Abstracts

Undergraduate Poster Presentations

Department of Psychology

McGill University

April 7th, 2017
I THINK, THEREFORE I SPEND: MANIPULATING COSTS AND BENEFITS OF COGNITIVE EFFORT

Sandra, Dasha A.; Otto, A. Ross.

Cognitive effort is a finite mental resource that humans are reluctant to expend, unless the benefits outweigh the costs. Individuals seek to minimize spending cognitive effort whenever they can, while maximizing their rewards, operating under the “law of least mental effort.” Most decisions, are therefore taken following the simple decision equation: Value of a decision = Benefits – Costs. Previous studies have focused extensively on the effect of finite quality of cognitive effort resource; the current study is interested whether by administering monetary rewards contingent on performance in a task prior to the test measure will increase the perceived benefit of expending cognitive effort and thus improve performance on subsequent task. 60 participants performed a battery of cognitive tasks (Stroop and task-switching paradigm) in two conditions: HR (high reward) and LR (low reward). We found no significant carry-over effect and a significant direct effect of reward on performance.

ORCHESTRAL TIMBRE IN SEGREGATION: UNDERSTANDING THE LINK BETWEEN AUDITORY PERCEPTION AND HUMAN EXPRESSION

Fischer, Manda; Soden, Kit; Goodchild, Meghan; McAdams, Stephen.

Music is a potent force of communication. Despite the powerful impact it has at individual and societal levels, there is much more to be learned regarding the acoustic properties within the music itself that elicit such strong sensory and emotional responses in listeners. In our research, orchestration provides the essential musical framework for investigating how timbre (sound quality) may be used as a tool for shaping listeners’ perceptions of the orchestral segregation effect, in which sounds that differ acoustically are orchestrated in such a way that the auditory system organizes them into separate percepts called “streams”. To asses this phenomenon, musicians and nonmusicians rated orchestral excerpts for their degree of perceptual segregation. Streams varied in terms of the timbral categories (woodwind, brass, string, other) composing them. The results of this experiment confirm the notion that differences in musical timbre play a central role in promoting auditory stream segregation in real musical context.

GRASPING OTHERS’ PERSONALITY THROUGH YOUR EYES: AN EYE-TRACKING STUDY

Ledsham, Victoria; Capozzi, Francesca; Human, Lauren; Ristic, Jelena.

When meeting someone for the first time, we quickly form a first impression of that person. Previous research has shown that more ‘engaging’ targets lead to more accurate impressions, but how can this notion be related to attentional behaviors? To investigate this issue, we monitored participants’ looking behavior during impression formation across two experimental conditions: ‘easy’ targets (shown to lead to generally more accurate impressions) and ‘hard’ targets (shown to lead to generally less accurate impressions). Results revealed that, overall, the more a target was perceived as engaging, the more participants looked at their eyes. Furthermore, participants’ looking behavior was modulated by the experimental condition, such that targets’ eyes were looked at more in the ‘easy’ targets condition relative to the ‘hard’ targets condition. These results show, for the first time, where one looks when succeeding in grasping others’ personality: the eyes grab attention and tell the truth.
HOW DIFFERENT DIMENSIONS OF NARCISSISM RELATE TO SOCIAL PERCEPTION:
ADMIRATION VS. RIVALRY
Zhang, Charlene S; Gazzard, Lauren; Human, Lauren.

Narcissism has been associated with mixed interpersonal outcomes, leading researchers to divide narcissism into two dimensions: admiration (linked to adaptive outcomes) and rivalry (linked to maladaptive outcomes; Back, Kufner, Dugner, Gerlach, & Rauthmann, 2013). This study investigated whether these dimensions uniquely predicted how individuals perceived new classmates, in terms of the positivity and accuracy of their personality impressions. A sample of 122 university students completed self-reports of their personality and narcissism and rated new classmates. Although both dimensions were linked to more accurate impressions, individuals high in admiration tended to feel more liked by others, while individuals high in rivalry tended to perceive others less positively. Thus, in line with the Narcissistic Admiration and Rivalry Concept (NARC), admiration was linked to more adaptive, positive social perceptions, while rivalry was linked to more negative social perceptions. These social perception tendencies may in turn contribute to the distinct interpersonal outcomes.

THE ROLE OF SOCIAL SAFENESS IN MINDFULNESS-BASED STRESS REDUCTION
Heighton, Elena; Armstrong, Benjamin F.; Zuroff, David.

Mindfulness-Based Stress Reduction (MBSR) programs are becoming increasingly popular. Research has found that MBSR leads to decreases in both depression and anxiety. The present study sought to explore one possible mechanism by which MBSR might have this effect: Paul Gilbert’s social safeness (SocS). Researchers have theorized that mindfulness may lead to increased SocS, which might lead to decreases in depression and anxiety. It has also been suggested that self-criticism shows a negative relationship with SocS and therefore baseline self-criticism may affect change in SocS. Eight participants participating in an MBSR program completed questionnaires over an eight-week period measuring SocS, depression, anxiety and self-criticism. Paired samples t-tests revealed a significant increase in SocS. There were no significant relationships between SocS and depression, anxiety, or self-criticism. These findings suggest that MBSR increases SocS. However, further research with a larger sample is needed to explore how such changes relate to depression and anxiety.

A MODEL OF PRENATAL MATERNAL STRESS, DERMATOGLYPHIC MARKERS, CHANGING HIPPOCAMPAL VOLUMES AND PSYCHOTIC-LIKE SYMPTOMS IN ADOLESCENCE: PROJECT ICE STORM
Leis, Maria; Laplante, David; King, Suzanne.

Prenatal maternal stress (PNMS) is associated with schizophrenia, and with two physical markers of schizophrenia: hippocampal volume (HCV) and dermatoglyphics. Considering that hippocampi and dermatoglyphics develop out of the same ectodermal tissue and gestational period, these markers may be linked through PNMS. We sought to increase understanding of the associations between PNMS, dermatoglyphic markers, HCV and psychotic-like symptoms in adolescence. Project Ice Storm is a longitudinal study assessing the PNMS effects of the 1998 Quebec ice storm on children’s development. Structural MRI was used to collect HCV of the Project Ice Storm children (n=22-63) and a 1997-born control sample (n=23-55) at ages 11 and 16, with measures of psychotic-like symptoms at both ages. Fingerprints were obtained from both groups. Total finger ridge count was associated with HCV in the Ice Storm cohort, but not in controls. Results suggested that HCV mediated the effect of group (Ice-storm vs. Controls) on psychotic-like symptoms.
THE EFFECTS OF PAIN AND PAIN CATASTROPHIZING ON VASOVAGAL REACTIONS IN BLOOD DONATION

Hirsch, Aliza; Ditto, Blaine.

