Brian Harder

Honours Day Conference

Thursday, 10 April 2014
Centennial Centre for Interdisciplinary Science (CCIS), 1-160

Keynote Address, 11:00am - Noon
Dr. Ian Whishaw
Professor, Department of Neuroscience
Faculty of Arts & Science, University of Lethbridge

Oral & Poster Presentations:
Psychology Honours Program
CCIS 1-160 & CCIS Atrium

Brian Harder

Emerging from a small rural community and influenced by the Mennonite Brethren, Brian began his academic career at the University of Alberta in 1984. In his second year he majored in Drama, which likely reflected his continuing interest in creativity and creative expression. After his second year, Brian decided to travel for a year. He frequently sought out situations he knew would challenge his personal philosophies and resourcefulness; so he undertook the journey alone. He visited Europe and the Middle East and was particularly enamoured of Turkey.

In 1987 he entered the Psychology undergraduate honors program and graduated with first class standing in 1989. He married Joan Fitzpatrick in July of that year. He began his graduate studies at the University of Alberta in September 1989 and was studying dreams and the psychology of self with Professor Don Kuiken.

Brian died in July 1990 of a brain aneurysm at the age of 28. Many were shocked at Brian's untimely death. However, Brian knew he was at risk; he had already survived one aneurysm a number of years earlier. But Brian chose to live life in a way that was most meaningful to him. He was a thoughtful and contemplative individual, as much a philosopher as a psychologist. He often chose to ask the most difficult questions both of himself and of others. As a consequence, he encouraged others to think deeply about those things that matter most.

Brian Harder Honours Day Conference Itinerary

9:00am – 10:45am
CCIS 1-160

Oral Presentations
By 3rd year Honour Students

11:00am – Noon
CCIS 1-160

Keynote Speaker, Dr. Ian Whishaw
Professor, Department of Neuroscience
Faculty of Arts & Sciences, University of Lethbridge

Noon – 1:15pm
CCIS Atrium

Poster Presentations
By 4th year Honours Students
Pizza Lunch

1:30pm – 4:45pm
CCIS 1-160

Oral Presentations
By 3rd year Honours Students

Keynote Speaker

Dr. Ian Whishaw

Professor, Department of Neuroscience
Faculty of Arts & Sciences, University of Lethbridge

11:00am, CCIS 1-160

Abstract

How Touch Becomes Vision

We humans are visual animals, as are all primates. We look when we pick things up. In this talk I will describe the behaviours that collectively comprise reaching and I will describe how these behaviours evolved from touch. In the talk I will emphasize why the careful and imaginative description of behaviour is essential for coming to an understanding of why our brain is organized the way it is and why we see to reach the way we do.

Biography

Ian Whishaw received his Ph.D. from the University of Western Ontario in 1971. He moved to the University of Lethbridge in 1970, where he is currently a Professor of Neuroscience. He has had visiting appointments at the University of Texas, the University of Michigan, Cambridge University, and the University of Strasbourg, France. He is also a Fellow of Clair Hall, Cambridge. His current research examines how the precise details of bodily movements are influenced by injury or disease to the motor systems of rodents and humans, and the neuroanatomical basis of gesturing. Whishaw is a Fellow of the Canadian Psychological Association, the American Psychological Association, and the Royal Society of Canada. He is a recipient of a bronze medal from the Canadian Humane Society, a recipient of the Ingrid Speaker Medal for research, a recipient of a 2009 Alberta Science and Technology "Outstanding Leadership in Alberta Science" award, and is president of NeuroInvestigations, Inc.

Oral Presentation

Schedule

Time	The Presenters 3rd Year Department of Psychology Honours Students
9:00am	**Tieghan Baird**, Supervisor: Dr. Sandra Wiebe *The correlation between working memory and language development*
9:15am	**Nina Bozic,** Supervisor: Dr. Elena Nicoladis *What factors predict play skills and peer status in at-risk children?*
9:30am	**Janel Comeau,** Supervisor: Dr. Peter Hurd *Stress Coping Styles and Aggression*
9:45am	**Sayeed Devraj-Kizuk,** Supervisor: Dr. Anthony Singhal *Effects of emotional distraction on target processing in adolescents with clinical affective and attentional disorders: a simultaneous EEG/fMRI study*
10:00am	**Jonathan Dubue,** Supervisor: Dr. Clayton Dickson *ANI are you okay? The effects of the protein synthesis inhibitor anisomycin on online brain function.*
10:15am	**Lauren Elcheson,** Supervisor: Dr. Kimberly Noels *Gender differences in motivation for second language learning.*
10:30am	**Lauren Emery,** Supervisor: Dr. Wendy Hoglund *The Role of Hostile Attribution Biases and Empathy on Children's Experiences of Peer Victimization.*

