

University  
of Regina



2024 Honours Psychology  
Poster Symposium

# Schedule

Monday, April 15<sup>th</sup>, 2024, 9:00 a.m. –  
12:00 p.m.

Welcome 9:00 a.m.

Symposium begins 9:10 a.m.

*\* Presenters will be available to discuss their project and answer any questions*

Award Presentation 11:00 a.m.

Poster takedown 11:30 a.m.

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# Message from the Department

Dear Honours Graduates,

Congratulations! After a whirlwind year of designing your study, applying for ethics approval, re-applying for ethics approval, collecting data, analyzing your data, and frantically drafting posters, abstracts, and results sections, you can proudly and authentically call yourself a researcher. All the department is so proud!

Completing your Honours degree is not only an accomplishment because it is intellectually demanding, but also because it requires resourcefulness, resilience, conscientiousness, and creativity. You started with a question and had to work out how to answer it. You likely discovered that the research process is rarely linear and that interpreting results is often not straightforward. You probably spent a lot of the year “figuring out”. Figuring out how to recruit participants. Figuring out how to use research software. Figuring out a relationship with your supervisor. And figuring out how to make sense of data. This is the stuff of life. In years (or months?) you may have forgotten how to run a regression, but when you come upon challenges or enter unknown territory in life, may you remember that *you can figure it out*.

As you go forward in the next exciting chapter of your lives take this problem-solving ability, paired with the knowledge you have gained about the human mind, brain, and behaviour and know that you are prepared to succeed, and you can make a difference. We look forward to hearing about your future contributions and know that you will leave a significant mark wherever your paths may lead.

For today, in the meantime, take a moment to celebrate—you did it! Our heartiest congratulations to you!

# Project Titles and Abstracts

## **Impact of institutional betrayal and institutional courage on mental health in people with chronic disease**

**Briana De Roo**

**Supervisors: Natasha Gallant, Ph.D. and Emily Winters, M.Sc.**

People living with chronic disease are at an increased risk of developing psychological distress. Moreover, people living with chronic disease interact with healthcare institutions frequently. Institutional betrayal is an institution's failure to prevent and respond to harm experienced by the people they serve. Institutional courage may mitigate some of these harms. This study aims to understand how interactions in healthcare (i.e., adverse medical events, institutional betrayal, institutional courage) impact psychological outcomes. A case control study was conducted with participants who were at least 18 years of age who were living with and without chronic disease. Self-report questionnaires were administered to participants regarding healthcare experiences and mental health symptoms. Independent samples t-tests were conducted to compare people with and without chronic disease with regards to these experiences and symptoms. Hierarchical multiple regressions were run to determine if healthcare experiences predicted mental health symptoms. We found that people living with chronic disease reported significantly higher levels of depression, anxiety, trauma, institutional betrayal, and adverse medical events compared to people without chronic disease; however, people without chronic disease reported significantly higher levels of institutional courage compared to people with chronic disease. Moreover, institutional betrayal significantly predicted anxiety and trauma, but not depression. These results demonstrate the impact that healthcare institutions play in the well-being of their patients, and highlights the need for better systems in responding to patient harm. Findings from this study could inform mental health treatment for populations with comorbid chronic disease and psychological distress.

# **Predictors of self-guided internet-delivered cognitive behavioural therapy tailored to public safety personnel**

**Sam Demyen**

**Supervisors: Jill Price, Ph.D. and Heather Hadjistavropoulos, Ph.D.**

Background: Public safety personnel (PSP) face higher rates of mental disorders compared to the general population. PSP also face many barriers to accessing mental health treatments. To support PSP mental health, PSPNET offers a transdiagnostic internet-delivered cognitive behavioural therapy (ICBT) program delivered in a self-guided format known as the *Self-Guided PSP Wellbeing Course*. Purpose: The current study aims to improve understanding of the *Self-Guided PSP Wellbeing Course* by (a) evaluating the effectiveness of the *Self-Guided PSP Wellbeing Course* at reducing symptoms of GAD, MDD, and PTSD; and (b) examining outcome predictors of the *Self-Guided PSP Wellbeing Course*. Method: The current study used a longitudinal single-group design with data from 285 Canadian PSP who enrolled in the *Self-Guided PSP Wellbeing Course*. Measures were completed at pre-treatment as well as 8- and 20-weeks post-enrollment. Paired-samples *t*-tests and Hedges' *g* assessed clinically significant changes and effect sizes on symptoms of anxiety, depression, and posttraumatic stress. Multiple regression analyses assessed outcome predictors. Results: The *Self-Guided PSP Wellbeing Course* effectively reduced symptoms of anxiety, depression, and posttraumatic stress from pre-treatment to 8-weeks post-enrollment, with small-to-moderate effect sizes. Symptom improvement remains stable at 20-week post-enrollment for symptoms of anxiety and depression. Pre-treatment resilience statistically significantly predicted improvement in symptoms of depression and posttraumatic stress at 8-weeks post-enrollment. Conclusion: The current study contributes to the growing body of research supporting the use of ICBT among Canadian PSP. With a larger sample, future research should examine whether baseline resilience predicts anxiety changes scores in self-guided ICBT.