Vasovagal reactions, which can produce symptoms such as syncope and less severe pre-syncopal symptoms such as faintness and weakness, are a major barrier to maintaining blood donors. Although the connection between anxiety and increased risk for a vasovagal reaction during blood donation is quite robust and well-documented, little research has focused on the role of pain. The current study aimed to analyze pain and pain catastrophizing as potential variables influencing the likelihood of vasovagal symptoms in blood donors. The study involved 504 donors who completed the Blood Donation Reactions Inventory (BDRI), a questionnaire assessing subjective vasovagal symptoms, and various measures of anxiety, pain, and pain catastrophizing. In univariate analyses, significant pairwise associations were observed between BDRI scores, an objective measure of vasovagal reactions (nurse-initiated treatment involving chair reclining), anxiety, self-reported pain, and pain catastrophizing. However, after controlling for measures of pre-donation and in-chair anxiety, the association between pain and chair reclining became non-significant. These results suggest that the effects of pain and pain catastrophizing are not entirely independent from measures of anxiety.

WHO ARE YOU? STUDYING THE EFFECTS OF CONTEXTUAL INFORMATION ON SOCIAL IDENTITY

Markham, Rachel; Pereira, Effie J.; Ristic, Jelena.

The “butcher-on-the-bus” phenomenon illustrates the sense of familiarity we feel towards an individual while not being able to recollect who they are. This typically occurs when an individual is encountered outside of the typical context. Past work shows that an appropriate context benefits social information memory. However, the contributions of context vs. social identity to this effect have yet to be investigated. To address this, in the present study participants were asked to study face identities within appropriate contexts. Then their implicit and explicit memory for social identity was tested within old, similar, and new contexts. Both implicit and explicit measures indicated that social recognition was better when faces were presented within the same context relative to both similar and new contextual backgrounds. These results suggest that we recognize people best when we encounter them within the same context.

SMOOTH PURSUIT IN ADULTS WITH DYSLEXIA

Chau-Morris, Ashley; O'Driscoll, Gillian; Whitford, Veronica; Titone, Debra.

Many individuals with schizophrenia have reading impairments so profound they meet criteria for dyslexia. This has stimulated research looking for pathophysiological overlap between the two. Smooth pursuit abnormalities are reliably found in schizophrenia, however, few studies have been done in dyslexia. Our study is the first to examine smooth pursuit maintenance in adults with dyslexia. 17 dyslexia participants and 12 matched controls tracked a smoothly moving target across 20° at 0.4Hz, with eye movements monitored with an Eyelink2. There was a significant group x direction interaction on gain such that dyslexia participants had lower gain to left compared to controls. Dyslexia participants also made significantly larger amplitude saccades, due to a greater intrusion into pursuit of anticipatory saccades (>3 degrees) and larger amplitude square-wave jerks. Thus, similarities in the pursuit system exist between schizophrenia and dyslexia, however there are specific measures which distinguish them.
THE PARADOXICAL EFFECT OF RELATIONSHIP IDENTIFICATION ON RELATIONSHIP SATISFACTION

Coulombe, Claudie; Auger, Emilie; Lydon, John E.

Romantic relationships are paradoxical in nature – despite their benefits, they can be an important source of conflict. Research has shown that individuals who perceived their relationship as central to their identity (high identifiers; HIs) were particularly impacted by negative events in the moment but motivated to maintain a positive view of their relationship over time. Nonetheless, it remains unclear whether despite their increased reactivity to negative events, HIs would maintain high overall relationship satisfaction following a conflict. We investigated this by asking participant to recall a negative relationship event and then rate either their immediate or overall level of relationship satisfaction. The interaction between recall condition, identification and satisfaction condition was significant ($p=.014$). HIs were less satisfied with their relationship in the immediate satisfaction condition, but maintained high overall relationship satisfaction after recalling a negative event. Consequently, HIs may separate their judgments of overall relationship satisfaction from recent relationship strife.

KNOWING HOW YOU SEE ME: THE ROLE OF META-ACCURACY IN THE LINKS BETWEEN SOCIAL ANXIETY AND ROMANTIC RELATIONSHIP INITIATION

Tissera, Hasagani C; Gazzard, Lauren C; Human, Lauren J.

Metaperceptions are defined as one’s beliefs about how others see them. Meta-accuracy is achieved when one’s metaperceptions match the other’s actual perception of them. Initial evidence suggests that meta-accuracy is associated with positive relationship outcomes. For example, perceivers enjoy interacting more with those who are meta-accurate (Carlson, 2016). The present study examined whether meta-accuracy also carried positive interpersonal consequences in the setting of romantic relationship initiation. Further, we examined whether decreased meta-accuracy contributes to the difficulties that socially anxious individuals may encounter in a speed-dating context. Across two speed dating events, 62 heterosexual university students were recruited. Our findings revealed: 1) greater meta-accuracy was associated with greater romantic interest from others, 2) socially anxious individuals tended to be less meta-accurate, and 3) controlling for meta-accuracy, the association between social anxiety and romantic interest weakened. Thus, lower meta-accuracy may contribute to difficulties in romantic relationship initiation among the socially anxious.

WHY MOTIVATION MATTERS IN CAREER GOALS: THE CONSEQUENCES OF EXTERNAL REGULATION & PSYCHOLOGICAL NEED THWARTING

Yuan, Amy; Koestner, Richard.

What happens when career goals are pursued for extrinsic reasons? Previous studies looking at goal setting have shown that pursuing goals for extrinsic reasons thwart psychological basic needs which in turn, lead to a number of negative consequences such as ill-being. It is not known however, how the phenomenon of psychological need thwarting specifically plays out in the transition between school and work where young adults are striving to find their vocational purpose. In the present study looking at 507 McGill University students over the course of an academic year, we investigated the effect of externally regulated motivation on psychological need thwarting and outcomes of depression symptoms and career goal progress. We found that psychological need thwarting was unique to thwarting competence and mediated the relationship between external regulation and both increased symptoms of depression and decreased career goal progress across the fall semester.
EYE CAN’T HELP BUT LOOK AT YOU
Lahouaoula, Iman; Pereira, Effie J; Ristic, Jelena.