Oral Presentation

Schedule continued…

Time	The Presenters 3rd Year Department of Psychology Honours Students
1:30pm	**Emma Frieser,** Supervisor: Dr. Dallas Treit *Contrasting effects of histamine and theta suppression in the dorsal and ventral hippocampus.*
1:45pm	**Brandon Hauer,** Supervisors: Dr. Tom Spalding & Dr. Christina Gagné *Consolidation of contextual salience: Durability of past exposure in the language system*
2:00pm	**Cassandra Husband,** Supervisor: Dr. Peter Hurd *Brain lateralization related to Schizophrenia and Autism, as measured by Handedness and Footedness.*
2:15pm	**Rachelle Lavoie,** Supervisors: Jeff Schimel & Jamin Blatter *Overcoming the white bear: The advantages of pursuing self-esteem relevant goals*
2:30pm	**BREAK**
2:45pm	**Nuha Mahdi,** Supervisor: Dr. Marcia Spetch *The effect of music tempo on gambling behavior*
3:00pm	**Yondu Mori,** Supervisor: Dr. Jeremy Caplan Associative interference: the effect of contextual separation on AB/AC and AB/BC learning
3:15pm	**Jasmine Nathoo,** Supervisor: Dr. Sheree Kwong-See *Effects of Patronizing Talk on Older Adults' Memory and Self-Perceptions of Aging*
3:30pm	**Zainab Sari,** Supervisor: Dr. Marcia Spetch *The Affect of Mood on Risky Decision Making*
3:45pm	**BREAK**
4:00pm	**Danielle Smith,** Supervisor: Dr. Wendy Hoglund *Understanding Peer Aggression: The role of empathy and aggressive social cognitions on peer aggression*
4:15pm	**Auriele Volk,** Supervisor: Dr. Sandra Wiebe *Parent-Child Relations in the Development of Self-Regulation Between Preschool and Kindergarten*
4:30pm	**Josh Yong,** Supervisor: JF Nankoo, Dr. Marcia Spetch, Dr. Chris Madan *Effects of Social Winning Cues on Gambling Behaviour*
4:45pm	**Nicola Zelazo,** Supervisor: Dr. Wendy Hoglund Models Relating the Subtypes of Peer Victimization to Internalizing Symptoms

Oral Presentations

Abstracts

Tieghan Baird
Supervisor: Dr. Sandra Wiebe

The correlation between working memory and language development

Baddeley (2003) hypothesized that the phonological loop has evolved in order to facilitate the acquisition of language. Children with specific language impairments tend to perform poorly on phonological working memory tasks (Gathercole & Baddeley, 1990), whereas typically developing children perform much better on similar tasks (Adams & Gathercole, 2000). The present study will investigate the relationship between working memory and language development in children ages 4 to 7. As part of a larger study of executive function development, participants will complete two working memory tasks, one placing stronger demands on phonological memory and the other visuospatial memory. Children will also compete a receptive vocabulary task and parents will report when their children attained key language milestones. I predict that correlations between measures of working memory and language will be stronger for phonological than visuospatial measures. Age effects will also be examined to investigate if the correlations persist across the age range, or if there are stronger correlations in younger children than old.

Nina Bozic
Supervisor: Dr. Elena Nicoladis

What factors predict play skills and peer status in at-risk children?

Research has shown that pretend play negotiation skills are linked with higher peer status in school-aged children. In mixed socioeconomic groups, at-risk children typically have poorer play skills and are considered less popular by their peers. We will investigate a group of at-risk children alone, aged roughly 4-5 years old, to determine what factors affect variability in pretend play skill and peer status within this group. We will observe the children during pretend play sessions and record the type of language used during negotiation, then investigate the correlation between negotiation style and peer status. We predict that more popular children will exhibit a certain type of speech during negotiation that is more conducive to continuing play: commands, suggestions, and requests for clarification of other's suggestions. We will then investigate the correlation between a variety of factors and both pretend play skill and peer status; these variables include temperament, vocabulary, and parental disciplinary style. We predict that less popular children will have poorer vocabularies and more aggressive and/or hyperactive temperaments than well-liked children. We also predict that less popular children will have parents who employ an authoritarian disciplinary style.

Oral Presentations

Abstracts

Janel Comeau

Supervisor: Dr. Peter Hurd

Stress Coping Styles and Aggression

The way that you cope with stress can impact many different aspects of your life – does it also impact how aggressive you are? Currently, this topic has mostly been explored in animal research trials that do not represent the ways that humans handle stress. This study will examine the relationship between human stress coping styles and direct aggression. To test this, we administered questionnaires to undergraduate students at the University of Alberta. In order to evaluate each individual's coping style, participants were asked to complete the COPE Inventory, a fine-grained questionnaire that weights participants on thirteen independent coping styles. To look at direct aggression, we gave students the Buss Perry Direct Aggression Questionnaire, which explores the thoughts and actions that surround visible forms of aggression. The results of these questionnaires will be tabulated and statistical tests will be used to determine the relationship between each stress coping style and imeasures of direct aggression.

Sayeed Devraj-Kizuk

Supervisor: Dr. Anthony Singhal

Effects of emotional distraction on target processing in adolescents with clinical affective and attentional disorders: a simultaneous EEG/fMRI study

Emotional self-regulation appears to be impaired in patients with attentive and affective clinical disorders. Early indicators of emotional *dys*regulation are correlated with later reports of difficult behaviour, and is a common feature of child psychopathology. Earlier studies found that behavioural measures are faster and early and late electrophysiology measures are more pronounced for emotional, especially fearful, pictures when participants complete a cognitive task using IAPS Stimuli as distractors, suggesting increased processing and perceptual salience of certain emotional information for clinical populations. The present study will further examine this effect by varying the time between the emotional stimulus and the target, to better elucidate the effect's time-course. Electrophysiology measures changes in electric potential at the scalp caused by neural activity over a very precise time scale, but is highly inferior to functional (fMRI) methods for determining spatial location. We will be co-registering EEG and fMRI data in order to achieve a combined temporal and spatial measure of the activity. This technique will allow a more complete picture of the neurological correlates of the observed activity. Varying the time course will answer the question of whether different effects across the temporal scale are represented in the same or in different brain areas.