## **Adults' perceptions of child eyewitness credibility: Multiple independent lineups**

**Katherine Engel**

**Supervisors: Kaila Bruer, Ph.D. and Shaelyn Carr, M.Sc.**

Eyewitness testimony is a powerful piece of evidence in criminal cases (O'Neill et al., 2011; Neal et al., 2012), but this can be problematic as eyewitness testimony is a leading cause of wrongful convictions (Innocence Project, 2023). Mistaken eyewitness testimony is prominent in children, as children identify innocent suspects more frequently than adults (Fitzgerald & Price, 2015). Age-appropriate lineup techniques have been explored to reflect child eyewitness accuracy, such as the multiple independent lineups technique (MIL; Carr & Bruer, 2023). Although Carr & Bruer (2023) found promising results using the MIL technique with children, how adults perceive child eyewitness credibility through MIL was unstudied. This study aimed to fill this gap in how adults perceive child eyewitness credibility on the MIL. To do so, jury-eligible participants ( $N=176$ . 73% female, 24% male, 3% identified as other [i.e., nonbinary],  $M_{\text{age}} = 23.26$ ,  $SD = 7.85$ ) read a mock trial transcript where the child eyewitness made their identification(s) of the suspect through the traditional lineup or the MIL technique. Perceived credibility for the participants was measured through several different dimensions (i.e., identification, overall credibility, honesty, and cognitive ability). Largely, the results did not indicate any significant differences across lineup techniques (traditional lineup or MIL), nor the age of the child eyewitnesses (younger or older). This indicates that adults perceive child eyewitness credibility similarly regardless of technique used and age of the child eyewitness. Implications and future directions are discussed.

## **Teacher and education students' knowledge of children's understanding of arithmetic concepts**

**Raelynn Fohr**

**Supervisor: Katherine Robinson, Ph.D.**

Arithmetic concepts such as Equivalence (understanding the equals sign means that both sides of an equation are balanced), Inversion (understanding some pairs of operations are inversely related), and Associativity (understanding some problems can be solved in any order) are understood to give a deeper understanding of math (Wong, 2017). As well, the use of strategies that show an understanding of these concepts has been suggested to improve student accuracy on math problems (Chesney et al., 2013; Dubé & Robinson, 2010). Within this study, Teachers and Undergraduate Education students completed an online survey asking them to solve math problems that could be solved using a conceptually-based strategy. As well, participants were asked questions regarding their math anxiety and comfort teaching math. Finally, participants were asked to estimate at what grade 50% of students would apply a conceptually based strategy to solve problems. Participants were accurate on estimating when 50% of students understood additive equivalence only. Participants were found to overestimate students' understanding of the concepts of associativity, equivalence, and multiplicative inversion. As well, it was found that math teaching anxiety was correlated with conceptually based strategy use, and maximum grade comfortable teaching math was correlated with accuracy and strategy use. Overall, these findings indicated that more needs to be done to address education professionals understanding of student estimates.

## **Walking trajectory by gender and reference frame is all-right**

**Darby Graham-Rowe**

**Supervisor: Laurie Sykes Tottenham, Ph.D.**

Each hemisphere of the brain has specialized functions. The right hemisphere is dominant for spatial processing in most people, and also processes the left field of vision. It is believed that these lateralized functions underlie the left visual field bias frequently observed on visuospatial tasks, wherein individuals appear to overattend the left side of space and slightly neglect the right. These lateralized functions are also thought to underlie the rightward collision bias frequently reported on laboratory navigation tasks, which would also necessarily entail a rightward walking trajectory. The present study used a naturalistic observational design to determine if walking behaviours in the real world demonstrate a rightward bias. Further, because differences in hemispheric function are more pronounced in men than women, perceived gender was also examined. Observations were made for both absolute walking side within a hall (allocentric reference frame) and passing side relative to another person (egocentric reference frame). Strict rightward biases were found independent of condition and perceived gender. These natural walking pattern findings are consistent with the rightward bias frequently reported on laboratory collision tasks, but are not consistent with findings on other laterality tasks in which women demonstrate smaller biases than men. This study is part of a larger international collaboration exploring the role that a country's driving side may have in impacting natural walking biases and biases observed in laboratory collision and other visuospatial tasks.

