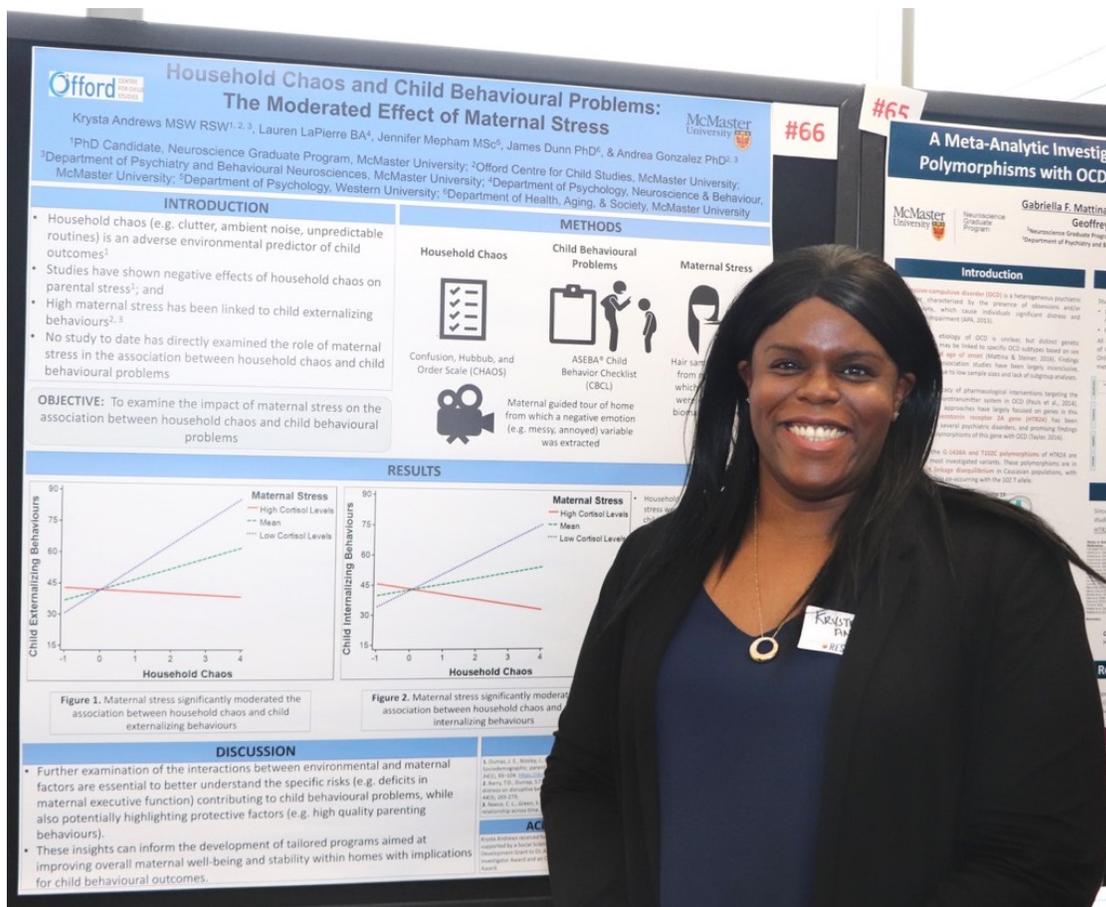


SPOTLIGHT ON RESEARCH

Research Day 2019 Top 3 Posters: Graduate – Clinical/Education



**First place Research Day 2019 poster competition award winner:
Krysta Andrews – Graduate (clinical/education) – supervisor: Andrea Gonzalez**

1st Place

Name: Krysta Andrews

Supervisors: Dr. Andrea Gonzalez

Education Program and Level: Neuroscience Graduate Program, 3rd Year PhD

About Krysta:

I am currently completing a PhD in the Neuroscience Graduate program. Prior to entering this program, I was a social worker which involved working with children and families exposed to various forms of violence. This coupled with my background in biology shaped my interest in learning more about how adversities experienced early in life can impact the biological systems in children and the implications for future behavioural outcomes. Much of my current research focuses on the family dynamic within the home environment and the impact of factors such as household chaos and parenting behaviours on child executive functioning and stress physiology. I hope to pursue further research training via a postdoctoral fellowship; and ultimately, would like a career that permits me to work within both clinical and academic fields as a clinician-scientist.