Oral Presentations

Abstracts

Jonathan Dubue
Supervisor: Dr. Clayton Dickson

ANI are you okay? The effects of the protein synthesis inhibitor anisomycin on online brain function.

Although the role of protein synthesis in memory consolidation has achieved axiomatic status based mainly on the ability of translational inhibitors to hinder future long-term retrieval, recent research suggest that these inhibitors may have other neurobiological effects. Evidence demonstrating suppression of evoked and spontaneous neural signalling caused by protein synthesis inhibitors, such as anisomycin and cycloheximide, has elicited more questions about the specific utility of these drugs. To evaluate the specific utility of protein synthesis inhibitors in memory research, we plan to assess the online electrophysiological and behavioural effects of direct intracranial infusions of anisomycin. We will make unilateral infusions directly into the hippocampus of rats while recording local field activity bilaterally and we expect to see evidence of electrical inactivation specific to the infusion. In a similar way, we will make bilateral intra-hippocampal infusions and we will assess the ability of rats to learn (and re-learn) spatial tasks such as the circular water maze. These results will clarify the influence of translational inhibitors in terms of online brain function.

Lauren Elcheson
Supervisor: Dr. Kimberly Noels

Gender differences in motivation for second language learning.

Although gender differences in verbal skills favour females, these differences are quite small. Nonetheless, girls' self-concepts are more tied to verbal related skills, resulting in higher achievement on tasks related to those abilities, whereas boys' self-concepts are more tied to analytic or mathematical skills. Perhaps unsurprisingly then, enrollment in university second language courses are often dominated by female students. The present study seeks to better understand men and women's beliefs about and motivation for learning second languages by comparing students of both genders who are currently taking a second language course and those who are not. It is hypothesized that, based on existing stereotypes about men and women's verbal abilities, women will be perceived as more competent, more likely to possess an incremental theory of their language learning ability, more self-identified as language learners and more motivated to learn a second language. We expect participant gender identity to moderate this difference such that more gender-typed people will see greater contrasts between male and female language learners. If such differences are found, it would behoove researchers to pay greater attention to how gender relates to language learners' beliefs, identity and motivation. Practical implications could include classroom instruction that seeks to change these gender-typed beliefs and self-concepts.

Oral Presentations

Abstracts

Lauren Emery
Supervisor: Dr. Wendy Hoglund

The Role of Hostile Attribution Biases and Empathy on Children's Experiences of Peer Victimization.

Peer victimization is experienced by most children at some point (Card & Hodges, 2008). Peer victimization refers to the receipt of physical (e.g., bodily harm), relational (e.g., gossip), or verbal (e.g., name calling) aggression from peers. Lemerise and Arsenio's (2000) social-emotional information processing model suggests that children who experience negative peer interactions, such as being victimized, may come to hold hostile attribution biases and perceive peers' ambiguous actions as intentionally malicious. In turn, these hostile attribution biases may hinder children's ability to relate to peers and compromise their development of empathy (supporting a victimization-driven model). Conversely, children with higher empathy may be more likely to attribute more positive intentions to peers' ambiguous actions because they have a better ability to infer their peers' emotions and consequently may experience less victimization over time (supporting an empathy-driven model). Different subtypes of peer victimization relate differently to children's levels of empathy and hostile attributions. Verbal and physical victimization may be most salient for the development of empathy due to their direct nature (Kokkinos & KIpritsi, 2012). The proposed study examines the victimization-driven and empathy-driven associations described above with a sample of kindergarten to grade three children.

Oral Presentations

Abstracts

Emma Frieser
Supervisor: Dr. Dallas Treit

Contrasting effects of histamine and theta suppression in the dorsal and ventral hippocampus.

The hippocampus has been implicated in a variety of behaviours, as well as in memory function. A functional dissociation is evident along the dorsal-ventral axis, such that the dorsal regions are implicated in memory function while ventral regions mediate emotional function, especially anxiety or fear. Evidence of this apparent dissociation is only correlational and dependent on the electrophysiological effect of benzodiazepine anxiolytic drugs (e.g. diazepam) given peripherally. These therapeutic compounds reliably suppress hippocampal theta rhythm (3-14 hz). This effect has been replicated a number of times, and in a number of different laboratories, and has become known as the "theta suppression model" of anxiolytic drug action. By exploring the theta suppression model further, we can potentially determine its usefulness as a screen for novel anxiolytic drugs. The present experiments provide more rigorous tests of the theta suppression model and apparent functional dissociation between dorsal and ventral regions of the hippocampus, using histamine, a drug not known to contain anxiolytic potential.

Brandon Hauer
Supervisors: Dr. Tom Spalding & Dr. Christina Gagné

Consolidation of contextual salience: Durability of past exposure in the language system.

Context has a substantial effect on how language is processed. Past exposure to a given phrase has a direct impact on how a similar phrase will be processed in the future. While this effect can be facilitative, past research has demonstrated that modifying a concept can serve to interfere with and slow reaction times for a second presentation of that concept (Gagné & Spalding, 2007). However, the durability of this contextual influence has not yet been demonstrated for anything longer than immediate, short-term memories. This study therefore contrasts reaction times to the second presentation of a phrase between immediate responses, and responses delayed by several intervening phrases. Whether contextual salience is being consolidated into long-term memory will then be directly observable as a function of response time. If reaction times are the same for both the delayed and non-delayed conditions, then context is remaining salient in memory irrespective of where it is stored in memory. If reaction times differ, as I expect them to, then it is apparent that contextual consolidation is not occurring. Both results have fascinating implications for the operation of the language system.