## **Grooming detection: Can children detect grooming tactics?**

**Natalie Hamm**

**Supervisor: Kaila C. Bruer, Ph.D.**

This study examined whether school-aged children ( $N = 524$ ) are able to perceive grooming tactics and behaviours in adults. To do this, children read two short, vague stories containing elements of adult grooming behaviour. The stories were about a girl or boy leaving to help a custodian or coach. The child in the story went to either a private or public place with the adult for the first time or has helped the adult before and will return or not return from the secondary setting in the story. After reading the story, the child was asked follow-up questions to determine their perceptions. It was hypothesized that older children would have higher rates of detection than younger children and they would have higher rates of detection in the Return, Multiple, and Private conditions. No significant differences were found between the three story conditions, but older children were found to detect grooming at higher levels than younger children. These findings provide evidence as to why young children may be more likely to be victimized by such methods.

## Wellbeing and protective factors in parents of typically developing young children

Andrea Hedlund

Supervisors: Kristi Wright, Ph.D. and Danielle Caissie, M.Sc.

Background: While parents of young children experience challenges to their wellbeing, there is limited research investigating potential protective factors. This study explored the association between potential protective factors (i.e., distress tolerance, emotion regulation, self-efficacy, resilience, and perceived social support) and wellbeing in parents of young, typically developing children. Methods: Participants included 99 parents (92.9% female,  $M_{Parent\ Age} = 32.95$ ,  $SD = 5.134$ ) of young ( $M_{Child\ Age} = 24.46_{months}$ ,  $SD = 15.38$ ), typically developing children recruited in Canada. Participants completed an online questionnaire consisting of demographics, wellbeing, distress tolerance, emotion regulation, self-efficacy, resilience, and perceived social support. Results: Significant associations were observed between wellbeing and all protective factors ( $p < .01$ ). Results from linear multiple regression demonstrated that the model accounted for 41.6% of the variance in wellbeing  $F = (6, 98) = 12.65$ ,  $p < .001$ , with emotion regulation ( $p < .05$ ) and social support ( $p < .05$ ) being significant predictors. Conclusions: Relationships exist between wellbeing and protective factors in parents of young, typically developing children. Protective factors account for a large proportion of the variance in parent wellbeing. Impact: The findings highlight potential contributory factors to parent wellbeing. As such, findings identify factors that may represent important targets (i.e., emotion regulation and social support) for programs or interventions focused on supporting and/or bolstering parent wellbeing.

## **Illness or immorality? Exploring the intersections of contamination and condemnation**

**Braeden Hysuick-Weik**  
**Supervisor: Donald Sharpe, Ph.D.**

People prone to feeling negative emotions in response to contaminants (e.g., disgust) tend to have distinct moral views. But how do these people feel about the morality of those who are a potential source of contamination, such as those who appear to be ill? The current study was designed to explore the relationships between predispositions to contaminants and moral judgment of those displaying signs of illness. Undergraduate participants ( $N = 170$ ) completed measures of obsessive-compulsive contamination symptoms, disgust propensity, disgust sensitivity, and purity-based morality. Participants then read a vignette depicting a person displaying signs of illness. After reading the vignette, participants rated that ill person's level of immorality and their own feelings of contamination. Greater levels of obsessive-compulsive contamination symptoms, disgust propensity, disgust sensitivity, purity-based morality, and feelings of contamination were associated with harsher moral judgment of the person displaying signs of illness. Moreover, obsessive-compulsive contamination symptoms mediated the relationship between feelings of contamination and moral judgment of the person with signs of illness. These findings illuminate the importance of morality for individuals that often experience intense feelings—especially feelings that pertain to contamination. Moral psychology researchers have focused on how affects like disgust influence people's general moral principles. However, focusing on abstract principles overlooks the concrete behaviours that are relevant to people's moral lives. Clinical psychology researchers can improve understanding of mental health by exploring how individuals prone to intense affect react to relevant and provocative *real-world* situations.

## **Memory enhancement training and its impact on emotion processing**

**Priyanka Jason**

**Supervisor: Austen K. Smith, Ph.D.**

Alexithymia is a cognitive-affective impairment characterized by difficulties in recognizing and expressing emotions. It is linked to impaired overall memory function, suggesting a relationship between memory and emotions processing. We hypothesize that training memory will positively affect emotion processing by reducing the time required to automatically process emotions. We recruited 142 participants and administered the Toronto Alexithymia Scale (TAS). Participants underwent an Emotional Stroop Task (EST) to assess reaction times (RTs) to emotional and neutral stimuli, then were randomly assigned to either verbal or sham training groups. The verbal training comprised a 50-minute botanical name memorization task to induce changes in memory-related brain regions, while the sham group watched a 50-minute silent movie. Post-training, both groups completed the EST again and underwent cognitive tests to assess memory capacity differences. A significant positive correlation was found between TAS scores and EST RTs for both negative emotional ( $p = .013$ ) and positive emotional ( $p = .023$ ) words, indicating slower emotion processing times with higher alexithymic traits. Independent sample t-tests demonstrated that differences in RTs between low and high TAS scorers were reduced. In the sham training group, high TAS scorers had significantly slower RTs ( $p = .025$ ), but in the verbal training group, no differences were found ( $p = .111$ ) between high and low TAS scorers. No differences in memory capacity were found following the verbal training; however, there was an improvement in automatic processing of emotion, as evidenced by the EST.

