21st Annual Psychology Undergraduate Research Conference

March 29th - March 30th, 2019

The Psychology Students’ Association of UBC

2018-2019
Dear Presenters, Faculty, Alumni, Students and Guests,
Welcome to the Psychology Undergraduate Research Conference. This conference is an important tradition of the Psychology community at UBC. For 21 years now it has provided a professional environment for undergraduate researchers to showcase their research, gain experience in conference presentations, and contribute to the psychological sciences.

The work that you will see in this conference is the culmination of the hard work and dedication of these students in furthering our knowledge of the many areas of psychology, including but not limited to the Faculty of Arts and Faculty of Sciences at UBC.

This event would be impossible without the generous support of the UBC Psychology Department and the Graduate Students Council. We are honoured to have Dr Simon Lolliot to give the keynote this year and appreciate the time he has taken out to do the same. We would also like to thank Benjamin Cheung, the faculty advisor of the Psychology Students’ Association of UBC for offering us his time, energy and support in organizing today’s event.

It has been a pleasure planning this enriching and interactive event. We hope that this conference will contribute to the academic experience of those involved, and will inspire and enlighten everyone here today. We wish you all the best in your future endeavours.

And before you finally enjoy the conference today, we want to acknowledge the land we stand on here today aiming to reach to the best of our potentials. The 21st annual PURC like all the others in the past is being held on the traditional, ancestral and unceded territory of the Musqueam people. We are grateful for the opportunity to hold the conference on their land and hope to follow in their footsteps of community sharing and learning.

Best regards,

Nishthaa Lekhi, Alicia Wong and the Academic Committee at PSA

Program Schedule
Day 1

4:00-4:30 – Registration

4:30-5:00 – Opening Keynote
Dr Simon Lolliot

5:00-6:30 – Oral Presentations
1. 5:00-5:15 – Yana Svatko
2. 5:15-5:30 – Eisha Sharda
3. 5:30-5:45 – Christopher Astill
4. 5:45-6:00- Danica Wernicke
5. 6:00-6:15 – Nicola Symonds
6. 6:15-6:30- Annie Hayward

6:00 onwards- Food

6:30-8:30 – Poster Presentation
Aaron Zhuo
Alicia Wong
Ana Ivkov
Andy Kim
Ashley (Younsil) Lee
Carlin Bannister
Chelzea Nexie Madia
Deepika Bajaj and Chandini Patnaik
Fibha Khan
Francesca Oldham
Francis Yuen
Gavina Sian
Giulio Laino Chiavegatti
Hayley Wroot
Jenna Stein
Jo Hernato
Kathy Nguyen and Bessie He
Kelly Salmon
Kenneth Uthma
Leor Elizur
Matteo Damascelli
Meagan Mak
Meihua Huang
Shelby Rogers
Vera Bao
Yee Lok Lai
YingXi Li and Harleen Gill
Xin Falla Jin
Zoey Gray
Zoha Janjua

Day 2

9:30-10:00 – Registration /Breakfast

10:00-11:30 – Poster Presentation
Adam Tutinka
Andrea Barraza
Bita Jokar
Brandon Forys
Charlotte Aitken
Cynthia Lu
Gurvir Dhutt and Siba Gher
Hayley Carolan
Hira Peracha and Carly Chui
Maria Bleier
Natalie Cingle
Paris Gappmayr
Quinn (Cheng) Liu
Rohin Gupta
Sarah Lim
Shengxi Miao
Victoria Nguyen

11:30-1:30 – Oral Presentation
1. 11:30-11:45 – Jamile De Medeiros e Silva
2. 11:45-12:00 – Trevor Kwan
3. 12:00-12:15 – Anna MacLellan
4. 12:15-12:30 – Tina Ciric
5. 12:30-12:45 – Shali Tayebi
6. 12:45- 1:00 – Conner Lang
7. 1:00-1:15 – Hillary Smith
8. 1:15- 1:30- Ela Bandari

1:30-2:00 – Lunch

2:00-5:15 – Oral Presentation
9. 2:00-2:15-- Ayden Kesici
10. 2:15-2:30-- Alexandria Sowden
11. 2:30-2:45-- Nicaela Weigel
12. 2:45-3:00-- Vanessa Kong
13. 3:00-3:15-- Dennis Avalos Ponce
14. 3:15-3:30-- Daria Tai and Nicole Minielly
   15 minute break
15. 3:45-4:00-- Leili Mortazavi
16. 4:00-4:15-- Alexandria Sowden
17. 4:15-4:30-- Coral More
18. 4:30-4:45-- Theresa Aba Adams
19. 4:45-5:00-- Paniz Rezvani
20. 5:00-5:15-- Meagan Mak

5:15-6:15 – Poster Presentation
Alicia Margono
Breanne Wood
Isabelle Gubas
Jasmeen Dosanjh
Lior Torgeman, Alex Lenardon, Saskia Drayer,
Mia Wang and Madeleine Wong

6:15–7pm Best Presentation Awards/
   Raffle Prize Winners

Day 1 - Friday, March 29th ’19
Oral Presentation Descriptions
In the Order of Presentation

Presenter: Yana Svatko
Supervisor: Dr Frances Chen

Is My Body the Ideal? Investigating Differences in Body Comparisons Between Western and East Asian Cultures

The phrase “beauty is in the eye of the beholder” is heard quite commonly and, yet, there still exists a societal and/or cultural standard for a certain body image. It is because of these standards that body comparisons, a sub-type of social comparisons, are quite prominent, especially in women. Previous research has focused on body comparison differences within cultures, specifically East Asian and Caucasian individuals, but few have focused on differences between the two. The goal of the present study was to investigate whether female undergraduate East Asian participants (n = 80) would report higher levels of body comparisons than Caucasian (n = 48) participants. Participants completed a series of questionnaires including the Physical Appearance Comparison Scale (PACS). It was found that East Asian and Caucasian women did not significantly differ in frequency of body comparisons, indicating that body image concerns and body comparisons may be equally prevalent regardless of a specific cultural standard of body image.

Presenter: Eisha Sharda
Supervisor: Kalina Christoff and Sneha Sheth

Dynamics of Thought

Whether it’s sitting in a lecture or completing a dull task at work, our minds frequently tend to wander away from the task at hand. This notion led to defining mind-wandering in a task-centric manner; specifically, any thought that is not related to the task at hand was considered as mind-wandering. While this can sometimes be the case, imagine sitting on a bus and working on a math problem in one instance, and letting your mind freely wander from one thing to another in no particular direction in a separate instance. While both of these would have traditionally been considered as mind-wandering, they seem to be disparate phenomena. In the case of the math problem, the mind is in fact not wandering but rather fixed on something in particular, similar to when one is focused on an external task. In the latter example, on the other hand, the mind seems to move freely without directing it in a particular way. To capture these differences, Christoff et al. propose a definition of mind-wandering that relies on the dynamics of thought as opposed to task-relatedness. In this model, spontaneous thought occurs in the absence or reduced levels of two different types of constraints: deliberate and automatic constraints. Deliberate constraints are flexible and engaged with cognitive control. For example, we deliberately maintain our attention when reading a boring research paper or attending a dull research/seminar talk. On the other hand, automatic constraints operate outside of conscious control and can be influenced by both affective and sensory salience. For example, you might be unable to ignore the tapping of a pencil during an exam or stop thinking about an argument you had with your roommate earlier in the day. Varying levels of deliberate and automatic constraints give rise to three different types of spontaneous thought (referred to as mental states), dreaming, mind-wandering and creative thinking, which will be examined through this study. This exploratory study aims to apply this thought model in a laboratory setting and examine the dynamics of thoughts amongst undergraduate students at the University of British Columbia. Specifically, we use experience sampling to find out the relative distribution of constrained versus unconstrained mental states by intermittently probing participants and asking them to rate their thoughts as they let their minds unfold naturally without any external task. It was hypothesized that the three dimensions of thought would be independent of each other and that freedom in thought movement would imply relatively less direction or automaticity. Pilot
data provides evidence that a freely-moving mind is less constrained and evidence of deliberate and automatic thought, suggesting that all mental activity in the absence of an external task is not mind-wandering. These specific findings may help clarify whether there are indeed different types of thought within what was traditionally considered as a homogenous experience of “mind wandering”. More generally, this novel research provides insight into internally-oriented attention and the different levels of constraints during internally oriented thought.

Presenter: Christopher Astill
Supervisor: Dr Steven Heine

**Blink and You’ll Miss Out! Is High Status More Visible When We Perceive Higher Economic Inequality?**

Past research suggests that higher economic inequality makes people more anxious about their position in the status hierarchy. The rationale for this idea is that, as inequality increases, the difference between the rich and the poor increases and therefore people stand to both gains more if their relative standing in society increases and to lose more if it decreases. If this is the case then it could have many important implications. For example, people may be more likely to react with violence to a status threat, such as being ridiculed in front of others. One limitation of previous research is that it is largely correlational. This project aims to investigate whether more perceived economic inequality leads causally to more status anxiety. To manipulate perceptions of inequality, 200 UBC psychology undergraduate students are randomly assigned to either watch a video that describes that economic inequality in our society has increased over the last few decades or that this information is misleading given other considerations such as the increase in social spending over the last century. Both before and after the video manipulation, participants perform an attentional blink task to assess whether greater perceptions of inequality lead to increased status concerns. The attentional blink paradigm is designed to assess attention. Participants view a series of rapidly presented words while searching for a target string of identical digits, with a varying interval between the digits and target words. Generally, people are less likely to correctly identify words that appear at a shorter interval, and this phenomenon is called the ‘attentional blink’. However, words that are psychologically relevant result in a shortened attentional blink. In this study, we measure status concerns, by including both words that indicate high status (e.g. ‘luxury’) and words that are neutral (e.g. ‘kettle.’). We anticipate that those perceiving high inequality will show a shortened attentional blink for status words or greater improvement in the performance of accurately identifying words indicating a high status that appear shortly after the digits after watching the video. We further expect that there will be no difference in the performance for neutral words.

Presenter: Danica Wernicke
Supervisor: Drake Levere & Dr Anita DeLongis

**The Role of Spousal Social Support on Disease Course Among Persons with Rheumatoid Arthritis**

What type of support is best suited for chronically ill populations? Previous research has shown that invisible support, support not perceived by the recipient, is associated with better outcomes than visible support. The present research sets out to address if congruence between partners’ perceptions of support is more important than invisible or visible support. Participants were 225 couples where one partner had a diagnosis of Rheumatoid Arthritis (RA). A series of questionnaires measuring disease severity, depression levels, positive affect, relationship satisfaction, and positive spousal social support were answered at two-time points. Results indicated that perceived support on the part of the person with RA was associated with the best patient outcomes. This perception was more important than couple concordance of support implying that what matters most in support for chronically ill populations is perceiving support.

Presenter: Nicola Symonds
Undermine suggests more Virtual Interconnection, Social Disconnection: Detrimental effects of Phone use in social settings

Supervisor: Dr. Elizabeth Dunn & Ryan Dwyer

Orbitofrontal interactions with the amygdala and their involvement in risk/reward decision-making

Weighing the value of a reward against the likelihood of its delivery in order to optimize long-term gain is a fundamental component of adaptive decision-making. Both animal and human studies have implicated both the orbitofrontal cortex (mOFC) and the amygdala (BLA) in this form of cognition. Specifically in rats, inactivating either the mOFC or the BLA alone increases risky choice, raising the intriguing possibility that these two regions form a functional circuit that regulates efficient risk/reward decision-making. To address this, rats were well-trained on a probabilistic discounting task where they choose between a small, certain (1 pellet) and a large, uncertain (4 pellet) reward option, the odds for which decrease systematically across five blocks of trials (100% to 6.25%). An initial experiment used a chemogenetic approach to selectively inhibit neural activity within the mOFC/BLA pathway. Disruption of this pathway increased risky choice in the later blocks of trials when it was no longer advantageous. This could reflect an inability to update or access the previously learnt value representation of the risky option as the odds of winning decreased across a session. In contrast, there was no effect among rats treated with a control virus. There remains a possibility that the opposing pathway projecting from the BLA to the mOFC is also involved in value-based decision-making, and results from this second experiment will also be discussed. Together, understanding how these complimentary pathways transmit information about risk/reward decision-making can provide insight into the neural circuitry underlying healthy and maladaptive choice behaviours.

Presenter: Annie Hayward
Supervisor: Dr. Frances Chen & Dr. Christine Anderl

Does Hormonal Contraception Lead to a Lasting Risk of Depression?

Does hormonal contraception (HC) lead to a lasting risk of depression? A previous, yet-unpublished study suggests that females who began using HC during adolescence (“Adolescent Users”) are at an increased risk of developing major depressive disorder (MDD), compared to those who began using HC during adulthood (“Adult Users”) or those who have never used HC (“Non-Users”). The present study examines this relationship in an online sample of 1163 female participants living in America. Participants self-reported their former and current use of HC, the lifetime prevalence of mood disorders, and completed measures of mood and social anxiety. Results showed that there is a small, significant difference in the prevalence of MDD between Adolescent Users, Adult Users, and Non-Users (f = 0.10, p = .002) with Adolescent Users having the highest prevalence (35%) followed by Adult Users (30%) and Non-Users (23%). This suggests that using HC during adolescence increases the risk for MDD. Exploratory analyses also examined possible relationships between HC, mood, social anxiety, and other mood disorders.

Day 1 - Friday, March 29th ‘19

Poster Presentation Descriptions

Presenter: Aaron Zhuo
Supervisor: Dr. Elizabeth Dunn & Ryan Dwyer

Virtual Interconnection, Social Disconnection: Detrimental effects of Phone use in social settings

As we gain access to tools that allow us constant connection to social others, why are we becoming more drastically disconnected than ever before? Previous research has been mixed, revealing both benefits and detriments to phone use. Using an exploratory laboratory experiment, the current research suggests the first experimental evidence that suggests although phone use is beneficial, they can undermine enjoyment derived from others. In study 1, 31 undergraduates at the University of British
Columbia were placed in individual rooms and randomly assigned to keep or put away their phones during a 20-minute waiting period. When phones were present (vs. absent), participants felt less bored. In study 2, 178 undergraduates were placed in groups of three or four. When phones were present, participants felt more bored and less interested. Despite connecting us to others across the globe, we suggest phones may undermine the benefits from interacting with those next to us.

Presenters: Alicia Wong
Supervisor: Dr Steven J. Heine & Rachele Benjamin

**How Does the Consumption of Acetaminophen Affect Self-esteem Threats?**

Studies have shown that psychological pain and physical pain have a shared neural basis (Eisenberger & Lieberman, 2004; DeWall et al., 2010; Kross et al., 2011), both eliciting activation in the dorsal anterior cingulate cortex (dACC). This is the basis for a social pain hypothesis (Eisenberger, 2012; see also Baumeister & Leary, 1995) stating that people are sensitive to social threats, as well as physical threats, as both have negative implications for a person’s survival. One way of testing this hypothesis is by administering acetaminophen, the active ingredient in Tylenol. Acetaminophen attenuates activation in the dACC, and has been shown to reduce both physical pain and the distress of social rejection (DeWall et al., 2010). In the past, theories about social pain have focused on social rejection (see Eisenberger, 2012; 2015) but there are other negative experiences that are attenuated by consuming acetaminophen. Studies have shown that Tylenol makes people less sensitive to uncertainty (Randles et al., 2013) and the dissonance associated with making a difficult decision (DeWall, Chester, & White, 2015). This suggests that a wider range of experiences may be considered painful. Furthermore, there are other social threats besides rejection that can serve as cues that one’s social environment is under threat. One example is self-esteem threats, which are believed to monitor the potential for social rejection (see Leary et al., 1995). Some evidence for the hypothesis that self-esteem threats relate to pain comes from a study by Onoda (2010), who showed that individuals with lower self-esteem experience increased social pain. We suggest that a threat to self-esteem may cause social pain. In the present study, we explore whether Tylenol attenuates such pain. We experimentally manipulated self-esteem to determine if the negative impact of low self-esteem is attenuated by consuming Tylenol. We predict that threats to self-esteem would be less potent for participants who consumed Tylenol than participants who consumed a placebo. We also explored whether self-esteem threat leads to heightened compensation, in the form of self-serving attributions, for the placebo group. We predicted that participants that consume Tylenol would experience a less potent threat to their self-esteem, and consequently, engage in less compensation. Given the importance of self-esteem in maintaining health and psychological well-being, this research may illuminate some positive consequences of consuming Tylenol.