Oral Presentations

Abstracts

Cassandra Husband

Supervisor: Dr. Peter Hurd

Brain lateralization related to Schizophrenia and Autism, as measured by Handedness and Footedness.

This study seeks to discover whether brain lateralization, measured through handedness and footedness preferences, has a relationship to measures of schizophrenia and/or autism. Previous correlation studies have found significant relationships between atypical handedness and both schizophrenia and autism, however, many other studies have concluded null results regarding the same concept. I am using a self report questionnaire to test 300 participants on measures of handedness, footedness, schizotypy and autism. I intend to increase the already expansive body of knowledge on the way handedness correlates to schizophrenia and autism, as well as add to the growing data pool concerning footedness correlations with these disorders. Increased knowledge about the relationship between these disorders and brain lateralization will lend the scientific and common community increased awareness on viable methods of early diagnosis, and possible ideas for treatment.

Rachelle Lavoie

Supervisors: Jeff Schimel & Jamin Blatter

Overcoming the white bear: The advantages of pursuing self-esteem relevant goals

The proposed study will examine the role of self-esteem motivation in people's ability to exert self-control. Prior research has shown that people possess a limited pool of self-control resources, and once that pool becomes depleted, individuals are left in a state of ego-depletion where it becomes more difficult to exercise self-control. However, research has also found that when people are highly motivated to do well on a self-control task (e.g., to obtain a reward), they can muster the necessary resources to perform well despite being ego-depleted (Muraven & Slessareva, 2003). We therefore developed the hypothesis that motivation to pursue a self-esteem relevant goal would override the effects of ego-depletion. To test this hypothesis, participants' level of ego-depletion will be manipulated such that half will be placed in a state of ego-depletion while the other half will not. Next, they will complete a self-control task that involves constructing food packages. The task will be framed as self-esteem relevant (the food packages will be donated to the needy) vs. irrelevant (the packages will not be donated). When the task is framed as irrelevant to their self-esteem, we expect individuals in a higher state of ego-depletion to perform worse. However, when the task is framed as self-esteem relevant, we expect performance on the task to increase despite high levels of ego-depletion.

Oral Presentations

Abstracts

Nuha Mahdi
Supervisor: Dr. Marcia Spetch

The effect of music tempo on gambling behavior

In this study, we will examine the influence of background-music tempo on gambling behavior and compare participants' risk preference when they are presented with fast or slow music. Additionally, we will separately test for the effects of music tempo on two types of decision making: In a described condition, participants will be provided the probabilities of each outcome when making choices between gaining and losing different amounts of points. In the experienced condition, participants must instead learn the probabilities through experiencing the outcomes to their choices. Here, our task will present two doors on a computer screen and will allow participants to select either a risky door that probabilistically leads to different outcomes or a safe door that has a guaranteed outcome. By examining both of these conditions, we can further understand how music tempo influences risk preferences.

Yondu Mori
Supervisor: Dr. Jeremy Caplan

Associative interference: the effect of contextual separation on AB/AC and AB/BC learning

Misplaced items, such as a cell phone, can be represented in different associations such as PHONE-BAG or PHONE-POCKET. Memories for these locations may compete with each other and create frustration in trying to locate the item. This study examines how associative interference in double function (A**B**/**B**C) and **A**B/**A**C word pairs is affected by the common item's location (A or B, respectively) and the contextual separation of word pairs during learning and recall. We hope to further existing models of association memory and better understand the challenge and resolution of associative interference, using two between-subject factors of word pair type (AB/AC or AB/BC) and lists (1 or 2). We will calculate the correlation between recalling the target words (BAG or POCKET) using the recall accuracy data from modified modified free recall (MMFR).We hypothesize greater associative interference in one list conditions compared to two lists because only interfering within-list contextual cues may be used to differentiate word pairs for accurate recall. Also for the effect of double function pair structure on associative interference we have two predictions, a non-significant difference may result between recalling **A**B/**A**C and A**B**/**B**C pairs if the common item's location is not a strong factor. However, greater associative interference may result in AB/BC learning because the ambiguous item (B), in a response and stimulus position, creates interference from the forward and backward associate. From these results we hope to understand the factors involved in resolving associative interference.

Oral Presentations

Abstracts

Jasmine Nathoo

Supervisor: Dr. Sheree Kwong-See

Effects of Patronizing Talk on Older Adults' Memory and Self-Perceptions of Aging

Stereotypes about aging can influence older adults' self-perceptions and behaviour through the self-stereotyping mechanism. As a result, priming age-related words can affect older adults' performance on cognitive tasks including tasks of memory. Age stereotypes also affect intergenerational interactions, as younger adults may rely on stereotypes when communicating with older adults as opposed to drawing on information about the abilities of their conversation partner. However, little is known about the effects of patronizing talk on older adults' cognitive performance. This study examines the impact of patronizing talk on older adults' memory and self-perceptions of aging, exposing older and younger adults to either patronizing or neutral talk during a referential communication task. Participants will subsequently complete measures of memory based on the false memory paradigm and misinformation paradigm, and measures of self-perceptions of aging. I expect that young adults in the experimental and control conditions will not differ on these measures, but older adults will show poorer memory and more negative self-perceptions of aging when exposed to patronizing talk as opposed to neutral talk.