In our everyday lives, we are captured by people and faces indicating the significance of social information; however, little is known about whether fundamental processes of attention are responsible for the reflexive selection of faces. The present study examined whether preferential attentional selection exists towards social information over non-social information. Participants performed a dot probe task in which social (face) and non-social stimuli (object), each placed within a contextual background, were simultaneously presented for a brief period, and were told to respond to a target that would appear at the location of either stimulus. Eye movement and reaction time data demonstrated that faces were preferentially selected overall, with greater selection for the eyes. This suggests that we selectively attend to social information over non-social information and that eyes are a particularly salient part of the face.

STRESS GENERATION AND MATERNAL CONTRIBUTION TO DEPRESSION IN FEMALE ADOLESCENTS
Alcaraz, Maria; Dirks, Melanie.

A large body of literature has linked depression to stress generation, but the exact mechanism through which this occurs remains unclear. The aims of this study were to test one possible mechanism of stress generation through the contribution of interpersonal aggression. Accordingly, our first hypothesis consisted of testing whether the presence of depressive symptoms predicts higher levels of interpersonal aggression, which would in turn predict greater interpersonal stress. This question was examined in adolescent girls through a study of their symptoms and of their mother’s history of depression. Because children of depressed mothers are at a higher risk of developing depression than children of non-depressed mothers, a second hypothesis tested whether daughters of depressed mothers displayed higher levels of interpersonal aggression. Eighteen mother-daughter dyads were tested. Daughters’ aggressive behavior was measured through responses to hypothetical social vignettes and to a computerized task involving social feedback.

INFLUENCE OF SPONTANEOUS RATES ON TEMPORAL COORDINATION IN MUSIC PERFORMANCE
Wang, Youyi; Zamm, Anna; Palmer, Caroline.

Many human rhythmic behaviors, such as walking and playing music, occur at a steady rate when produced spontaneously. It has been suggested that such natural rates reflect optimal coordination at which movements are most efficient and least variable. Our study uses a musical task to measure the spontaneous production rate (SPR) and its effect on temporal variability, relative to other rates. Pianists performed a familiar melody at their SPR and at other self-paced rates faster and slower than the SPR, and then performed the melody at the same rates following a pacing cue. The presence/absence of an external cue allowed us to assess whether the performance is optimized at the SPR whether or not the rate is spontaneously produced. Findings showed stable performance at the SPR with the least temporal variability compared to other rates. Pianists exhibited tendencies to drift toward the SPR when performing at faster and slower rates.
THE INFLUENCE OF EXECUTIVE ATTENTION ON CONSCIOUS PERCEPTION

Zhou, Lucy; Landry, Mathieu; Raz, Amir.

Executive attention is a higher order cognitive process involved in the selection of relevant information and the inhibition of irrelevant information in contexts of conflict between sensorimotor processes. The contribution of this attention system to perceptual awareness remains largely unknown. Addressing this lacuna, we tested the interaction between executive attention and visual awareness by combining a target discrimination flanker task with a backward masking strategy. We additionally investigated whether inhibitory systems mediate this interaction by relating inter-individual performance on the flanker task to specific inhibition tasks for perceptual, ideomotor, and response inhibition.

EFFECTIVENESS OF RESPIRATION CONTROL AS TREATMENT FOR THE VASOVAGAL RESPONSE IN BLOOD DONATION

Wade, Kristina; Ditto, Blaine.

The experience of a vasovagal reaction during blood donation, with symptoms such as dizziness, weakness, and fainting, contributes to a more negative donation experience and significantly decreases the likelihood of blood donor return. This study investigated the effects of a respiration control intervention on reducing the occurrence of such reactions, and possible moderation of these effects by sex, medical fear, and donor experience. Six hundred and eleven participants were recruited from Héma-Québec blood drives across Montreal and randomly assigned to one of four conditions: applied muscle tension, an anti-hyperventilation respiration control procedure, both techniques, or neither. Following their donation, participants completed the Blood Donations Reactions Inventory and Medical Fears Survey. Analyses focused on the respiration control and no treatment groups. While donor sex and donor experience did not predict the effectiveness of the respiration control intervention, results indicated the largest benefit for donors who reported lower levels of medical fears. The results are promising in that they suggest some impact of the intervention on risk for vasovagal symptoms though it may not have been sufficient to reduce symptoms in more fearful donors.

THE ROLE OF PARENTING AND PARENT PERSONALITY IN CHILD PERSONAL STANDARDS AND SELF-CRITICAL PERFECTIONISM

Ahn, Seulmin; Koestner, Richard.

There are two dimensions of perfectionism: PS perfectionism is a positive dimension that involves setting high standards and goals for oneself without engaging in stringent self-evaluations whereas SC perfectionism is a negative dimension that involves excessive concerns about living up to the expectations of others coupled with an incapability to derive satisfaction from successful performance. This study investigated the role of parenting, parent personality and the interaction of the two on changes in child perfectionism over time. Results revealed controlling parenting predicted increases in the levels of child SC perfectionism whereas no relations were found between parental personality and child perfectionism. Furthermore, a marginally significant interaction between controlling parental behaviours and parent neuroticism was associated with the changes in child SC perfectionism over time. The present study highlights the potential importance and differential effects of parenting styles and parents’ personality traits on the two dimensions of perfectionism in children.
EXPLORING SYMPTOMS OF DEPRESSION IN INFORMAL CAREGIVERS OF PERSONS WITH SCLERODERMA

Mara Cañedo Ayala; Danielle B Rice; Brooke Levis; Marie-Eve Carrier; Julie Cumin; Mariët Hagedoorn; Brett D. Thombs and Caregiver Advisory Committee.

Systemic Sclerosis (SSc) or Scleroderma, is a rare disease characterized by abnormal skin thickening. Most people with SSc are cared for by family members or friends. Our study aimed to identify sociodemographic and caregiving-related factors that are associated with symptoms of depression among informal caregivers of persons with SSc. An online questionnaire was completed from December 2016 to March 2017. A linear regression was conducted to identify correlates of depressive symptoms among the sample of informal caregivers. A total of 183 caregivers completed the questionnaire. Self-reported caregiving burden (β = 0.54, p = .001) and hours of care per week (β = 0.17, p = .007) were significantly associated with more severe symptoms of depression in the multivariate regression model.