Presenter: Ana Ivkov
Supervisor: Dr Maria M. Arredondo and Dr Janet F. Werker

**A bilingual upbringing alters functional organization of 6-month-old infants’ attentional control**

Attentional control, the ability to focus selectively and cast out unnecessary information, is one set of cognitive mechanisms supporting all infants’ language acquisition. Recent work suggests that bilingualism may alter the functional brain organization of non-verbal attentional control in children and adults (Garbin et al., 2010; Arredondo et al., 2017), as bilinguals show greater activation of left frontal “language” regions, whereas monolinguals engage right frontal regions. However, there is little research regarding the developmental nature of these changes. To further investigate this, we used functional near-infrared spectroscopy to assess the potential differences in brain activation between bilingual and monolingual 6-month-old infants during a version of the Infant Orienting with Attention task. Results indicate similar brain activation patterns for attentional control in bilingual and monolingual infants,
with both activating left frontal regions more than right frontal regions. These results begin to support the notion that bilingualism may reorganize the brain functionally for broader, non-linguistic cognitive functions. These changes begin to occur as early as the first year of dual-language acquisition, but further research is required to identify the timing of later changes. This work extends our understanding of how dual-language experiences influence the brain’s early development.

Presenter: Andy Kim
Supervisor: Gordon Heltzel & Dr Kristin Laurin

Anticipated reactions to perspective-taking on political issues
We live in a society where we value the idea of looking at others’ perspectives on issues that we disagree (Fiske, 2007). Yet, there is much polarization in the political sphere and a lack of consideration of differing views (Doherty, 2014). Perhaps people are discouraged from perspective-taking due to their incorrect beliefs that others do not value perspective-taking (Miller et al. 1987). Therefore, present studies will investigate what reactions people anticipate from others when they perspective-take on an issue. Study 1 asked 120 participants on the Amazon MTurk to imagine themselves as a perspective-taker and report anticipated reactions from strangers. We found that participants expect positive reactions from others for perspective-taking versus non-perspective taking.

Presenter: Ashley (Younsil) Lee
Supervisor: Steven Heine

Function of Just World Beliefs on Uncertainty and Pain Perception in Chronic Pain Patients
Just world beliefs can provide people with structure when they experience a lack of control or uncertainty (Nudelman et al., 2016) in their lives. Chronic pain is an uncertain condition, and people with chronic pain have been shown to experience less meaning in life and lower feelings of control (Younger et al., 2008). However, studies of Belief in a Just World (BJW) among people with chronic pain has received mixed results. Some studies suggest that BJW facilitates coping for those with pain (Mparland, 2010), whereas others have shown that it predicts adverse reactions (Trost et al., 2014). Recently, many researchers have distinguished between BJW-self and BJW-other (Lipkusa et al., 1996). BJW-others, the belief that the world is just for people generally, is correlated with neuroticism and derogation of victims, which can be seen as negative side effects of BJW. BJW-self, the belief that one’s own world is just, is correlated with life satisfaction and subjective well-being, which seems to be a positive/adaptive consequence of BJW (ibid.). Given that BJW-self dimension captures the adaptive/positive outcomes of high BJW, we used this measure to investigate how it relates to pain and uncertainty in chronic pain patients. Our hypothesis that (1) chronic pain subjects with higher BJW-self will show less intolerance for uncertainty and that (2) BJW-self moderates the relationship between pain and intolerance for uncertainty was not supported. However, JWB-self predicted meaning in life. And JWB-self also moderated the relationship between pain and meaning in life.

Presenter: Carlin Bannister
Supervisor: Dr Darko Odic & Denita Dramkin

Reasoning across domains: How children learn to use language to judge number, length, and darkness
As adults, we can reason about quantity in several different ways: the first, is through an intuitive, albeit approximate, perception of quantity (e.g., when judging which line is shortest in the grocery store or
which route he is the fastest to get to school), but importantly, we can also reason about quantity using language (e.g., through counting precisely the number of people in each line or measuring how many kilometres each route is). While these systems—the perceptual and the linguistic—are initially separate and distinct, around age 5, we begin to translate our perceptual representations into number words and vice-versa (Le Corre & Carey, 2007; Odic, Le Corre, & Halberda, 2015). As a result, children older than 5 can seamlessly produce an estimate of how many items they see with relatively crude precision, without counting, demonstrating their ability to convert their perceptual representation of the number into number words. While previous research has largely focused on how children integrate language with their intuitive, imprecise perception of number, we explore how children accomplish this feat across other domains of a quantity that, nevertheless share many of the same perceptual signatures, such as length and brightness (Starr & Brannon, 2015; Odic, 2018). Five- to 12-year-old children participated in two tasks. In the first task, the discrimination task, children were asked to determine which side of the screen was more numerous (e.g., judging which side had more dots, which line was longer, or which shape was darkest) in order to assess children’s abilities to distinguish and perceive quantity across different domains (i.e., number, length, and darkness). Following the discrimination task, participants completed an estimation task in which they were asked to guess how many items there were in a display. To avoid the influence of experience, children were given novel units, corresponding to each dimension. For number, children were given a toma (i.e., a single dot), for length, a blicket (a single line segment), and for darkness, a modi (a single darkened shape), and, were asked to estimate how many tomas, blickets, or modies they saw on the screen, following training with the new units. We then evaluated children’s estimation performance by examining the accuracy and variability of their estimates against the true quantities shown. Consistent with previous work (Dramkin, 2018; Odic, Libertus, Feigenson, & Halberda, 2013), we expect to find that children’s discrimination abilities (i.e., their abilities to judge and perceive quantity) in the domain of number will not be related to their abilities to discriminate in other domains (e.g., length and darkness). However, we expect that once children are able to integrate perceptual representation with language (i.e., number words), their abilities to estimate in one dimension (e.g., number) should correlate with their abilities to estimate in others (e.g., length, darkness). We hope to show that while children’s perceptual abilities are distinct, their ability to interface language with their representations of quantity are not. We will present and discuss our preliminary work within the broader context of the relationship between language and cognition.

Presenter: Chelzea Nexie Madia
Supervisor: Dr. Frances Chen

Gratitude Intervention Promotes Social Integration Among First-Year Undergraduate Students

Social integration has been identified as one of the most important psychosocial variables predicting first-year students’ positive health outcomes. Likewise, being thankful is related to feelings of connectedness and preserving relationships. Given the social benefits of thankfulness, a gratitude intervention might help promote friendship formation for first-year students as they transition into university when there is a marked need to build social ties. Thus, the current study examined whether a short-term gratitude intervention would increase the number of new close friends made between September to October (T1) and December (T2) of the very first term in university. Participants were asked to complete a set of questionnaires online for T1 and T2. After the first survey, students were presented with the option of completing a daily diary exercise for two weeks, and those who opted in were randomly assigned to either the gratitude (n = 44) or a control condition (n = 39). The gratitude group listed positive social interactions for which they were grateful for, while the control group recorded daily events. Results showed that the gratitude intervention significantly increased the number of new close friends from T1 to T2, after controlling for a number of friends in university at T1. These
findings suggest that individuals in a new social environment may particularly benefit from cultivating gratitude over time by forming new friendships. Importantly, the impact of the brief intervention on expanding one’s social network was sustained weeks after the intervention. This study warrants further examination on specific factors possibly influencing the positive development of social integration.

Presenter: Deepika Bajaj and Chandini Patnaik
Supervisor: Dr Janet Werker

Audio Visual Speech Perception in South Asian Infants
Speech perception in infants is a multisensory process: infants use auditory and other modalities including the vision to acquire speech (Danielson, Bruderer, Kandhadai, Bateson, & Werker, 2017). Furthermore, past research has shown infants’ ability to distinguish sounds regardless of their prior experience with those specific sounds. For instance, infants younger than six months of age are able to discriminate the dental [d₃] vs. retroflex [ɖ] in the Hindi language, even if they are not growing up with Hindi and hence are not hearing the distinction. In a pattern called perceptual attunement, discrimination of minimally different non-native speech sounds declines from six months to one year of age (Werker & Tees, 2002), whereas discrimination of native speech sound differences improves. Additionally, infants can match phonetic information to lips and voice, and this is seen in babies as young as two months (Patterson & Werker, 2002). However, it is not understood whether infants with prior experience with a language are better able to detect a mismatch in vocal and lip presentation. Thus, our research asks whether infants hearing Hindi are better able to detect a mismatch than those hearing English. In our study, Hindi-exposed six, nine, and eleven-month-old infants are being recruited through the Early Developmental Research Group database in Vancouver, through social media sites and community organizations. Parents report that their infant hears approximately 50-100% of one of a specified set of South Asian languages. During the task, infants are seated on their caregiver’s lap. In the first phase, infants watch a video of a speaker producing [d₃a] or [ɖa] repetitively and hear either the matching syllable or hear the mismatching syllable (e.g. see [d₃a] and hear [ɖa]). The next phase tests infants’ auditory discrimination of the two sounds, with no visual speech information. Looking time to a still checkerboard in alternating (e.g. [ɖa] [d₃a] [ɖa] ) vs non-alternating (e.g., [ɖa] [ɖa] [ɖa] ) trials is measured, with differential looking time to one trial type as evidence of discrimination. An eye tracker is used to calculate the time infants look at the mouth and eyes in the first phase and the still checkerboard in the test phase. We predict a correlation between looking time to the mouth over the eyes in the first phase and longer looking to alternating trails compared to non-alternating trials in the test phase. The results of this study will be compared to previous data from English learning infants (published in Danielson et al., 2017), who detected the mismatch and discriminated the sounds at 6-months but no longer did so by 11-months. This study will advance our understanding of how language experience and multisensory speech perception interact in influencing perceptual attunement.

Presenter: Fibha Khan
Supervisor: Dr Kiley Hamlin and Dr Andrew Baron

Do infants show evidence of dehumanizing outgroup members?
My research topic as I put in the Online Application is: “Dehumanization” refers to the tendency to perceive outgroup members as possessing fewer human-like qualities than ingroup members (Haslam, 2006). Indeed, adults attribute fewer, or less complex, mental states to outgroups (Leyens et al., 2001), and even 6-year-olds perceive outgroup faces as less human than ingroup ones (McLoughlin et al., 2018). It is currently unknown whether the tendency to dehumanize outgroups emerges in infancy. The current study explores whether infants are less likely to attribute goals to linguistic outgroup members, by adapting a classic paradigm examining the infant’s ability to attribute basic object goals to agents (Woodward, 1998).
Presenter: Francesca Oldham
Supervisor: Dr J. Kiley Hamlin

**The influence of action valence on agency attribution using EEG measures in infants**

Adults have been shown to attribute agency to inanimate objects that have caused negative outcomes, for example, declaring that one’s malfunctioning computer is “out to get me.” This tendency has been referred to as a “negative agency bias” (Morewedge, 2009), and suggests that action valence may be a cue to the agency. Previous research has explored whether or not infants show signs of a negativity agency bias when interacting with agents and non-agents. Hamlin & Baron (2014) showed 6-month-olds an inanimate claw that either helped or harmed, an animate agent achieve its goal of opening a box, resulting in either a positive or a negative outcome for the agent. Subsequently, infants saw either the helpful or harmful claw repeatedly reach for and grasp one toy over another (as in Woodward, 1998); this procedure is commonly considered to measure goal-attribution in infancy. They found that 6-month-olds’ attentional patterns showed evidence of attributing goals to a claw only when the claw had hindered an agent’s goal causing a negative outcome, and not when the claw helped an agent’s goal, causing a positive outcome. These results suggest that the negative agency bias may reflect a fundamental aspect of human social cognition; however, additional data is required to support this possibility. The current project aims to further investigate if infants exhibit a negative agency bias by conceptually replicating Hamlin & Baron (2014), using two encephalography measures previously shown to relate to agency attribution in infancy. First, mu desynchronization (MRD), or alpha rhythm desynchronization over motor cortex, has been shown to occur both when infants perform goal-directed actions themselves and when they observe others performing the same actions (Cannon et al, 2016). Second, the N290 and P400 are event-related potentials generated in response to social stimuli, including goal directed behaviours (deHaan et al, 2013). Infants’ event-related MRD, N290, and P400 are measured while they observe images of a claw, with or without eyes, reaching towards an object (Southgate & Begus, 2013). Critically, infants have previously seen the claw either help or hinder, an agent’s goal to open a box, resulting in positive or negative outcomes. After the observation phase, EEG will be recorded during infants’ own object-directed reaches in order to determine the optimal frequencies at which to examine observation-specific MRD in each infant (Southgate & Begus, 2013). If infants, like adults, demonstrate a negative agency bias, we expect their MRD and ERP responses to eye-less claws to be selective to hindering claws that previously performed a negative action, as well as to both helping and hindering claws with eyes (as eyes are also an agency cue; e.g., Saxe et al., 2007). Although data collection is not complete, all available data will be analyzed in time for the poster presentation (we anticipate having approximately 20 infants’ data; pre-registered planned N=80). The poster will focus on conceptual and methodological issues relevant to the project.

Presenter: Francis Yuen
Supervisor: Dr J. Kiley Hamlin

**Young Children’s Social Preferences: Do toddlers prefer accurate over inaccurate speakers?**

Young humans evaluate others and select social partners based on diverse characteristics, including others’ tendency to act prosocially (Hamlin, Wynn, & Bloom, 2007) and group membership (Kinzler, Dupoux, & Spelke, 2007). In the domain of epistemic trust, toddlers and preschoolers notice when others speak inaccurately, and use speakers’ past accuracy to guide their subsequent learning of new words (Clement, Koenig, & Harris, 2004; Koenig, Clement, & Harris, 2004; Koenig & Harris, 2005; Luchkina, Sobel, & Morgan, 2018). While these tendencies have been documented from 16 months of age (Koenig & Echols, 2003; cf. Krogh-Jespersen & Echols, 2012), it remains unclear whether infants also positively evaluate accurate and/or negatively evaluate inaccurate labelers. The current studies investigated whether infants’ social preferences are influenced by speakers’ labelling accuracy. In Study
1 to 3, 16-month-olds (Study 1: N=16, Mage=15.98 months; Study 2: N=15, Mage=16.02 months; Study 3: N=14, Mage=15.89 months) watched puppet shows featuring two moose puppets (orange shirt, green shirt) label six objects. The accurate puppet label-erred each object correctly (i.e. calling a ball “ball”) whereas the inaccurate puppet labelled incorrectly (i.e. calling a ball “duck”). After labelling events, infants chose between the puppets. In Study 1, infants selectively reached towards the accurate puppet (13/16, p=0.021), but failed to do so in Study 2 (9/15 chose the accurate puppet, p=.607) or Study 3 (8/14 choosing accurate puppet, p=.790). That said, considering all three studies together reveals a preference for the accurate puppet (30/45, p=.036). Given that 16-month-olds are fairly young, we next probed the stability of this preference by testing older infants with the same procedure. In Study 4, 21-month-olds (N=20, Mage=21.00 months) did not selectively reach towards the accurate puppet versus inaccurate puppet (11/20, p=.824), suggesting that toddlers do not show a robust preference for accurate versus inaccurate. That said, each of 1 the past studies featured puppets rather than humans. Although past infant studies have successfully utilized “speaking puppets” (Pun, Ferera, Diesendruck, Hamlin, & Baron, 2017; Hamlin, Mahajan, Liberman, & Wynn, 2013), the use of puppets may have disrupted infants’ evaluation of accurate versus inaccurate speakers. Thus, in Study 5, 18-month-olds (Mage=17.85 months) watched videos of two female human experimenters (green shirt, blue shirt) accurately or inaccurately labelling items (labelling procedure from Luchkina et al., 2018). Subsequently, each experimenter appeared to drop one of two identical toys into a box, and toddlers were encouraged to “choose a toy” (method designed to examine the selective approach of fair versus unfair humans in similar-aged infants; see Lucca, Pospisil, & Sommerville, 2018). Data collection is in progress (N=27; planned N=32), but thus far toddlers do not show a reliable preference for approaching the accurate labeller (18/27, p=.122).

Overall, these studies suggest that despite being capable of distinguishing between correct and incorrect labels and showing selective learning from accurate labellers, 16- to 20-month-olds do not readily use speakers’ accuracy to inform their social preferences. Future research should follow up on these findings, investigating whether there is an age at which labelling accuracy does influence children’s preferences.

Presenter: Gavina Sian
Supervisor: Dr Darko Odic & Precilia Kong

It’s Hardly Easy to Morph Minds: Impacting cognitive flexibility in children’s executive function

The Dimensional Change Card Sort (DCCS) task was developed as a tool to measure children’s executive functioning. In this task, children are first asked to sort cards according to one rule (e.g. shape) and then when prompted, are asked to sort by a new rule (e.g. colour). Brace and Munakata (2006) found that when given the DCCS task, 3-year-olds often perseverate on the first rule, therefore are unable to switch to the new rule. The ability to effectively switch between rules, referred to as cognitive flexibility, is an important component of children’s development and can impact a child’s cognitive ability throughout their lives (e.g., students exercise cognitive ability when taking a standardized test which includes two different sections such as math and language).