Zainab Sari

Supervisor: Dr. Marcia Spetch

The Affect of Mood on Risky Decision Making

This study will examine the affect of mood on risky decision-making. Previous research has found that participants in the positive mood condition tended to be more risk averse than participants in the negative mood condition. While participants in the negative mood condition were more risk seeking. In our study, we would like to understand the influence of mood on risky decision-making. Furthermore we would like to specifically how positive, negative or neutral mood conditions will influence decision-making. This study will use images to induce negative, positive, or neutral mood conditions. The decision-making task in our study will consist of both descriptive and experience decision-making tasks. We would like to examine how mood influences both tasks as they both differ in their nature. Previous study on the description-based decision making tasks finds that participants doing the description-based condition are risk-seeking for losses and risk-averse for gains. The participants doing the experience-based trials were risk-seeking for gains and risk-averse for losses. The description-based task in this study will provide the probabilities and the amounts of points they could gain or lose to the participants. In the experience-based task, the participants have two choose between two doors. In the experience based task, the participants do not know the probabilities and must learn the probabilities of gaining or losing a certain amount of points along the trials.

Oral Presentations

Abstracts

Danielle Smith

Supervisor: Dr. Wendy Hoglund

Understanding Peer Aggression: The role of empathy and aggressive social cognitions on peer aggression

Peer aggression is a risk for several negative outcomes in childhood such as rejection by peers (Vaillancourt & Hymel 2006). Peer aggression refers to behaviours that purposefully harm another child (Anderson, & Bushman, 2002). There are three main subtypes of peer aggression: physical (e.g., hitting or kicking), verbal (e.g., yelling) and relational (e.g., spreading lies about a child). Children who use these different subtypes of aggression often differ in their motives and their cognitive and emotional processing of social interactions (Joliffe & Farrington, 2006). According to Crick and Dodge's (1994) social information processing (SIP) model, children's social actions are influenced by their ability to understand social interactions and enact adaptive responses in the interaction.. Lemerise and Arsenio (2000) theorized that children's emotions also affect a child's understanding of and responses in social interactions. Accordingly, it is known that children with aggressive social cognitions are at risk for aggressive behaviour but few studies have examined the additive contribution of both cognitive and emotional processes to aggression in young children. The present study examines the additive effects of aggressive social cognitions and empathy to prospective levels of subtypes of peer aggression among children in kindergarten to grade three. It is expected that empathy and aggressive social cognitions will additively contribute to prospective levels of peer aggression such that children who show lower levels of empathy and higher levels of aggressive social cognitions will show higher prospective levels of peer aggression. It is further expected that these associations will be strongest for physical aggression and weakest for relational aggression.

Auriele Volk

Supervisor: Dr. Sandra Wiebe

Parent-Child Relations in the Development of Self-Regulation Between Preschool and Kindergarten

Self-regulation in early childhood develops immensely between preschool and kindergarten. However, it is unclear as to the effect the parent-child relationship has on self-regulation in low-SES, high-needs populations. Participants in this study will consist of children in preschool and kindergarten enrolled in the ABC Head Start intervention program. Using a cross-sectional design I will analyze the relationship effect between parent-child dyad and the difference in self-regulation between preschool and kindergarten. Self-regulation will be measured using a go/no-go task adapted for children (Wiebe, Sheffield, & Espy, 2012; adapted from Simpson & Riggs, 2007). Parenting effects will be measured using self-report methods. I hypothesize that child participants with greater parental sensitivity will produce more self-regulation, after controlling for age, gender, and demographic variables. This study will shed light on how parent-child relationships can bolster self-regulation in low-SES, high-needs populations.

Oral Presentations

Abstracts

Josh Yong
Supervisor: Jean Francois Nankoo, Dr. Marcia Spetch, Dr. Chris Madan

Effects of Social Winning Cues on Gambling Behaviour

Risky decisions are made based on information gained from either experienced outcomes or described options. Using a description-based approach, studies have demonstrated that people make riskier choices in a gambling context when in the presence of others. However, it is unknown whether similar behaviour would be observed if information is obtained through experience. Therefore, we will investigate how social winning cues may influence people's behaviour in an experience-based gambling task that involves betting. In our study, participants will place bets on virtual slot machines and they will receive audio-visual feedback for wins. We will measure both risk preference (proportion of choices on risky slot machines) and betting behaviour (amount bet per choice). To test the effects of social winning cues, we will present simulated audio-visual feedback indicating when others have won a jackpot (i.e., the maximum amount of points that can be won from one choice). Based on the evidence from description-based studies, we predict that social winning cues will make participants place higher bets and choose riskier machines.

