Abstract Booklet

Joint Mental Health Research and Innovation Day 2023

Wednesday, October 25th, 2023
9:00am - 4:00pm

This event is funded by Western University - Department of Psychiatry, Lawson Health Research Institute, and St. Joseph's Health Care London Parkwood Institute Research - Mental Health Care.
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ORAL PRESENTATIONS
The Impact of the Coronavirus Pandemic on Homelessness Across Canada: Perspectives from Community Stakeholders

*Forchuk, C., Husni, S., Scott, L., Serrato, J., & Booth, R.*

Background: The prevalence of psychiatric diagnoses among homeless populations in Canada is remarkably high, with 80.7% of individuals we surveyed reporting a mental health diagnosis, including schizophrenia, substance use disorders, anxiety, PTSD, and ADHD. The existing vulnerabilities faced by this population, such as limited access to healthcare/social services, lack of affordable housing, closures of public facilities, and heightened risk of infection, were further amplified during the COVID-19 pandemic. These challenges disproportionately affected homeless individuals, particularly youth, those impacted by family violence, or 2SLGBTQ+ communities. Method: This study employed a mixed-methods, cross-sectional approach, focusing on the perspectives of community stakeholders providing services to individuals experiencing or at-risk of homelessness. The analysis involved conducting focus groups with 200 service providers and community representatives from 28 Canadian communities, representing every province and territory. Results: Thematic analysis using an ethnographic approach revealed six main themes: systemic changes resulting from the COVID-19 pandemic, personal shifts in life circumstances, ineffectiveness of previous coping strategies, emerging opportunities, some improvements in certain areas, and an overall likely increase in both first-time and recurring homelessness. Systemic changes stemming from the pandemic have significantly influenced the issue of homelessness in Canada, resulting in both positive and negative outcomes. Unfortunately, the negative consequences have far outweighed the positive ones, leading to a probable rise in first-time homelessness in Canada. Conclusion: It is necessary to implement mechanisms that tip the scales to promote positive outcomes and protective factors, providing individuals with opportunities to exit out of homelessness, or prevent it entirely.

Learning Objectives

*At the end of this presentation, participants will be able to:*

- Describe major system changes related to the COVID-19 pandemic impacting the homeless sector and people experiencing homelessness
- Identify examples of negative and positive factors arising from these pandemic-related systems changes
- Identify examples of negative and positive factors arising from these pandemic-related systems changes

How and For Whom, Were Quotidian Factors Impacting Mental Health During the Pandemic? A Two-Year Examination of the Impacts on Mental Health of Canadians With and Without Anxiety and Depression

*Murphy, G. C. M., Hicks, O., Ying, F., & Dozois D. J. A.*

Background: Concerns have been raised throughout the COVID-19 pandemic about the influence of quotidian factors, such as social isolation and household interactions, on individuals' mental health. The impact of these factors on Canadians' mental health during the pandemic, however, remains largely unexplored. Method: To examine the self-reported effects of everyday activities on mental health, we analyzed data from a nationally representative stratified sample of 27,997 Canadians across all provinces. The data were collected at 12 different time points spanning from April 2020 to April 2022. Results: As the pandemic continued, the positive and negative mental health impacts of these day-to-day activities evolved: whereas the role of activities such as social media and daily news shifted from having a more positive to a more negative effect on mental health, going outside continued to have the most positive impact on mental health of all activities examined. Although all factors examined fluctuated significantly in their mental health impact across time, among individuals with anxiety or depressive
disorders, there were no significant fluctuations in these impacts across the pandemic. Conclusion: This work is the first large-scale data analyses on the positive and negative impacts on Canadian mental health as well as how, and for whom, these have changed throughout the COVID-19 pandemic. These results highlight the need for clinicians and policy makers to consider that the factors which may benefit and fluctuate in their utility for individuals without anxiety or depression (e.g., reading) may not generalize to individuals with anxiety or depression.

**Learning Objectives**

*At the end of this presentation, participants will be able to:*

- Critically examine what factors impacted Canadians throughout the pandemic and how these factors changed for individuals experiencing anxiety or depressive disorders
- Consider the ways in which the fluctuations in the examined factors in this work may inform healthcare practice and policy
- Assess what other factors not examined in this study may have played an instrumental role in impacting Canadians’ mental health across the pandemic, and consider whether these factors would likely display similar, or unique, trends to those examined in the present study

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**FORENSIC PSYCHIATRY**

**Forensic Mental Health Service Use in Early Psychosis: A Scoping Review**


Background: Early psychosis (the first 2- to 5-years following psychosis onset) is a critical period for establishing long-term outcomes. As a result, there is substantial literature examining service use in early psychosis, including pathways to care, hospitalization, and involuntary hospitalization. However, it is unclear what evidence is available regarding forensic mental health service use during early psychosis. The objective of this study is to scope the extent and type of evidence available around contact with forensic mental health services early in the course of psychotic illness. In particular, to identify whether there is evidence available on prevalence or incidence of contact with forensic mental health services, and associated risk factors and outcomes, within an early psychosis population.

Methods: We searched MEDLINE, EMBASE, CINAHL, PsycINFO, Scopus, Web of Science, Google Scholar, and ProQuest Dissertations & Theses Global, and conducted forward and backward citation searching of included studies and relevant reviews. We included studies with an early psychosis population (within 5 years of psychosis onset or first hospitalization for psychosis) and information on forensic mental health service use. Results: To date, we have screened 361 records, assessing 98 at the full text stage. We included 22 records: 19 primary studies, one book chapter, one narrative review, and one systematic review. Forward/backward searching and data charting is in progress. Conclusion: Findings from this scoping review will identify knowledge gaps related to forensic mental health service use in early psychosis to inform future studies.

**Learning Objectives**

*At the end of this presentation, participants will be able to:*

- Describe the current state of the literature regarding forensic mental health service use in an early psychosis population
- Discuss the limitations of the current literature on forensic mental health service use in early psychosis
- Evaluate opportunities for future research examining forensic mental health service use in early psychosis

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**A Great Psycholegal Tug of War: A Review of the Extreme Intoxication Defence in Canada and an Analysis of R v. Brown**

*Curry, D. E. & Quinn, J.*
In 2022 the Supreme Court of Canada (SCC) struck down Section 33.1 (s.33.1) of the Criminal Code of Canada in R v. Brown (Brown). Brown involved the case of a 26-year-old male who voluntarily ingested illegal psychedelic drugs. Following ingestion and while intoxicated, he committed a break and enter and violently assaulted a female university professor. Evidence substantiated self-induced intoxication leading to automatism - a mental state of grossly impaired consciousness resulting in loss of volitional control. The court found that s.33.1 infringed upon the Charter based on three breaches, relating to mens rea, improper substitution, and voluntariness. The intent to become intoxicated, according to the court, cannot be used as a substitute for the intent to commit violent crime. The legislature has amended s.33.1 of the criminal code in response to Brown, evidencing a psycholegal tug of war over time between the judiciary and the legislature, given historical narratives related to the defence. Brown represents a controversial debate in criminal law and forensic psychiatry that resists historical consensus. Here, we provide an analysis of Brown, and review historical case law and legislation dating back to the Beard Rules. While ultimately unsettled, the implications of Brown highlight the difficulty in navigating the intersection of moral responsibility, social norms, and criminal law in cases involving substance intoxication. The review is thought to be of interest to those working in the criminal law, public policy, and psychiatry.

