



Iris M. Balodis, PhD



HEALTH SCIENCES
Psychiatry & Behavioural
Neurosciences

Research Work

Many people suffering from addictions express a genuine desire to quit; nonetheless, they continue to choose the immediate short-term high of a drug over future greater rewards such as health, family and friends. Why does a person continue to do something that they know is bad for them? My research approach targets understanding the motivational processes influencing this maladaptive decision-making; specifically this entails examining arousal, emotion and anticipation that direct behaviour. To that end, I investigate how an individual forms preferences, assesses options and makes choices. My research approach cuts across traditional psychiatric boundaries and examines constructs such as impulsivity, thought to underlie many aspects of pathologic behaviour. Importantly, many motivational influences may be unavailable to the conscious awareness of the individual; I therefore apply diverse methodologies targeting automatic or unconscious processes, including implicit learning tasks, psychophysiological measures and brain imaging techniques. As such, my research samples not only from substance-dependent populations (e.g. cannabis use disorder), but also from individuals with gambling disorder (the first 'non-substance'-based addiction), as well as individuals suffering from obesity. Taken together, my research program establishes how reward and stress system alterations relate to motivation and decision-making in addiction. I integrate behavioural research with neuroimaging, psychophysiological and clinical approaches across multiple conditions, with the goal of explaining and possibly modifying the mechanisms for change.

Engagement Opportunities

Introductory Level

- Assist with data entry for Eating Disorder database (50 hrs)
- Observe lab meetings/data presentations (flexible)
- Assist with data entry for the Eating Disorders Clinic (50 hrs)
- Review/provide feedback on video development on the neurobiology of gambling (20 hrs)

Intermediate Level

- Assist with running experimental protocol for Stress and Motivation (SaM) such as administering questionnaires and neuropsychological tasks (reward-related learning and inhibitory control tasks) as well as stress protocol (100 hrs)
- Assist with running neuroimaging protocol for Learning and Motivation study including preparing participant for scanning session, running experimental tasks during functional magnetic resonance imaging (fMRI)
- Assist with fMRI pre-processing and analysis (50 hrs)

Advanced Level

- Analyze data related gambling disorder (e.g. stress, reward-related learning, (100 hrs)
- Analyze data related to predicting treatment outcome in binge eating disorder (100 hrs)
- Manuscript write-up of gambling findings in different populations (100 hrs)
- Complete a systematic review on various addiction-related topics (200 hrs)
 - Cannabis and gambling
 - Alcohol use disorder and gambling
 - Metacognition in addictive disorders
 - Interoceptive awareness in addiction

If you are interested in learning more, please leave your contact information with the Research Office and/or contact Iris Balodis (balodisi@mcmaster.ca).