Nicola Zelazo
Supervisor: Dr. Wendy Hoglund

Models Relating the Subtypes of Peer Victimization to Internalizing Symptoms

Peer victimization is a well-established risk for internalizing symptoms of anxiety and depression in childhood (Reijntjes, Kamphuis, Prinzie, & Telch, 2010). However, some studies suggest that internalizing symptoms are also a risk for peer victimization (Hoglund & Chisholm, 2014). Peer victimization includes four subtypes: relational (e.g. spreading rumors), physical (e.g. kicking a peer), verbal (e.g. calling others' names), and ethnic (e.g. teasing because of the language you speak). The proposed study examines three directional models of the concurrent and prospective associations between subtypes of victimization and internalizing symptoms and investigates the moderating effects of gender. The victimization driven model proposes peer victimization predicts prospective internalizing symptoms (Ladd, 2006). The internalizing driven model proposes that children predisposed to internalizing symptoms are more likely to experience peer victimization (Kochel, Ladd, & Rudolph, 2012; Vallencourt et al, 2013). The transactional model proposes that peer victimization and internalizing reciprocally affect one another (Hoglund & Chisholm, 2014; Ladd, 2006). The current study investigates these directional associations between subtypes of peer victimization and internalizing symptoms with an ethnically diverse sample of children in kindergarten to grade 3. It is predicted that the findings for direct forms of victimization (physical and verbal) will support a victimization driven model, whereas indirect forms of victimization (relational and ethnic) will support the transactional model.

Poster Presentations

Noon – 1:15pm

The Presenters
4th Year Department of Psychology Honours Students

Nicole Elder, Supervisor: Dr. Elena Nicoladis
Gestures help children focus on the action of verbs

Rochelle Evans, Supervisor: Dr. Pete Hurd
Title: Asymmetry in the Habenula and Coping Style in Sprague-Dawley Rats

Amanda Fitzner, Supervisor: Dr. Don Kuiken
Dissociation and Expressive Writing on the Experience of Sublime Disquietude after Reading

Jeff Keith, Supervised by Dr. Chris Westbury
Performance Impact of Stop-Lists and Morphological Decomposition on Corpus-based Semantic Space Models

Ty McKinney, Supervisor: Dr. Clayton Dickson
Zip it: Zeta Inhibitory Peptide Effectively shuts up the Hippocampus

Nadia Miller, Supervisor: Dr. Elena Nicoladis
Gestures in French and English

Tanya Pacholok, My, Myself and Pie: An Examination of the Language of Self in Eating
Supervisors: Dr. Cor Baerveldt and Dr. Elena Nicoladis

Alex Porthukaran, Associative Processes and Carryover Effects after Existential Dreams
Supervisor: Dr. Don Kuiken

Phil Reimer, Supervisor: Dr. Norman Brown
Bottom-Up Autobiographical Memory: Qualitative Differences Between Old, Recent, and Important Autobiographical Event Memories

Breanna Steinke, Supervisor: Dr. Sandra Wiebe
Future-oriented Processing and Children's Understanding of Self-regulation Strategies

Justin Witzke, Supervisor: Dr. Sandra Wiebe
Can embodied cognition help preschoolers escape perseveration?

Poster Presentations

Abstracts

Nicole Elder
Supervisor: Dr. Elena Nicoladis

Gestures help children focus on the action of verbs

Three-year old children often cannot extend the meaning of a novel transitive verb to the same action with a different object (Kersten & Smith, 2002). By three-years of age, children can use gestures to help learn the meanings of verbs (Goodrich & Hudson Kam, 2009). In the present study, we tested whether co-speech gestures help children focus on the action of a novel transitive verb rather than the semantic information that it conveys. Three-year old children were randomly assigned to learn six novel transitive verbs in one of three conditions: 1) with no gesture, 2) with a representational gesture showing the path of the movement or 3) with a representational gesture using a body part as the object that the children saw being acted upon. Children were given a forced choice between the same action + a different object (the correct extension) and a different action + the same object. The results show that the children were less likely to extend novel verbs to the same action with no gesture accompaniment. The children were equally likely to extend the meaning of novel verbs in the two gesture conditions. This suggests that the trajectory of the gesture was attended to, not the form. Gestures can sometimes help three year-old children learn verbs, perhaps because the motion is inherent in gestures, and therefore draws attention to the action.

Rochelle Evans
Supervisor: Dr. Pete Hurd

Title: Asymmetry in the Habenula and Coping Style in Sprague-Dawley Rats

An organism's fear can be measured on two dimensions: coping style, or proactiveness in response to fear; and stress reactivity, or threshold for reaction to fear. Our study investigates how an organism's coping style, which can be active or passive, relates to the asymmetry in the habenula, a nucleus in the epithalamus. The habenula regulates dopamine and serotonin pathways, pathways affecting adaptive behaviors, such as fear, and anxiety-based clinical disorders, such as depression. The habenula suppresses response to irrelevant stimuli that evoke negative emotional processing in subcortical structures, by conveying inhibitory signals to midbrain nuclei that result in motor suppression. The asymmetrical nature of the habenula implies lateralization of bilateral, inhibitory control over motor behaviors, including fear-induced reactions. We propose that greater habenular asymmetry correlates with an active coping style, because of the dominant, inhibitory effect of the larger habenula over the smaller habenula, while smaller habenular asymmetry correlates with a passive coping style, as a result of greater communication occurring between the two habenula. We will use a mammalian model, the Sprague-Dawley rat, and three tests – the elevated plus maze, the open field maze and the shock probe test – to investigate these correlations between coping style and habenular asymmetry. The relationship between coping style and habenular asymmetry has implications for mechanisms affecting fear behaviors and clinical anxiety-based disorders.