In the current experiment, we tested how to improve children’s cognitive flexibility, i.e., how to aid children in perseverating less on the DCCS task. In previous work, Brace and Munakata (2006) demonstrated that a 3-year-olds’ DCCS performance can be improved via scaffolding: the slow introduction of harder and harder trials over time. In their task, children first completed a card sorting activity according to one rule (e.g., shape). This was then followed by an intermediate stage where children were prompted to switch to a second rule (e.g., colour) by first sorting easy trials (e.g., blocks of colour) that slowly morphed into the previously shown shapes (e.g., trucks and flowers). Afterwards, in the test condition, children continued sorting by colour however, the stimuli consisted of only trucks and flowers. The authors found that children
who underwent this intermediate stage demonstrated less perseveration compared to those who did not.

In our experiment, we replicate and extend the Brace and Munakata (2006) method of temporarily improving cognitive flexibility. Our study consists of two conditions: one which provides scaffolded learning (“Easy-to-Hard”) and the other which presents distractor stimuli first, making the initial part of the intermediate stage harder (“Hard-to-Easy”). The Easy-to-Hard condition consisted of twenty-nine 3- to 4-year-olds. This condition examined how scaffolding impacted children’s card sorting by including cards that transitioned from the target property to the distractor (i.e. colour-to-shape). In the replication of previous work, we found that children in the Easy-to-Hard condition benefited from scaffolding and performed better on the DCCS task at both 3- and 4 years of age as they did not perseverate. The current condition being tested (Hard-to-Easy) consists of ten participants aged 3 to 4. This condition explores how implementing distractor stimuli (i.e. shape-to-color) within the intermediate phase affects a child’s ability to card sort. We predict that children will perform worse in the Hard-to-Easy condition and will have difficulty inhibiting perseveration. Once the current condition is completed we plan to expand our findings regarding cognitive flexibility to a child’s intuitive number ability.

Presenter: Giulio Laino Chiavegatti
Supervisor: Dr Catharine Rankin

A C. elegans model to investigate the function of human genes implicated in Parkinson’s Disease.

Parkinson’s disease (PD) is a neurodegenerative disorder that affects motor systems: While motor symptoms are predominantly associated with the pathology, the latter also encompasses a variety of non-motor (psychological) symptoms, such as deficits in learning and memory and the inability to habituate to repeated stimulation. The classical pathological landmark of PD is neuronal apoptosis primarily localized within the substantia nigra pars compacta, a nucleus involved in the production of the neurotransmitter dopamine (DA) in the mesencephalon. In humans, 7 to 10 million people are affected world-wide: Cases are sporadic for the most part, but about 15% of the affected patients have a family history, which suggests a genetic cause for the disorder. It is the latter category of the PD population that we are interested in investigating.

We are using the strength of Caenorhabditis elegans (C. elegans) as a genetic model system to augment our knowledge concerning the function of genes associated with PD. C. elegans is a translucent nematode that has been used as a model organism for a number of neurological diseases, for it lends itself well to genetic and molecular manipulation, costs are contained, and analysis time is rapid (high-throughput). Importantly for PD, the DA neurotransmission system works in the same way as in humans, with the advantage of only consisting of eight neurones. My project is built upon preliminary research from the Rankin laboratory that has investigated the effect on habituation of mutations in DA neurotransmission genes (habituation is a simple form of learning characterized by decreased responding to repeated stimulation). My goal is to elucidate the effects of four human genes associated with PD on C. elegans habituation: RAB32, LRRK2, VPS35 and RME8. While RAB32 and LRRK2 are involved in multiple cellular pathways by coding for different GTPases, VPS35 and RME8 code for adaptor proteins involved in endosomal trafficking.

Using standard molecular recombinant DNA techniques, transgenic animals are made, and the genes of interest are tagged with a fluorescent protein (GFP) to visualize neurones that express these genes. Subsequent behavioural testing is conducted on the multi-worm tracker, a specialized machine vision system that, through the aid of a camera, is able to detect any defects in habituation in hundreds of nematodes simultaneously. Such an analysis of wild-type and mutant nematodes expressing the human genes will determine whether there are any behavioural differences, particularly those associated with altered DA function. Importantly, because these PD-associated genes are conserved, we will observe whether behaviours can be rescued by expressing the human genes in the nematode DA neurones, and
answer the question of whether there is functional homology between the human and nematode versions of the genes. Therefore, by understanding what these genes are doing to the DA neurones and how, we hope to identify novel targets for therapeutic treatments that can ameliorate PD symptoms in affected individuals.

Hayley Wroot
Supervisor: Dr Rebecca Todd

**Active and Inhibitory Avoidance in Humans: The Role of Fearful Stimuli and Reversal Learning**

The ability to use environmental cues to avoid danger is a form of affective bias that is critical for survival in all animal species; however, maladaptive avoidance patterns may characterize anxiety and other mood disorders. Two complementary avoidance strategies are active and inhibitory avoidance wherein an individual learns to either perform (active) or withhold (inhibitory) an action, to avoid aversive outcomes (e.g. shock, fear). Very little research has been done examining how humans are able to flexibly implement these two strategies when asked to rapidly switch between them. Moreover, the mechanisms of avoidance behaviour and individual differences associated with anxiety and impulsivity remain to be fully characterized. The present study examined individual differences in active and inhibitory avoidance performance in 26 university students using a “Go/No-go” computer task. Participants had to either press a button or withhold a button press, with distinct cues signalling the response (Go vs. No-Go) required to avoid an outcome that was either emotionally neutral or fear-inducing. Preliminary results indicate that there is a main effect of response type (Go vs No-go) on participants accuracy but no effect of outcome image (Fearful vs Neutral) and no interaction. No relationship was found between participant’s trait anxiety, their behavioural approach or inhibition levels and their avoidance behaviour. Further research is needed to fully elucidate the role of individual differences in avoidance behaviour.

Presenter: Jenna Stein
Supervisor: Gabe Smith

**How do levels of neuroticism and current concerns interact to affect freely-moving thought?**

Freely-moving thought refers to the degree that thought is constrained and provides a way to distinguish constrained streams of thought, such as automatic (outside of our control) or deliberate constraints (controlled by us), from spontaneously unfolding streams of thoughts, which includes mind-wandering. Although recent research has shown that deliberate constraints on thought appear to restrain freely-moving thought, there is a lack of empirical evidence on the effects of automatic constraints, which occur outside cognitive control and are therefore difficult to account for during laboratory experiments. One nature of automatic constraint comes in the form of current concerns, which are unfulfilled goals an individual possesses and previous research has classified current concerns as automatic rather than deliberate constraints on thought because they are thought to produce a mental state similar to rumination, which is an extreme form of automatic constraint and a hallmark symptom of depression and anxiety. Additionally, the personality trait of neuroticism is strongly associated with depression and anxiety and highly neurotic individuals tend to be more likely to think about personal concerns in both lab and real life settings. Therefore, the current study aims to determine how the personality trait of neuroticism and current concerns interact to affect freely-moving thought. This will be accomplished by testing participants on a upper case - lower case discrimination task where 20% of the blocks will contain single words reflecting their current concerns. Personal concerns and a questionnaire determining levels of neuroticism will be administered prior to the task and during the task participants will be probed with a question asking them to rate the degree to which their thought was freely-moving as well as how task-unrelated and under their deliberate control their thought was to serve as control variables. Based on previous research suggesting that freely-moving
thought is reduced in the presence of constraints, and research supporting that neuroticism is associated with increased attention to current concerns, the current study hypothesizes that higher levels of neuroticism will interact with personal concerns to reduce freely-moving thought, where the negative relationship between concern blocks and freely-moving thought will be stronger for those higher in neuroticism. Additionally, it is expected that higher levels of neuroticism and blocks containing current concerns will individually result in less freely-moving thought. Understanding individual differences in levels of freely-moving thought has important implications for mental disorders where spontaneous thought is altered by excessive stability, such as anxiety and depression.

Presenter: Jo Hernanto
Supervisor: Tara Dennehy.

Examining the influence of men in promoting allyship norms

Women often find their intellectual contributions discounted; a bias magnified in domains where women are the numerical minority. This bias contributes to the increasing tendency of women eventually leaving their fields, further decreasing female representation in high-achieving domains. Past research suggests that increasing the representation of ingroup peers may help to create more inclusive environments, but—as a possible solution—this places the responsibility of change on women, which is likely to backfire instead due to disproportionate workload and unbalanced cost-benefit potentially leading to burnout in women, and a possible backlash they may face from speaking out against gender-inequality. A compelling alternative solution comes from literature suggesting that, in male dominated-environments, men may be better positioned as allies to promote gender equality due to their greater ability to help change the perceived norms of their work environment. We explore whether men, as allies, can help ensure that women receive equal credit for their ideas and work. We investigate whether amplification—intentionally drawing attention to a colleague’s intellectual contribution—from men would increase the likelihood that women would be given credit for their contributions, with the hypothesis that amplification could serve as a form of gender-inclusive allyship behaviour in the workplace. Participants are randomly assigned to watch one of several animated videos in which we manipulate the behaviour of a man toward his female teammate. The man in question either ignores his teammate’s suggestion (baseline), repeats her idea without crediting her (appropriation), repeats her idea while giving her credit (attribution), or compliments her idea and asks her to repeat it (amplification). We then ask participants to evaluate each teammate’s performance. We will measure these evaluations by accuracy of idea attribution, ratings of idea brilliance, attributions of relative contribution, and an exploratory measure of impressions of team dynamics on participants. Results are not yet analysed but we predict that amplification from a male colleague will increase observers’ allocation of intellectual credit to women for their contributions in teamwork.

Presenter: Kathy Nguyen and Bessie He
Supervisor: Dr Kiley Hamlin

Do 8-month-old infants prefer competent to incompetent others?

Adult studies of person perception suggest that humans focus on two fundamental and distinct domains of social evaluation: others’ morality, and their competence (Cuddy et al., 2008; Goodwin, 2015; Wojciszke, 1994). Consistent with this theorizing, sensitivity to at least some forms of both morality and competence appears to emerge within the first two years of life; indeed, a host of research suggests that infants both preferentially interact with prosocial over antisocial others, and preferentially learn from those who speak and act competently versus incompetently (see Koenig, Tiberius, & Hamlin, 2019, for review). Though these results suggest that very young humans can consider both others’ morality and their competence, given that studies rarely include information about both domains at once (but see Jara-Ettinger, et al., 2013) and studies within each domain typically utilize divergent methodologies
and distinct dependent variables, the relationship between these domains, particularly early in development, is not yet clear. Here, we examine whether infants selectively approach competent versus incompetent others, using a variation on a method previously used to show that infants of this age prefer prosocial to antisocial others (e.g., Hamlin &amp; Wynn, 2011; but see Salvadori et al., 2015). Specifically, we adapted the “box scenario” to examine whether infants prefer a puppet who successfully opens a box (and so is competent) over a puppet who tries but fails to open the box (and so is incompetent). Given that in order to differentiate between puppets who help or hinder a third party’s goal to open the box infants presumably need to be able to understand that someone is trying but failing to get inside, this scenario is a particularly stringent test of infants’ preferences for competent versus incompetent others. Specifically, eight-month-olds (current n=16; pre-registered n=32) are shown a puppet show in which two puppets (one wearing a blue shirt, the other a green shirt) both demonstrate the goal of acquiring a toy located within a closed, transparent box. On alternating events, the competent puppet consistently successfully opens the box and grabs the toy within, whereas in the incompetent puppet consistently tries but fails to open the box. Infants are shown each of these competent and incompetent scenarios in alternation until habituated. Afterwards, infants are presented with the competent and incompetent puppets side-by-side by an experimenter unaware of the puppets’ identities and are asked to choose one. In addition, parents close their eyes for the entirety of the procedure. Current results show that 8 of 16 infants reached for the competent puppet (p=1.00), with no colour or side preferences observed. Data collection is ongoing, and we anticipate at least 10 more babies by March 1st. Although these results are preliminary, they suggest that infants may not evaluate puppets for their competence at this age, and highlight the potential importance of evaluation within the moral domain early in life.

Presenter: Kelly Salmon
Supervisor: Dr Darko Odic

The power of quantifiers: How specific linguistic cues influence children’s attention
We live in a rich perceptual world, making it difficult to attend to any singular perceptual dimension while inhibiting others. For example, even if we wanted to draw your attention to a particular object (e.g., a water bottle) you could still think about it along with a number of different dimensions (e.g., its shape, purpose, size, colour, etc.). Thus, a challenge we face when communicating is, how do we reach common ground? We propose that one key role of language is to help guide our attention to particular perceptual dimensions, by exploring a case study of whether the use of number-specific linguistic cues (e.g., the quantifier “many”) can guide children’s attention to only the domain of number even in the presence of competing for perceptual interference (i.e., contour length). Children ages 7- to 8-years-old were presented with sets of blue and yellow dots embedded in a visual illusion that created conflicts between non-numeric perceptual cues (i.e., contour length) and the number of dots on a screen. On half of the trials, the set with more dots appeared to have a longer contour length (i.e., the Congruent Trials); and on the other half of the trials, the set with numerically fewer dots actually had the longer contour length (i.e., the Incongruent Trials). These two types of trials were then compared across two experiments, one in which participants were asked to determine which side had “more” blue/yellow dots (i.e., the Discrimination Task; N = 30), and another, where participants were asked to determine how “many” blue or yellow dots there were, without counting (i.e., the Estimation Task; N = 29). Importantly, if the number-specific quantifier (i.e., “many”) is enough to draw attention solely to the domain of number, then we should expect that children will not be impacted by interference from the visual illusion.
Consistent with work in adults (Picon, Dramkin, & Odic, in press), our data suggests that when a broad linguistic cue (i.e., the quantifier “more”) is used, children judge the set of dots with the longer contour length as being more numerous, demonstrating a strong bias towards contour length in the Incongruent
Condition during Discrimination. In contrast, when children are given a number-specific linguistic cue (i.e., asked how “many” dots there are, during Estimation), we find no significant differences in the performance in the Congruent vs. Incongruent Conditions, suggesting that children’s attention is drawn to only number and away from other competing perceptual dimensions (i.e., contour length).

These results suggest that providing different linguistic prompts may change what perceptual domains are attended to. Our findings contribute to a broader understanding of the power of language in helping to navigate our attention, including how children reason about their rich perceptual worlds.

Kenneth Uthma
Supervisor: Dr Grace Truong

It Pays to Remember: Ownership and Reward on Memory
I am investigating how ownership and monetary reward will affect memory. Previous research shows people are more likely to remember things that belong to them. Here I tested if self-bias could be reduced through incentivizing memory for other-owned objects. In this study, participants were initially endowed with “lab money” and they were told any money left over at the end of the experiment could be used to spend on candy at the “lab store.” Participants completed an encoding task and then a memory task. During the encoding task, participants learned that some objects belong to them and other objects belonged to the experimenter. Object ownership was randomly assigned. Additionally, participants were told that they would be tested on the objects later and that they would lose money for forgetting objects during the memory task. In the control reward condition, participants would lose equal amounts of lab money for forgetting self-owned objects as experimenter-owned objects. In the experimental reward condition, participants would lose more lab money for forgetting experimenter-owned objects relative to the self-owned object. In the memory task, participants viewed both old and new (i.e., not previously seen) objects and indicated whether or not they saw the object in the encoding task. The dependent variable was the accurate recognition of objects in the memory task. There was a main effect of ownership, which showed that self-owned objects were more often recognized than experimenter-owned objects. However, there was no main effect of reward condition and there was no interaction between ownership and reward condition. Contrary to my expectations, the reward condition did not affect recognition of objects or the bias towards self-owned objects. Follow-up experiments will aim to refine reward manipulation.