## **Method effects in the short version of the five facet mindfulness questionnaire**

**Jenna Kazeil**

**Supervisor: Shadi Beshai, Ph.D.**

Background: The Five Facet Mindfulness Questionnaire (FFMQ) is a self-report measure of dispositional mindfulness (DM), the capacity for nonjudgmental present-moment awareness, which has been linked with improved mental health. Specifically, the FFMQ uses both positively- and negatively-worded items in its measurement. However, negatively-worded items may introduce method effects, defined as systematic biases in measurement whereby responses differ due to the item's valence and not its content. Such method effects may also represent response styles (e.g., extreme responding) observed in clinical samples. Purpose: To investigate the occurrence of method effects within the FFMQ-24. Method:  $n = 495$  participants were recruited from an online platform and randomized into two conditions: to receive a) the original FFMQ-24 (positively-/negatively-worded items;  $n = 243$ ); or b) the modified FFMQ-24 (positively-worded items;  $n = 252$ ). Participants in both conditions subsequently completed self-report measures for depression (PHQ-9), anxiety (GAD-7), and stress (PSS). Results: Independent samples t-test revealed that participants receiving the original FFMQ-24 ( $M = 84.03$ ) endorsed lower scores than those receiving the modified FFMQ-24 ( $M = 87.84$ ). Correlational analyses revealed that scores on the modified FFMQ-24 were significantly, negatively correlated with scores on depression,  $r = -.46, p < .001$ , anxiety,  $r = -.48, p < .001$ , and stress,  $r = -.64, p < .001$ . These correlation scores were weaker than those on the original FFMQ-24 with the same measures. Implications: Findings suggest that negatively-worded items of the FFMQ-24 exhibit method effects that systematically inflate relationships with symptom measures, paving the way for the development of more refined measures of DM.

## **Canadians' opioid awareness: An analysis across multiple demographics**

**Brenna Klatt**

**Supervisor: Richard MacLennan, Ph.D.**

Canada is currently experiencing an opioid crisis that leads to many Canadian deaths each year. The present study is a quantitative analysis of data collected through Statistics Canada's Survey on Opioid Awareness (2017). Participants (N= 5,116) answered questions related to their awareness of several topics including: the opioid issue in Canada, their personal opioid use, appropriate overdose response, sharing opioids, harm reduction services, and general information related to opioid use. These topics have been divided into 2 main scales: Awareness of Safe Opioid Use and Awareness of General Information Related to Opioid Use (6 items;  $r = 0.87$ ). Factor analysis revealed 3 subscales within the first scale, Awareness of Safe Opioid Use. These subscales are Awareness of Appropriate Overdose Response (4 items;  $r = 0.75$ ), Awareness of Related to Sharing Opioids (3 items;  $r = 0.63$ ), and Awareness of Harm Reduction Services (3 items;  $r = 0.69$ ). 3 in 10 participants reported using opioids in the past five years. The majority of those who used opioids being female (57.10% female vs. 42.90% male). Women also report being more aware of appropriate overdose response (54.41% female vs. 45.59% male). Approximately half of participants reported being somewhat aware that there is currently an opioid issue in Canada. Participants over the age of 80 are significantly less aware of general information related to opioid use than participants ages 25 to 79. Residents of Quebec report significantly less awareness of general information related to opioid use than most provinces. Residents of British Columbia reported significantly more awareness than Quebec, Ontario, and Manitoba. These findings provide insight into which Canadian populations have the greatest need for information related to opioid use and overdose.