Poster Presentations

Abstracts

Amanda Fitzner
Supervisor: Dr. Don Kuiken

Dissociation and Expressive Writing on the Experience of Sublime Disquietude after Reading

Reading literature can be characterized as an experience of the sublime that can shift self-understanding. Previous research indicates that the experience of loss may facilitate this type of reading experience. We focus on readers' experiences of sublime disquietude (a mixture of discord, inexpressible realizations, and self-perceptual depth) and the way that expressive writing and differences in dissociative loss experiences may facilitate the experience of sublime disquietude in response to a loss-based text. Undergraduate students who had or had not experienced loss either completed an expressive writing task meant to further expressive enactment (a process whereby meaning is created and altered) or an explanatory writing task (meant to inhibit expressive enactment) after reading a text about loss. Results showed that writing condition predicted the experience of sublime disquietude. Participants in the expressive writing condition were more likely to experience sublime disquietude than those in the explanatory writing condition. Furthermore, a particular type of dissociation was associated with the experience of sublime disquietude. The "dissociative" *unheimlichkeit* scale from our measure of dissociation predicted sublime disquietude independently of writing or loss condition.

Jeff Keith
Supervised by Dr. Chris Westbury

Performance Impact of Stop-Lists and Morphological Decomposition on Corpus-based Semantic Space Models

Corpus-based semantic space models, which primarily rely upon lexical co-occurrence statistics, have proven effective in modeling and predicting human behaviour in a number of experimental paradigms that explore semantic memory representation. However, the most widely studied extant models are strongly influenced by orthographic word frequency. This has the implication that closed class words, or function words with very high orthographic frequency, can potentially bias co-occurrence statistics. As these closed class words are purported to carry primarily syntactic, rather than semantic, information, performance of corpus-based semantic space models may be improved by excluding closed class words (using stop-lists) from co-occurrence statistics, while retaining their syntactic information through other means (e.g. part of speech tagging and/or affixes from inflected word forms). Additionally, very little work has been done to explore the effect of employing morphological decomposition on inflected forms of words in corpora prior to compiling co-occurrence statistics, despite (controversial) evidence that humans perform early morphological decomposition in semantic processing. The current study explored the impact of these two factors, along with interactive effects, on corpus-based semantic space models.

Poster Presentations

Abstracts

Ty McKinney

Supervisor: Dr. Clayton Dickson

Zip it: Zeta Inhibitory Peptide Effectively shuts up the Hippocampus

PKMzeta has been implicated as "the memory molecule", but recent concerns regarding its absolute necessity for learning and memory process have been raised. To better address the methods used to asses PKMzeta function we infused zeta inhibitory peptide (ZIP) into the hippocampus and recorded spontaneous brain activity at the local infusion site. We found that ZIP suppresses neural activity, not unlike the local anesthetic lidocaine. These findings suggest that the typical methods used for evaluating PKMzeta functions in learning and memory are non-specific.

Nadia Miller

Supervisor: Dr. Elena Nicoladis

Gestures in French and English

Two language typologies specified by Talmy (1985) with regards to motion were studied: satellite-framed languages and verb-framed languages. In satellite-framed languages like English, speakers conflate semantic elements of motion and manner together in the main verb, and they express path separately as a non-verb, a satellite. French, a verb framed language, conflates motion with path in the main verb, and expresses manner as an optional subordinate verb. The goal of this study was to compare the development of motion speech typology in monolingual French, monolingual English, and bilingual French/English children between the ages of 5-6 and 8-10. Another goal was to compare these same groups with regards to gesture, and explore whether gestures follow the typical typology associated with their language. Lastly, we wanted to discover whether being bilingual would effect the expression of these typologies. Subjects watched two pink panther episodes and re-told them while being videoed. The speech and gestures in the videos were transcribed and coded for manner, path, and manner/path conflation which were then analyzed along with age and language group in order to discern whether the motion verbs in speech and gestures followed the typologies associated with each language.

Poster Presentations

Abstracts

Tanya Pacholok

Supervisors: Dr. Cor Baerveldt and Dr. Elena Nicoladis

My, Myself and Pie: An Examination of the Language of Self in Eating

The daily act of eating and choosing what to eat is profoundly important, not only in terms of physical nourishment, but also in defining one's sense of self. Semi-structured interviews were conducted with undergraduate students in order to elicit everyday talk about their experiences of food and eating. We examined how individuals actively position themselves, negotiate new meanings, and resolve conflicts with regards to pleasure, convenience and health in eating. Through discourse analysis, we investigated particular moments that were highly constitutive of self, and identified strategies that participants used in order to account for their eating behaviors. Data analysis included the examination of central metaphors, linguistic agency, pronoun shifts, consequentiality, and the strength of evaluations. Our findings support the notion that chronic dieting and excessive food restriction can often perpetuate problematic relationships with food, such as conceptualizing the ''choosing self'' as being fragmented and a separate entity from the physical self. In addition to this, we examined moments of mindful eating that emerged, and how mindfulness was expressed through talk.

Alex Porthukaran

Supervisor: Dr. Don Kuiken

Associative Processes and Carryover Effects after Existential Dreams

Carryover effects are seen in the periods immediately following awakening from dreams. These effects are often thought to reflect heightened levels of creativity, but previous studies have ignored associative inhibition (the inhibition of similar concepts) that seems to be characteristic of dreams. Previous research has shown three distinct types of impactful dreams: existential dreams, transcendent (or archetypal) dreams and nightmares, and of these, existential dreams tend to increase in frequency after a recent significant loss. Research has also shown that loss history might serve to enhance the metaphoric character of dreams, which reflects the type of thinking seen during and immediately after dreams. We had undergraduate students (either with a loss history or no loss history) perform three association tasks after waking up from either an impactful dream or a mundane dream. The association tasks were for associative fluency, associative inhibition, and the remotes associates task (generating a word that matches with a stimulus triplet). Results indicate that those participants who performed the tasks after existential dreams showed heightened associative inhibition and interaction between inhibition and fluency after their dreams. A scale we generated looking into dissociative loss experiences (positively correlated with absorption and insight, but negatively with their interaction) also predicted associative interaction.