Presenter: Leor Elizur
Supervisor: Dr. Daniela Palombo

Retroactive and Generalized Effects of Negative Emotional Stimuli on Memory
Prior research has shown many interesting effects of emotion on memory. For example, emotion can enhance memory for associated neutral items. Less is known about whether emotion can also affect memory for neutral items not directly associated with emotion, a phenomenon known as “emotional generalization”. In the present study, we were specifically interested in the effect of negative emotion on subjective feelings (pleasantness ratings) toward neutral items both in items directly paired with negative stimuli (“direct pairs”) and in items indirectly paired with negative stimuli (“indirect pairs”). Participants were undergraduate psychology students at UBC. Participants were first given a computer task where they rated the pleasantness of a list of neutral objects (baseline). They were then shown those objects in pairs. Next, one of the items from the pair was paired with either a negative or neutral scene (direct pair), while the other was not (indirect pair). Finally, all the neutral objects were rated again after a 24-hour delay (follow-up rating). The hypothesis was that there is an effect of negative emotion on pleasantness ratings of neutral items in both direct and indirect pair conditions. Specifically, neutral items paired with an emotional scene would be rated more negatively in the follow-up rating.
compared to baseline rating in both direct and indirect pair conditions. Given the potential clinical relevance of emotional generalization, we also examined the relationship between levels of anxiety (as measured through the state-trait questionnaire) and follow-up pleasantness ratings of neutral objects that were directly and indirectly paired with emotion, with the expectation that anxiety level and ratings would be correlated for both the direct and indirect object pairs. Preliminary results from the small number of participants tested thus far have shown no significant effects of emotion on subjective pleasantness ratings or relationships with continuous trait anxiety scores, this is likely due to the small sample size. This study may be important in understanding how emotions can have an effect on the subjective experience of memory and how this relates to our understanding of the nature of anxiety disorders.

Presenters: Matteo Damascelli  
Supervisor: Dr. Todd Woodward

**A Multivariate fMRI Investigation of Functional Networks Associated with Thermal Pain**

Pain is an aversive psychological state—created and modified in the brain. However, the functional networks involved in pain processing and regulation have not been comprehensively described. To this end, we applied constrained principal component analysis (CPCA) on an open-source functional magnetic resonance imaging (fMRI) dataset, where 33 participants were administered thermal stimuli and increased or decreased their pain by self-regulation. Effects of self-regulation and stimulus temperature on network activity were investigated. Three networks emerged: a sensory-motor response network, a frontoparietal pain-processing network, and the Default Mode Network (DMN). Activation intensity was regulation- and temperature-dependent in the response network, temperature-dependent in the pain-processing network, and regulation-dependent in the DMN. This evidence suggests that pain elicits co-activation in the pain-processing network and the response network (which facilitates pain avoidance), whereas regulating pain connects the pain-processing network to the DMN—these networks co-activate when up-regulating pain, and couple antagonistically when down-regulating pain.

Presenter: Meagan Mak  
Supervisor: Dr Amori Mikami

**Teachers’ Proactive strategies and Students’ Disruptive Behaviours in elementary schools**

Previous research has consistently found proactive classroom management strategies that take a positive approach on classroom management more effective than reactive strategies. While these strategies may work effectively for most students, it is important to examine whether they are just as effective for students with ADHD who may frequently display disruptive behaviours in the classroom. It is also crucial to understand whether these student misbehaviours may impede teachers’ ability to employ proactive strategies as they require additional effort in a stressful situation and attention to students who are actually behaving well. Elementary school teachers and students participated in a school-based intervention program for students who have ADHD tendencies. Teachers were recommended by trained consultants to utilize proactive strategies during classroom management. Consultants and teachers together selected a couple of students in the class with elevated levels of ADHD symptoms as targets for intervention. The frequency of teachers’ use of proactive strategies and target students’ disruptive behaviours were observed in the fall and spring term of the school year. We expect strategies in the fall to significantly predict less interference in the spring after controlling for interference in the fall. We also expect interference observed in the fall to significantly predict less strategies in the spring after controlling for strategies in the fall. Results and discussion will be further discussed.
**Effect of Smartphone Use at Bedtime on Sleep Quality and General Well-being**

Smartphones are crucial for people nowadays. In the present paper, we study if the reduction of smartphone use at bedtime increases sleep quality (objectively and subjectively) and subjective well-being. We sampled 33 students at the University of British Columbia (79% females and 21% males with an average age of 20). Participants experienced two conditions: normal use of smartphones for the first week and decreased smartphone use at bedtime for the second week. During the 14 days, they filled out daily online surveys (one morning and one evening) to measure their subjective sleep quality and well-being and wore actigraphs to measure their objective sleep quality. We found a medium effect between the means of WHO-5 Well-being Scores for the first and the second week(t(32)=-1.71, p<0.05, d=0.29 with its 95% confidence interval of [-0.20, 0.77]). For future studies, we are still collecting data and will examine the specific hours using smartphones.

**Investigating the relationship between parental childhood maltreatment & youth's somatic complaints**

A 2014 General Social Survey on Victimization reported 33% of Canadians aged 15 or older reported experiencing some form of childhood maltreatment (Ibrahim & Karam 2016). This is a substantial proportion of the population, especially when the role of intergenerational trauma is considered, which is defined as the transmission of the effects of a traumatic experience from a parent directly to their child (Buss et al., 2017). Research into the effects of intergenerational trauma has shown profound negative effects in children whose parents experienced childhood maltreatment, including increased rates of anxiety disorders (Fenerci & DePrince, 2018; Field, Muong, & Sochanvimean, 2013; Yehuda et al., 2011). However, this previous research has focused broadly on anxiety as an outcome rather than on specific symptoms or symptom clusters. Therefore, the aim of the proposed study is to examine the relationship between parental childhood trauma and their children’s self-reported somatic complaints. Given previous research into intergenerational trauma showing associations between various adverse effects and paternal childhood trauma, we expected to find a positive association between parent’s childhood trauma and childrens’ somatic complaints.

**Eyeball it: How specific quantifiers can help narrow our attention to number**

How do we reason about our incredibly rich visual world? We proposed that one key role of language is to help guide our attention towards a specific subset of possible representations. We explore this through a case-study of our intuitive sense of number, which is well-known to be susceptible to perceptual interference from other non-numeric dimensions (Picon, Dramkin, & Odic, 2018). For example, while we can rapidly judge which side of the room has more people on it or which jar has more marbles in it (without counting), various visual features (e.g., size, contour length, density) have been shown to impact our judgments (e.g., bigger, denser, brighter things being perceived as more numerous). Here, we test whether specific quantifiers (i.e., “many”) can be used to narrow attention to the only number and eliminate the interference from other competing perceptual dimensions. Adults participated in an eye-tracking study in which they saw displays of blue and yellow dots that were embedded within a visual illusion that created a strong conflict between number and another perceptual dimension (i.e., contour length); on half the trials, the side with more dots also had the
illusion of a longer contour length (Congruent trials), while on the other half the trials the side with fewer dots had the illusion of a longer contour length (Incongruent trials). In Experiment 1, we demonstrate that simply asking adults to discriminate which side has “more” dots produces strong perceptual interference with number; they performed significantly better on the Congruent than Incongruent trials. However, when we introduce a number-specific quantifier (i.e., “many”) in Experiment 2, and ask participants to estimate “how many” blue/yellow dots there are, we find that the effect of perceptual interference from contour length is eliminated, suggesting that their attention was drawn towards number and away from the competing interference of other percepts (i.e., contour length). These findings contribute to our understanding of the interaction between language and perception, and importantly suggest that certain linguistic cues (i.e., the quantifier “many”) may have a privileged status within particular perceptual domains (i.e., number). We discuss how providing different linguistic cues may also influence our moment-to-moment visual processing.

Presenter: Yee Lok Lai
Supervisor: Dr. Gilad Fili Feldman

Irrational Reactions to Negative Outcomes: A preregistered direct replication and extension of Epstein, Lipson, Holstein and Huh (1992)

The cognitive-experiential self-theory (CEST) refers to two conceptual systems that human use to process information from the environment, the preconscious, emotionally driven experiential system and the conscious, deliberate rational system (Epstein & Pacini, 1999). The current study aims to replicate and expend the classic experiment conducted by Epstein, Lipson, Holstein and Huh (1992), and 1028 participants were recruited from the US online platform, Amazon Mechanical Turk in this replication study. Most of the results from the original study were successfully replicated. The robust if only bias were reported in all conditions, with a higher level of heuristic response found in the experiential orientation conditions and a lower level of heuristic response rational orientation condition. However, the intensity effects reported in the original study were failed to replicate. Overall, the classical study of Epstein et al. (1992) is mostly successfully replicated and assumptions of CEST were supported.

Presenter: YingXi Li and Harleen Gill
Supervisor: Catherine Ann Cameron

Canadian adolescents' personal decisions about verbal deception

Lying is a natural component of our sociolinguistic repertoire and can be common in human interactions. Cultural and situational factors can influence when, to, and for whom a lie or a truth is told, thus affecting moral decision-making. Diverse cultural and situational factors can affect the personally-oriented deceptions used to solve social conflicts and maintain social harmony (Xu et al., 2013). Personal choices may be under the influence of how individuals evaluate diverse situations. Research shows that friendship has a significant effect on early adolescents’ self-identity and decision-making (Grime, 2005; Jensen, 2007), potentially affecting youths’ personal sense of moral decision-making. Patriotism also affects moral decisions from a group perspective. The present study examined 203 Canadian adolescents’ (M age = 16.12, SD= 1.01) behavioural intentions with respect to moral dilemmas involving competitive sporting events. Participants were asked to choose whether they would tell a protective lie or a disclosing truth about an athlete who has taken performance-enhancing drugs. In an experimental scenario, the athlete is either a friend (Friendship condition) or a compatriot (Patriotism condition) depending on the scenario condition. A Chi-square test examining the relationship between participants’ personal choice projections and their assigned story condition indicated that participants made significantly different choices between the Patriotism and the Friendship conditions ($\chi^2(2, N = 406) = 31.658$, p <.001). The participating adolescents were more likely to lie to protect a
friend than to protect their country. They were also more likely to tell the truth to expose their country rather than expose their friend. This suggests that Canadian adolescents are relatively more likely to value friendship over patriotism.

Presenter: Xin Falla Jin  
Supervisor: Dr. Amori Mikami  
Predictors of social preferences in elementary school children  
Children’s relationships with peers, measured through their social preference scores, have profound implications for their academic, social, and cognitive well-beings, as well as their life outcomes. While a large body of research has examined factors that predict social preferences at a single time point, few has directly examined the factors that predict the long-term stability or change of children’s social preferences. Using data from a large clinical intervention project, the present study examines the relationship between children’s problem classroom behaviour (measured through ADHD symptoms), positive classroom behaviour (measured through academic enablers), gender and age on the one-year stability of their social preference scores (N = 303). We expect that high social preference scores in spring will be significantly predicted by lower levels of ADHD symptoms, high levels of academic enablers, female genders as girls tend to display less problem behaviours than boys. We also expect no association between spring social preferences and children’s grade levels. Additionally, we expect that greater stability between spring and fall social preference scores will be moderated by lower levels of ADHD symptoms, higher levels of academic enablers, female gender and higher grade level. Implications of study findings will be further discussed.

Presenter: Zoey Gray  
Supervisor: Iris Lok and Dr. Elizabeth Dunn  
When Does Spending Money on Others Promote Happiness? The Role of Impact in Prosocial Spending  
Can seeing the impact of spending money on others promote happiness? There is a significant body of research to suggest that prosocial spending can reap emotional benefits for the giver. Previous work has suggested that people feel happier when they are able to see the impact that their giving has on recipients. However, this research relied on small sample sizes. Here we aim to partially replicate these findings with a larger sample size. Using a within-subjects design, we recruited 100 participants via MTurk to report two giving experiences: one in which they were able to see the impact of their giving and another in which they were not able to see any impact. After recalling each giving experience, participants reported their positive affect. Consistent with previous findings, we found that participants experienced significantly higher levels of positive affect when they were able to see their impact than when they were not able to see their impact. That these findings were successfully replicated suggests that perceived impact has a robust effect in promoting happiness. Moreover, our research may provide useful insights for charitable organizations seeking to encourage giving behaviour that would ultimately benefit those in need.

Presenter: Zoha Janjua  
Supervisor: Dr. Luke Clark  
Impulsivity in Novice Slot Machine Players  
Past research has shown that impulsivity is linked with different kinds of addiction, including behavioral addiction such as Gambling Disorder. The purpose of this analysis was to assess the effects of impulsivity in novice gamblers over multiple occasions. Impulsivity was operationalized as inter-trial interval and bet size. 60 participants were recruited from the University of British Columbia. Participants played a simulated slot machine over 3 sessions along with completing questionnaires, including the Barret Impulsiveness Scale. They were divided using a median split to compare high and low impulsivity groups.
Results showed that overall there was no difference between the groups on the two variables. However, high impulsivity groups had a larger standard deviation in the between subject effects and change in bet size was observed in one of the sessions due to impulsivity. The results were statistically significant. These findings emphasize that there is a complex relation between impulsivity and gambling habits and we suggest future research to examine other factors that are associated with gambling.

**Day 2 - Saturday, March 30th ’19**

**Oral Presentation Descriptions**

*In the Order of Presentation*

**Presenter: Jamile De Medeiros e Silva**
**Supervisor: Dr Nancy Sin**

**Sleep Variability, Affect, and Well-Being**

What is the relationship between sleep and well-being? Previous research has shown that many detrimental health outcomes are associated with poor sleep. The relationship between sleep and affect has also been investigated for its effects on one’s well-being. The current study’s goal is to see whether sleep variability (IV) and sleep efficiency are correlated with negative and positive affect. We hypothesize that higher sleep variability would lead to less sleep efficiency, and would be associated with higher negative affect and lower positive affect.

**Presenter: Trevor Kwan**
**Supervisor: Dr. Victoria Savalei**

**Comparing Factor Structures of Alternative Likert Scale Formats**

Questionnaires that are prevalent in psychological research are often written in the Likert format with agree/disagree questions due to convenient and efficient measurement. However, given the problems of using reverse-worded questions and the ambiguity of agree/disagree questions in the Likert format, current research has supported the use of alternative formats in questionnaires. Past research has assessed the quality of these alternative formats individually, but no research to date has compared these alternative formats with each other. The goal of our present study is to use statistical models to compare these alternative formats. The findings of this research will improve the development of and conclusions drawn from questionnaires used in psychological research and in many other fields of research.

**Presenter: Anna MacLellan**
**Supervisor: Boaz Saffer & David Klonsky**

**Differentiating Multiple Suicide Attempters from Single Suicide Attempters Using Personality Traits**

Many individuals who attempt suicide only attempt once; however, 10-50% do go on to attempt at least one more time. Among those who did, 4% completed the suicide, compared to the 1% in single attempter populations 1. A promising area of research for determining factors that predict multiple attempters (MA) is personality disorders (PDs). This study aims to determine whether a comprehensive set of empirically derived personality disorder traits measured on a dimensional scale would differentiate multiple attempters from single attempters. We classified participants as either single attempters (those who had only attempted once) and multiple attempters (those who had attempted more than once). We measured their personality traits using the Schedule for Non-Adaptive and Adaptive Personality 2 and compared the group means for each trait to find if there was a significant difference between them. Our results found that there were personality profiles unique to each group.
that differentiated them. MA\textasciitilde s presented significantly higher levels of detachment, self-harm, suicide proneness and lower self-esteem, with medium effect sizes. Single attempters (SA\textasciitilde s) presented significantly higher positive temperaments and characteristics of exhibitionism with small to medium effect sizes. Overall, the results suggest that MA and SA may differ substantially enough to warrant future research and special intervention strategies. These results also highlight the pitfalls of conducting research in a classificatory way, whereby the nuances of potentially disparate diagnoses are overlooked when they are presented in diagnostically similar patients. Keywords: Multiple attempters, single attempters, suicide prevention, suicide prediction, personality traits, personality disorders.

Presenter: Tina Ciric  
Supervisor: Dr. Jason Snyder  
\textbf{Developmentally-born cells in the hippocampus: do they survive or die trying?}  
Missing In the rodent, the development of the dentate gyrus (DG\textasciitilde s) has been shown to continue postnatally, with new granule cells being added well into adulthood. This constant addition of new neurons has important implication smissing for learning and memory, as it may underlie the DG\textasciitilde s enhanced synaptic plasticity. However, there remains controversy around how these new adult-born cells affect the overall DG cell population: do neurons born in development die in order to make room for younger cells? Studies have shown that developmental cells born on P6 (postnatal day 6), the peak of rodent DG development, show population death between 2 and 6 months of age, suggesting that they may indeed be being replaced by adult-born cells. The current study sought to evaluate whether this result also applies to other developmental cell populations; such as cells born embryonically, and cells born later in the developmental window. We evaluated this by labelling rodent DG cells with BrdU on E19 (embryonic day 19) and P21 (postnatal day 21), and evaluating population size at 2 and 6 months of age. A period of cell death between 2 and 6 months was found with P21 cells, but not for the E19 population. This suggests that some developmental cells do remain stable even with the addition of adult born cells, while other populations die.