## **Eye love arithmetic: An inversion and associativity eye tracking study**

**Natalia McCullough**

**Supervisor: Katherine Robinson, Ph.D.**

Individuals' conceptual knowledge of inversion and associativity can be reflected in how they solve three-term arithmetic problems. If an adult solves an inversion problem like  $27 + 46 - 46$  by cancelling the 46s, it suggests they understand inversion and have used an inversion shortcut. Similarly, when adults solve an associativity problem like  $25 + 38 - 36$  by first computing  $38 - 36$ , they have used an associativity shortcut. Previous studies indicate that adults are more accurate and use more shortcuts on inversion problems. To deconstruct why some individuals are better at using shortcuts, the current study used an eye tracker to see if there were differences in visual attention between shortcut users and shortcut non-users. Participants ( $n = 22$ ) solved 32 three-term arithmetic problems. Half of the problems were inversion, and the other half were associativity. Problems differed by operators (additive or multiplicative) and their format (conductive or non-conductive). As participants solved problems, their eye fixations were tracked and used to generate heat maps. Results support previous findings that adults are more accurate and use more shortcuts on inversion, additive, and conductive problems compared to associativity, multiplicative, and non-conductive problems. When comparing the eye movements of shortcut users to shortcut non-users, the heat maps indicate that participants focused on similar areas. Further visual and statistical analyses are needed to compare the eye movements of shortcut users to shortcut non-users. Continuing to study the visual attention of shortcut users might explain why they perform well on these problems.

## **Cognitive processes that support adult memory for novel sequential actions**

**Haley McStravick**  
**Supervisor: Jeff Loucks, Ph.D.**

Recalling the order of action sequences plays a considerable role in everyday routine functioning, but relatively little is known about the underlying cognitive processes behind the learning of such action sequences. The current study explored the role of prior knowledge in sequence learning, and the relative importance of verbal and motor processing during this learning. Participants viewed a series of action sequences and were either given prior knowledge of the object categories used in the sequences or not and were additionally asked to perform a motor or verbal dual task during learning, or had no dual task. After a delay they were asked to recall the sequence with a novel set of items. Recall for the action sequence was significantly stronger without the presence of a dual task, both with and without prior knowledge. There was also partial evidence that verbal processes may be more heavily involved in learning in comparison to motor processing. These findings indicate that full attention is required for action learning, and that real-world learning of actions may rely most heavily on verbal working memory.

## **Perceived intentionality and social perspective taking: When do we give others the benefit of the doubt?**

**Raelynne Minel**  
**Supervisor: Donald Sharpe, Ph.D**

The intentions we attribute to others effect how we perceive ambiguous actions. Think of the polarized interpretations of police conduct in the news where the same actions are witnessed by all but how those actions are perceived differs because of varying attributions of intent. The present study explored relationships between social perspective taking and attributions of intent in an online survey administered to eighty-three undergraduate students. Social perspective taking and attributions of intent were assessed in relation to an ambiguous sentence task as a measure of intentionality bias and a series of vignettes as a measure of hostile attributions of intent. It was hypothesized that intentionality bias would be associated with social perspective taking, social perspective taking would be associated with reduced hostile attribution bias, and a relationship between intentionality bias and hostile attribution bias would be mediated by social perspective taking. No relationship was found between intentionality bias and social perspective taking. An inverse relationship between social perspective taking and hostile attribution bias was found, as well as a relationship between intentionality bias and hostile attribution bias albeit not mediated by social perspective taking. These findings provide support for the assumption that intentionality bias and hostile attribution bias are related, and that social perspective taking and hostile attributions of intent are related albeit negatively.

## **Pointing fingers: Moral judgements and law enforcement perception in online true crime communities**

**Safa Nadeem**

**Supervisor: Susan Yamamoto, Ph.D.**

The November 2022 murder of four college students sent shockwaves across online communities, showcasing how mainstream interest in crime manifested in online forums. This study sought to analyze digitally-based civilian policing and the rise of online true crime communities. Leveraging Haidt and Graham's Moral Foundations Theory, this study aimed to understand the psychological processes which may be involved in public information consumption, moral judgments, and online behaviour in response to criminal cases. The research question was whether the ubiquity of criminal cases in online spaces led citizens to participate in websleuthing forums as an outlet for moral judgement. This study proposed that moral foundations language would be prevalent in Reddit discussions on the Idaho University Criminal Case, and would be associated with police attitudes and perceived responsibility for justice. Data were collected from the largest Reddit forum discussing this case. Both quantitative analyses (independent sample t- tests) and qualitative analysis (using Pennebaker et al.'s (2022) Linguistic Inquiry and Word Count Program/qualitative description) were conducted. Results demonstrated that fairness-related language was more prevalent in posts pertaining to law enforcement. Findings may advance knowledge on community engagement with law enforcement, and the broader scheme of internet culture relative to moral-psychological phenomena.