THE LONG-TERM EFFECTS OF INTRAPARTUM SYNTHETIC OXYTOCIN ON THE CHILD EPIGENOME, BREASTFEEDING, AND EMOTIONAL AVAILABILITY

Sangeetha Santhakumaran; Phyllis Zelkowitz.

Synthetic oxytocin (synOT) is widely used in obstetrics. SynOT may impact the oxytocin (OT) system through epigenetic mechanisms, and may affect prosocial behaviour and breastfeeding. We hypothesized that a higher synOT dose would increase child OXTR gene methylation, decrease breastfeeding duration, and decrease child responsiveness and involvement in 213 mother-child dyads. SynOT dose was recorded from hospital charts, and at 2.9 years postpartum breastfeeding duration was obtained via self-report, methylation data was retrieved from children’s buccal cell DNA, and a filmed interaction between mother and child was coded using the Emotional Availability Scale. SynOT was positively correlated with OXTR gene methylation and negatively correlated with breastfeeding and child responsiveness. There was no relationship between methylation and child responsiveness. These results indicate long-term effects of synOT administration, warranting future research.

THE ROLE OF COGNITIVE AND AFFECTIVE EMPATHY IN BLOOD DONOR RECRUITMENT AND RETENTION

Loten, Grace; Harrison, Johanna; Ditto, Blaine.

Factors influencing recruitment and retention of blood donors are of primary concern for blood service organizations, which rely on voluntary donations to maintain an adequate blood supply. Although altruism is a motivational factor related to blood donating, empathy role in first and subsequent blood donations remain unclear. This current study examined levels affective and cognitive empathy in new and repeat blood donors. One hundred and ninety-six participants were recruited from donors at Héma-Quebec mobile blood collection clinics in Montreal universities. Participants’ Cognitive Empathy, Affective Resonance and Affective Dissonance were derived from their scores on the Affective and Cognitive Empathy Measure, which was completed following donation. Three separate one-way between subjects ANOVAs were used to examine significant differences in empathy scores between first-time and more experienced donors. Results indicated that first time donors exhibited significantly larger affective resonance scores than experienced donors. However, no differences were found in levels of affective dissonance or cognitive empathy between first-time and repeated donors.
FAIR WEATHER FRIENDS: UNDERSTANDING WHY SOME DISADVANTAGED GROUP MEMBERS MAY DISIDENTIFY FROM THEIR GROUP

Cournoyer, Annabelle; Kachanoff, Frank; Kteily, Nour; Taylor, Donald M.

We investigate whether the extent to which group members identify with their group depends on its status. We propose that individuals who generally prefer inequality between groups (high Social Dominance Orientation - SDO) will tend to identify most strongly with their group when it has high status because they have controlled reasons for identifying (e.g., power and status). Conversely, we propose that low SDO individuals’ identification will not be contingent on status because they tend to have autonomous reasons for identifying (e.g., they value their group). In the laboratory, participants (N=362, groups = 119) experienced being a low status group member (time 1) and later a high status group member (time 2). Supporting our hypothesis, group identification was contingent on status only for individuals with controlled (rather than autonomous) reasons for identifying. Importantly, high SDO individuals generally had more controlled reasons, and as a result, identified more with high status groups.

INFLUENCES OF MUSICAL TRAINING AND SPONTANEOUS RATE ON SYNCHRONIZATION FLEXIBILITY

Ashley Brown-Notargiacomo, Rebecca Scheurich, Anna Zamm, Caroline Palmer.

Previous research suggests that individuals' synchronization abilities are influenced by their spontaneous production rates (SPR): the rates at which individuals perform rhythmic tasks in the absence of external cues. Additional research has shown that musical training enhances synchronization accuracy. The current study investigated how SPRs and musical training affect individuals' flexibility to synchronize their actions with a range of production rates in a tapping task. Musicians and nonmusicians tapped the rhythm of a familiar melody at a comfortable rate to measure their SPR. Subsequently, participants synchronized their taps with a metronome at their SPR and rates faster and slower than their SPR.

Results showed a wide range of SPR values across individuals but consistent SPR within individuals. Synchronization accuracy decreased as participants synchronized with rates that differed from their SPR, both for musicians and nonmusicians. These findings suggest that spontaneous rates constrain synchronization in both musically skilled and unskilled populations.

HOOKED ON A FEELING: HOW THE INDUCTION OF POSITIVE AND NEGATIVE MOODS AT ENCODING INFLUENCES EPISODIC MEMORY RETRIEVAL

Simpson, Stephanie; Sheldon Signy

There is little debate that both positive and negative moods can impact the way episodic memories are remembered. However, it is still unclear how the processes of episodic memory, such as pattern separation and pattern completion, are affected by mood. Research with clinical populations suggest that negative emotional states impair pattern separation capacity - the ability to distinguish between mnemonically similar items (Fujii et al., 2014). The question remains as to whether, and in what manner, emotions felt during the encoding stage of remembering may affect the retrieval of those memories in healthy adults. Using a between-subjects design, this study aims to address how musical mood induction (of a positive, negative, or neutral valence) influences episodic memory processes. Overall, the results indicated that while mood had no effect on memory retrieval mechanisms at a global level, negative mood, in particular, promoted a bias in recruiting pattern separation mechanisms over pattern completion. Negative mood also enhanced participants’ pattern separation metric for fairly difficult stimuli. This investigation provides behavioural evidence for mood-related conditions that could optimize the level of specificity with which episodic memories are recalled.
THE ROLE OF PARENTING AND FAMILY STRUCTURE ON THE DEVELOPMENT OF PERFECTIONISM IN CHILDREN

Robillard, Christina; Harvey, Brenda, C; Koestner, Richard.

There are at least two distinct forms of perfectionism: an adaptive form referred to as personal standards (PS) perfectionism, and a maladaptive form referred to as self-critical (SC) perfectionism. The current study used a prospective, longitudinal design to investigate the role of perceived parenting on the development of PS and SC perfectionism in a sample of children (N = 159) aged 8-12. Unexpectedly, perceived parenting was unrelated to PS perfectionism. In contrast, perceptions of parental control significantly predicted increased SC perfectionism. Furthermore, this relation was partially mediated by children’s low self-control and moderated by marital status, such that this relation was only significant when parents were together. Taken together, these findings offer insight into a potential mechanism by which perceived control may exert its influence on the development of SC perfectionism, and highlights the importance of considering the home environment when exploring developmental trajectories of perfectionism.