Learning Objectives
At the end of this presentation, participants will be able to:

- Describe Canadian legislative history related to the criminal defence of extreme intoxication
- Describe Canadian judicial history related to the criminal defence of extreme intoxication
- Discuss ethical tensions in cases of extreme intoxication leading to automatism and involuntary criminal action

EXPLORING SEX, GENDER, AND BEHAVIOUR AND MENTAL HEALTH: INSIGHTS FROM ALZHEIMER’S PATIENTS AND SEXUALLY COMPULSIVE MEN

Treatment Effects and Adherence of Sexually Compulsive Men in a Randomized Controlled Trial of Psychotherapy and Medication


Background: Little attention has been given to efficacious treatment and adherence to treatment of compulsive sexual behavior (CSB). Randomized controlled trial investigated short-term psychodynamic group therapy followed by relapse prevention group (STPGP-RPGT) and pharmacological treatment (PT) for CSB men on sexual compulsivity and adherence. Method: 135 men, 38 (SD = 9) years old on average, were randomly assigned to 1) STPGP-RPGT; 2) PT; 3) Both. Participants completed measures at baseline, 25th, and 34th week. 57 (42.2%) participants dropped out between baseline and 25th week, and 68 (50.4%) between baseline and 34th week. 94 (69.6%) did not adhere (80% pills taken or attended 75% therapy sessions). Results: A significant interaction effect was found between time and group (F(4, 128) = 2.62, p = .038, ES = 0.08), showing who received PT improved less in sexual compulsivity than those who received STPGP-RPGT (t = 2.41; p = .038; ES = 0.60) and PT + STPGP-RPGT (t = 3.15; p = .007, ES = 0.74). Adherent participants improved more in sexual compulsivity than non-adherent at the 25th week (t = 2.82; p = .006, ES = 0.65) and 34th week (t = 2.26; p = .027, ES = 0.55), but there was no interaction effect, F(2, 130) = 2.88; p = .06; ES = 0.04). The most reported behavior (masturbation) showed greater risk of non-adherence (72.6%). Conclusions: Adherent participants improved better than non-adherent. Participants who received psychotherapy improved better than those who received PT. Methodological limitations preclude conclusions on efficacy.

Learning Objectives
At the end of this presentation, participants will be able to:

- Reflect on adherence to treatment of sexually compulsive individuals
- Reflect on treatment effects on sexually compulsive individuals
- Infer on possible interventions to improve adherence to treatment by sexually compulsive individuals

**Sex Differences in Behavioural and Psychological Symptoms in Institutionalized Patients with Advanced Alzheimer’s News**


Background: We examined sex differences in the frequency and severity of individual BPSD, and BPSD clusters in patients with Alzheimer’s disease living in long term care homes (LTCH) or admitted to inpatient psychiatric units. Method: BPSD was assessed using the Neuropsychiatric Inventory-Clinician rating scale (NPI-C). BPSD symptom clusters were derived from NPI-C and were defined as: (1) psychosis (hallucinations and delusions), (2) emotional distress (depression and anxiety), and (3) agitation (agitation, aggression, irritability, aberrant motor behavior, and aberrant vocalizations). Sex differences in frequency and severity of individual BPSD, and clusters were compared using Chi-square and Mann-Whitney U tests. Generalized linear models were performed to examine effect of sex on severity of BPSD while controlling for age and place of residence. Result: 188 participants (98 female, 90 male) were included. Females had higher frequency of delusions (males=21.7% vs females=42.9%, X²=8.83, N=174, p=0.003), and greater severity of delusions (males=83, females=91, U=2924, N=174, p=0.002), anxiety (males=83, females=91, U=3141.50, N=174, p=0.038), and aberrant vocalizations (males=83, females=91, U=2901.50, N=174, p=0.06). Males had higher frequency (males=51.8% vs females=27.5%, X²=10.80, N=174, p=0.001 and severity of sleep disorders (males=83, females=91, U=2885.50, N=174, p=0.002). In generalized linear models, sex was associated with severity of delusions (Wald X²=3.97, N=176, p=0.046). Analysis of clusters revealed females had greater severity of emotional distress (males=83, females=91, U=3093, N=174, p=0.035) and psychosis (males=83, females=91, U=3091.50, N=174, p=0.025). Conclusion: Future studies should aim to understand potential mechanisms underlying these differences, and to study their relevance for individualized management of BPSD.

**Learning Objectives**

*At the end of this presentation, participants will be able to:*

- Describe behavioral sex differences in Alzheimer’s disease
- Describe Behavioral symptom clusters in Alzheimer’s
- Describe behavioral sex differences in persons with Alzheimer’s disease with co-occurring agitation

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**Trauma-Informed Care (TIC): Examining Stakeholder Perspectives on Care Planning Outcomes of a TIC Education Training Program Using the InterRAI ChYMH and CAPS**

*Salahadin, A., Compton, S. L., & Cloutier, S. E.*

Background/Objectives: There is increasing interest in the application of trauma-informed care (TIC), though there is a need to better understand how these practices are relevant in child treatment settings. The current study identified factors of a trauma-informed care education training program that were related to the care planning outcomes of trauma impacted children, youth, and families. Methods: Utilizing a qualitative methodology, managerial perspectives of the factors involved in such care planning needs were examined within the context of the interRAI TIC program, a 6-year research initiative funded by the Public Health Agency of Canada (PHAC). Eight individual interviews were conducted with participants that comprised managerial roles at their respective agencies. Data were analyzed using thematic analysis, which provided a systematic method for capturing themes that cut across the data set (Braun & Clarke, 2012).
Results: The three themes from the implementation of the interRAI ChYMH assessment-to-intervention system and its associated trauma-informed training modules, involved in care planning outcomes included: 1) support for the development of TIC, client centred treatment plans and for early identification of trauma; 2) improved continuity of care through streamlined services and reduced redundancies in treatment, and 3) enhanced staff communication regarding the needs of children impacted by trauma.

Conclusions: The application of TIC on an organizational level requires commitment from the stakeholders that make up the respective system. Equipping child mental health agencies with a strong knowledge base of best-practice strategies in trauma-informed care, in tandem with a comprehensive assessment-to-intervention tool to identify trauma as early as possible, is crucial.

Learning Objectives
At the end of this presentation, participants will be able to:
- Describe current research available for outcomes following trauma in children and youth
- Discuss the features of a trauma-informed care training program that are helpful on an organizational scale
- Review the next steps in the research-to-practice realm for trauma-informed care, within the context of children and youth in receipt of service

An Interactive Workshop on Continuous Quality Improvement: Is it an Effective Educational Model for PGY1 Residents?
*Vasudev, K.

Background: Launch of Competence by Design (CBD) in Canada and release of updated competencies in psychiatry by RCPSC in 2020, required residents to gain higher competency in continuous quality improvement (CQI). Therefore, the local teaching curriculum on CQI was updated for the psychiatry residents. Methods: A 3.5 hours training workshop on CQI was introduced in PGY1 year consisting of some didactic and mostly interactive group discussion using two QI problems. Educational material on CQI methods and tools was provided to the residents a week prior to the workshop and they were encouraged to study the material in preparation. The effectiveness of this CQI workshop was assessed using Self-assessment program (SAP), a standardized, validated tool for assessing CQI competencies. All PGY1 residents were sent the SAP with 10 standard questions, 3 weeks prior to the CQI workshop with a reminder sent a week later to complete the questionnaire. The post- SAP was completed within 2 weeks of the workshop. The pre and post SAP were completed for 3 cohorts of PGY1 residents for 3 consecutive academic years after the introduction of the updated CQI workshop. Results: A total of 23 residents were evaluated over 3 years. There was a significant improvement in Post-SAP vs Pre-SAP scores each year- Year 2020-21, 33.5±4.74 Vs 24.87±6.89, t(7)=2.36, P=0.00052 ; Year 2021-22, 30.57±4.99 Vs 21.43±3.99, t(6)=2.45, P=0.00197; Year 2022-23, 29.37±3.25 Vs 20.5±3.62, t(7)=2.36, p=0.00022. Conclusion: The interactive training workshop on CQI for PGY1 is an effective model for imparting CQI education to psychiatry residents.

Learning Objectives
At the end of this presentation, participants will be able to:
- Identify the competencies required to conduct a CQI project
- Plan an interactive workshop for teaching CQI competencies
- Assess residents’ knowledge and skills on CQI using self-assessment program (SAP)

Empowering Refugee Children to Succeed in Canada: An Exploration of STEM Identity Development and Community Building Through Informal STEM Learning Experiences
*Fani-Molky, P., Liesemer, K., Neil, N., & Puvirajah, A.

Refugee students face several challenges while adjusting to school, including cultural and language differences, discrimination, and gaps in previous education. As a result, they are at risk of disengaging from school, resulting in
decreased opportunities and perpetuating disparities in education, a social determinant of health. Increasing refugee youth's access to authentic STEM experiences may raise aspirations toward STEM-oriented careers, promote upward social mobility, and better health outcomes. Informal STEM educational research is increasingly popular amongst science education researchers, yet more research is needed to understand the best practices in empowering youth with diverse backgrounds and English proficiency levels to learn, collaborate, and build relationships. This study aimed to explore the STEM identity trajectories and community-building practices of twelve newly arrived refugee children (aged ten to thirteen years) in an informal coding and robotics learning summer camp. Qualitative data collected through video recordings, field notes, and focus group interviews were subject to first and second coding cycles using iterative and inductive analyses. Further, quantitative data collected through a 29-item retrospective pre-post STEM survey were analyzed using paired-sample t-tests and repeated measures ANOVA. The preliminary results illustrate that the informal STEM learning environment empowered learners to develop computational thinking skills, find creative outlets to express themselves, form new friendships, and build self-esteem and confidence in academic and social contexts. The practical and policy implications of empowering refugee children with STEM and community-building skills and competencies are discussed. This project was supported by a SSHRC Insight Development Grant.