## **Cultural adaptation in digital narrative therapy: A randomized controlled trial**

**Areeba Nasir**

**Supervisor: Natasha Gallant, Ph.D.**

This study investigates the impact of cultural adaptation in digital narrative therapy on psychological distress among university students. In an era where digital mental health interventions are increasingly utilized, the cultural relevance of these tools remains underexplored. This research employs a mixed-methods design, integrating quantitative analyses with qualitative thematic analysis to evaluate the effectiveness of culturally adapted versus nonculturally adapted digital narrative therapy. Participants, recruited from the University of Regina participation pool, were assigned to either a culturally adapted (n=64) or a non-culturally adapted intervention group (n=67). Quantitative outcomes assessed changes in psychological distress, while qualitative data provided insights into the participants' experiences and the perceived impact of cultural adaptation. The findings revealed no significant difference in psychological distress outcomes between the culturally adapted and non-culturally adapted groups, suggesting that the brief nature of the intervention may not have been sufficient to cause measurable changes in psychological distress. However, the thematic analysis identified four central themes: resilience through cultural connection, cultural wisdom as a coping strategy, community support in mental health recovery, and navigating challenges with cultural insights. The implications of this study extend to the theoretical understanding of cultural adaptation in mental health interventions and practical considerations for the design and implementation of culturally sensitive digital mental health tools. Future research should explore longer-term interventions and broader demographic samples to fully understand the potential benefits of cultural adaptation in digital narrative therapy.

## **Sexual desire in perimenopause: The role of sex hormones and depressive symptoms**

**Duncan Preston**

**Supervisors: Bethany Sander, M.Sc. and Jennifer Gordon, Ph.D.**

Sexual dysfunction and diminished sexual desire are common complaints among midlife women. These sexual difficulties may relate to the ovarian hormone changes that occur during the menopause transition (i.e., “perimenopause”). Levels of estradiol fluctuate during this period, at times reaching very low levels, which may result in physiological effects that, in turn, impact sexual function and desire. However, the extent to which perimenopausal changes in libido are directly related to hormone shifts remains unclear. Since the menopause transition is also associated with an increased risk of depressive symptoms, perimenopausal mood changes may also contribute to perimenopausal changes in libido. This study aimed to examine the relative contributions of within-person changes in weekly depressive mood and ovarian hormone levels on weekly libido. Fifteen perimenopausal women reporting clinically elevated levels of depressive symptoms were recruited. Once a week for eight weeks, they completed a survey assessing depressive mood and sexual desire and provided a urine sample for the measurement of the urinary metabolites of estradiol and progesterone, resulting in a total of 120 hormone-survey pairs. Multilevel modelling examining the within-person effects of hormones and depressive mood on sexual desire revealed that while with-person weekly changes in depressive symptoms significantly impacted sexual desire, weekly changes in ovarian hormones did not. In the future, our team will recruit additional participants to examine these relationships in a larger sample as well as investigate potential moderators in the relationship between hormone changes and sexual desire, such as prior history of sexual dysfunction.

## **The effects of emotionality, anxiety, and practice frequency on retrieval-induced forgetting**

**Hailey A. Reimer**

**Supervisor: Tom L. Phenix, Ph.D.**

Retrieval-induced forgetting (RIF) is a forgetting phenomenon that details how the retrieval of an item from memory will suppress the retrieval of related items from memory due to retrieval competition (Anderson, Bjork & Bjork, 1994). Previous research has found that emotionality and anxiety can affect RIF effect sizes. However, there are mixed results on the influence of anxiety and negative emotional arousal on RIF. The current study aimed to clarify the role of anxiety and negative arousal on RIF and investigate if RIF is modulated by practice frequency of negative items. Participants' state and trait anxiety levels were measured using the STAI and a modified retrieval-induced paradigm was employed to measure RIF. Category – word pairs, such as INSULTS – bitch, were presented to induce negative emotionality in participants. Our results indicated that emotionality, anxiety, and practice frequency did not have a statistically significant effect on RIF effect sizes overall; however, typical RIF was observed for negative emotionality words and not for neutral words. Declining anxiety levels in the post-test phase led us to argue that the semantic saliency of these evocative words, rather than arousal, is causing RIF for these negative emotionality words. When the meaning of a word is salient, RIF is produced. These results may have implications for our understanding and practice of exposure therapy. We suggest those suffering from anxiety create new non-aversive associations with anxiety-invoking stimuli in gradual steps to inhibit the original aversive association of the stimuli, and therefore improve the overall efficacy of exposure therapy.