SHARED PAST OR NEW BEGINNINGS? LOW POWER GROUP COALITIONS BEFORE AND AFTER CONTEXTS OF POWER INVERSION

Cohen, Alana; Kachanoff, Frank J.; Kteily, Nour; Taylor, Donald M.

Coalitions between low power groups, like those seen during the Arab Spring, have become increasingly important in overthrowing hierarchies. We developed an intergroup laboratory experiment to address this issue. In phase one, a group with high power interacted with two distinct low power groups. In some conditions the high power group treated both low power groups equally, whereas in other conditions it oppressed both low power groups. On multiple behavioral measures, the experience of oppression, above and beyond being of low power, led low power groups to form a coalition. In phase two, we investigated how a formerly low power group, now in power, would treat their former coalition partners. Regardless of the oppression formerly low power groups faced in phase one, they tended to treat their former coalition partners equally. Importantly, however, groups who formed the strongest coalitions were those who bestowed the best treatment on their former partners.

FACING MULTIPLE DISCRIMINATIONS THE ROLE OF YOUTH ENGAGEMENT

Parent, Anne-Marie; Konishi, Chiaki, PhD

Both sexual minority and racial minority students are known to experience higher risks for negative school-related outcomes if they experience discrimination (e.g. Konishi & Saewyc, 2014; Wong, 2003). The primary purpose of this study is to explore how youth engagement in organized activities can serve as a buffer against the effects of sexual orientation and racial discriminations. Thus, we examined how being involved in activities may protect youths from the risks of homophobia and racism in relation to their school adjustment. Data were collected through a 2008 school-based survey in British Columbia. With a sample of 48,874 secondary students (24,244 girls) in grades 8-12, results of hierarchical linear regression, controlling for grade and gender, revealed that high school students who reported high levels of both discriminations were at greatest risk for school adjustment but also that being involved in activities was significant in reducing the negative effects of discrimination.
PKM-ζ IN DESTABILIZATION AND RECONSOLIDATION

Trana, Mia; Bernabo, Matteo; Nader, Karim

PKM-ζ is a protein kinase that is thought to be important in learning and memory. Research suggests it facilitates the addition and maintenance of AMPA receptors to the post-synaptic membrane. These receptors are vital for enabling long-term potentiation, the process by which we encode memories. PKM-ζ and AMPA receptors are part of vital mechanisms for use to learn and remember. Our research aims to learn more about the mechanisms of memory reconsolidation and the role that PKM-ζ plays to facilitate memory maintenance. We hypothesize that a decrease in PKM-ζ causes the removal of AMPA receptors resulting in destabilization. During reconsolidation, PKM-ζ returns and so do AMPA receptors. This provides greater understanding of the biochemical basis for how memories are altered in our brains.

TWO TYPES OF SELF-MONITORING AND INTERPERSONAL BEHAVIOR

Fang, Xiaoyan (Rachel); Sadikaj, Genta; Moskowitz, Debbie.

We examined the association of interpersonal behavior with self-monitoring, the ability to vary behaviors to achieve social status (acquisitive) or to avoid social rejection (protective). We hypothesized that high acquisitive self-monitors would (1) engage in more agentic and communal behavior; (2) respond with more agentic behavior when perceiving less agency in others; and (3) respond with more communal behavior when perceiving increased communion in others. High protective self-monitors would (1) engage in less agentic and communal behavior, and (2) exhibit less communal behavior when perceiving lower communion in others. Using event-contingent recording, 266 participants reported their behavior and perceptions of others’ behavior in interactions over 20 days. High acquisitive self-monitors engaged in more agentic behavior and responded with more communal behavior when perceiving increased communion in others. High protective self-monitors generally behaved less agentically. Findings suggest that acquisitive self-monitoring and protective self-monitoring influence individuals’ interpersonal behavior differently out of different concerns.

THE EFFECT OF POLITICAL PARTISANSHIP ON NON-POLITICAL VALUE-BASED DECISION MAKING

Pilgrim, Matthew; Satterthwaite, Matthew; Fellows, Lesley.

The strong effects of partisanship on voting behavior and political decision making have been well established. Recent investigations have shown that the partisan bias extends to more basic cognitive processes such as information filtering and feature perception. So far, no investigation has studied the effects of partisanship on value-based decision making outside of politics. In this online study, we looked at reaction time differences between political partisans and non-partisans on an artwork decision task. Subjects rated a set of art stimuli from a variety of styles and periods then decided between pairs of the stimuli. We looked at reaction time differences between groups across decision difficulty levels defined by the value rating differences. Pilot data so far indicates that there is no significant reaction time difference between groups. If this finding holds after further data collection, we will have provided evidence against the far reaching effects of the partisanship bias.
COGNITIVE CHANGES IN OBESITY

Vochin, Anca Jones-Gotman, Marilyn.

Obesity is an unfolding global epidemic, associated with often fatal comorbidities, such as diabetes mellitus, hypertension and cardiovascular disease. On the surface, it appears that it is simply the result of flawed food intake behavior leading to imbalance between energy uptake and expenditure, a process believed to be easily reversed through caloric restriction and exercise. Following the disappointing outcomes of treatments based on this assumption, a growing body of evidence highlights the existence and close relationship of neurobiological and psychological components of overeating, particularly affecting reward perception and motivation, working memory and learning. We have constructed a neuropsychological test battery to address the scope of the postulated cognitive impairments in obesity, by using a more thorough investigation of memory than has been used until now and by controlling for comorbid conditions.

DOES ATTENTION COMBINE FLEXIBLY? AN EYE-TRACKING STUDY OF COVERT AND OVERT ORIENTING

Lin, Yuqi; Blair, Christopher; Ristic, Jelena.

Previous research shows large effects of attention on behavior when multiple attentional systems are engaged simultaneously. However, these “combined attention” effects were measured without controlling for eye movements. Thus, it is unclear if attention combines in a covert (i.e., in absence of eye movements) and/or overt (i.e., when eye movements are executed) fashion. To address this question, participants performed an attentional cuing task in which they made covert (button press) and overt (eye movement) responses to targets while their eye movements were monitored using a remote eye-tracker. Results showed that large combined effects of attention were observed in both covert and overt responses. This shows that attention combines flexibly for both manual and oculomotor measures.

UNEQUAL TIMES CALL FOR UNEQUAL MEASURES: DO OPPRESSED GROUP MEMBERS PREFER HIERARCHY PROMOTING LEADERS?