**Learning Objectives**

*At the end of this presentation, participants will be able to:*

- Describe the backgrounds and social determinants of health influencing newly arrived refugee youth’s success in Canada
- Recognize the components, development, and implications of STEM identity and computational thinking for newly arrived refugee youth
- Consider the practical, policy, and research implications of empowering newly arrived refugee youth through informal STEM learning experiences

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**NEUROSCIENCE AND NEUROPSYCHIATRY**

**Violent Video Games and the Action Simulation Circuit: Dissociable Effects of Acute Versus Cumulative Violent Game Exposure**

*Compton, S., Ritchie, M., Oliver, L., Finger, E., & Mitchell, D.*

Whether violent videogames negatively impact social functioning has been widely debated within the scientific literature. Empathy and its neural correlates are one plausible mechanism by which violent video game exposure (VGE) could influence socially relevant outcomes. Action simulation, the imitation or internal simulation of motor responses, shares a partially overlapping neural network with emotional empathy processes. As such, action simulation tasks can be used as a covert measure of processes related to emotional empathy. Using a combined experimental and cross-sectional approach, we examined the impact of VGE on neural correlates associated with social cognition as a function of trait coldheartedness (i.e., low empathy). Healthy university students played either a violent or non-violent version of Grand Theft Auto V before completing an fMRI measure of the action simulation circuit (ASC). No significant difference in simulation-related activity was found between groups; however, the violent group did display greater overall activation in the left inferior frontal gyrus (IFG). Unexpectedly, there was no evidence that trait coldheartedness interacts with violent gaming to affect activity within the ASC. However, a significant negative correlation between prior cumulative VGE and simulation-related activity was identified within a subsection of the IFG. Our results provide evidence that cumulative VGE is inversely related to simulation-related activity within the neurocognitive building blocks of empathy. Disturbances in the function of neural regions associated with such processes could indicate one mechanism by which VGE may influence risk for some of the antisocial associations observed in the literature.
Learning Objectives
At the end of this presentation, participants will be able to:

- Describe the impact of acute vs. cumulative gaming on neural processes relating to empathy
- Consider a covert measure of emotional empathy for future fMRI research
- Assess the assumption that directionality of effects for cross-sectional associations always mirror those of acute exposure

Accelerated Intermittent Theta Burst Stimulation for Patients with Treatment Resistant Depression
*Tolledo, J. K., Blair, M., Abate, A., Knight, J., Paul, S., Zhu, L., Waxman, R., & Burhan, A. M.

Introduction: Repetitive Transcranial Magnetic Stimulation (rTMS) using intermittent theta-burst stimulation (iTBS) has been found to be comparably efficacious relative to standard rTMS for treating major depressive disorder. An accelerated (high-dose) course of iTBS is of particular interest given its potential to treat patients more quickly, thus making the treatment more accessible. This study aimed to assess the feasibility, safety, and effectiveness of accelerated iTBS among patients with treatment resistant depression (TRD). Methods: This was a prospective, open-label, interventional study of accelerated iTBS (30 treatments in 5 days as opposed to 30 days) involving patients with TRD. Primary outcome was improvement in depressive symptoms measured using the Hamilton Depression Rating Scale (HDRS). Results: 24 patients were enrolled (54% females, 46% males) with a mean age of 41 years (range: 21-75). At one week post-treatment, we observed a 23% rate of depression symptom response (>=50% decrease in symptoms) and 18% remission (HDRS score in the non-clinical range). At two-month follow-up, 39% of patients experienced both remission and response. No serious adverse effects were reported; however, two participants withdrew due to headaches. Conclusion: This study provides preliminary evidence that an accelerated course of iTBS may be a feasible, safe, and effective treatment option for patients with TRD. Our observed remission and response rates were consistent with findings in the literature for standard iTBS and rTMS. This accelerated course has the potential to treat patients more quickly, making this treatment more accessible compared to standard iTBS and rTMS.

Learning Objectives
At the end of this presentation, participants will be able to:

- Provide an overview of treatment resistant depression and treatment approaches
- Discuss the utility of new approaches to transcranial magnetic stimulation to treat treatment resistant depression
- Gain insight into how the implementation of an accelerated version of repetitive transcranial magnetic stimulation can improve accessibility to treatment for patients with treatment resistant depression

Repetitive Transcranial Magnetic Stimulation for Apathy in Patients with Neurodegenerative Conditions, Cognitive Impairment, Stroke, and Traumatic Brain Injury: A Systematic Review
*Espiritu, A. I., Hara, T., Tolledo, J. K., Blair, M., & Burhan, A. M.

Background: Apathy significantly impacts the daily functioning of individuals with neuropsychiatric disorders, yet there are no approved treatments for apathy in various conditions. This systematic review examined the effects of repetitive transcranial magnetic stimulation (rTMS) on apathy in patients with neurodegenerative conditions, mild cognitive impairment (MCI), stroke, and traumatic brain injury (TBI). Methods: We systematically searched PubMed, Scopus, and PsychINFO from inception to June 2023. Methodological quality was assessed using the Cochrane Risk of Bias and NIH tools, and study characteristics were collected. Results: Among 258 records, 14 studies met eligibility criteria, including 11 randomized controlled trials (RCTs) and 3 before-after studies. The overall methodological quality of the included studies was considered fair to good. Several studies showed promising results for rTMS in patients with Alzheimer’s disease (AD), with significant improvements in apathy...
scores compared to sham. Positive effects were also observed in studies utilizing before-after designs in patients with AD, Parkinson’s disease (PD), and primary progressive aphasia (PPA). However, some RCTs in PD, MCI, and PPA did not find significant differences between rTMS and sham. In chronic stroke patients, an RCT showed significant improvements in apathy scores with rTMS. No significant differences were found in a before-after study involving mild TBI patients. Adverse events associated with rTMS were generally mild and transient. Conclusions: This review suggests the feasibility of using rTMS as a treatment for apathy. Limited evidence indicates that rTMS may have the potential to alleviate apathy in patients with AD, PD, PPA, MCI, and chronic stroke.

**Learning Objectives**

At the end of this presentation, participants will be able to:

- Describe the impact of apathy on aging and age-related neuropsychiatric disorders
- Evaluate the potential of repetitive transcranial magnetic stimulation (rTMS) as a treatment option for apathy in different conditions
- Assess the feasibility and potential benefits of implementing rTMS as a therapeutic approach for apathy in patients with neurodegenerative conditions, mild cognitive impairment (MCI), stroke, and traumatic brain injury (TBI), with a specific emphasis on enhancing quality of life and daily functioning

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**INNOVATIVE METHODS AND APPROACHES**

**MINDS of London-Middlesex: Using Social Innovation as an Approach to Mental Health Systems Transformation**


Social innovation utilizes systems/design-thinking to connect sectors, harness diverse knowledge (including lived experiences), and leverage resources to solve highly complex challenges like the growing burden of mental ill-health, that have not been adequately addressed by conventional approaches (e.g., Phillips et al, 2008). The Mental Health INcubator for Disruptive Solutions (MINDS) is the first Canadian Social Innovation Lab focused on addressing challenges in mental health and addiction, starting with supporting transitional aged youth (TAY) given their susceptibility to mental ill-health and addiction. Alongside TAY, MINDS has co-designed, implemented, and evaluated nine high-potential innovations, including: a partnership with local cab companies that trains drivers in mental health and crisis intervention so that youth living in rural areas can access free and safe transportation to mental health care services; a peer-mentored safe storytelling toolkit that supports the psychological safety, recovery and emotional wellbeing of youth sharing their mental health care journey; and an integrated training program for educators of LGBTQ2S+ students to move beyond tolerance. Youth were leaders and co-creators of change and given space to be antecedents in the dismantling and reimagining of solutions that directly affect them. Research carried out to inform the development of the solutions as well as outcome data will be presented. Future Directions “MINDS 2.0” focuses on the intersection between social determinants and severe mental illness and addiction and offers an intensive, experiential “Mindful Social Innovation” training program for cross-sectoral frontline providers to gain the needed competencies to sustain and scale innovations for mental health systems change.