Presenter: Shali Tayebi  
Supervisor: Anita Schmalor  
\textbf{Does economic inequality increase the consumption of status goods?}  
Past research suggests that higher levels of inequality are associated with increased status anxiety- one\textasciitilde s concern about one\textasciitilde s relative standing in society. One aspect of heightened status anxiety is an increase in the consumption of goods that signal status to others. However, most of the research testing this relationship has used correlational methods and compared inequality indices and consumption behaviour across different countries. To test whether this link is causal, we are conducting an experiment where American participants recruited from Amazon Mechanical Turk, which is a crowdsourcing marketplace that allows individuals to perform tasks virtually, are asked to imagine moving to a new society, called "Bimboola". Participants are randomly assigned to either a highly unequal or relatively more equal society and are provided with an annual income within that society. Crucially, across the two conditions, all participants are given the same income. Then participants are asked to spend some of their money and to choose between products that vary in status and price. In addition, they can set remaining money aside for savings, insurance, and basic necessities. The hypothesis is that participants in the unequal condition allocate more of their money to goods that signal status.

Presenter: Conner Lang  
Supervisor: Dr Anita DeLongis  
\textbf{Potential Risk Factors Pertaining to Post-Traumatic Stress Symptomatology}
Do negative childhood family environments lead to psychological consequences in adulthood? Previous research has shown that early family stress leads to increased levels of depression and higher use of negative coping strategies in adulthood. Based on these findings, the current study aims to explore the relationship between early family stress, avoidant coping, and post-traumatic stress symptomatology (PTSS). Data were drawn from a previous longitudinal study examining a sample of 87 paramedics working in Vancouver. Linear regression analyses found that both negative childhood environments and avoidant coping independently predicts PTSS at two year follow up. A negative childhood family environment did not predict avoidant coping behaviours at two year follow up. Further, a multilevel model revealed that early family stress was related to greater avoidance in days with higher levels of stress which then reduced PTSS.

Presenter: Hillary Smith
Supervisor: Dr. Darko Odic & Denitza Dramkin

Cue me! What cues do toddlers prioritize when linguistic and social information conflicts during word learning?
During early word-learning, children must learn to reason about different sources of information, including socio-pragmatic cues (e.g., looking, pointing, etc.) and word-learning heuristics (e.g., mutual exclusivity—the assumption that one label can only refer to one object). While these cues – social and linguistic – often complement each other (e.g., a mom directing her toddler’s attention to an object and labeling it a bottle to help facilitate word-learning), what happens when they conflict? Some research suggests that children will prioritize socio-pragmatic information (i.e., looking and pointing) over word-learning heuristics (i.e., mutual exclusivity) when these cues compete for object referents (e.g., Grassmann & Tomasello, 2010). But, do children override mutual exclusivity because they believe that one object can have two labels, or do they follow socio-pragmatic cues to be helpful (e.g., Warneken & Tomasello, 2006)? To test this, we introduced a strong social cue (e.g., someone looking and pointing at an object) in a disambiguation task. Forty 15- to 48-month-old monolinguals were presented with two sets of objects—one familiar (i.e., a ball) and one novel (i.e., a nose massager). In the Novel Label condition (n = 19, M = 2.6 years), the researcher would look and point to the familiar object (i.e., a ball), but refer to it by a novel label (i.e., “Can you get the fep?”), while in the Familiar Label condition (n = 21, M = 2.8 years), the researcher would look and point to a novel object (i.e., a nose massager), but refer to it by a familiar label (e.g., “Can you give me the ball?”), creating a conflict with mutual exclusivity. Following this, the researcher would leave the room, and a second researcher would enter and ask the child to put the fep (i.e., Novel Label condition) or ball (i.e., Familiar Label condition) in a designated box. While we replicate previous findings that children are more willing to provide the object consistent with the socio-pragmatic cue in the Novel Label compared to the Familiar Label condition, we extend this work by demonstrating that this willingness to override mutual exclusivity may be context (or situation) dependent. Despite selecting the object consistent with the social cue with the first researcher, these same children largely behaved consistently with mutual exclusivity with the second researcher (in the absence of social cues). Thus, while children may momentarily favour socio-pragmatic cues over word-learning heuristics in certain contexts (e.g., with particular people, when given strong cues like looking and pointing), this may not alter their assumptions about the word-object pairings, themselves. These findings contribute to our understanding of the relationship between language and socio-pragmatics, and I will discuss these findings within the broader debate of what information is privileged during early-word learning.

Presenter: Ela Bandari
Supervisor: Jennifer Berdahl
**Boys Don't Cry Crocodile Tears: The Asymmetric Effect of Crying on the Desire to Punish Men and Women**

Crying is a common reaction to discipline in the workplace, and the perception of this emotional display can impact the punishment prescribed to the perpetrator. The highly gendered nature of emotional display (such as crying) leads to a difference in perceived costliness of the emotional display leading to differential outcomes on the desire to prescribe punishment based on the gender of the preparator. The study recruited a sample of 424 participants on Amazon’s Mechanical Turk to provide evaluations based on vignette of a production manager at a disciplinary meeting. The participants were assigned one of the four vignettes (female manager crying, female manager not crying, male manager crying, male manager not crying) and asked to complete questions on their perception of sincerity of the emotional display, the cost of their emotional display to the production manager’s reputation, and the appropriate punishment for the production manager.

**Presenter:** Ayden Kesici  
**Supervisors:** Dr. Jason Snyder

**Effects of adult hippocampal neurogenesis in mice after receiving a Single Electroconvulsive Stimulation (ECS) or Transcranial Magnetic Stimulation (TMS)**

Depression is a prevalent psychiatric disorder that affects over 350 million people globally. Convulsive therapy is a method that is used to alleviate symptoms of neuropsychiatric disorders by the induction of an electrical current. The use of both electroconvulsive stimulation (ECS) or transcranial magnetic stimulation (TMS) is effective at reducing severe symptoms of depression that do not respond to traditional drug therapies. The difference between the two is that ECS delivers direct electrical currents through the brain. Whereas, TMS is spatially controlled to target specific areas of the brain and create a magnetic field to stimulate the nerve cells. While convulsive treatments potently improve symptoms of depression, the underlying neuronal mechanisms are not well-defined. To study the effects of ECS and TMS, we focused on the hippocampus. To assess the effects of convulsive treatments on hippocampal neurogenesis, we examined the timeline of therapy induced neurogenesis in a mouse model. A single ECS, Repetitive transcranial magnetic stimulation (rTMS), or intermittent Theta Burst Stimulation (iTBS) was administered, and after 1, 3, or 7 days, neural markers were examined to determine the effects of each treatment. The data indicates that ECS and iTBS increases neurogenesis immediately then declines at days 3 and 7. In contrast, rTMS did not cause changes in neurogenesis. Further analyses are underway to determine chronic neurostimulation effects on neurogenesis and morphology of the newborn neurons that are induced by the simulations.

**Presenter:** Alexandria Sowden  
**Supervisor:** Dr. Hall

**Logos and Makers: The Development of a Brand Concept**

Do children understand what a brand is? Previous research has indicated that children are able to recognize brands but don’t have a fully developed brand concept and that abstract concepts like brands lexically develop later. The current research uses an experimental design comparing children aged 4- and 6-year-olds and 32 adults to find changes over the lifespan in one’s ability to define a brand as the maker of a product. Real-world products were shown to participants along with edited photos of the same products with different logos. 4-year-olds pay relatively little attention to the maker of a product and make decisions based on logos. 6-year-olds attribute a brand to a combination of logo and maker information. In contrast, Adults primarily attribute a brand to maker information. The understanding of a brand changes significantly across the lifespan.
Can pretending to be Batman help children solve math-related problems? Self-Distancing strategies show numerically increased focus in the Approximate Number System task.

Every day as adults we make “approximate” decisions about number. Children can reason about number in the same way. This effect occurs because regardless of their ability to count, children possess an intuitive sense of number. This is referred to as the Approximate Number System (ANS) and research demonstrates that this intuitive sense contributes to a child’s developing understanding of Math (Halberda, Mazzocco & Feigenson, 2008). Also, if a young child is presented with a card sorting task (an executive functioning measure), and provided a strategy such as pretending they are Batman, research shows that this self-distancing mechanism is able to improve cool executive functioning in young children (White & Carlson, 2016). We hypothesize that this Batman effect as a tool of self-distancing would increase a child’s ANS through either its ability to boost cognitive functioning or its effect on the Weber fraction due to a decrease in guessing because of increased motivation.

In a preregistered study (N= 65 to date of 90), we examined the effect of self-distancing on children’s ANS performance. To test ANS performance, we use a simple number discrimination task game where the researcher will ask the child which side has more dots. To provide the self-distancing strategy, we had three different levels of strategies as used in White & Carlson (2016) reflected as three different condition manipulations: 1) First-Person, “Which one do I think has more dots?”; 2) Third-Person, “Which one does [child’s name] think has more dots?”; and finally, 3) Character, “Which one does Batman/Wonder Woman think has more dots?”.

In the character condition, the child is given a cape color-matched to their chosen character to wear.

Results show that children are more careful when in the self-distancing condition, as reflected in lower amounts of guessing in the Character condition (M= 2% of the time) than in the other conditions (Third-Person: 18%, First Person: 30%; F(2, 36) = 3.51, p = .04, η p2= .16). However, children’s overall accuracy did not differ statistically by condition, though we do see that accuracy in the Character condition is numerically higher (84%) than in the other two conditions (Third-Person: 78%, First-Person: 81%). Children’s ANS acuity, a psychophysically modelled measure of precision where lower numbers indicate better precision, found the same pattern (Character: M= 0.20,Third-Person: 0.30, First-Person: 0.43; F(2, 36) = 0.82, p=.45, η p2=.04).

To date, our research with the Batman effect appears to help children focus during the ANS task, effectively replicating the general findings of White & Carlson (2016). While we didn’t find an effect on performance as it relates to number (i.e. accuracy or precision), we did find that children’s task performance (i.e. lower guessing) improves. We conclude two main points from our findings thus far: 1) that self-distancing selectively improves performance on executive functioning, rather than boosting performance more generally, and 2) that children’s ANS task performance is not significantly improved by alleviating task demands, suggesting that it is a robust measurement of underlying numerical capabilities.
Gender Differences in Depression, Anxiety, and Stress Amongst Suicidal Populations
Suicide kills approximately 800,000 people every year worldwide, and ranks highly in leading causes of death in Canada. Despite rigorous research on suicide, there has been little success in suicide prevention. While researchers have found notable factors predicting suicide ideation, there are challenges in identifying factors that predict suicide attempts. One example is gender, even with the pronounced differences in suicide behaviour (e.g., methodology, reasoning, rates) between males and females. This study investigated whether gender differences are present in depression, anxiety, and stress (three emotional states correlated with suicide) amongst three groups: nonsuicidal individuals, ideators, and attempters. We examined 1008 participants from two large nonclinical samples collected on Amazon’s Mechanical Turk. Findings indicate no significant differences between ideators and attempters in depression and stress, except in anxiety for males only. Study limitations and potential implications in the therapeutic efficacy of targeting negative affect to reduce suicidality will be discussed during this oral presentation.

Presenter: Dennis Avalos Ponce
Supervisor: Audrey Aday
The influence of Gender Inclusive workplace policies on state authenticity
In the “State Authenticity as Fit to Environment” (SAFE) conceptual model, state authenticity is described as composing three types of fit, categorized as social fit, concept fit, and goal fit (Hall, Schmader, Aday, Inness, Croft, 2018). Previous work with the SAFE model has shown that individuals typically avoid environments that create low state authenticity and approach environments that create high state authenticity (Hall et al., 2018). Our research explores whether these three types of fit equally contribute toward a sense of state authenticity in the context of an organization and the effects it has on organizational commitment. To investigate this, we designed a series of 17 gender-inclusive workplace policies based on the SAFE model that were evaluated by participants as inducing one or more of the three types of fit. Participants were asked to imagine themselves in a workplace that implements each policy and then rated the degree that they felt devoted to working for that company. Participants were also asked to rate the degree that each policy would change their sense of social fit, cognitive fit, and goal fit individually. From the results of this research, we hope to identify sets of policies that elicit the different types of fit individually, so that they can be used in future research to manipulate the types of fits that are induced by an environment. We also hope to understand which type of fit may play a more significant role in the organizational commitment of a company in all genders.

Presenter: Daria Tai and Nicole Minielly
Supervisor: Dr. Liisa Galea
Motherhood and Genotype (ApoE4) Interact to Influence Cognition
Alzheimer’s Disease (AD) is increasingly prevalent in the aging population, especially among individuals who possess the epsilon 4 polymorphism of the apolipoprotein E(ApoE4) protein. Intriguingly, it has been observed in Europe that women with the APOE4 allele show higher rates of AD compared to men. In addition, women with AD show greater cognitive decline and AD neuropathology relative to men. Although women live longer than men, this trend still persists even when average life expectancy is controlled for. This indicates that women are at a heightened vulnerability to develop AD that becomes more severe. The hormonal fluctuations women experience could be one explanation which could account for women’s heightened AD susceptibility. Consistent with this, past research indicates that hormonal fluctuations associated with parity (pregnancy) increase vulnerability to cognitive decline, although the mechanism driving this relationship is unclear. Furthermore, it is unknown how parity interacts with genotype to influence rates of cognitive decline. In the present study we examined this phenomenon in a rat model.
Female Sprague Dawley rats that express the human form of ApoE4 (TK) were age-matched with wild-type (WT) female rats. Within each genotype group, rats were either nulliparous (never mothered with no sexual experience) or primiparous (first-time mothers). The primiparous rats were bred at 3 months old (equivalent to early adulthood). To assess cognitive function, the rats were trained and tested on the delayed win-shift Radial Arm Maze (RAM) over a 20-day period at 9 months postpartum and at 1 year of age (equivalent to middle age). This is a spatial working memory task in which performance is mediated by the hippocampus and prefrontal cortex. The amount of errors and overall time required to complete this task indexed cognitive function. More errors and time required to complete the task was operationalized as worse cognitive function, relative to controls. Analysis of this behavioural data is ongoing. We predict that parity and ApoE4 will decrease cognitive function, operationalized by increased errors on the RAM and/or increased time to complete the RAM. More specifically, we hypothesize that primiparous TK rats will exhibit greater cognitive decline relative to nulliparous TK rats.

Presenter: Lelli Mortazavi
Supervisor: Dr. Catharine Winstanley

Effects of Chronic Dopamine Agonist on Development of Risky Decision Making in Rodents
Parkinson’s Disease (PD) is one of the most prevalent neurodegenerative disorders affecting 1-2% of individuals above the age of 65. Dopamine replacement therapies (DRTs) can significantly mitigate the motor symptoms of PD, but can also induce development of debilitating impulsive, compulsive, and addictive disorders in a considerable proportion of patients. To investigate the mechanisms by which DRTs precipitate these conditions, we tested the effects of chronic ropinirole administration (i.e., D2/3 receptor agonist) via osmotic pumps on 64 rats performing a rat Gambling Task (rGT). We found that ropinirole administration during the acquisition of the rGT biased rats towards the riskier, less advantageous options, effects of which remained unchanged after termination of treatment.

Presenter: Alexandria Sowden
Supervisor: Dr. Hamlin

Who Do You Want to Help? The Effect of Competency on Toddlers’ Help-Seeking Behaviours
Who will toddlers turn to when they need help? Toddlers are often faced with challenges they are unable to achieve on their own and must turn to social scaffolding. Previous research has demonstrated that toddlers turn to adults in order to achieve an otherwise unattainable goal. It is not entirely known what traits a toddler believes qualifies someone to help them. Research has suggested that competency may be a sufficient trait, but it has previously been confounded with social engagement. The current study uses puppet actors in order to isolate the competency of an actor and see whether competency is sufficient to qualify an actor to help. 23-month-olds chose a competent actor to help them in their own goals. These findings suggest that competency is a major factor for toddlers when evaluating who to seek help from.

Presenter: Coral More
Supervisor: E. David Klonsky

Internal and Interpersonal Motivations for Suicide Associated with Symptoms of Borderline Personality Disorder
Understanding why people attempt suicide is a critical component of risk assessment and treatment. Whereas suicide attempts in borderline personality disorder (BPD) are often conceptualized as efforts to manipulate others or shirk responsibility; method lethality, intent to die, and suicide fatality do not support this assertion. A sample of 66 undergraduates and 53 outpatients with a recent suicide attempt
were assessed for motivations for suicide, symptoms of BPD, intent to die, and attempt lethality. Symptoms of BPD were significantly associated with increased internal motivations for suicide but were unrelated to interpersonal motivations. Within the internal factor, symptoms of BPD were significantly related to endorsements of psychache, escape, and low belongingness. Results reflect a high degree of psychological pain and challenge the conceptualization of suicide attempts in BPD as gestural. Incorrectly labelling suicidal behavior of patients with BPD as gestural may result in inappropriate management and invalidation of psychological pain.