Doherty, Jonathan; Kachanoff, Frank; Kteily, Nour; Taylor, Donald M.

Do members of low-power groups prefer leaders who value group-based equality or group-based hierarchy (dominance)? We hypothesized that, group leaders who value equality (rather than dominance) will be perceived as better leaders. However, we hypothesized that this effect would be moderated by whether low-power group members are treated unequally by the high-power outgroup. Specifically, we hypothesized that when a low-power group is treated unequally, ingroup members who value group-based hierarchy (dominance) will be viewed as the best leaders. We experimentally varied whether groups (N_{participant}=364; N_{group}=119), were treated equally or unequally by a high-power outgroup. Counter to our prediction, when the low-power group was treated unequally, ingroup members who valued equality were perceived as the best leaders. In contrast, when low-power groups were treated equally, group members’ leaders’ value of equality was unrelated to whether they were perceived as good leaders. Cultural Opposition Theory is introduced to explain the counter-intuitive results.
RECOGNITION OF EMOTIONAL VOCAL CUES: ASSOCIATIONS WITH EMOTIONAL INTENSITY AND SYMPTOMS OF PSYCHOPATHOLOGY

Burdo, Jessica, Morningstar, Michele; Dirks, Melanie.

Research on the recognition of emotional prosody has typically focused on listeners' identification of full-intensity expressions, neglecting the often ambiguous nature of emotional expressions. Individual differences in emotion recognition may be more pronounced at lower levels of emotional intensity, particularly in individuals with symptoms of depression, anxiety, and aggression. In the current study, we manipulated vocal recordings of seven socio-emotional expressions to create a series of stimuli of increasing emotional intensity, allowing for a more nuanced and in-depth investigation of the association between listeners’ psychopathological symptoms and their emotion recognition accuracy, sensitivity, and misidentifications. Both accuracy and sensitivity improved as emotional intensity increased, and were highest for the expressions of anger and sadness. Misidentifications of expressions as angry or sad were associated with expression type and intensity level. For instance, listeners erroneously identified low-intensity disgust and sadness as anger. Self-reported aggression was associated with increased anger misidentifications, whereas self-reported symptoms of social anxiety were associated with decreased sadness misidentifications.

CHANGES OF POSTSYNAPTIC GLUA2-AMPAR LEVELS IN DORSAL HIPPOCAMPUS DURING FORGETTING

Lu, Yun; Zhang, Jane; Nader, Karim.

One possible mechanism underlying forgetting is decay of long-term memories (LTM). Studies have shown that maintenance of GluA2-subunit containing AMPA receptors (GluA2-AMPAR) in the postsynaptic membrane is linked to prolonged LTM. However, it is unclear whether postsynaptic GluA2-AMPAR levels are positively correlated with memory retentiveness. Here, we used the object location test to examine forgetting of a spatial memory of 56 rats by varying the retention time between training and testing (1d, 3.5d, 5d, 7d, 14d, 30d or no training control group). Western blots were used to quantify postsynaptic GluA2-AMPAR levels in the dorsal hippocampus (dHC). We found that LTM was forgotten between 5 and 7 days after training, and that the longer the retention time, the worse the rats performed on the memory task. Current western blot data shows that more GluA2-AMPAR is present in the postsynaptic density of dHC neurons compared to synapses. Comparison analyses are ongoing.

IS SLEEP QUALITY ASSOCIATED WITH ARTERIAL STIFFNESS IN YOUNG ADULTHOOD?

Dutra, Gabriella.; Horsley, Kristin J.; Ditto, Blaine.

Background: Poor sleep quality is a risk factor for the development of cardiovascular disease (CVD), but the mechanism through which risk is conferred remain unclear. Aim: To investigate the association between sleep quality and arterial stiffness, a subclinical marker of CVD, among a sample of young adult women (N=19). Methods: Arterial stiffness was indexed by carotid-femoral pulse wave velocity (PWV) using a well-validated device (Complior SP). Self-reported sleep quality was assessed using the Pittsburg Sleep Quality Index (PSQI). We hypothesized that poorer sleep quality would be associated with faster PWV, indicating greater arterial stiffness. Results: Hierarchical multiple regression analyses indicated that poorer sleep quality was not associated with increased arterial stiffness after statistically adjusting for covariates. Conclusions: The study results are limited by a small sample size. Future research could examine whether the association between poor sleep quality and arterial stiffness emerges in larger samples.
THE EFFECTS OF VASOPRESSIN ON THE AVOIDANT ATTACHMENT STYLE

Lee, Angie; Robins, Stephanie; Zelkowitz, Phyllis

Attachment styles represent characteristic ways of interacting with close others and influence social behaviors throughout life. Parent and child attachment styles are related, and are thought to be transmitted across generations through child-caretaker interactions. The hormone vasopressin has recently been shown to be associated with attachment avoidance. Vasopressin levels may vary according to DNA methylation, which generally results in reduced gene expression. To examine how avoidant attachment style relates to vasopressin methylation, we collected methylation data using salivary DNA. Attachment styles of mothers were assessed using the Relationship Questionnaire, and child attachment was assessed using the Preschool Attachment Classification System. In 220 mother-child dyads, avoidant mothers had more avoidant children. Greater vasopressin methylation was associated with avoidant attachment in both mothers and children. Greater vasopressin methylation predicted children’s avoidant attachment after controlling for child’s age and mother’s parity. These results indicate vasopressin may be important in avoidant attachment.

VOTED OFF: EFFECTS OF MATERNAL DEPRESSION ON THE PROCESSING OF SOCIAL REJECTION

Baptiste, Anne; Ethridge, Paige; Weinberg, Anna

Daughters of depressed mothers are at a higher risk of developing depression; however, the mechanisms underlying this risk remain unclear. Increased sensitivity to social rejection could be a risk factor for depression. In the present study, comparing daughters of depressed (n = 3) and non-depressed (n = 15) mothers, we tested the hypothesis that at-risk daughters show increased sensitivity to peer rejection. Participants completed a computerized task in which they believed they were receiving social acceptance and rejection feedback while an electroencephalogram was recorded. Daughters of depressed mothers differed in the magnitude of their neural responses to acceptance (M = 16.34, SD = 15.40) compared to daughters of non-depressed mothers (M = 34.34, SD = 6.89). The two groups did not differ significantly in their neural responses to rejection. This work provides a foundation for future studies aimed at understanding risk for depression and preventing its onset.