**Learning Objectives**

At the end of this presentation, participants will be able to:

- Recognize the core components and processes of social innovation for mental health systems transformation
- Identify key aspects of participatory action research for mental health systems transformation in practice as related to co-creation and co-evaluation of innovative mental health solutions
- Examine the role of Mindful Social Innovation training for mental health care practitioners and other stakeholders
Social Innovation and Youth Participatory Action Research in YMHAC: A Youth-Led Intervention from MINDS of London-Middlesex

*Yosieph, L., Cook, A., Hunt, R., & MacDougall, A. G.*

Study Objectives: The Youth Mental Health and Addictions Council (YMHAC) encourages community mental health and addiction services and initiatives to drive youth-led system improvement. Through their participation in an advisory council, members develop increased resilience, stronger quality relationships, and enhance their experience of meaning and purpose. One of the council's main objectives is the development of a peer support guidebook, aimed at providing mental health literacy for youth to support their peers in their mental health journeys, and through the mental health care system. Methods: Youth Participatory Action Research (Y-PAR) is used within the council to create, implement, and drive systems interventions. Y-PAR is centered on promoting youth as knowledge keepers and experts of their own experience. Members created and developed the guidebook combining their research and lived experiences. Results: Herein, we will present preliminary findings derived from the processes used to develop the peer support guidebook. Themes discussed include substance abuse, self-harm, active listening, and peer support. Its efficacy in improving transition-age youth (TAY) wellbeing will be evaluated after dissemination. Conclusion and Implications: The information gleaned from these findings will assist in highlighting key areas of continual development for YMHAC that can inform similar youth initiatives in the broader provincial or national context. The guidebook will be a useful tool in helping youth support one another and find appropriate resources. Results from the survey will further help to inform future youth-led councils through perceptions of the group’s dynamics and psychosocial variables such as efficacy and resilience.

Learning Objectives

*At the end of this presentation, participants will be able to:*

- **Describe the impact of youth leadership in a council centered on TAY mental health and addictions issues**
- **Consider the importance of an informal peer guidebook for TAY who do not know how to seek help, support one another, or find appropriate resources**
- **Identify the experiences of TAY with the mental health care system in the London-Middlesex community**

The Language of Non-Suicidal Self-Injury Hashtags on Tumblr: A Mixed Ethnography and Network Analysis Approach

*Lee, S. H., Guccini, F., McKinley, G., & Lizotte, D. J.*

Background: The study builds on our team's online ethnographic research, automating the process by using data mining methods leveraging Tumblr application programming interface (API). NSSI is the act of deliberately injuring one's own body tissue for non-suicidal purposes. Colloquially known as self-harm, NSSI is highly stigmatized. Consequently, many people engaged in NSSI find community through anonymous participation on social media. Objectives: We aim to visualize NSSI hashtag networks on Tumblr in a way that reflects how Tumblr users create and use hashtags. Hashtags allow users to connect with others interested in NSSI while avoiding content moderation. Methods: Starting from an initial list of 182 hashtags, we used data mining methods to automate data collection from Tumblr leveraging its API. Using social network analytic methods, we created a network map of how these hashtags are connected. Subnetworks were also created to study how communities form around specific seed tags. Results: Our findings suggest that NSSI hashtags form semantic clusters that indicate formation, norms and changes in NSSI community practices and language. Implications: There is evidence of semantic shifts in NSSI hashtags on Tumblr that indicate changes in in-group language and practices, covert tactics to avoid content moderation as well as content overlap with other Tumblr communities. Methodologically, data mining can enhance online ethnographic research by automating and visualizing the data collection process. Subsequent network analysis in conjunction with ethnographic research can provide valuable insight into the formation of communities of practice.
Learning Objectives
At the end of this presentation, participants will be able to:
- Identify and analyze the semantic networks of Tumblr hashtags used among individuals engaging in NSSI practice
- Establish and identify sub-communities within the broader online NSSI community of practice
- Consider an interdisciplinary approach to online ethnography triangulating traditional ethnography with social network analysis and data mining

CHILD AND YOUTH MENTAL HEALTH

Examining Service Complexity in Children with Parents who Abuse Substances
*Oldenhof, M. & Stewart, S.

Children and youth who have parents who abuse substances are at risk of developing externalizing problems (e.g., rule-breaking, aggressive/antisocial behaviour, underage drinking/drug use) and face a variety of risk factors including family factors (e.g., parenting, level of monitoring, abuse, and neglect), and child-related factors (e.g., mental health, behavioural, substance use problems) that impact levels of family functioning, parenting strengths, school disengagement, externalizing difficulties, and service complexity. Currently, there is lack of information and recognition that children of parents with substance use disorders require mental health services, with limited research regarding the requirements of service intensity and complexity for children, mental health when focusing on this specific population of children affected by parental substance abuse. To address this gap in literature, data was obtained from 18701 clinically referred children and youth (4 to 18 years) across the Province of Ontario using the interRAl Child and Youth Mental Health Assessment. Findings revealed that treatment-seeking children of substance abusing parents rated higher on externalizing behaviours, school disengagement, family dysfunction, lack of parenting strengths, and service complexity than children with parents who do not abuse substances. Implications and recommendations for service professionals to support service system integration utilizing an assessment-to-intervention process to support families engaged in mental health and substance use problems are discussed.

Learning Objectives
At the end of this presentation, participants will be able to:
- Identify risk factors that impact family functioning, parenting strengths, school disengagement, externalizing difficulties, and service complexity in children with parents who abuse substances
- Describe the requirements of service intensity and complexity for children’s mental health when focusing on this specific population of children affected by parental substance abuse
- Recognize what recommendations for service professionals are made to support service system integration utilizing an assessment-to-intervention process

Preventing Discharge to No Fixed Address Youth (NFA-Y)
*Forchuk, C., Fisman, S., Dale, C., Forget, M., Krakowi, K., Cordes, S., & Jeffrey, M.

Background People discharged from hospital to homelessness experience challenges including poor health outcomes and increased hospital readmissions. Currently, youth are the fastest-growing sub-group of people experiencing homelessness in Canada. Youth have unique needs and face unique barriers, including education needs, limited employment history/opportunities, and inaccessibility to some services due to age. This study will identify the needs of youth who are at-risk of homelessness and evaluate the efficacy of the No Fixed Address Youth (NFA-Y) program. This program, in place at London Health Sciences Centre and St. Joseph’s Health Care
London, aims to prevent youth inpatients aged 16-25 from being discharged without safe housing by connecting them to housing and financial support. Supports are offered through collaboration with community partners: Youth Opportunities Unlimited, Canadian Mental Health Association Elgin Middlesex, City of London Coordinated Access, Ontario Works and Salvation Army Housing Stability Bank. This study was reviewed and approved by Western University, Research Ethics Board. Methods A participatory action research design is utilized with individual interviews conducted with ninety-three participants at three time points: baseline (pre-discharge), six, and twelve-months post discharge. Focus groups with participants, health care providers, and community partners provide additional data. Results Data collection is in progress. Preliminary results from individual interviews reveal a significant decrease in homelessness from baseline (76% homeless) to time 2 (40% homeless). Data from focus groups with community partners and healthcare staff reveal the benefits of a collaborative, coordinated program in order to meet the unique needs of youth. Conclusion The findings of this project will offer safe policy alternatives for the prevention of homelessness for at-risk youth, provide tailored mental health supports, and mitigate the rise of the homeless youth population in Canada.