Presenter: Theresa Aba Adams
Supervisor: Ara Norenzayan

**Spiritual but Not Religious: A Qualitative Study on How We See God**
In recent years, a growing number of people in Western societies identify as Spiritual But Not Religious (SBNR), while those that consider themselves religious has been steadily declining. But what are the ideological differences between these groups, and how do they see the metaphysical? Past research has found that SBNR participants score higher than other groups on all measures of belief except belief in God, but the content of these beliefs has yet to be examined. Our present study investigated how participants described God and Karma in their own words, in an effort to gain some insight on the qualitative as well as quantitative differences between religious, non-religious, and SBNR groups. Participants were asked to list up to five features each of God and Karma, and also completed measures of religiosity, spirituality, and belief in God, Karma, and a just world. These responses were then coded to enable correlational analysis.

Presenter: Paniz Rezvani
Supervisor: Anita Schmalor

**The Association Between Economic Inequality, Empathic Accuracy, and Socioeconomic Status**
As economic inequality, or the disparity between people of higher socioeconomic status (SES) and lower SES, increases, our relative standing in society becomes more consequential. Therefore, people should care more about their position in the social hierarchy when inequality is higher. In line with this, past research has found that cooperation decreases and competition increases with rising inequality (e.g., Frank, 2007; Krupp & Cook, 2018). From this it follows that inequality should make people feel like they are “in it for themselves” and hence less interested in other people. One potential consequence could be that people will show less empathic accuracy- the ability to accurately recognize the emotional expressions other people are displaying. In a related area of research, it has been shown that people of higher SES have less empathic accuracy (Kraus, Côté, & Keltner, 2010). One proposed explanation for this is that other people are less motivationally relevant to people of higher SES. Putting these factors together, this study seeks to investigate 1) if greater economic inequality is associated with less empathic accuracy and 2) if this effect is the strongest for people of higher SES. To test these hypotheses, a community sample in Vancouver completes a measure of empathic accuracy - the Reading the Eyes in the Mind Task – as well as a measure of subjective economic inequality and SES.

Presenter: Meagan Mak
Supervisor: Dr. Amori Mikami

**Teachers’ Proactive strategies and Students’ Disruptive Behaviours in elementary schools**
Previous research has consistently found proactive classroom management strategies that take a positive approach on classroom management more effective than reactive strategies. While these strategies may work effectively for most students, it is important to examine whether they are just as effective for students with ADHD who may frequently display disruptive behaviours in the classroom. It is also crucial to understand whether these student misbehaviours may impede teachers’ ability to
employ proactive strategies as they require additional effort in a stressful situation and attention to students who are actually behaving well. Elementary school teachers and students participated in a school-based intervention program for students who have ADHD tendencies. Teachers were recommended by trained consultants to utilize proactive strategies during classroom management. Consultants and teachers together selected a couple students in the class with elevated levels of ADHD symptoms as targets for intervention. Frequency of teachers’ use of proactive strategies and target students’ disruptive behaviours were observed in the fall and spring term of the school year. We expect strategies in the fall to significantly predict less interference in the spring after controlling for interference in the fall. We also expect interference observed in the fall to significantly predict less strategies in the spring after controlling for strategies in the fall. Results and discussion will be further discussed.

**Day 2 - Saturday, March 30th ’19**
**Poster Presentation Descriptions**

*PSYC 217 Winning Group listed last*

**Presenter: Adam Tutinka**  
**Supervisor: Dr. Kristin Laurin**

**Reactions toward In-person Perspective Takers and Non-Perspective Takers**

The ability to perspective take is a crucial aspect of social functioning. Perspective taking has been positively correlated to social competence and self-esteem and is a socially approved, desirable behaviour in western cultures. The present study builds on a preceding line of work that observed general approval for perspective takers in hypothetical scenarios by examining attitudes toward perspective takers compared to non-perspective takers in a concrete, interpersonal context. The study employed a novel in-person paradigm to manipulate perspective taking amongst participants who had reported support for the carbon tax in an earlier survey. During an introductory phase of the study, participants were exposed to the opinions of two confederates: one who supports the carbon tax and agrees with taking the perspective of those that do not, and one who supports the carbon tax but disagrees with taking the perspective of those who do not. Participant preferences for perspective takers compared to non-perspective takers were then measured according to which confederate the participant preferred to work with on a cooperation task that was presumed to occur later on. Perspective taker and non-perspective taker trait ratings were also assessed using the Interpersonal Circumplex Scale, with two additional items of ‘open-minded’ and ‘polite’. Data collection is ongoing, however preliminary analysis demonstrates a statistically significant preference for perspective-takers, with perspective takers rated as more open minded. These preliminary results suggest that a preference for perspective takers is reflected in concrete, interpersonal contexts with respect to single issue matters that are congruent with one’s pre-existing beliefs.

**Presenter: Andrea Barraza**  
**Supervisor: Dr. Janet Werker & Sheri Choi**

**Speech Perception, Language Acquisition, Infancy**

Already at birth, infants demonstrate the ability to discriminate phonemes – the smallest unit of speech. Remarkably, pre-verbal infants are sensitive to the phonetic differences used to contrast phonemes in both their native and in non-native languages (Werker, Gilbert, Humphrey, & Tees, 1981) and within the first year of life, they sharpen their sensitivities towards their native language (Kuhl et al.,
In our previous work, we studied this sensitivity to native and non-native phonetic contrasts using a standard alternating non-alternating looking-time procedure designed to examine infants’ ability to discriminate two sounds. Six-month old infants looked at a neutral visual stimulus while they heard an audio stream containing either both or one of the phones in the contrast. If infants were able to discriminate the two phones, then they were expected to show a difference in looking time preference between the two trial types (alternating versus non- alternating). We examined English-learning infants’ ability to discriminate the non-native dental /da/ vs retroflex /Da/ phonetic contrast, and the native bilabial /ba/ vs dental /da/ contrast. Based on previous findings, it was expected that infants would discriminate both types of contrasts. Interestingly, infants showed longer looking to the alternating trials for the non-native contrast, but longer looking for the non-alternating trials when listening to the native contrast. While this opposite directionality of “preference” was unexpected, such effects are often seen (e.g. familiar vs novel, alternating vs non-alternating), but not well understood, in infant looking time research (Aslin, 2007). One possible factor that may contribute is infant’s prior familiarity with the distinction. In other words, English-learning infants are likely to have heard the /ba/-/da/ contrast within their linguistic environment, but would not have heard the non-native /da/-/Da/ contrast in a consistently contrastive way. Therefore, previous exposure to phones may have influenced infants’ preference during the discrimination task. The current study aimed to test this hypothesis that prior exposure to native language(s) influences the directionality of preference. We recruited infants aged 5½ to 7 months old who have had significant exposure (at least 50% of the time) to a South Asian language that uses the dental /da/ - retroflex /Da/ distinction. They participated in a phonetic discrimination experiment using the same alternating non-alternating looking-time procedure described above. If infants’ prior exposure to the speech sounds influences the directionality of their preference, then we expect these infants to show a non-alternating preference – the same directionality of preference that the English-learning infants had shown during the native /ba/-/da/ discrimination task. The current study contributes to further understanding directionality effects in infant research, in this case in a phoneme discrimination task.

Presenter: Bita Jokar
Supervisor: Dr Steven Barnes and Trish Varao-Sousa

Evaluation of a new student learning tool
Tapestry is a new UBC developed online learning tool that aims to amplify the learning experience for students and facilitate the teaching process for instructors. Tapestry incorporates a mind map structure that allows an instructor to create and then connect content in a unique and innovative fashion. This tool is designed to provide students with a novel way to view learning material, incorporate new content and create links between existing content. To determine how students can best benefit from the use of Tapestry tool, we’ve used qualitative (interviewing) and quantitative techniques (eye-tracking, and Qualtrics surveys). Through this testing, students provided feedback that informed development and design decisions related to ease-of-use, accessibility, and enjoyment to the interface, furthermore students report that Tapestry has the potential to enhance their learning.

Presenter: Brandon Forys
Supervisor: Dr. Kiran Soma

A Novel Steroidogenic Model for Reward-Seeking Behaviour
The modern obesity crisis necessitates deeper research into what affects people’s dietary behaviours. In particular, it is important to investigate maternal factors that influence a child’s diet and motivation. An investigation of effects of steroid hormones on the brain’s reward system would aid this research. We examine effects of testosterone on the brain’s reward pathways by analyzing steroid concentrations in
five brain regions and the blood of N = 40 male rats whose mothers were randomly assigned to a high (n = 20) or low sucrose (n = 20) diet. We examine whether local steroid concentrations in five brain regions can be predicted from circulating steroid concentrations. We find no significant relationship between testosterone and dopamine receptor levels, t(18) in range (-1.58, 0.83), suggesting that testosterone has diffuse effects on dopaminergic activity. We can significantly predict local levels of steroid hormones from circulating levels using steroidogenic models with as few as three points of steroid data as input, t(10) in range (-1.04, 11.57), revealing novel computational techniques for understanding neural steroidogenesis.

Presenters: Charlotte Aitken
Supervisor: Dr. Kiley Hamlin

**Do infants selectively approach fair individuals? A direct replication attempt of Lucca et al. 2018**

To assess fairness, individuals must interpret complex social cues and form evaluative judgments about merit, need, equity, and deservingness. This ability seems to be universal: across cultures, individuals expect others to act fairly (Henrich et al., 2005; Rochat et al., 2009) and prefer those who have a history of equally distributing resources (Page, Putterman, & Unel, 2005; Tabibnia, Satpute, & Lieberman, 2008). Children as young as three years old expect resources to be distributed according to principles of equality (Kogut, 2012; Smith, Blake, & Harris, 2013) and use resource distribution to interpret social relationships (Liberman & Shaw, 2017).

Research on infants’ fairness expectations has predominantly relied on looking time and reaching studies. Infants look longer when one distributive agent favours a recipient over another (Meristo et al., 2016), and look longer at unfair third-party distributions than fair ones (Schmidt & Sommerville, 2011). In Lucca, Pospisil, and Sommerville (2018), researchers used a novel paradigm where infants watched videos showing one individual distributing cookies to two recipients in a 3:3 ratio, while another individual distributes these cookies in a 5:1 ratio. Then, the distributors appeared to drop a toy into a real-life tube connected to a box and infants were asked to choose a toy. Lucca et al. found that 13- and 17-month-olds selectively preferred to approach an equal distributor over an unequal distributor when asked to retrieve a toy. This result both conceptually replicated past work demonstrating significant preferences for fair over unfair distributors (Burns & Sommerville, 2014; Sommerville, Schmidt, Yun, & Burns, 2013), and demonstrated that infants’ preferences are sufficient to lead them to selectively crawl/walk toward their preferred character.

It has recently been recognized that a number of published, significant research findings may be false (Ioannidis, 2005; OpenScienceCollaboration, 2015; Simmons et al., 2011; Simons, 2014), and that direct replication is a critical tool for validating scientific findings (Brandt et al., 2014; Ioannidis, 2005; Simons, 2014). Infancy methods may be particularly difficult to replicate due to the possibility that unknown and lab-specific variables are critical in producing a given result. This study represents an attempt to directly replicate Lucca et al. (2018)’s study through collaborative partnership with the original authors, with considerable training and communication between laboratories. Success replicating Lucca et al. (2018)’s findings would provide additional evidence that infants’ social decision making is informed by the past fair or unfair actions of others, and would also support employing similar group-replication paradigms more broadly within infancy research.

Based on Lucca et al.’s 2018 findings, we hypothesized that 17-month-old infants will preferentially choose to retrieve a toy from the fair versus unfair distributor. Our current results have found that of 16 participants, 10 chose to retrieve a toy from the unfair distributor and 6 chose to retrieve the toy from the fair distributor. Although the pattern currently goes against our hypothesis, data collection is ongoing. We anticipate having collected data on 32 participants before PURC.

Presenters: Cynthia Lu
ADHD and Callous-unemotional Traits Related to Negative Social Behaviour during Children’s Play Activities

Children with attention-deficit/hyperactivity disorder (ADHD) tend to have significant peer relationship problems (Gardener & Gerders, 2015), as some ADHD-related behaviours (e.g., not paying attention to cues, knocking down a peer while running) may be perceived as annoying, uncaring or even malicious. Callous-unemotional (CU) traits include characteristics such as arrogance, lack of remorse and empathy, and being manipulative. Some individuals with ADHD also exhibit CU traits, and these traits are associated with greater conduct problems, including increased aggressive behaviours and conflict in peer relationships (Fanti et al., 2008). The current study examined whether ADHD symptoms predict children’s behaviour while playing games with a friend and whether other predictors, such as CU traits, gender, and age, also contribute to children's behaviour above and beyond ADHD symptoms. We hypothesized that ADHD symptoms would predict children’s behaviours, with more negative behaviours associated with greater ADHD symptoms. We also predicted that CU traits would cause more aggressive, controlling, and rule-breaking behaviours. In addition, we were interested in whether children’s ADHD symptomology and CU traits influence friends’ behaviour. Previous research has shown that ADHD symptomology can have negative effects on friendships (Normand et al., 2017), but there is little research that examines how these factors affect other’s behaviours in dyadic interactions. We predicted that children’s ADHD symptomology might cause more aggressive, controlling and rule-breaking behaviours within the dyad and result in both children behaving more negatively. Finally, the current study examined whether the presence of elevated ADHD levels in both children within a dyad predicts children’s behaviours. Most previous studies have focused on how ADHD symptoms affect children with the disorder even if it was looking at a dyadic activity (Normand et al., 2017) and how children with ADHD affect others, particularly in a school setting, but we explored how dyadic interactions differ when one child, compared to both children, has ADHD. We expected more negative behaviours when both children in the dyad that had elevated ADHD symptomology. As part of a larger study, 172 children (6-11 years old) with ADHD played racing and sharing games with a friend. Both games require teamwork but possibly elicit conflict. Children’s behaviours were coded by trained reviewers to determine the proportion of the game in which children engaged in aggressive, controlling, rule-breaking, or prosocial behaviour. Children’s teachers rated ADHD symptoms (ADHD-5; DuPaul et al., 2016), and parents provided ratings of children’s CU traits (ICU; Ciucci et al., 2014). Regression analyses will be conducted, and results will be presented in the poster. Findings from this study may have implications for prevention and early intervention for ADHD and CU traits with school-aged children. Study limitations and future directions will be provided in the poster.

Presenter: Gurvir Dhutt and Slba Gher
Supervisor: Susan Birch

Does the outcome of a story affect 6 to 8-year-old children’s judgements of others?

The Curse of Knowledge is the tendency to be biased by one’s own knowledge when reasoning about a naïve perspective. It causes individuals to overestimate the likelihood that an event will occur and impedes their ability to take on another perspective (Birch & Bloom, 2003). Carli and Leonard (1989) studied the effects of the curse of knowledge on victim derogation. They presented participants with a scenario about a protagonist who spent time with an acquaintance. Participants were presented with 3 possible outcomes. In one outcome, they were told that the acquaintance assaulted the protagonist. In another outcome, they were told that the acquaintance proposed to the protagonist and in a control condition, they were not given an outcome to the scenario. The researchers found that participants who learned the assault outcome, rated that outcome as being more predictable than other possible outcomes. The researchers also found that participants who were presented with the assault
outcome were more likely to derogate the protagonist. The mere knowledge of the outcome that occurred “biased” the participants to think negatively of the victim. That is, participants overestimated the predictability of the negative outcome and derogated the victim for not foreseeing it.

Research suggests that younger children are more likely to display the curse of knowledge compared to older children and adults (see Ghrear et al., 2016), but the effect of the curse of knowledge on victim derogation has not been studied in children. As a result, the current research aimed to determine the effects of the curse of knowledge in children aged 6- to 8- years-old. The present study was designed to test how the outcome of a story would affect children’s social judgement of the protagonist. Children were presented with similar scenarios that ended with different outcomes; for example, in one outcome the protagonist was bullied by a new peer versus a control outcome where the participants were not provided with any outcome information. We were curious to see how children would judge the protagonist that was bullied compared to the protagonist in the control outcome and if the knowledge of the negative outcome (being bullied) influenced children’s predictability of that outcome. Furthermore, we were interested to see if age played a role in children’s susceptibility to the curse of knowledge when judging the predictability of the outcomes. The findings suggest that children are more likely to derogate the protagonist in the negative outcome compared to the control since the participants tended to rate the protagonist as being less smart in the negative outcome than the control. Children also showed a curse of knowledge effect in their predictability ratings of the negative outcome as they were more like to state that it was a bad idea for the protagonist to spend time with the peer in the negative outcome compared to the control. This finding was correlated with the magnitude of the curse of knowledge, such that children who were more cursed by their knowledge were also more likely to derogate the protagonist.