NEURAL CORRELATES OF STRESS AND DEPRESSION IN FIRST-YEAR STUDENTS: THE ROLE OF THE ERROR-RELATED NEGATIVITY

Karapetian, Agnessa; Sandre, Aislinn; Weinberg, Anna

Depression is a common, debilitating mental illness whose causes are still poorly understood, making prevention and intervention efforts limited. According to the the diathesis-stress model, the risk for depression arises from a combination of stressful experiences and underlying vulnerability. The Error-Related Negativity (ERN) is an event-related potential that reflects error processing, and might play a causal role in the onset of depression. The present study examined whether a blunted ERN in first-year undergraduate students at the beginning of the academic year combined with high levels of perceived stress later on would predict depressive symptoms. We found that only stress by itself, and not the interaction of stress and ERN or the ERN alone, significantly predicted depression. We also found that a blunted ERN was significantly associated with depression, which may be a meaningful finding for the prevention and intervention for at-risk groups.
DISTINCT MEMORY PROCESSES LEAD TO DIFFERENT CLINICAL DECISION-MAKING OUTCOMES

Fan, Carina L; Young, Meredith; Sheldon, Signy

Although complex decision making relies on both episodic (past events) and semantic (factual knowledge) memory, it is unclear whether memory processes guide decision-making in distinct ways. We investigated the influence of episodic memory processes on medical decision-making. Participants learned symptoms associated with different disorders; then, half read case vignettes twice (repeat group), and half read vignettes then recalled details, recruiting episodic processes (remember group). Participants then diagnosed new cases that each contained two equally probable diagnoses — one based on familiar details from previous vignettes and one based on novel details. The remember group assigned greater probabilities to diagnoses supported by familiar details, suggesting that episodic memory processes influence medical decision-making. Participants in both groups also assigned greater probabilities to the familiar diagnosis when it reflected a disorder thought of as more common. These findings provide new insights into how memory influences decision-making, and could improve medical education.

OVER AND ABOVE: SELF-CRITICAL PERFECTIONISM'S INCREMENTAL VALIDITY BEYOND NEUROTICISM WHEN MEASURING EMOTION REGULATION

Tobin, Ryan; Dunkley, David.

This study of community adults (97 females; 57 males) compared the relative predictive value of specific perfectionism components and neuroticism in predicting daily emotion regulation strategies and negative affect. Participants completed measures of self-critical and personal standards higher-order dimensions of perfectionism and neuroticism, as well as retrospective summary measures of emotion regulation strategies (i.e., expressive suppression, experiential avoidance, rumination, nonjudgmental acceptance) and negative affect. Then, participants completed an 8-day experience sampling procedure with repeated within-day and daily records of the emotion regulation strategies and negative affect. Hierarchical multiple regression results supported the unique predictive value of self-critical perfectionism measures over and above neuroticism in predicting retrospective, within-day, and daily measures of emotion regulation strategies and negative affect. In contrast, neuroticism was a consistent unique predictor of rumination and negative affect only. The socially prescribed component of self-critical perfectionism was the most robust predictor of emotion regulation and negative affect.

THE EFFECT OF ENVIRONMENTAL TOBACCO SMOKE ON ARTERIAL STIFFNESS

Liu, Manlu, Horsley, Kristin J., Ditto, Blaine.

Background: Environmental tobacco smoke (ETS) exposure is a risk factor for cardiovascular disease (CVD). Previous studies suggest an association between ETS exposure and increased local arterial stiffness, indicated by elevated carotid arterial stiffness. However, whether the same association exists between ETS exposure and increased regional arterial stiffness remains unclear. Regional arterial stiffness can be quantified by carotid-femoral pulse wave velocity (PWV), which has more prognostic significance for CVD than carotid arterial stiffness. Aim: To investigate the effect of ETS on carotid-femoral PWV in early adulthood. Methods: Carotid-femoral PWV was measured using the Complior SP in a sample of young adult women (N=19). ETS exposure was assessed by a self-report questionnaire. Results: Exposure to ETS was not associated with faster carotid-femoral PWV. Conclusion: ETS exposure was not associated with increased regional arterial stiffness.
Emotions influence how we learn and remember information. Current research has studied this influence by examining the retrieval of emotion-laden stimuli, leaving open questions about whether emotional contexts can affect how information is learned. To address this question, this study investigated the effects of emotional contexts (positive, negative and neutral) on eye fixations made during the encoding of life-like images and how these fixations related to later recall. To vary the emotional context, participants listened to an emotional musical clip prior to encoding an image, during which participants’ eye movements were monitored. After a delay, participants recalled the images and rated their memory on several dimensions (vividness, familiarity to the image, emotional arousal and intensity). Although there were no significant differences in eye-fixation patterns at encoding between the emotional contexts, significant differences emerged when fixation-patterns were related to recall ratings. Specifically, vividness ratings were positively correlated to measures of eye fixation duration when encoding images in an emotional but not a neutral context. Moreover, vividness was negatively associated to fixations made to an images’ central event when viewed in a negative context. Overall, these findings suggest that emotional contexts can impact the way memories are later experienced.

EXPLORING [18F]THK5351 SELECTIVITY FOR MONOAMINE OXIDASE B IN MILD COGNITIVE IMPAIRMENT AND MILD ALZHEIMER’S DISEASE SUBJECTS

Horowitz, Kayla; Ng, Kok Pin; Rosa-Neto, Pedro.

Background: [18F]THK5351 is a tau-specific PET tracer designed to visualize tau pathology in Alzheimer’s patients. However, previous findings of [18F]THK5351 retention in brain areas atypical of tau accumulation, such as the basal ganglia, suggest off-target protein binding. The basal ganglia characteristically expresses high levels of monoamine oxidase B (MAO-B). Here, we tested the effects of MAO-B inhibition on [18F]THK5351 retention using PET.

Methods: Eight participants (five mild cognitive impairment, two Alzheimer’s disease, one progressive supranuclear palsy) underwent baseline PET scans using [18F]AZD4694 and [18F]THK5351 to quantify amyloid and tau, respectively. One week later, patients had 10-mg of selegiline 1 h prior to another [18F]THK5351 scan. Three patients had a third [18F]THK5351 scan. The primary outcome measure was standardized uptake value (SUV), normalized for body weight and injected radioactivity. Results: Baseline [18F]THK5351 SUVs showed greatest uptake in the basal ganglia and thalamus. This regional uptake was significantly reduced by 36.7% to 51.8% post-selegiline intake, with greatest reduction in the thalamus (51.8%) and basal ganglia (51.4%). The three follow-up scans revealed persistent reduction in SUVs. Conclusions: These results indicate that [18F]THK5351 uptake is falsely elevated by high levels of MAO-B available across the brain, which has implications on interpretations of PET images using this tracer.