Learning Objectives
At the end of this presentation, participants will be able to:

- Describe the No Fixed Address (NFA) program, the role of community partners, and its actions and approach to address the issue of youth being discharged from hospital into homelessness
- Identify prominent challenges and needs of youth at-risk of homelessness
- Evaluate areas where additional support may be needed in homelessness prevention strategies

Social Connectedness and Adolescent Mental Health and Well-Being in the Late Stages of the COVID-19 Pandemic: A Mixed Methods Exploration

*Abdunnabi, S., Nelson Ferguson, K., Seabrook, J. A., Anderson, K. K., Gilliland, J. A.*

Background: COVID-19 posed novel challenges to adolescent mental health and well-being by limiting in-person interactions and shifting interactions online. Existing literature lacks quantitative comparisons of the impact of online and offline social connectedness on adolescent mental health and well-being at the late stages of the pandemic, and large-scale qualitative examination of pandemic-related changes to adolescent relationships and mental health. We explored the effects of online and offline social connectedness on adolescent mental health and well-being, and the moderating role of the social determinants of health (SDoH). Methods: Canadian adolescents (n=1597; Mage=15.3, SD=1.2; 50.7% cisgender boys; 66.4% White) surveyed from June - July 2022 reported their levels of social connectedness, psychological distress, mental well-being, and pandemic-related changes to relationships and mental health and well-being. Results: Negative changes included feeling socially disconnected, experiencing feelings of anxiety, frustration, low mood, and missing out on experiences. Positive changes included deepening and appreciating relationships, adapting to stay connected, and using lockdowns as opportunities to decompress or self-improve. For some, the negative impacts of the pandemic reversed during the later stages, while others reported lasting effects. Feeling socially disconnected was associated with higher odds of being in a poorer mental state. This association was stronger for offline than online social connectedness. Exploratory analyses suggest the SDoH may moderate this relationship. Conclusion: These findings highlight ways in which COVID-19 influenced adolescent relationships and mental health and well-being. Though online and offline social connectedness both contribute to adolescent mental health and well-being, offline social connectedness appears more impactful.

Learning Objectives
At the end of this presentation, participants will be able to:

- Describe the differential impact of online and offline social connectedness on the mental health and well-being of Canadian adolescents at the late stages of the COVID-19 pandemic
● Describe the potential moderating role of the social determinants of health in the relationship between social connectedness and the mental health and well-being among Canadian adolescents at the late stages of the COVID-19 pandemic

● Describe the pandemic-related changes adolescents perceived to the relationships, mental health and well-being

**PERINATAL RESEARCH**

**Perinatal Omega-3 Fatty Acid Supplementation Sex-Selectively Prevents the Prenatal Δ-9 THC Induced Cognitive, Electrophysiological, and Lipidomic Phenotype**

*Sarikahya, M., Cousineau, S., De Felice, M., Lee, K., Yeung, K., Hardy, D., Rushlow, W., & Laviolette, S. R.

Clinical and preclinical studies indicate prenatal cannabis exposure (PCE) pathologically alters fetal brain development and increases vulnerability to neuropsychiatric disorders. However, underlying mechanisms remain unknown. Research in our lab suggests fetal exposure to Δ9-tetrahydrocannabinol (THC) impairs neurodevelopment, in part, through alteration of the lipidomic structure of cortical synaptic membranes. Considerable evidence demonstrates that abnormal synaptic omega-3 (N3) fatty acid lipidomic structure and function may underlie various neuropsychiatric disorders, with evidence suggesting that dietary N3 interventions may prevent or ameliorate symptom profiles. The present study examined if perinatal maternal N3-fatty acid supplementation may prevent the PCE-induced neuropsychiatric pathophenotypes. Pregnant Wistar rats were assigned to saline (VEH) or 3mg/kg THC (daily, i.p.) from gestational day (GD) 7 to GD22. Dams were given either N3-enriched or standard diets (control: CT) ad libitum from GD5 to postnatal day (PD) 21. Behavioural (e.g., cognitive, and affective capabilities), molecular, in vivo electrophysiological, and cortical lipidomic analyses were conducted to examine the extent of the rescue on PD21, PD35-45, and PD90-120. The behavioural data demonstrates a sex-specific N3-mediated therapeutic effect. PCE N3-treated male and female offspring exhibit significantly improved social, long-term recognition, and spatial working memory. However, only the N3-treated male progeny experience a prevention of the anxiogenic phenotype. The electrophysiological data supports these preventative therapeutic findings, with both male and female progeny exhibiting a mitigation in prefrontal cortical and hippocampal glutamate neuron dysregulation. These findings demonstrate that dietary interventions aimed at N3-fatty acid normalization may be a promising therapeutic option for cannabis-induced neurodevelopmental pathologies.

**Learning Objectives**

*At the end of this presentation, participants will be able to:*

● Describe fetal growth restriction (FGR) and its neurocognitive and lipidomic consequences

● Explain how prenatal THC may affect neurodevelopment through disruptions in the endocannabinoid system, and the induction of FGR (with respect to fatty acids)

● Describe what our omega-3 intervention prevents and mechanisms behind why it can prevent specific prenatal THC deficits in our rodent model

**Occurrence of Postpartum Mania in Women with Bipolar I Disorder: A Systematic Review and Meta-Analysis**

*Sharma, V., Wood, K. N., Weaver, B., Mazmanian, D., & Thompson, M.*

Objective: We aimed to estimate the risk of relapse of manic and mixed episodes after delivery in women with bipolar I disorder or schizoaffective disorder- bipolar type. Methods: Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines, a literature search in PubMed, PsycINFO, Embase, and Cochrane
Learning Objectives
At the end of this presentation, participants will be able to:

- Discuss the frequency and prevalence of manic or mixed episodes as they relate to therapeutic, prognostic, and safety concerns
- Describe the role of medication use during pregnancy on postpartum relapse
- Interpret the risk of relapse of manic and mixed episodes after delivery in women with Bipolar I Disorder

SUBSTANCE USE RESEARCH

Experiences Within the Hospital Setting Across Canada Among People with Lived Experience of Methamphetamine Use

*Forchuk, C. & Serrato, J.*

Introduction Hospitals in Canada do not currently provide harm reduction strategies for methamphetamine use. Research as part of a larger mixed-method project revealed that people who use methamphetamine continue to use substances in the hospital setting, echoing a previous study in London, Ontario (Tan et al., 2020). This project set out to explore other experiences across Canada. Method This study recruited 46 adults from hospital and community programs across Canada with past or current use of methamphetamine, including those in recovery. Locations included Calgary, Chatham-Kent, Edmonton, Hamilton, Moncton, Muskoka, New Deer, Newbury, North Bay, Seafort, Toronto, Victoria and West Prince. A total of 25 participants completed the qualitative component of the interview. An ethnographic thematic analysis was conducted on the transcripts for common themes and subthemes. Preliminary Findings Similar to the study’s findings in London, Stigma and a lack of harm reduction available was reported by a majority of participants. Some instances of harm reduction including peer support and sterile supplies was reported however. Harm reduction strategies recommended included needle exchange, safe consumption, medication support, counseling and greater education for staff. A number of participants reported that more resources and support were needed. Discussion This aspect of the project echoed the experiences and sentiments of previous participants interviews in London, Ontario. These preliminary findings suggest that the issues reported are not exclusive to London, Ontario and are prevalent in hospitals across Canada. A change in culture is required across the country to address the needs of people who use methamphetamine.

Learning Objectives
At the end of this presentation, participants will be able to:

- Describe the current experiences within the hospital setting for people who use methamphetamine
● Identify what needs must be addressed and recommendations for harm reduction according to people who use methamphetamine
● Recognize that there is a need for a change in culture within the hospital setting across Canada

Identification of Novel Sex-Dependent Neural Biomarkers Underlying Adolescent Nicotine Exposure Risks for Mood and Anxiety Disorders

Clinical studies report that nicotine dependence is causally linked to increased risks for mood and anxiety disorders. Specifically, females experience a higher prevalence of mood and anxiety disorders and greater challenges in smoking cessation therapies, suggesting a potential sex-specific response to nicotine exposure and mood/anxiety disorder risks. However, preclinical sex differences in response to adolescent nicotine exposure are currently poorly characterized. Thus, to investigate these sex differences, adolescent male and female Sprague Dawley rats received either nicotine (0.4 mg/kg) or saline injections s.q., 3x daily for 10 post-natal days (PND 35-44), followed by behavioural testing, in-vivo electrophysiology and Western Blot analyses in adulthood. Our results demonstrated that chronic adolescent nicotine exposure induced significant and long-lasting anxiety/depressive-like behaviours, disrupted neuronal activity patterns and molecular signaling pathways targets in nicotine-treated male rats. Specifically, nicotine-exposed males exhibited altered levels of ß7 acetylcholine nicotinic receptor (nAChR), ÔÇô2 nAChR, glutamate decarboxylase 65 (GAD65), dopamine (DA) 1 receptor (D1R), D2R, and brain-derived neurotrophic factor (BDNF) in the prefrontal cortex (PFC) and nucleus accumbens (NAC). Remarkably, nicotine-exposed females either showed no significant differences or opposite trends in these biomarkers, suggesting possible neuroprotective compensatory mechanisms operating in the adolescent female brain. Follow-up studies in male brains using matrix-assisted-laser deionization imaging (MALDI) revealed profound alterations in DA, gamma-aminobutyric acid (GABA) and glutamate signals in PFC and NAC. Overall, our findings reveal multiple novel differences between the adolescent male vs. female brain and suggest important new biomarkers for understanding differential sex-dependent risks for male vs. female adolescent smokers.