Presenter: Hayley Carolan
Supervisor: Daniela Palombo

Can imagining the future influence decisions related to climate change?
Analogous to our ability to re-experience the past in rich and vivid detail, Episodic Future Thought (EFT) involves “pre-experiencing” a future event by imagining it in our mind’s eye. As humans, we imagine future scenarios every day, but little is known about the adaptive value of this cognition. In this study we examine (1) whether EFT influences real-world decision making, namely decisions pertaining to environmentally protective behaviors and, if so, (2) why. In the first session participants were asked to imagine and describe possible future events that they are looking forward to (“EFT” experimental condition) and in another session, they were asked to imagine day-to-day events that occur in the present (control condition). In each session, participants then completed a questionnaire that assessed their pro-environmental attitudes and behaviors. Our expectation is that EFT will increase participant’s pro-environmental attitudes and their likelihood of engaging in environmentally protective behaviors. Preliminary results of this study from a sample of 7 participants will be presented. These results may be applicable to the development of more effective pro-environmental campaigns.

Presenter: Hira Peracha and Carly Chui
Supervisor: Dr Paul Hewitt

The link between depression and perfectionism in parent-child dyads
Perfectionism is a multidimensional personality style involving the need to be or appear to be perfect. Previous research on the relationship between perfectionism and depression has focused primarily on examining the link within individuals. For example, studies on different samples of adults, children, and adolescents, have found that perfectionism is significantly associated with depression (Abdollahi, Hosseinion, & Asmundson, 2018; Hewitt et al., 2002; Vaillancourt, & Haltigan, 2017).
Specifically, trait dimensions of perfectionism, such as self-oriented (demand for the self to be perfect) and socially prescribed perfectionism (perception that others need the self to be perfect), have been correlated with depression within both children and adults (Hewitt et al., 2002; Hewitt, Flett & Ediger, 1996). However, limited research has been conducted on the relationship between perfectionism and depression across parent-child dyads. Furthermore, majority of the studies on perfectionism and depression look at trait dimensions of perfectionism, thus, little is known about the association between perfectionistic self-presentation (PSP) and depression. We hypothesize that the following will be positively correlated: 1) children’s perfectionism and depression, 2) parents’ perfectionism and depression, 3) parents’ perfectionism and children’s depression, and 4) parents’ depression and children’s perfectionism. Parent-child dyads (n=80) with children between the ages of 8 to 15 years were recruited to complete self-report measures on perfectionism and depression. Study results replicated previous findings on the correlation between trait perfectionism and depression within children and adults, but also expanded on earlier findings by demonstrating significant correlations between PSP and depression. Contrary to our hypothesis, parents’ perfectionism was not significantly correlated with children’s depression. However, children high in nondisclosure of imperfection (avoidance of verbal disclosures of perceived flaws) was associated with parents’ depression. Our findings suggest that there is a link between various dimensions of perfectionism and depression within individuals, but this association does not seem to hold across individuals, except for parents high in depression scores and children with elevated nondisclosure of imperfection. It appears that children with depressed parents may have increased emotional insecurity (loss in personal sense of safety) and may not feel emotionally secure to disclose their own perceived flaws and weaknesses. Future studies can explore the changes in perfectionistic traits and depression in the parent-child dyad over time. This change can be observed in cases where both are depressed or perfectionists or when one side within the pair displayed perfectionism or depression.

Presenter: Maria Bleier
Supervisor: Dr. Paul Hewitt and Ariel Ko

**Perfectionism as a Factor Contributing to Social Disconnection in Youth**

There are a number of studies that have demonstrated the negative impact perfectionism has on interpersonal functioning, such as difficulties developing and maintaining healthy, fulfilling relationships (Habke & Flynn, 2002; Sherry et al., 2013). The Perfectionism Social Disconnection Model (PSDM; Hewitt, Flett, & Mikail, 2017) posits that the interpersonal challenges associated with perfectionism arise from subjective or objective social disconnection through the perception of others as untrustworthy, highly critical, and unsupportive. Previous studies investigating the PSDM, such as Chen et al. (2012), have found a significant correlation between perfectionism and social disconnection in a large sample of older adolescents (age 16-19). Our current study looks to expand upon this work on the PSDM by investigating the relationship between multiple facets of perfectionism (i.e., traits and self-presentation) and social connectedness in a sample of 8 to 15-year-old youth (n=80). Self-report questionnaires will be used to assess perfectionism and social connectedness. We hypothesize that perfectionism in youth will be associated with lower social connectedness. Consistent with our hypothesis, preliminary findings indicate that perfectionism in youth were significantly negatively correlated with social connectedness, suggesting that youth with higher levels of perfectionism tend to feel less connected with family, friends, and society, which may contribute to poorer quality relationships. This study has important developmental, clinical, and societal implications in understanding how interpersonal relationships can be improved between youth with perfectionistic tendencies and their family and peers.
Presenter: Natalie Cringle  
Supervisor: Eric Mercadante, & Zachary Witkower are grad students  

**Narcissistic Alcoholics: Assessing Personality Characteristics Associated with Alcoholism**  
Alcohol is an addictive psychoactive drug that is prevalent worldwide. A primary goal of recovering alcoholics is to refrain from drinking, and because several personality traits could influence the likelihood of alcohol relapse for recovering alcoholics, personality traits provide a fruitful avenue to understand problematic drinking behaviour in alcoholics. Narcissism has been shown to be associated with alcoholism (Karakoula, 2016), potentially because it masks lowered feelings of self-worth (Kernberg, 1986). However, recent work has isolated three unique factors that have diverging outcomes (Ackerman et al., 2011): Leadership/Authority (LA), which is associated with more adaptive outcomes, and Entitlement/Exploitativeness (EE) or Grandiose/Exhibitionist (GE), which are linked with negative outcomes. We hypothesized that higher scores on the EE factor would predict relapse in a sample of recovering alcoholics, whereas higher scores on the LA and GE factors would not. Additionally, we hypothesized that self-esteem, neuroticism, and interpersonal attachment styles, would mediate the relationship between narcissism and alcohol relapse. Results showed that none of the constructs investigated significantly predicted alcohol relapse, however, the three factors of narcissism presented several diverging associations with self-esteem, negative affect, positive affect, and avoidant attachment style in the recovering alcoholic sample – many of which vary from findings uncovered using convenience samples (see Ackerman et al., 2011). Future research may seek to explore other measurements of narcissism in recovering alcoholics, as well as other personality characteristics, which could foster better treatment paradigms for those seeking recovery.

Presenter: Paris Gappmayr  
Supervisor: Dr. Darko Odic  

**Give me your best es-TOMA-te: Exploring adult's estimation in number, length, and area**  
With just a quick glance we can quickly estimate – albeit only approximately – how many items are in our shopping basket, students are in an auditorium, or words are on a page. This ability, though seemingly automatic, requires us to integrate at least two distinct systems – our perceptual “sense” of number, and language (e.g., through number words) (e.g., Odic, Le Corre, & Halberda, 2015). To date, several theories have been proposed for how we accomplish this in order to generate estimates with relatively crude precision. One possibility is that we use a ratio-comparison strategy to match portions of our internal perceptual representations to particular units (e.g., mapping “this” much of our internal perception of length to 1 unit of length); then, we subsequently perform ratio comparisons between our mapping to that unit and our observations (Krantz, 1972; Stevens, 1946). In contrast, under the categorization approach, rather than performing ratio-computations, we create categories within our perceptual representations that correspond to each number word, much like how we learn the boundaries of colours (e.g., what is “yellow” vs. “orange” vs. “blue”; Izard & Dehaene, 2008; Sullivan & Barner, 2014). Here, we explore how adults estimate across different dimensions: number, length, and area. Importantly, we also test whether nuances of the instructions on estimation tasks could lead to differences in the strategies (e.g., ratio-comparison- or category-based) participants use to estimate. In Experiment 1, college-aged adults were given novel units, each corresponding to a particular dimension (i.e., a single dot called a toma for number, a single line called a blicket for length, and a single blob called modi for area). We then displayed arrays of dots, a large line, or a big blob on the screen, and asked participants to estimate how many of the particular unit could fit inside the stimulus shown (e.g., “How many blickets are there in here?”). In Experiment 2, a new group of participants was shown the same stimuli as in Experiment 1, however, rather than being given novel labels for the units, participants were instead asked to judge how many times greater the stimulus shown was compared to the standard unit shown (e.g., “How
many times longer was the line?"). We find the same patterns of estimation performance across experiments. Thus, despite potentially cuing participants to using particular strategies based on the task instructions (e.g., a ratio-comparison in Experiment 2), this does not appear to alter their estimation strategies. Nevertheless, we find that the strategy we use for estimating in number differs from how we estimate in length and area. Importantly, we also discuss why our evidence suggests that neither strategy (e.g., ratio-comparison or category-based) fully accounts for how people estimate, especially in length and area. We propose and discuss an alternative strategy based on these results (e.g., participants using something akin to an additive strategy in which they segment and “count” the smaller units within each stimulus). Give me your best es-TOMA-te: Exploring adult's estimation in number, length, and area. These findings contribute to our understanding of how we reason and make judgments about our worlds; we discuss these results within the broader context of how language and perception interact.

Presenter: Quinn (Cheng) Liu
Supervisors: Boaz Y. Saffer
**How Ethnicity Impacts Non-Suicidal Self-Injury**
Past research has identified that some behavioural characteristics of non-suicidal self-injury (NSSI), such as pain perception during self-harm, predicts NSSI severity and later mental health outcomes. However, there lacks research on relationship between ethnic identification and NSSI behaviours. The current study attempts to provide some understanding to this relationship by assessing 205 university students, who have engaged in at least one form of NSSI behaviours, with the Inventory of Statements About Self-injury (ISAS) and other clinical measures. The result shows that, despite many similarities, there are some significant behavioural differences, such as NSSI functions participants endorsed, between four ethnic identifications. In particular, between African American participants and other participants. Findings may have implication for further research and assessment of NSSI, especially the development of inventories that better assess NSSI functions for ethnic minorities.

Presenter: Rohin Gupta
Supervisors: Dr. Ara Norenzayan
**Religiosity and Acculturation: Effect of Acculturative Strategies on Religiosity in University Students**
Does acculturation change how religious a person is? There are many ways that acculturation can take place, but do all the different strategies have the same effect on the individual’s religiosity? If religions are shaped by the environment they develop from, their influence should weaken as they grow distant from their birthplace. Theories of acculturation and a history of studies provide the background for our study which examines the association between acculturation and change in religiosity. We use an online survey and several established religiosity and acculturation measures to correlate how the undertaking of acculturation mediates a change in religiosity. Participants (n = 3214) were drawn from a sample of undergraduates from the University of British Columbia. We observe a statistically significant, yet small correlation between acculturation and religiosity, and reflect on what this means for the state of current research on this topic and what must come next.

Presenter: Sarah Lim
Supervisors: Antonya Gonzalez & Dr. Andrew Baron
**Heroes & Villains: Developmental Differences in the Malleability of Implicit Racial Bias**
Previous research has indicated that implicit racial bias in adulthood is difficult to change. This noted resistance is particularly worrisome since an implicit preference for Whites over Blacks has widespread impacts within the healthcare sector, politics, and in everyday interactions. The current research (N = 432) directly compared the malleability of implicit pro-White, anti-Black bias throughout development.
(children 5-12 years old and adults) through two studies. In the first study (N=336), reduction of bias in children and adults was manipulated by providing brief exposure to counter-stereotypical exemplars (positive Black, negative White individuals) using a child-friendly story. Both children and adults were tested at two time points: immediately after recruitment and then an hour later, in order to determine whether this story could produce long term bias reduction. Following this intervention, although a decrease in children’s implicit bias was seen at both time points, no reduction in bias was found for adults. The second study (N = 96) aimed to disentangle the conditions necessary for bias change in adult subjects. Participants went through the same procedure as the first study and again were tested at two time points, however, explicit evaluative instructions were now included after reading of the story. With the introduction of these instructions, successful reduction of implicit racial bias in adults was shown for up to an hour. Taken all together, results suggest that implicit intergroup racial bias is malleable in both childhood and adulthood. However, explicit guidance on how to associate racial groups with specific judgements may be needed in order to see a decrease in bias for older participants.

Presenter: Shengxi Miao
Supervisors: Dr. Andrew Rivers

Verification of the Guessing (G) parameter in Multinomial Processing Tree (MPT model) on Weapon Identification Task (WIT)
The primary goal of this project is to investigate the different cognitive mechanisms that might account for the fact that stereotypes influence people’s judgment. The present work uses the Weapons task, which has been used to understand the racial bias associated with the detection of weapon, its real-world implication including to provide a theoretical foundation for the training of police officers to make a quick decision under an ambiguous and stressful situation. Researchers have used Multinomial Processing Tree (MPT) modeling to understand the cognitive mechanisms underlying weapon misidentification. The present project proposes that response bias, or guessing, might be an important cognitive mechanism that has thus far not been addressed in the literature. Before investigating guessing, it is necessary to test whether a modified MPT model can validly assess guessing behavior. In an experimental study, participants encountered a training session in the Weapons task that was designed to selectively influence people's guessing behavior. The data indicated that the MPT model was able to effectively account for changes in guessing behavior. This pattern of results provides validity for our interpretation of the MPT model generally, and for the response bias parameter of the model specifically. The implications of response bias on police decision-making are discussed in detail.

Presenter: Victoria Nguyen
Supervisors: Dr. Andy Baron & Drew Weatherhead

Social Cognition - Early evidence of children’s understanding of cues to cultural knowledge
Clothing is a critical way for us to communicate our identity to others. Recent research shows that girls and boys at the age of 4-6yrs use clothing to show their group membership and gender identity. However, do children recognize that clothing entails cultural knowledge? We analyzed two age groups (total N = 360): younger age group (3-4 yrs) and older age group (6-7 yrs).
In Experiment 1, children were taught about two different types of novel fruits. Each fruit had a detailed description of how people who eat the fruit should prepare and eat the fruit. Children were then introduced to a group of cartoon girls, half of which were wearing one outfit and the other half wearing a different outfit (Figure 1). They were then taught that one individual (Target Clothing) knows how to eat one of the fruits (Target Fruit). Children were then presented with four girls (2 wearing the same outfit as the Target Clothing, 2 wearing the other outfit) sequentially, and asked which of the two fruits she knows how to eat. Children were given a score of 1 if they selected the Target Fruit, and 0 if they picked the other fruit. Wilcoxon Sign Tests indicate that both younger and older children were more
likely to select the Target fruit when the girl wore the same outfit, $z = 4.063$, $p < .001$ and $z = 5.998$ respectively. In Experiment 2, the same design was used, but instead of the girls wearing the same outfit, they simply wore the same type of clothing (Figure 2). Wilcoxon Sign Tests indicate that older children were more likely to select the Target fruit when the girl wore the same outfit, $z = 5.298$, $p < .001$, whereas younger children were equally likely to pick the target fruit, $z = .224$, $p = .822$. This suggests that children become more sensitive throughout development to the role of clothing in cultural identity.

In Experiment 3, we wanted to ensure that children at both ages would use clothing type to infer social group membership. Using the same stimuli set from Experiment 2, we introduced children to one individual (Target Clothing) and then presented them with two other girls (1 wearing the same type of clothing as the Target Clothing, 1 wearing the other type of clothing), and asked which girl would the Target Clothing want to be friend with (Figure 3). Children completed 4 trials total. One Sample Kolmogorov Tests indicate that both younger and older children were significantly more likely to select the individual wearing the same clothing as the Clothing Target, $z = 1.601$, $p = .012$ and $z = 2.079$, $p < .001$ respectively.

Overall both younger and older age groups can use clothing as a cue to make inferences about people’s cultural knowledge. However, only older children appear to have a more nuanced understanding.

