

**Stephanie Woolridge**

**2020-2021 Recipient of the Alfred Bader Fellowship in Memory of Jean Royce**

A Summary Statement of the Studies and/or Research:

Canada's 2018 legalization of recreational cannabis incited a nationwide conversation on the relationship between cannabis and mental health. Cannabis products display a prominent warning label: "Regular use of cannabis can increase the risk of psychosis. Young people are especially at risk." Indeed, cannabis use highly co-occurs with psychosis, a condition characterized by delusions, hallucinations, and a loss of contact with reality. Cannabis can increase the risk of psychosis by up to twelve times. Individuals with psychosis typically first experience symptoms in youth or early adulthood, which often coincides with the timing of initial cannabis use. Among those experiencing their first episode of psychosis, over 50% report using cannabis – and this number is growing.

Understanding cannabis use in youth with emerging psychosis requires immediate attention. Temporary cannabis-induced psychosis symptoms resolve with abstinence, which contrasts with primary psychosis with co-occurring cannabis use (cannabis-comorbid psychosis), a distinct mental illness. Increased cannabis use creates unique challenges for healthcare providers attempting to treat psychotic illnesses by creating uncertainty when diagnosing cannabis-induced or cannabis-comorbid psychosis. The causes of uncertainty are threefold: 1) symptoms of both disorders can be identical; 2) cannabis use can precede symptom onset, making it unclear which came first; and 3) abstaining from cannabis long enough to meet criteria for induced psychosis (four weeks) is difficult to achieve. Presently, psychosis intervention clinicians rely on patients' demographic, self-report, and symptom measures to make diagnoses. However, these measures fail to reliably differentiate cannabis-induced and comorbid psychoses, resulting in inaccurate or delayed diagnosis at a time when it is critical for youth to receive fast and appropriate mental health intervention. As such, existing diagnostic tools in early psychosis clinics urgently need refinement.

Ample research has identified cognitive deficits, eye movement abnormalities, and speech impairments as core symptoms of primary psychotic disorders (e.g., schizophrenia). Yet, little research has explored their utility in differentiating between types of psychosis. My M.Sc. research discovered that people with cannabis-comorbid psychosis exhibited impairments similar to those seen in individuals with schizophrenia. Comparatively, people with cannabis-induced psychosis had significantly less impairment in their thinking skills, eye movements, speech, and academic and social functioning. This indicates that some of the impairments characteristic of schizophrenia are present to a much lesser extent in people whose psychotic symptoms are due to cannabis use, not an underlying mental illness. Building on these findings, my doctoral research will assess the symptoms of cannabis-induced psychosis, how they are affected by abstinence, and which measures can predict diagnoses over time to provide more accurate diagnostic information beyond what is currently achieved in treatment clinics.

With the support of this prestigious award, I will recruit 100 participants in the Early Psychosis Intervention Program in Kingston, ON. A series of cognitive tests will be administered to assess individuals' attention, memory, processing speed, and cognitive functioning. Eye movements will be assessed using a computer-based task. Computerized analyses of participants' speech will also be conducted to measure disorganized or incoherent speech. Assessments will be conducted upon program entry and at 6- and 12- month follow-ups. Funding support would allow me to provide assessments for individuals at satellite clinics in surrounding cities, provide remuneration for participants, and attend conferences to disseminate this research.

Canada's legalization of cannabis demands further research to develop and implement treatment pathways for people who experience adverse health events related to cannabis. Reliably differentiating cannabis-induced and comorbid psychosis is crucial to early intervention and essential to recovery. Accurate

diagnoses will reduce unnecessary antipsychotic drug use, decrease the financial burden on publicly-funded service programs, reduce challenges for mental health care workers, and lead to widespread improved treatment outcomes.