Learning Objectives
At the end of this presentation, participants will be able to:
● Identify the lack of clarity and understanding in sex differences as related to nicotine exposure
● Describe the impact of nicotine-exposure on electrophysiological and molecular data as it differs for males and females
● Identify future opportunities to empirically examine the relationship between nicotine exposure and estrogen/progesterone receptors in the body

WELL-BEING OF HEALTH CARE WORKERS

Moral Distress and Mental Health of Canadian Health Care Workers During the COVID-19 Pandemic

Background: Healthcare workers (HCWs) report increased exposure to moral-ethical dilemmas as a result of strains during the COVID-19 pandemic. To ensure a sustainable healthcare workforce that feels supported in their roles, more research is needed to understand the morally distressing experiences of groups of HCWs and their impact on mental health and wellbeing. We conducted a longitudinal investigation to capture these experiences, including identifying workplace moral distress, mental health and wellbeing. Method: Recruitment employed a convenience snowball sampling via email listservs, professional networks, and social media. A total of 1362 French- and English-speaking Canadian HCWs employed during the COVID-19 pandemic completed the baseline survey.
Self-report measures included demographics, work-related characteristics, telehealth experiences, organizational pandemic response, mental health symptoms (depression, anxiety, posttraumatic stress disorder [PTSD], burnout) and moral injury (moral distress, ethical environment, moral reasoning) related experiences. Results: In our sample of physicians, nurses, and other HCWs (personal support workers, paramedics, social workers, etc.), a significant percentage endorsed burnout, suicidal ideation, and/or met criteria for major depressive disorder (MDD), general anxiety disorder (GAD), and PTSD. Further, significant differences were observed across occupations in the rates of endorsed burnout, suicidal ideation, and mental illness. Conclusions: Our results underscore the severity of the pandemic on Canadian HCWs. Differences in endorsed and observed burnout and mental illness symptoms suggest more can be done to differentially support groups of HCWs. Workplace mental health interventions are challenging to develop, implement, and evaluate. Yet, organizational implementation strategies may be the key for HCW support and retention.

**Learning Objectives**

At the end of this presentation, participants will be able to:

- Describe the impact of the COVID-19 pandemic on Canadian healthcare workers
- Identify similarities and differences in observed burnout and mental illness symptoms across groups of healthcare workers
- Identify organizational solutions for a more resilient, flourishing workforce

**Doing Well: Preliminary Results from a Qualitative Study of How Faculty Assess Resident Competence in Well-Being**

*Ren, P., Gregory, J., & Taylor, T.*

Background Mindful of the consequences of impaired wellness among physicians and medical trainees, wellness is increasingly integrated into medical curricula. With the simultaneous shift towards competency-based approaches in medical education wherein assessment is outcome-based using observable criteria, there is a need to determine whether competency-based approaches can be applied to the wellness domain. The objective of this study is to explore wellness-as-competency in psychiatric residency training and determine what psychiatrists expect to observe in a resident demonstrating competence in wellness. Methods Semi-structured interviews with academic psychiatrists at Western University are being conducted and analyzed using constructivist grounded theory. Results After ten interviews, several themes have emerged. First, defining competence in wellness is challenging due to its inseparability from context, lack of a universal wellness definition, and difficulty disentangling wellness state from wellness competencies. Psychiatrists described a need to treat wellness as an end in itself rather than a means to an end as outlined by the Royal College, highlighting a potential conflict between wellness and demonstration of its competency. Second, competence in wellness involves both action and awareness. This entails noticing and appreciating the impact of one’s wellness on clinical work and vice versa, then taking action to regulate the reciprocal relationship between wellness state and clinical work. Third, trainee competence in wellness is most visible to supervisors when it negatively affects clinical performance, although is also observed through communications with supervisors, trainee mental status, and wellness behaviours. Conclusion Moving forward, the interviews and analysis will increasingly focus on the assessment of wellness competencies.

**Learning Objectives**

At the end of this presentation, participants will be able to:

- Recognize the challenges involved in defining competence in wellness
- Discuss how psychiatrists differentiate between wellness state and competency in wellness, as well as the difficulty of disentangling these two concepts
- Examine the implications of psychiatrists’ conceptualization and means of observing competence in wellness
POSTER PRESENTATIONS
Mystical Experiences in Virtual Reality

Adam, S. & *Frewen, P.

Virtual reality (VR) has shown promise as a psychological induction of mystical experiences. Here, we compared script-guided multi-user perceptual experiences in VR (VR Perception [VR-P]) with a control condition involving guided imagery while participants’ eyes were closed (Eyes Closed Imagery [EC-I]) as means to evoke mystical experiences in 48 undergraduate participants. Self-report results showed that 19 participants (40%) met the criteria for a “complete” mystical experience in response to VR-P, while only 3 (5%) achieved this response to EC-I. VR-P was also more evocative of a sense of presence, vividness, and absorption, as well as various positive affective experiences, most prominent among which included awe and beauty, but also novelty, interest, contentment, and joy. Comparably, negative affective responses were rarely reported even at a very low intensity. We conclude that guided perception in VR of a beautiful, realistic environment also inclusive of awe-provocative, surrealistic elements could be a reliable method to induce mystical experiences in at least a sizable minority of participants. Study limitations and future research directions are discussed.

Yoga in Virtual Reality (VR)

Amyot, H., Ellis, C., & *Frewen, P.

Objectives: Especially during and following the recent COVID-19 pandemic, yoga studios are often providing classes in virtual formats via online video conferencing. Virtual reality (VR) guided meditations using a head-mounted display (HMD) have been found to be a satisfactory means of teaching mindfulness meditation, but satisfaction with practicing yoga in VR has not been researched. We therefore evaluated if yoga instruction via the use of 360-degree videos viewed in VR by HMD is a satisfying method of attending yoga classes, and if it grants participants a greater sense of spatial, interpersonal and temporal presence when compared to the same yoga instructional videos viewed on a standard two-dimensional (2D; laptop computer) display. Methods: Forty female undergraduate students first participated in a traditional in-person yoga class followed by two yoga classes that were pre recorded 360-degree videos. One of the videos was viewed by HMD while the other was viewed on a standard laptop. After each of the three yoga classes, a questionnaire assessing spatial, interpersonal and temporal presence, satisfaction, nausea, and difficulty was administered. Results: The traditional in-person yoga classes were associated with the greatest satisfaction and sense of presence compared to the two virtual delivery formats. Although the VR yoga instruction was associated with a higher sense of presence than the laptop (2D) viewing condition, it was also associated with more nausea, perceived difficulty, and overall lower satisfaction. Conclusions: Instruction in yoga by 360-degree videos viewed in VR by HMD may only be suitable for participants who are less susceptible to nausea and do not find it difficult to use.

Treatment of Co-Morbid Methamphetamine Related Psychosis (MRP) in Opioid Use Disorder (OUD):
Can Long-Acting Formulations of Antipsychotics and Buprenorphine Help?

*Kanagasabai, K., Palaniyappan, L., & Theberge, J.

Background: MRP in OUD can cause negative outcomes due to factors such as non-compliance. Antipsychotic medications are used to treat MRP while buprenorphine/naloxone is for OUD. While long-acting antipsychotics have been available, once monthly buprenorphine XR injection (BXR) is a recent addition. No study has evaluated the safety/efficacy of concurrent depot antipsychotic and BXR. We present a literature review on depot antipsychotics in MRP and a case series of patients who have been on depot antipsychotics with BXR. Methods: Literature search was conducted using the terms "amphetamine OR methamphetamine", "psychosis OR psychotic" and "antipsychotic" in Pubmed, Cochrane Library and Web of Science. Patients with MRP in OUD on depot antipsychotics and BXR have been identified for the case series at the Rapid Access in Addiction Medicine Clinic in London. A retrospective review of their medical records was used for evaluating functional outcome and tolerability. Results: Seven completed randomized trials for the treatment of MRP with antipsychotic medications
were observed and none examined depot antipsychotics. The following oral medications were efficacious: olanzapine, haloperidol, quetiapine, risperidone, paliperidone and aripiprazole. Olanzapine or quetiapine may be preferred over other for MRP, according to one meta-analysis. Data collection for the case series is being completed and results will be presented. Conclusion: A limited number of studies indicate that antipsychotics are useful in the treatment of MRP with none including depot antipsychotics. It is necessary to evaluate the safety and efficacy of combining depot antipsychotics with BXR for MRP in OUD.

