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# Linking Decision-Making and Mental Health in Adolescence Using an Online Gamified Foraging Task

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## Résumé

Adolescence is a time of great challenge, but also growth and opportunity. Unfortunately, nearly half of all serious adult psychiatric disorders have already begun by age 14. In adults, cognitive models, ecologically valid tasks and computational analyses are being used as novel routes to detect sub-clinical symptoms of anxiety and depression by identifying early signs of altered decision-making processes. The current study applied this framework to adolescents, attempting to harness potential societal and medical benefits of being able to predict at-risk individuals and identify new targets for interventions. To examine the relationship between specific decision-making mechanisms and mental health dimensions, 92 healthy adolescents aged 13-14 years were recruited in an observational cross-sectional study to play an online gamified foraging task. The task, previously characterised in adult populations, examined the tendencies to check or hide from predatory threats while foraging for reward. These behavioural measures were correlated with mental health scores including anxiety, depression and anhedonia. The preliminary results revealed that more anxious adolescents exhibited threat hypervigilance - spending more time checking the environment for predators than their less anxious counterparts. Further research in a larger sample is being collected to confirm these findings with the hope that this task might have the potential to detect sub-clinical psychiatric disorders.

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