

Decision-Making Under Uncertainty in Obsessive-Compulsive Disorder

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Abstract : Obsessive-Compulsive Disorder (OCD) produces profound morbidity. Difficulties with decision making and intolerance of uncertainty are prominent clinical features of OCD. The nature and etiology of these deficits are poorly understood. We used a well-validated choice task, grounded in behavioral economic theory, to investigate differences in valuation and value-based choice during decision making under uncertainty in 20 unmedicated participants with OCD and 20 matched healthy controls. Participants' choices were used to assess individual decision-making characteristics. Compared to controls, individuals with OCD were less consistent in their choices and less able to identify options that were unambiguously preferable. These differences correlated with symptom severity. OCD participants did not differ from controls in how they valued uncertain options when outcome probabilities were known (risk) but were more likely than controls to avoid uncertain options when these probabilities were imprecisely specified (ambiguity). These results suggest that the underlying neural mechanisms of valuation and value-based choices during decision-making are abnormal in OCD. Individuals with OCD show elevated intolerance of uncertainty, but only when outcome probabilities are themselves uncertain. Future research focused on the neural valuation network, which is implicated in value-based computations, may provide new neurocognitive insights into the pathophysiology of OCD. Deficits in decision-making processes may represent a target for therapeutic intervention.

Keywords : obsessive compulsive disorder, decision-making, uncertainty intolerance, risk aversion, ambiguity aversion, valuation

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