Poster Presentations

Abstracts

Phil Reimer
Supervisor: Dr. Norman Brown

Bottom-Up Autobiographical Memory: Qualitative Differences Between Old, Recent, and Important Autobiographical Event Memories

Current models of autobiographical memory assume a significant role for self-relevance and motivation in the retention of personal memories. The present study was conducted in part to assess this assumption. In this study, participants recalled recent (less than 6 months old) and older (at least one year old) autobiographical memories in response to neutral cue words. Then, they indicated why they believe they remembered each event. Next, they rated these events and a common transitional event ("starting university") in terms of distinctiveness, vividness, self-relevance, affective intensity, emotional valence. They then predicted how much they would remember about each at 5 points in the future. Finally, they estimated when each event had occurred. Consistent with Transition Theory, the transitional, important event of starting university was more self-relevant than the old and recent everyday memories, which generally rated significantly lower on importance, emotionality, vividness and self-relevance. The ratings of each of these factors were also significantly lower for recent memories than for older memories. In addition, we found that the best predictor of predicted retention was event age, with less forgetting expected for older events than for more recent events, and less forgetting over time for this transitional important event than for either old or recent everyday events.

Breanna Steinke
Supervisor: Dr. Sandra Wiebe

Future-oriented Processing and Children's Understanding of Self-regulation Strategies

The ability to delay gratification is a marker of the early emergence of self-regulation (Mischel, Shoda & Peake, 1988). Most existing research has explored children's efficacy in implementing delay strategies suggested to them by researchers, but there is little research exploring children's independent, spontaneous utilization and understanding of such strategies. The present study fills this gap in our current understanding. Participants were children between 4 and 6 years old. After completing a 2-minute delay of gratification task to familiarize the concept of waiting for a reward, participants completed a choice task, in which they selected items that they believed would help them delay gratification and explained their reasoning to the experimenter. Arrays of possible choices included target items that children could use to deal with the demands of waiting for a reward (e.g., an interactive toy to deal with boredom). Preliminary analyses on a subsample of children (n = 20) revealed significant age differences in performance on the choice task. More specifically, six-year olds performed significantly better than 4-year olds, but there appear to be no significant differences in performance between 4- and 5-year olds. These findings therefore suggest a developmental shift in children's ability to consider their future needs when faced with immediate temptation.

Poster Presentations

Abstracts

Justin Witzke

Supervisor: Dr. Sandra Wiebe

Can embodied cognition help preschoolers escape perseveration?

Set-shifting is the ability to switch attention from one dimension (e.g., shape) to another (e.g., colour). For three-year-old children, set-shifting is difficult because they often become stuck on the first set of rules, a phenomenon known as perseveration. This study applies embodied cognition theory, the idea that cognition is rooted in physical or body representations, to develop an intervention to help 3-year-olds overcome perseveration by changing their perspective on the task—literally. In the Dimensional Change Card Sort (DCCS) task, children first sort cards by either shape or color for a block of trials, and then switch to the other category. Children between 3 and 3.5 years of age are assigned to one of three groups. The experimental group swaps chairs with the experimenter to induce a change in perspective for the post-trials. One control group completes the standard DCCS task. A second control group moves but does not change perspective, as they perform a single jump in-between trial blocks and then sit back down in the same chair. Preliminary results (n = 28) indicate that the experimental group outperforms both the control groups. This study could broaden our understanding of set-shifting and sources of perseveration in early childhood.

Conference Map

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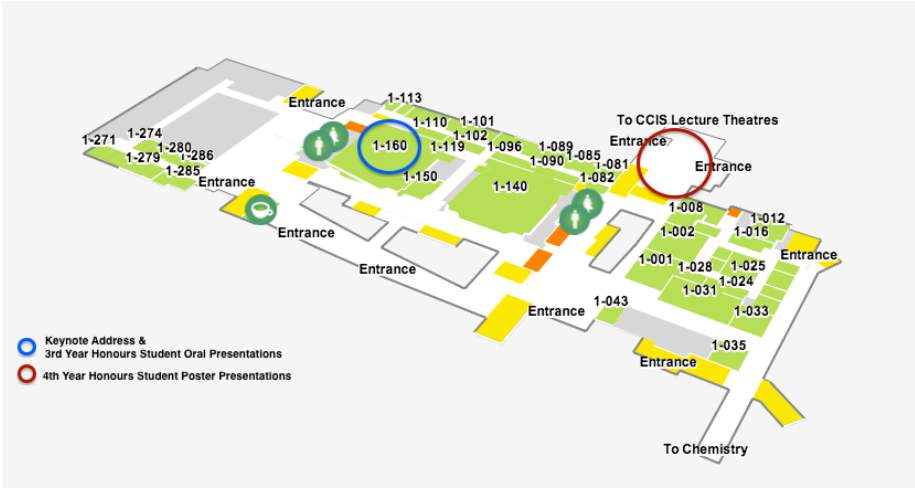

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