## **Role of within-person variability in eliminating own-age bias in memory**

**Amanpreet Sidhu**

**Supervisors: Chris Oriet, Ph.D. and Rebekah L. Corpuz, M.Sc.**

The own-age bias is the finding that memory is better for faces that are similar in age to the rememberer than other-age faces. This experiment investigated whether exposure to increased variability when learning faces reduces own-age bias in remembering those faces. Previous research suggests that own-age faces are remembered better than other-age faces because they are learned on an individual level instead of a categorical level. As such, a manipulation that promotes individuation, such as exposure to high within-person variability, should reduce own-age bias. Previous research employed various methods to encourage individuation of other-age faces and found mixed results. I hypothesized that if high variability encourages individuation, then own-age bias should be reduced when faces are learned in a high variability context. To test this, participants were randomly assigned to three between-subjects learning conditions a) no-variability b) low-variability, c) high-variability, and two within-subjects conditions a) own-age, b) other-age. Face recognition was tested using a “seen” or “not seen” task. Similar to previous research, individuals were more accurate at recognizing own-age faces than other-age faces. Accuracy for both own- and other-age faces was best for those who trained with high variability images. Although not significant, the results suggested that own-age bias may actually have been larger for faces seen with high variability.

## **Punishment orientation and juror decision-making in sexual assault trials**

**Julianne Stevenson**  
**Supervisor: Susan Yamamoto, Ph.D.**

**Objectives:** The study aimed to determine whether gender differences and punishment orientation predict juror decision-making in sexual assault trials. **Hypotheses:** There will be a main effect of punishment orientation, such that the more punishment-oriented someone is, the more likely they will find the defendant guilty. There will be a gender difference in verdict decision, such that women will be more likely to find the defendant guilty. This relationship will be qualified by an interaction with punishment orientation, such that there will be a gender difference in verdict only among those who are less punishment-prone. **Method:** A sample of  $N = 211$  (101 female, 110 male) Canadian jury-eligible community participants were recruited through the crowdsourcing platform Prolific. Participants read a trial in which a man is charged with sexual assault against a woman. Participants chose a verdict (*guilty, not guilty*) and rated their confidence in that verdict (where 0 = not at all confident, and 10 = very confident). Participants then answered measures of rape myth acceptance and punishment orientation. **Results:** Consistent with previous research, we found that men showed higher rape myth endorsement than women and women were more likely to find the defendant guilty. There was no gender difference in POQ scores. POQ scores were not found to predict verdict decisions. **Conclusion:** This study adds to the limited research on punishment orientation in sexual assault trials while helping us to better understand the role that punishment plays in guilt decisions. The study tests the current legal assumptions about the right to a fair trial and whether juries can render decisions without considering punishment.

**Risk and protective factors associated with depression severity in Canada: A population-based study of the 2017-2018 Canadian Community Health Survey (CCHS).**

**Eric D. Tessier, B.B.A.**

**Supervisors: Gordon J. G. Asmundson, Ph.D. and Geoffrey S. Rachor, M.Sc., M.A.**

Depression is a highly prevalent and costly contributor to the global burden of disease. Many empirically supported risk (e.g., sedentary behaviour) and protective (e.g., social support) factors associated with depression exist. Investigating the relationship of risk and protective factors with depression using a current, representative sample from the Canadian population provides utility for policy-makers and clinicians to shape messaging surrounding depression and target their future research and treatment effectively. The current investigation involved analysis of participant data ( $n = 113,290$ ) from the 2017-2018 Canadian Community Health Survey (CCHS). The CCHS makes use of psychometrically validated measures such as the Patient Health Questionnaire (PHQ-9) and the Social Provisions Survey (SPS-10) to assess depression and related factors. Using regression models, sleep, sedentary behaviour, and social support were demonstrated as pertinent risk and protective factors to be considered in future longitudinal research oriented towards depression ( $p < .001$ ). Being younger, particularly between the ages of 20 and 29, and female emerged as sociodemographic predictors of depression ( $p < .001$ ). Counterintuitively, physical activity was not a significant predictor of depression severity in the current study. Results of the present research provide valuable insight into the health behaviours of Canadians as they relate to depression. To address the unmet need in terms of mental health services in Canada, the development and dissemination of a self-guided program to treat mild-to-moderate depression may help to reduce the burden on primary care, and the Canadian healthcare system as a whole.

## **The relationship between migraines and mental health in women**

**Venezya Thorsteinson**

**Supervisor: Natasha Gallant, Ph.D.**

Women are three times more likely than men to experience migraines and to endure worse migraine characteristics. Anxiety, depression, trauma, and discrimination have all been found in significant proportions among migraine populations. Therefore, the current study aimed at investigating the relationship between migraine characteristics, gender-based discrimination, and mental health symptoms, among adult women. A case-control study with a migraine condition and a non-migraine condition was conducted. Recruitment occurred via the University of Regina's Psychology Participant Pool. Participants with migraines completed questionnaires about their migraine characteristics. All participants completed questionnaires on mental health and gendered discrimination. A series of independent samples t-tests were conducted to compare mental health symptoms and gender-based discrimination between the two conditions. Multiple linear regressions were conducted to test the influence of migraine characteristics and gender-based discrimination on mental health symptoms. Analyses revealed that mental health symptoms and gender-based discrimination scores were significantly higher in the migraine group compared to the non-migraine group. Results indicated that migraine frequency and lifetime day-to-day discrimination were significant predictors for anxiety, depression, and trauma symptoms. Anticipated discrimination was found to be significantly predictive of trauma symptoms. Lifetime-day-to-day discrimination was significantly predictive of migraine-related reduction in work or school productivity, absence of household work, and decrease in housework. Lastly, findings revealed that gender-based discrimination was a significant predictor of migraine-related absence from social events. These findings may contribute to improvements in the assessment and management of migraines among women, adding to an often under-identified population and an emergent field of literature.