**Examining the Impacts of Adolescent Nicotine Use on Later Life Neural Risk Markers for Mood and Anxiety Disorders: fMRI and Connectivity Investigations in the Prefrontal Cortical-Ventral Striatal Network**


Adolescent nicotine exposure can increase the risk of developing later life mood and anxiety-related disorders. Two interconnected neural regions of interest are the medial Prefrontal Cortex (mPFC) and nucleus accumbens (NAc), located in ventral striatum, which underlie the motivational effects of nicotine and are dysregulated in mood/anxiety disorders. Our pre-clinical research has identified abnormal mPFC-NAc levels of glutamate, GABA and dopamine, following adolescent nicotine exposure, which are linked to depressive/anxiety-like symptoms persisting into adulthood (Hudson et al., 2021; Jobson et al., 2018). Our translational research program investigates the impacts of adolescent nicotine exposure on this network and how their dysregulated connectivity and activity may correlate with nicotine’s ability to increase neuropsychiatric risk. For these studies, subjects with diagnosed mood and/or anxiety disorders (Male/Females equally) are being recruited from the LHSC First Episode Mood and Anxiety Program and Canadian Mental Health Association, with histories of adolescent nicotine intake. Subjects are currently undergoing fMRI resting state analyses targeting the mPFC-NAc network. We are using these assays to determine how mPFC-NAc structural connectivity may be dysregulated by adolescent nicotine exposure and how this may map on to mood/anxiety disorder symptom profiles. In addition, white matter structure of the PFC-NAc pathway will be compared between groups to examine how adolescent nicotine exposure might correlate with neural phenotypes, connectivity and volumetric abnormalities in the PFC-NAc network, relevant to mood and anxiety disorder diagnoses and symptom profiles.

**The Comparison Between Medication Treatment and Treatment with Medication and the CBASP Method is in Patients with Persistent Depressive Disorder**

*Mokhber, N., *Jafarzadehfadaki, S., & Yazdi, M.*

Background: Newly described in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), Persistent depressive disorder (PDD) is the chronic subtype of depression. PDD has specific differences compared with episodic ones, including earlier onset, more physical and mental comorbidities, higher hospitalization and suicidality rates, and lower quality of life. Cognitive Behavioral Analysis System of Psychotherapy (CBASP) has been specifically tailored early to examine the efficiency of CBASP onset CD. This study aimed to assess the effects of CBASP on the treatment of patients with severe chronic depression. Methods: The retrospective study was conducted between 2017 and 2020 in Birjand, Iran. 25 patients with PDD were identified based on the DSM-5 diagnostic criteria. They had at least two unsuccessful antidepressant trials. Participants enrolled in twenty-four 45-minute sessions of individual psychotherapy. The effectiveness of the treatment was assessed by comparing the results of the Hamilton Depression Rating Scale performed before the initiation and one week after the treatment. The data were collected and coded using SPSS/VER25 software and Kruskal Wallis test, Kolmogorov Smirnov, paired t-test and independent t-test, and ANOVA with repeated measures was analyzed. All the patients received their medication during the study period without any change. Conclusion: Adding CBASP to the treatment protocol of the patients who received medications was accompanied by a significant decrease in the Hamilton Rating Scales scores.
Vision Correlation with Blood Sugars and Body Weight
*Mohamed, P. S.

In the last research work was done correlating Visions (hallucinations) with blood sugar. It was found that Visions tend to occur when blood sugar was high. The research work found that there is direct relation between blood sugars and Visions.

In this part of research work it was aimed at finding correlation between body weight and Visions. It was found that in the earlier part of psychosis the body weight kept on increasing from the onset of psychosis. This happened in December 1995. When the psychosis was treated the body weight decreased in the year 2022 and 2023. This proved a direct correlation between body weight and visions. The research work also explores relationship between Hemoglobin H1AC for blood sugars and Visions. It was found that there is high correlation between Hemoglobin H1AC and Visions. The research work also explores the correlation between blood sugar and body weight and finds that there is high correlation between blood sugars and body weight.

This research work correlates Vision and blood sugars and body weight.

Internet-Delivered Cognitive Behavioural Therapy for Persons with Stroke: Randomized Control Trial
*Mohan, T., Teasell, R., Upper, R., Chaudhury, M., Janzen, S., McIntyre, A., & Mehta, S.

Background: Approximately 30% of people post-stroke experience depression symptoms, which often goes untreated. Cognitive behavior therapy is an evidence-based first-line therapy for depression. Publicly funded online CBT may be ill-suited to people post-stroke who have concerns with memory and attention. The purpose of this study is to evaluate if an iCBT program tailored for people post-stroke will improve symptoms of depression compared to a self-directed control group. Methods: A multi-site, two-arm open label randomized controlled trial. The intervention group will receive a tailored therapist-guided iCBT program and the control group will receive a self-directed iCBT program. Recruitment will be from the outpatient stroke rehabilitation clinic at Parkwood Institute, social media and advertising. The target sample size is 152 participants who will be randomly allocated to the intervention or control groups. Participants will complete patient-reported outcome measures at baseline, post-treatment, 3-month and 6-month follow-up. Study outcomes will be measured in three areas: study execution, study outcomes (depression, anxiety, perceived disability, self-efficacy and quality of life) and knowledge dissemination.

Expected Results: After the intervention, the results will provide data on the effectiveness of a low intensity (self-directed) program compared to high intensity (therapist guided) program in improving patients’ overall well-being. The results will also provide valuable information on the strengths and challenges of the iCBT program so that it can be further improved. Conclusion: There is significant potential to improve our healthcare system through iCBT to address mental health concerns for those post-stroke and make psychological services accessible and cost-effective.

Feasibility, Acceptability, and Potential Clinical Utility of an Outpatient Exercise Program for Individuals Affected by Stimulant Use Disorder (SUD)
*Salem, B., *Cameron, S., Heath, M., Chavarria, J., Lechman, A., Nugent, K., Ryall, S. E., Dinunzio, M., & Cheema, E.

Background: Stimulants like methamphetamine, cocaine, and methylenedioxyphenethylamine are addictive, neurotoxic, and can impair cognition. SUD costs the Canadian healthcare and criminal justice systems an estimated $7.2 billion annually (CSUCH, 2020). There is a lack of quality outpatient treatment options for SUD. Craving is an essential aspect of SUD and is one of the criteria involved with diagnosis, as per the DSM-V. Previous studies have focused on inpatient populations, and do not accurately reflect the challenges of treating SUD in outpatient settings. Salem et al. (2022) demonstrated that an 8-week exercise program reduces MA cravings, improving MA-use outcomes. Methods: Outpatients with mild/moderate SUD recruited from ambulatory care clinics at LHSC and CMHA. Physical activity intervention will consist of guided group Tai Chi twice weekly over four weeks.
Participants will undergo a diagnostic MINI-International Neuropsychiatric Interview at baseline. Pre- and post-Tai Chi program intervention, participants will complete the Desire to Use Drugs Questionnaire to assess for change in cravings and the Addiction Severity Index to assess for change in addiction severity. Pre and post-Tai Chi program focus groups will be conducted to ascertain participant expectations and factors affecting attendance. Study Objectives: We hope to show feasibility defined as at least 50% attendance. Qualitative analysis will identify recurring themes in focus groups. Future Directions: This study would support future research into outpatient SUD treatments including the combination of exercise with pharmacotherapies and psychotherapy. We also plan to investigate the effects of exercise on executive function, mood, and anxiety in people with SUD in outpatient settings.

Teaching Psychology in Virtual Reality: Wherever You Learn, There You Are

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Virtual Reality (VR) technology is an effective medium for teaching science, technology, engineering, math, and biomedical subjects, but less research has examined VR teaching of psychology. We therefore compared 40 undergraduate students’ response to three psychology lessons that took place 1) face-to-face (FtF), or were pre-recorded using a 360° camera and either viewed 2) in 3D via VR, through use of a head-mounted display (HMD), or 3) in 2D, on a standard flatscreen (tablet computer). As hypothesized, students experienced higher spatial, interpersonal, and temporal presence and satisfaction in VR while wearing the HMD, without any increased perceived difficulty, when compared to the standard 2D flatscreen, albeit some participants experienced nausea/unbalance while viewing videos in VR. However, the traditional FtF lesson format was rated the most satisfactory overall. Further, there were no differences in performance on multiple-choice questions (MCQ) between the three instructional formats. VR thus appears to be a suitable platform for teaching psychology online through 360-degree videos, as students tended to find lessons to be a more satisfying learning experience that was associated with a greater felt sense of presence when compared with standard 2D viewing. Nevertheless, FtF teaching provided a more satisfactory learning experience than teaching through prerecorded videos.