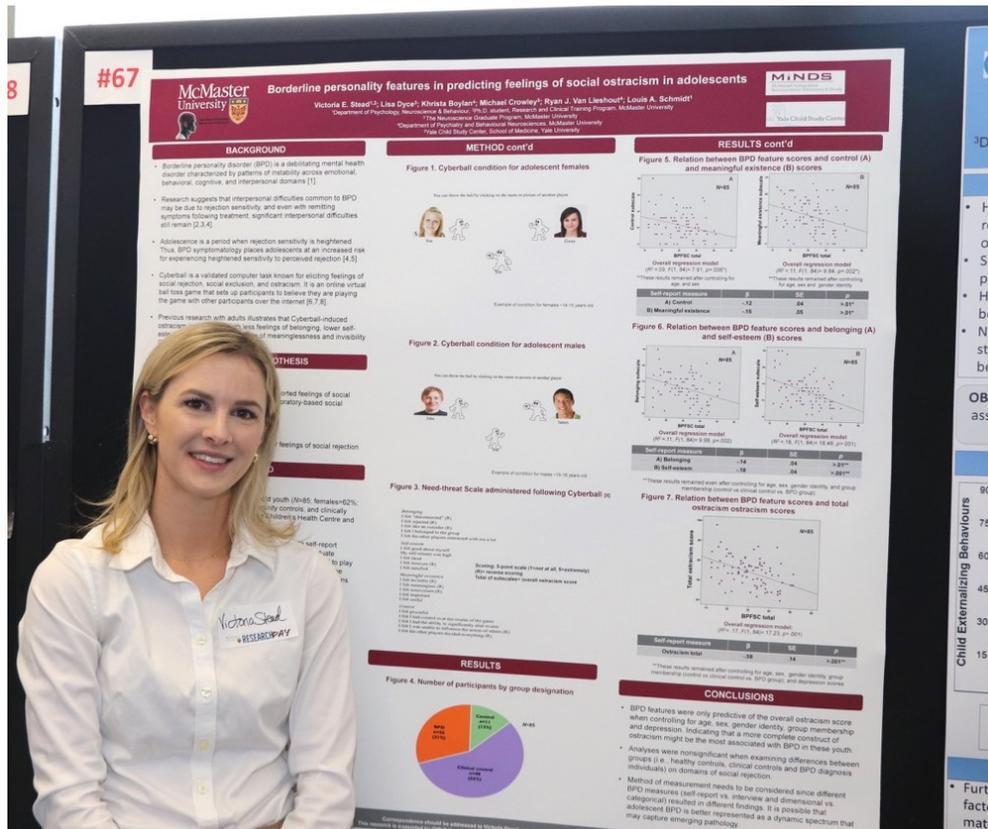
Krysta's Project:

My project examined the impact of maternal stress on the association between household chaos and child behavioural problems. Household chaos describes a home environment characterized by disorganization and instability (e.g. clutter, ambient noise and unpredictable routines). Chaotic homes have been linked to child behavioural problems as well as high levels of self-reported maternal stress. Furthermore, mothers who report high stress levels are more likely to have children exhibiting externalizing behaviours (e.g. physical aggression, and disobedience), and this relationship can persist throughout childhood. Our objective, then, was to examine the role of maternal stress in the association between household chaos and child behavioural problems.

We used data collected from home visits with mothers and school-aged children. The degree of household chaos was measured via the Confusion, Hubbub, and Order Scale (CHAOS) completed by mothers. Mothers also conducted a narrated video tour of their home following an open-ended prompt. We created a variable via extracting the 'negative emotion' based words from the transcripts using a computerized text analysis tool. Child behavioural problems were examined via the Child Behaviour Checklist (CBCL) completed by mothers with a focus on externalizing and internalizing (e.g. anxiety and social withdrawal) behaviours. Lastly, hair samples were collected from mothers from which the stress hormone, cortisol, was extracted as a biomarker of chronic stress.

Our expectation was that we would see higher externalizing and internalizing behaviours in homes with a lot of chaos and high levels of maternal stress, however, we found the opposite. For both externalizing and internalizing behaviours, when levels of chaos in the home are low, children exhibit low levels of these behaviours. And, maternal stress does not have an impact. We start to see the impact of maternal stress, however, when levels of chaos in the home are high. Specifically, in households with high chaos, mothers with low levels of stress are reporting high levels of externalizing and internalizing behaviours from their children. However, when maternal stress levels are high, we do not see a significant impact on the association between chaos and these behaviours.

