

Novel Eye-Tracking and Typing-Based Digital Biomarkers of Cognition in Mental Illness

Participants:

Mindy Ross (Chair), Mindy Ross (Presenter), Eden Shaveet (Presenter), Sukriti Ghosh (Presenter), Madelyn Frumkin (Moderator)

Symposium Synopsis:

Mental illness remains a leading cause of disability worldwide, and cognitive impairment is increasingly recognized as a core, transdiagnostic feature. Cognitive deficits often persist after mood or psychotic symptoms remit and contribute to functional impairment independent of illness-defining symptoms. However, tools to capture cognitive symptoms in daily life remain limited. Standard neuropsychological batteries require in-person administration, are burdensome to repeat, and are vulnerable to practice effects. Emerging evidence suggests that eye-tracking metrics and typing-based digital biomarkers are each associated with objective aspects of cognitive function and may offer scalable, ecologically valid alternatives. This symposium presents three talks exploring the potential of these novel assessment methods. First, Dr. Ross will explore the relationship between affect, linguistic complexity, and typing dynamics (thought to reflect processing speed and executive functioning) during interactions with a therapy chatbot. Second, Ms. Shaveet will discuss the relationship between visual attention and body image disturbance (BID), and how gaze tracking may offer new ways to understand BID-driven fixations during digital media consumption. Finally, Ms. Ghosh will share work integrating both eye-tracking and typing-based metrics, assessing the feasibility of capturing both cognitive markers simultaneously and passively in populations with cannabis use disorder, depression, and/or anxiety.