonia may be associated with a general decrease in self-reported positive affect intensity. Relatedly, the Val(158)Met polymorphism of the catechol-O-methyltransferase (COMT) gene has been associated with aspects of schizophrenia that are possibly related to the disorder's pathogenesis. In study 3, relatives of patients with schizophrenia who were homozygous for the val allele of the COMT polymorphism showed the highest elevations in self-reported social and physical anhedonia. Associations with the COMT polymorphism were absent in relatives of patients with bipolar disorder and control participants. Findings suggest that anhedonia is manifest in individuals who carry genetic liability for schizophrenia and is associated with the Val(158)Met polymorphism of the COMT gene.