Delay-Related Activity in Marmoset Prefrontal Cortex

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Positive and negative symptoms have long been considered the hallmark features of schizophrenia, but recent clinical studies have highlighted cognitive dysfunction as a third major diagnostic category. Impairment in working memory (WM) is a consistently observed cognitive deficit exhibited by patients with schizophrenia. Persistent delay-period activity in prefrontal cortex (PFC) has been regarded as a neural signature of WM. Electrophysiological investigations in macaque PFC have provided much insight into WM mechanisms, however, a barrier to an understanding of circuits underlying persistent firing is the fact that a portion of PFC lies buried within the principal sulcus in this species rendering it inaccessible for laminar electrophysiology or optical imaging. The relatively lissencephalic cortex of the New World common marmoset (Callithrix jacchus) circumvents such limitations. It remains unknown, however, whether marmoset PFC neurons exhibit persistent activity. Here, we addressed this gap by conducting wireless electrophysiological recordings in PFC of marmosets performing a delayed-match-to-location task on a home cage-based touchscreen system. As in macaques, marmoset PFC neurons exhibited sample-, delay-, and response-related activity that was directionally tuned and linked to correct performance. Models constructed from population activity consistently and accurately predicted stimulus location throughout the delay period, supporting a framework of delay activity in which mnemonic representations are relatively stable in time. Taken together, our findings support the existence of common neural mechanisms underlying WM performance in PFC of macaques and marmosets, thus validate the marmoset as a suitable model animal for investigating the microcircuity underlying WM and its dysfunction in neuropsychiatric disorders.

Prevention of Bipolar Disorder after Delivery: A Pilot Study

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Aims: This pilot study aims to assess the effectiveness of strategies to prevent first onset of hypo/mania after delivery in at-risk women. Methods: Participants include outpatients aged 18-45 years who are 15-34 weeks gestation, have a history of bipolar disorder in a first-degree relative and/or subthreshold hypomania in the context of major depressive disorder, obsessive-compulsive disorder or panic disorder. Validated instruments are used at baseline and follow-up visits (monthly during pregnancy and weeks 1, 2, 4 and 12 postpartum) for establishing diagnoses and monitoring of sleep, mood, and anxiety symptoms. Prevention strategies include: 1) psychoeducation about the effect of pregnancy and postpartum on the course of bipolar disorder; 2) role of sleep loss as a trigger of perinatal mood episodes; 3) avoidance of antidepressants; and 4) early identification and treatment of prodromal/early symptoms of hypo/mania with atypical antipsychotic drugs. In addition to the study visits, participants were assessed on a needs basis. Results: So far, seven women have been enrolled in the study, with 4/7 having given birth. None of the women had hypo/mania. When questioned about their lack of symptoms, one participant astutely commented on the impact of "available support", in the event that she needed it. Conclusion: Implementation of prevention programs during and after pregnancy might reduce the risk of hypo/mania in women at high risk of developing bipolar disorder after delivery.

The Impact of Emotion on Arousal and Task Performance

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In stressful situations, it is hypothesized that our senses are heightened to better respond to threatening stimuli. Some studies have tested this by exposing participants to emotional stimuli to determine their impact on task performance but have found mixed results. Previous studies have not investigated interactions between physiological arousal induced by emotional sounds and visual acuity. Here, we evaluated how emotional environmental stimuli (sounds) influence arousal and task performance as a function of trait anxiety. Participants viewed Gabor patches (sinusoidal luminance gratings) in the periphery and indicated whether the Gabor patches were tilted left or right while presented in silence or with sounds that varied in valence (negative or neutral). Performance measures included accuracy and reaction time. Sympathetic arousal was measured by tracking pupil dilation. Preliminary results from 24 participants (26 more to be collected) displayed comparable accuracy across conditions but faster reaction times by 31 ms (31 ms ± 18 SE) when presented with negative sounds. Trait anxiety displayed no correlations to accuracy or reaction time. Additionally, there was a significant linear effect of condition on pupil dilation with pupil dilation being significantly greater (0.05 mm difference ± 3.0 √ó 10-4 SE) in the negative condition than the neutral condition and the neutral condition being significantly greater (0.17 mm difference ≈ 3.0 √ó 10-4 SE) than the no-sound condition. This study provides important information on how negative environmental stimuli can influence sensory processes and arousal, and delineates how changes in arousal due to stress can impact human performance.

Differences in Barriers to Accessing Mental Health Care Across Time and Provinces

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Background: As anxiety, depressive, and other symptoms increased during the COVID-19 pandemic, so too did the need for mental health care. However, according to recent polls, between 8-15% of Canadians who needed or wanted to see a mental health professional were unable to access support. This poster investigated the most prominent barriers to accessing mental health care throughout the COVID-19 pandemic. Method: Over 30,000 Canadians, stratified across provinces, were polled in both official languages by Mental Health Research Canada between April 2021 and May 2023. Participants who reported not accessing care despite needing it (N = 2,010) were asked "Why did you not access the support of a mental health care professional?". Differences across time and provinces were examined using chi-squared tests. Results: Overall, the most widely reported barriers included "preferred to manage myself", "couldn’t afford to pay", "didn’t know where or how to get help", and "access to care was limited." The prominence of various barriers fluctuated across time and differed significantly between
provinces. Conclusion: The implications of these findings for policymakers and mental health care providers were explored, as well as potential solutions for increasing access to mental health care in Canada.

**Youth-Centred Adult Allyship**

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Study Objectives: The primary objective of this study is to capture transition-age youth (TAY) and self-identified adult ally impressions about what constitutes an adult ally and what the youth-adult-ally relationship entails. This information will be used to construct a working operational definition of what an adult ally is with reference to youth mental health. Methods: This study utilizes participatory action research (PAR), a methodology that argues for the inclusion of knowledge from those most affected by the social issue being researched. TAY were involved in the ideation, development, implementation, and evaluation. Feedback on youth's and adult allies' impressions about what constitutes an adult ally was collected through an online survey. The data gathered will be used to inform the development of the adult ally training protocol. Results: In the preliminary findings, it was determined that 81% of TAY who completed the survey consider adults in their lives to be allies and 95% of adults consider themselves to be allies. Among both groups, the common responses about allyship, a supportive ally and defining an adult ally were mutuality, a safe space, humility, and openness to learning. Conclusion and Implications: The results from this survey will help to inform the literature in this area by developing a working operational definition of what it means to be an adult ally and highlight where differences between adult and TAY perspectives on allyship may exist. The results will also inform future developments of the prototype's tool for youth and adult allies called Repairing Damaged Relationships.

**Profiling the fMRI Derived Language-Based Network for Pre- and Post-Surgical Monitoring**

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Background. In neurosurgery, pre- and post-surgical planning and monitoring are crucial in ensuring optimal conservation and recovery of cognitive function. A key focus during this process is on the Broca's and Wernicke's area (BWA) because impairment of this brain area can negatively impact linguistic function, which in turn has been found to negatively impact mental health and the patient's quality of life. Task-based fMRI has detected a left-lateralized network that simultaneously engages BWA. This study will assess this network's activation over a range of cognitive fMRI tasks in order to establish a baseline hemodynamic response (HDR) profile of this network. Methods. This study included 251 healthy controls from seven different cognitive tasks. Constrained Principal Component Analysis for fMRI was employed to identify and characterize functional brain networks that emerged while undergoing tasks and their associated hemodynamic responses. Results. The studied network was activated during each of the linguistic- and emotion-based tasks and was characterized by left-lateralized activation with simultaneous engagement of the BWA. Further, each cognitive task exhibited distinct hemodynamic response patterns specific to their conditions. Conclusion. Activation of this network during the linguistic and emotion recognition tasks suggest that this network's function lies in the extraction of linguistic- and emotion-based meaning. The derived task-specific HDR profiles will serve as a baseline against which a patient's HDR profile can be compared to. This comparison will allow for the monitoring of linguistic changes in patients pre- and post-operation, serving as an effective approach to safeguarding and preventing declines in mental health.