This study is truly innovative given that: 1) no study to date has examined the impact of **physiological** measures of maternal stress on household chaos and child behavioural problems; and 2) **narrated home video tours** have never been used to assess chaos in the home. All other studies to date have relied solely on self-report measures. Though the findings were not entirely what we predicted, in reviewing the literature, it may be that these mothers are experiencing dysregulation in their stress response system which leads to chronically low cortisol levels. Further examination of factors contributing to this is needed. Additionally, it is important to further assess the interactions between environmental and maternal factors to better understand the specific risks contributing to child behavioural problems, and potential protective factors also. These insights can inform the development of tailored programs aimed at improving overall maternal well-being and stability within homes with important implications for child behavioural outcomes.



2nd Place

Name: Victoria Stead

Supervisor: Dr. Louis Schmidt

Education Program and Level: PhD III–Psychology: Research and Clinical Training Stream

About Victoria:

I am completing my studies in the Child Emotion Lab under the supervision of Dr. Louis Schmidt. My research interests include emotion dysregulation and borderline personality disorder (BPD) in adolescents. Currently, I am completing a practicum at the Youth Wellness Centre (YWC), under the supervision of Dr. Juliana Tobon. This practicum has provided me with the opportunity to work with youth with emotion dysregulation problems. Through my clinical observations from working with these youth, I have become quite interested in individual differences in symptom presentations and their implications for treatment outcomes. Overall, these interests have informed my own thesis research questions. In the future, I hope to work as a clinician-scientist examining interventions for adolescents and youth with BPD and emotion dysregulation problems.

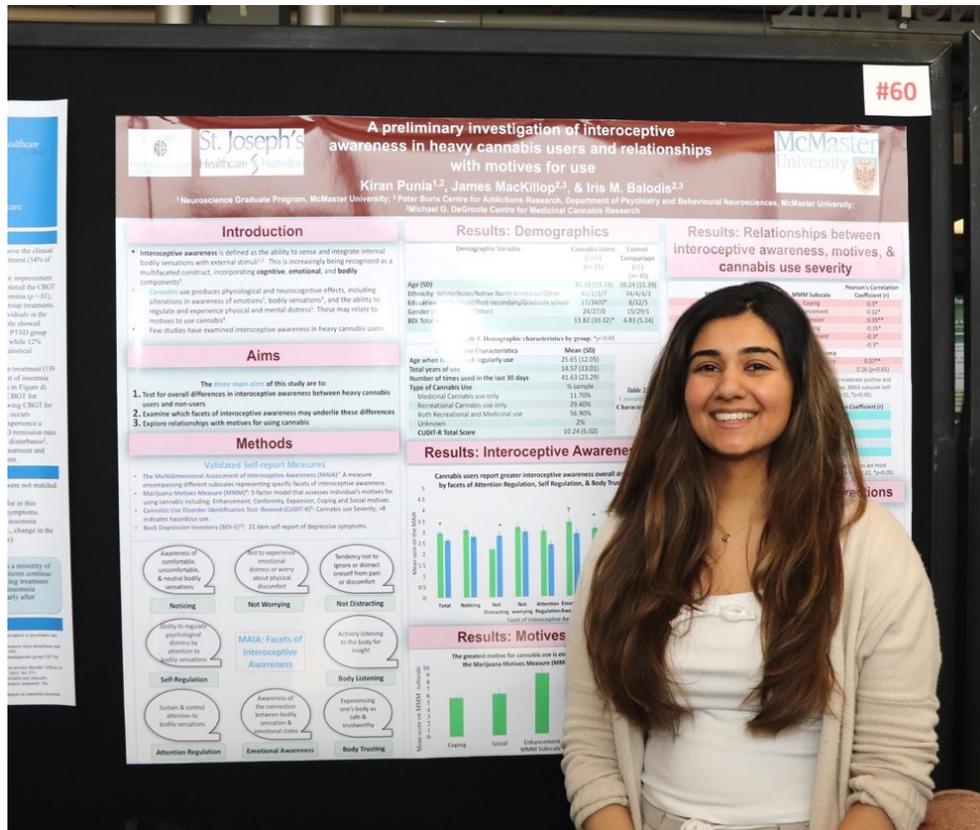
Victoria's Project:

Borderline personality disorder (BPD) is a debilitating mental health disorder characterized by patterns of difficulties in emotional, behavioural, cognitive, and interpersonal domains. We are particularly interested in examining deficits in the interpersonal domain in adolescents with BPD, because adolescence, generally, is a period of great interpersonal turmoil (Gratz et al., 2013; Tang et al., 2019). Research suggests that interpersonal difficulties common to BPD may be due in part to rejection sensitivity, which includes actual or perceived exclusion by other individuals (Gratz et al., 2013).