Presenter: Breanne Wood
Supervisor: Adri Khalis

**Does one’s culture, either individualistic or collectivistic, impact psychopathology symptoms associated with social networking site usage?**

In recent years, social networking sites (SNS) have become popular across the globe, with a majority of people turning to sites, such as Facebook, as a primary way of staying connected with others. Due to the prominence of SNS, there has been an increase in the amount of research that has looked at how SNS usage impacts psychopathology symptoms, such as depression and anxiety. One area of research that has not received a lot of attention is the impact that culture might have on social media usage and psychopathology outcomes. Seminal work by Hofstede (1991) suggested that cultures can be divided into two categories: individualistic or collectivistic (Jackson, 2006). Most of the research so far has looked at East Asian and Western Cultures. Generally, findings have suggested that East Asian cultures, such as China, are more collectivistic whilst Western cultures, such as America, may be more individualistic (Jackson, 2006). We use Facebook as the primary social media channel due to its prominence amongst SNS. Facebook newsroom states that Facebook’s goal is to give individuals the ability to build connections and bring the world closer together. It has been found that psychopathology symptoms do not depend on how often one uses the platform, but instead how the platform is used (Fardouly et al., 2015; Vogel, 2015; Haferkamp N, Kraemer NC., 2011). There are important cultural differences between individualistic and collectivistic culture’s social media usage. It has been found that those from individualistic cultures are more likely to post status updates, pictures, videos, or to use the platform as a means of self-promotion. Collectivist cultures are more likely to share links to useful information or support others by providing commentary (Qui et al., 2013). Those who use Facebook as a mechanism for staying in touch with friends and family, collaborating with others, and sharing stories enjoy the platform and have positive psychopathology outcomes. On the other hand, those who use the platform as a comparison tool or to feel envy will tend to experience negative psychopathology outcomes (Lin et al., 2016). Due to this, we hypothesize that those from individualistic cultures are more likely to be impacted negatively by psychopathology symptoms than those from collectivistic cultures. This study looks at incoming University of British Columbia (UBC) students from China and America. In particular, it looks at how Chinese and American students use Facebook and the possible resulting psychopathology symptoms. Results have not been analyzed at this time, but will be discussed on the
Poster. Possible limitations include findings not being able to be generalized to Facebook users outside of the population we looked at. In addition, the participants we looked at had only been at UBC for one month, which possibly restricts the range of variables we look at. In a month, it is possible that relationships with other university students have not formed yet and therefore possible negative relations are not seen on Facebook. Also, university related stress is normally not as high at the beginning of the semester and instead increases as more time passes. This could lead to the study missing negative emotions and psychopathology symptoms.

Presenter: Isabelle Gubas
Supervisor: Kristen Huden & Amori Mikami

**How teacher-student interactions affect teachers’ accuracy in rating student social status.**
A teacher’s ability to accurately assess how well liked or disliked a student is in their class has important implications for their role in shaping social relationships and maintaining a positive classroom atmosphere throughout the school year. This study aimed to understand how student and teacher variables affect teachers’ ability to accurately evaluate the social status of their students. Understanding potential biases and limitations on accuracy can assist teachers in this task. Participants were 12 teachers and 189 children (grades K-4) in 12 classrooms across sites in Vancouver, BC and Athens, Ohio. Teacher ratings of social status were compared to peer sociometric ratings at fall and spring time points, controlling for the effects of gender, ADHD symptoms, age and site differences. Preliminary results indicated a significant low to moderate overall correlation between teacher and peer reports, with substantial variability between teachers. Secondary analyses evaluated the role of additional variables on intraclass correlations. We found that some teachers accuracy decreased for based on gender, when controlling for ADHD symptoms, and identified differences between sites. Additional findings and implications will be discussed in the poster.

Presenters: Jasmeen Dosanjh
Supervisors: Todd Handy

**Examining physical activity mode and intensity on cognitive functioning in young adults**
The effect of physical activity (PA) on cognition has long been recognized. However, despite a well-documented PA-cognition association in older adults and children, the effect of PA on cognitive functioning in young adults remains unclear. Further complicating the PA-cognition association is that as research in this field has expanded, different methodologies, interventions, and cognitive assessments have led to a diversity of findings and inconsistent results. Diversity in the protocol of PA-cognition studies has made a direct comparison of results challenging because of the numerous known variables that moderate the PA-cognition relationship. In this study, we examine the PA-cognition relationship in young adults while accounting for other covariates known to moderate the PA-cognition association. The aim of this work is to address how some of the variances in findings is related to PA mode and intensity and to consider how an interplay between age, sex, physical fitness, and sleep alter those relationships. In addition, we examine two broad aspects of cognitive function, attention and working memory, in order to compare directly the effect of PA on cognitive performance. Statistical analysis showed that PA plays an important role in a subset of cognitive processes. Additionally, we demonstrate that PA modes and intensities differentially affected cognitive processes, such that particular combinations of mode and intensity benefitted cognition processes selectively. Further, we have confirmed the importance of sex as an influential predictor of cognitive performance. Despite assessing theoretically similar cognitive processes, it is evident from the differential findings that the neurophysiological effects of PA may achieve neurocognitive gains selectively. Generally, these results suggest that PA is predictive of cognitive performance on attentional tasks, but little evidence supports gains in working memory in young adults.
Perceived social support receipt and provision in stepfamily couples

Given the unique stressors specific to stepfamilies that include navigating new roles with stepchildren and new spouses, this paper examines predictive variables regarding marital satisfaction in these relationships. Specifically, this paper examines whether interaction effects exist between support receipt and support provision. In a sample size of 170 participants, the stepfamilies were (1) married or living together for a minimum of 2 years, (2) had at least one child from a previous union live in their home (3) both be fluent in English. Their marital satisfaction was measured using the Dyadic Adjustment Scale (DAS). We used hierarchical linear regressions to examine the predictive qualities of individually perceived social support receipt, individually perceived support provision, and perceived support provision of their spouse, in addition to potential interactions. Results suggest no significant interaction between support receipt and provision. However, support receipt shows significant predictive abilities in all the models we ran.

Effects of Scene Rotation on Gaze and Head Direction in Virtual Reality

A body of literature exists which indicates a directional bias in eye movements in a variety of different viewing conditions. These biases have been attributed to factors such as the structure of the musculature around the eye, low level features of images, and learned viewing patterns, but due to the typical constraints of laboratory testing, it is unknown whether these biases can be said to exist in a more natural viewing context. Virtual reality technology allows for the presentation of viewing conditions that more closely approximate natural contexts, with a high degree of experimental control. The present study aimed to investigate whether the same directional biases in eye movements found when tracking eye movements on a monitor can be observed in this more naturalistic virtual reality setting, and which features of images bring about these biases. Using a head-mounted virtual reality headset, thirteen participants were shown full 360-degree images of both computer-generated fractals and landscape scenes at varying levels of rotation. It was found that the frequency of eye movements of different directions was influenced by both stimulus type and rotation, indicating that directional biases found in previous eye tracking experiments may translate to more naturalistic viewing settings. Additionally, participants rotated their heads as a function of image rotation when presented with landscapes, but not fractals, suggesting a role of head movements in directional scene viewing biases.

Sharing (Values) is Caring: Testing the Efficacy of a Shared Values Affirmation for Facilitating Intergroup Contact Between Men and Women in STEM

Affirming values and fostering intergroup contact is important for reducing threat. We tested these points in tandem through a new shared values affirmation intervention. N = 170 STEM professionals were asked to imagine having a dialogue about implicit gender bias with a partner (same- and cross-gender) who either (1) shared their core values, or (2) did not share their core values in the context of a workshop on inclusion and diversity. Results revealed that, for both men and women, imagining a conversation about implicit gender bias with a same- or cross-gender partner who shared (vs. did not share) their core values predicted lower social identity threat. Lower social identity threat, in turn, predicted lower intergroup anxiety and avoidance. These findings suggest that affirming shared values can buffer against concerns of being evaluated on the basis of one’s social identity, which then
predicts reduced intergroup anxiety and avoidance. These findings add to our understanding of the role of core values in facilitating intergroup contact and encouraging dialogue around topics such as implicit gender bias. Further research will test this paradigm during in-person interactions.

Presenter: Monique Tang
Supervisor: Dr Kiley Hamlin

A look into: 10-month-old infants' social evaluation of truly accidental and negligently accidental helpers and harmers

Research suggests that when children are confronted with a situation that involves assigning blame, children assign blame on the basis of outcome rather than intention, even if harm was done accidentally. This contrasts with adults who readily assign blame on the basis of intention. To further explore this difference, we examined the role of intentional and accidental evaluations of helpful and harmful actions, with 10-month-old infants, a preverbal group that has not been examined in this context before. We used a puppet show setup in which infants saw familiarization trials of one protagonist that was helped or harmed by actors and were then presented a choice between the two harming or helping actors from the puppet show that were intentional or truly accidental in Experiment 1, intentional or negligently accidental in Experiment 2 and truly accidental or negligently accidental in Experiment 3. When infants were shown intentional and truly accidental actions by helpers and harmers in Experiment 1, infants preferred intentional helpers rather than truly accidental helpers, and also preferred truly accidental harmers rather than intentional harmers. When infants were shown intentional and negligently accidental acts in Experiment 2, infants did not show a significant preference. When infants were shown truly accidental and negligently accidental acts in Experiment 3, infants showed a preference for truly accidental over negligently accidental harmers only. The results showed that 10-month-olds completing social evaluations are responsive to intent, may think of negligent acts to be similar to intentional acts, and are especially reactive to negligence when it is combined with a harmful accidental act. Thus, it is suggested that the social evaluations of accidents in 10-month-olds are intention-based with the exception of when negligent accidental acts are involved. Due to the unexpected asymmetry observed in Experiment 3, the current study was conducted to replicate Experiment 3 to determine if the asymmetry holds.

Presenter: Naima Mansuri
Supervisor: Dr. Lawrence Ward

Phonological Mismatch Negativity

Given the “replication crisis” in psychology, it is necessary to replicate important experimental results in psychology. In order to replicate the results of Connolly et al. (1992) on semantic and phonological processing, we used electroencephalography (EEG) to record the brain activity of 21 subjects as they listened to spoken sentences (576 in all) across four conditions. We manipulated the terminal words in the following conditions: congruent - the terminal word was both semantically and phonetically appropriate for its preceding sentence; low-cloze: the terminal word had a less obviously appropriate but plausible meaning given the preceding sentence; phonofoil: the leading phoneme matched a semantically appropriate terminal word, but in fact was semantically inappropriate; incongruent: the terminal word was both semantically and phonetically inappropriate. We computed peak amplitudes of two event-related potentials (ERPs), the N400 elicited by semantic surprise (incongruent or phonofoil minus congruent), and the phonological MMN elicited by a mismatch between the expected first phoneme of the terminal word and the one that actually occurred (incongruent or low cloze minus
congruent). With some small differences the results were consistent with those of Connolly et al. (1992) indicating that these are robust effects of language processing.

Presenter: Nick Kay
Supervisor: Dr. Kristin Laurin & Holly Engstrom

Social class and meta-perception: How socioeconomic status affects how we think others perceive us and why it matters

Social class divisions are a persistent problem throughout the world. Past research has focused on structural advantages possessed by people with high socioeconomic status (SES), whereas less is known about psychological factors affecting inequality. The present research investigates differences between social classes in meta-perceptions — perceptions of how one is seen by others — and the behavioural effects of these differences. Two studies were conducted in which American participants (N = 701) had an online conversation with another participant. Participants reported their SES and their meta-perceptions of their conversation partner. In Study 1 there were two conditions; participants bet money on whether their conversation partner would choose to have a second conversation with them, or on the outcome of a coin flip. This allowed us to assess participants’ risk-taking in both interpersonal and non-interpersonal contexts, and examine how this measure related to SES and meta-perceptions. Although high SES participants had more positive meta-perceptions and made larger bets, there was no effect of condition. In Study 2, we told all participants that their partner had not chosen them for a second conversation, and asked them to attribute blame for this rejection to: themselves, their partner, or other external factors. Low SES participants were more likely to blame themselves, and this effect was mediated by their lower meta-perceptions. These results demonstrate SES-related differences in meta-perceptions and suggest consequent differences in responses to rejection in interpersonal contexts.

Presenter: Ruze Guvenc
Supervisor: Jennifer Na

Relationship between self-esteem and stigma towards individuals with bipolar disorder

Research on public stigma of mental illness have demonstrated that stigma negatively influences attitudes toward treatments and treatment seeking behaviours, is associated with more severe symptoms and general impairment, including social withdrawal and social anxiety. When examining potential stigma reduction interventions, factors that might contribute to stigma should be taken into consideration to improve intervention outcomes. Such individual factors that may influence one’s stigma toward mental illness include age and familiarity with the disorder. Studies have found that increased familiarity with the disorder is associated with less stigma towards individuals with that disorder and that explicit stigma decreases with age (Link & Cullen, 1986; Lee & Seo, 2018; Anagnostopoulos & Hantzi, 2011; Powell, 2014; Baron & Banaji, 2006). This study explored state self-esteem and self-compassion as potential predictors of stigma towards individuals with bipolar disorder. Low personal self-esteem has shown to be correlated with more discriminatory behaviours towards outgroup members: more negative evaluations of others regardless of group identification, less acceptance of others (Jelic, 2009; Crocker, McGraw, Thompson, & Ingerman, 1987; Rumsey, 2000). Alternatively, self-compassion has been proposed as a construct similar to self-esteem that is less dependent on external factors and is more stable over time (Neff, Kirkpatrick, & Rude, 2007; Neff, 2003; Neff, 2011; Neff, Rude, & Kirkpatrick, 2007). In this study, participants first completed a measure of state self-esteem and self-compassion. Then, participants read a vignette describing a hypothetical individual with bipolar disorder and then completed a battery of questionnaires and tasks to measure their implicit and explicit stigma towards that individual. The results suggested that there was no significant relationship between an individual’s self-esteem and their explicit and implicit stigma towards an
individual with bipolar disorder. However, there was a significant relationship between self-compassion and some indices of explicit stigma, suggesting that self-compassion may be a more relevant factor to consider when discussing the relationship between an individual’s perceptions of self and their stigma towards an individual with a mental illness.

Presenter: Wai Kiu Leung  
Supervisors: Dr. Steven Heine and Dr. Benjamin Cheung  
**How would genetic essentialism influence our educational decision relative to one’s learning style**  
The essence of study in social interaction lies within the cause of human behavior – i.e. we are motivated to explain other’s behavior and what precedes their doing. Evidence suggests that by attributing traits to genetic origin leads people to believe the target behavior as deterministic and fatalistic, exaggerating the role of gene amongst all other factors. This ideology is known as genetic essentialism. The goal of our experimental study is to explore how our perception about genetic or environment determinants contribute to our educational decisions. Through priming our subjects with either genetic or environment attributions, we hypothesize that attributing gene as a stronger predictor in our learning style would prompt them in choosing their learning aid according to the meshing/matching hypothesis – which is the theory that one learns optimally when taught based on their preferred or matched learning style (i.e. visual learners learn best when they receive visual learning aids like posters, charts etc.).

Presenter: Lior Torgeman, Alex Lenardon, Saskia Drayer, Mia Wang and Madeleine Wong **217 WINNER GROUP**  
Supervisor: Madison Elliott  
**The Effects of Branding on Taste Perception**  
The purpose of this experiment was to investigate the effects of branding on taste perception. The researchers hypothesize that those who believe they are ingesting the well-known and marketed brand name cookie (Oreo) will rate them higher on the scale of preference than those who believe they are ingesting a comparable generic brand cookie (Mr. Creamy). Participants were required to eat cookies from the name brand (Oreo) and generic brand (Mr. Creamy) and asked to self-report their taste perception. The Oreo cookie itself was kept the same, the only thing that varied was the packaging. The experimental design is counterbalanced in order to assess for possible order effects. The analysis of our results showed a marginal variation in the overall ratings of each cookie; it also showed a large order effect in the sequence of cookies. The study was unable to produce results to support the hypothesis. However, the findings suggest an order effect that is congruent with research findings of diminishing satisfaction elicited from repeated consumption of sweet foods (Pepino & Mennella, 2012). This prompts future researchers to consider the potential influence of order effects on perception of sweetness.

Presenter: Sabrina Ge, Nilgoun Bahar, Mark Peterson, Stefany Baskett and Tracy Tien  
Supervisor: Dr Andrew Rivers  
**Virtual Reality and Education: Assessing the Impact of Google Cardboard on Student Learning and Engagement**  
Virtual Reality (VR) actively engages its users in a 360 immersive experience (Lee et al., 2017). We hypothesized that a Google Cardboard VR headset can increase students’ understanding and retention of information presented (Bruner, 1966), and would therefore be a more effective learning tool than a laptop screen. 32 undergraduate psychology students were randomly assigned to watch a video in VR or
on a laptop, then asked to fill out the Web-Based Learning Tool Evaluation (WBLTE) Scale (Kay, 2011). Participants in VR reported higher ratings on the WBLTE Scale than participants in the 2D condition, particularly on Engagement measures. VR presents a unique solution to students’ lack of engagement in large classrooms by providing them with an engaging form of knowledge delivery.

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