## **I know that person! Why can't I remember?**

**Logan Ueckert**

**Supervisors: Chris Oriet, Ph.D. and Yaren Koca, M.A.**

The butcher-on-the-bus phenomenon refers to repeatedly encountering a person in a specific context and later failing to recognize them in a novel context. Despite the failure to recognize the person, a strong sense of familiarity occurs. Although this phenomenon commonly occurs, little is known about its underlying cause. One possibility is that the informativeness of the context increases the strength of the association between context and identity. This association may then interfere with recognizing the same person in a novel context. This study was designed to examine the following question: Is recognition of faces in previously-unseen contexts influenced by the allocation of attention to previously-seen contexts? Attention to context was manipulated by altering whether the context provided identity-specific information such as the target's occupation or hobbies, and whether the context was consistent (mimicking the experience of repeatedly encountering a face in the same context) or varied. Unexpectedly, I found that identities first encountered in an informative context were later recognized better in a new context than those encountered in uninformative contexts. This suggests that the informativeness of context provides a powerful cue that aids in the learning of a new face, surpassing the benefit of exposure to within-person variability.

## **Formula feeding stigma and perceived controllability: How different rationales for formula feeding impact judgements**

**Lauren UnRuh**

**Supervisor: Sarah Sangster, Ph.D.**

Only one study to date has experimentally demonstrated the existence of formula feeding stigma, negative attitudes towards mothers who formula feed rather than breastfeed. That study found evidence for the existence of formula feeding stigma and attributed its cause to perceived intentionality. That is, when researchers exposed participants to an Instagram post, allegedly written by a formula feeding mother, the participants rated the mother more negatively if she had always intended to formula feed than if she had not originally intended to formula feed. In the current study, we utilized a factorial design to explore whether the expressed stigma was truly a function of perceived intentionality or if perceived controllability was the more important factor. Participants were randomly assigned to view one of four social media posts about how a mother came to formula feed. In the posts, the mother formula fed for either a controllable reason (i.e., convenience) or an uncontrollable reason (i.e., surgery) and the decision was either intentional (i.e., she had always planned to formula feed) or unintentional (i.e., she had originally planned to breastfeed). Then they responded to questions measuring stigmatizing beliefs about the mother. Results indicated that when the mother reported formula feeding for a controllable reason, she was rated less positively than when the mother reported formula feeding for an uncontrollable reason. As predicted, intentionality did not influence levels of formula feeding stigma. Therefore, when controllability is parsed out from intentionality, controllability is the more important factor in formula feeding stigma.

## **Testing the efficacy of the Coping With Infertility Self-Help Program on sexual and relationship satisfaction**

**Taryn Wahl**

**Supervisor: Jennifer Gordon, Ph.D.**

Infertility affects one in six Canadian couples and is associated with elevated psychological, relational and sexual problems. Sexual problems may not only exacerbate infertility-related distress (IRD) in couples but may also reduce intercourse frequency and pregnancy likelihood for those not using fertility treatments. The Coping With Infertility (CWI) Program was developed by the Reproductive Mental Health Research Unit to target the IRD of individuals assigned female at birth (AFAB) and is currently being tested in an ongoing randomized controlled trial. Because few studies focus on the sexuality of infertile couples, this study aimed to examine sexual and relationship satisfaction among CWI trial participants and their partners. Independent t-tests calculated the effects of intervention on self-report measures of IRD and sexual and relationship satisfaction in AFAB participants. Multilevel modelling examined how baseline scores, age, time spent trying to conceive, and use of fertility treatments interacted with sexual and relationship satisfaction. Though baseline characteristics were identical among the two treatment groups, participants assigned to the treatment group ( $n = 15$ ) reported significantly higher sexual and relationship satisfaction and lower IRD after the intervention compared to the control group ( $n = 19$ ). Time spent trying to conceive, use of fertility treatments, and baseline distress did not moderate treatment effects. Qualitative feedback highlighted benefits related to improved communication, enhanced understanding of differences in coping, and increased partner support. Though the number of participants is low, these preliminary results are promising and suggest the CWI program improves the unique concerns of infertile couples.

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