Cyberball is a validated computer task known for eliciting feelings of social rejection, social exclusion, and ostracism. It is an online virtual ball toss game that sets up participants to believe that they are playing the game with other same-age and gender peers over the internet; however, the whole game is computer generated and the “other” players are not real (Gratz et al., 2013).

Eighty-five adolescents aged 11-17 years old participated in our study. 62% of our sample was female. Our sample comprised individuals from the Hamilton area and were recruited from either the community and did not have a history of mental health difficulties or were recruited from Ron Joyce Children’s Health Centre and McMaster Children’s Hospital. From our sample, we wanted to examine if BPD symptomatology places adolescents at an increased risk for experiencing heightened sensitivity to social rejection. To test this, we examined if self-reported BPD symptoms were associated with worse feelings of social rejection following completion of the Cyberball game.

In our sample, 13% were healthy controls (no history of mental disorders), 31% met diagnostic criteria for BPD, and 56% met criteria for at least one mental disorder, not including BPD. Overall, we found that higher self-reported BPD symptoms were associated with greater feelings social rejection following the Cyberball game. These results remained regardless of age, gender, sex, depression symptoms and group membership (healthy control, BPD group, other mental health disorder group). We did not find the same results for the various facets of social rejection that we examined (for example, feelings of belong, self-esteem, meaningful existence, and control). This might illustrate that a more complete construct of social rejection might be the most associated with BPD symptoms in these adolescents. These findings have clinical implications and indicate that it might be important to specifically target sensitivity to social rejection in adolescents with prominent BPD symptoms. Especially since previous research in adults has illustrated that individuals treated for BPD make significant overall functional gains but can still have notable difficulties in social functioning, and given that today adolescents are at greater risk of experiencing actual social rejection via social media (Crone & Konijn, 2018; Wright et al., 2016). However, more research in this area is needed.



3rd Place

Name: Kiran Punia

Supervisor: Dr. Iris Balodis

Education Program and Level: 1st year Master's, Neuroscience Graduate Program

About Kiran:

I am currently in the Neuroscience Graduate Program at McMaster University, conducting research at the Peter Boris Centre for Addictions Research. My Master's work examines inhibitory control in binge eating disorder and treatment outcome, however I also conduct research on cannabis use disorder and gambling disorder. In addition to my graduate studies, I also work part-time at the Borderline Personality Disorder Service Clinic at St. Joseph's West 5th. My future academic and career goals include furthering my education by obtaining a PhD, and working alongside clinicians and researchers in a hospital setting as my career.

Kiran's Project:

This preliminary project examines self-reports of interoceptive awareness in a heavy cannabis using sample. Specifically, interoceptive awareness is the ability to integrate bodily sensations with external stimuli. In some cases, increased interoceptive awareness can be maladaptive and lead to increased somatization and heightened anxiety. On the contrary, heightened interoceptive awareness could also be beneficial for sensing bodily changes and for facilitating adaptive decision making. Few studies have examined interoceptive awareness in cannabis users, which is of interest as individuals often report using the drug to cope with negative mood. Furthermore, examining motives to use cannabis

may provide insight into changes in interoceptive awareness that could occur in heavy cannabis users. This study included 46 control comparison participants, and 51 heavy cannabis users. The main results showed that cannabis users report greater overall interoceptive awareness than the control comparison group specifically on facets of Attention Regulation, Self-Regulation and Body Trusting. Although, the control comparison group reported greater ability to not distract oneself from pain and discomfort in comparison to cannabis users. Altogether, these results suggest that individuals with heavy cannabis use report better ability to regulate attention toward bodily sensation and psychological distress via bodily sensations, and trust their body. Interestingly, Self-Regulation related positively with both Enhancement and Expansion motives, whereas Not Distracting negatively related with Coping and Enhancement motives to use cannabis. As such, it appears individuals with heavy cannabis use are more in tune with psychological and physical distress. Individuals who are not able to distract oneself from uncomfortable sensations are more likely to use cannabis to cope with such distress. This work has implications for understanding changes in interoceptive awareness that occur with cannabis use and also which facets may serve as motivators for use. This has the potential to inform clinical practice about why individuals misuse cannabis, and to improve treatment strategies on recognizing distressing bodily and psychological sensations.