SELF-CRITICISM AND DEPRESSIVE SYMPTOMS IN MINDFULNESS-BASED STRESS REDUCTION

Cousineau, Sadya, Armstrong, Benjamin, Zuroff, David

Mindfulness-Based Stress Reduction (MBSR) is a program used for diverse conditions to alleviate distress, including depressive symptoms. This study investigates MBSR’s effects on depressive symptoms, and self-criticism, a personality variable associated with the development of depression, and that impedes the therapeutic gain. MBSR promotes a non-judgmental evaluation and acceptance of an event. This focus may decrease self-criticism, which is characterized by harsh and punitive self-evaluation in response to events. Eight participants participated in a MBSR program for 7 weeks and answered questionnaires assessing their depressive symptoms and self-criticism levels at intake and termination. Paired sample t-tests revealed a non-significant decrease in depressive symptoms and a significant decrease in self-criticism levels. These findings suggest that MBSR is useful to decrease self-criticism levels. Future studies need to be conducted with larger samples to assess the effects of MBSR on depressive symptoms and self-criticism, and how the two are related in MBSR.
KNOWING HOW UNDERSTOOD YOU ARE: DO PEOPLE WITH TRANSPARENCY AWARENESS HAVE GREATER RELATIONSHIP WELL-BEING

Elbaz, Lia; Heyman, Jennifer; Human, Lauren J.

The aim of this study was to examine the interpersonal implications of having transparency awareness: one’s ability to predict whether his or her personality is accurately perceived by others. In a round-robin study with 153 undergraduate students, transparency awareness was assessed by comparing participants’ transparency (i.e. how accurately they were perceived by others) to their transparency beliefs (i.e. their beliefs about how accurately they are generally perceived by others). Our results showed that transparency awareness (the calibration of transparency and transparency beliefs) was positively associated with relationship well-being. Additionally, we found that transparency only predicted greater relationship well-being when transparency beliefs were high. Transparency beliefs predicted greater relationship well-being for participants who had mean and high levels of transparency, but not for those who had low transparency. Taken together, our results suggest that transparency awareness has positive social implications and that both transparency and transparency beliefs are necessary components in the prediction of greater relationship well-being.

ASSOCIATIONS BETWEEN SYMPTOMS OF YOUTH ANXIETY AND DEPRESSION AND SOCIAL INFORMATION PROCESSING PATTERNS IN RESPONSE TO PROVOCATION BY PEERS

Catamaran, Thyna; Dirks, Melanie, A.

Youth with greater symptoms of anxiety or depression are more likely to experience poor social adjustment, including greater peer victimization, which may be influenced by behaviours they engage in. We examined whether symptoms of anxiety and depression were associated with youth’s reported responses to peer provocation, a common and difficult social situation for youth to manage, as well as the social information processing (SIP) stages posited to be upstream from behaviour. Vignette-based questionnaires modeling SIP stages were administered to a sample (N=227) of clinically-referred and community youth (M age=12.66, SD=2.26). Increased symptoms of anxiety were positively associated with endorsement of goals to control one’s mood, stop problem reoccurrence, and escape the situation, while depressive symptoms were negatively associated with these goals. Increased symptoms of anxiety were further associated with higher threat ratings and negative evaluation of assertive and aggressive responses, while increased depressive symptoms were associated with positively evaluating aggressive responses.

CONSEQUENCES OF HIV-RELATED STIGMA FOR BRAIN HEALTH AND FUNCTIONING IN EVERYDAY LIFE AMONG MEN WITH HIV

Lam, Austin; Mayo, Nancy; Scott, Susan; Brouillette, Marie-Josée; Fellows, Lesley K.

Background. Research on HIV-related stigma has generally lacked a strong theoretical framework that integrates biopsychosocial perspectives to provide comprehensive understanding. Objective. To enhance our understanding of HIV-related stigma and how it affects brain health and everyday functioning among non-demented Canadian adults living with HIV using the International Classification of Function, Disability, and Health model (ICF). Method. We present a multi-site cross-sectional study of a sample of 490 men living with HIV. Multiple pertinent measures with optimal psychometric properties were employed. Structural equation modeling (SEM) was performed using MPlus. Results. The SEM model was built using the ICF model, involving personal, environmental, biological factors, and impairments in brain health, activity limitations, and participation restrictions. The model fit well (CFI: 0.976; RMSEA: 0.041). Conclusion. The ICF model allowed for more comprehensive understanding of HIV-related stigma. HIV-related stigma has consequences across many areas: emotional experiences, cognitive ability, and everyday life experiences.
THE QUEST FOR PERFECTION IN GOAL PURSUIT: THE MEDIATING EFFECTS OF MOTIVATION AND GOAL EASE/EFFORT

Giannis, Irene; Moore, Emily; Koestner, Richard.

Perfectionism is defined as a desire to be perfect and avoid error. The role of perfectionism in goal pursuit has been well established; with personal standards perfectionism (PS) associated with enhanced goal progress and self-critical perfectionism (SC) associated with diminished goal progress. Although the relationship is robust, the mechanisms underlying this relationship are still unknown. The present study investigated two possible mediators of this relationship, motivation and goal ease. The present study was a three-wave prospective longitudinal idiographic panel design that followed 505 undergraduate and graduate students pursuing three personal goals across an academic semester. Participants reported on perfectionism, motivation, goal ease & effort and goal progress. The results suggest that autonomous motivation mediates the PS-goal progress relationship and controlled motivation and goal effort mediated the SC - goal progress relationship. The implications of these findings are discussed.

MEASURING INFORMATION PROCESSING IN YOUTH WITH ANXIETY AND DEPRESSION AND ITS INTERPERSONAL CONTEXT

Vitagliano, Melissa; Dirks, Melanie, A.

Parents are key agents in the socialization of children’s interpersonal behavior, making it critical that we understand why they may be supporting or sanctioning specific interpersonal strategies. In this study, we examined parents’ social information processing (SIP) in situations in which children must respond to provocation by peer, testing whether (a) parents’ SIP patterns predicted children’s reported responses to the scenarios, as well as their psychological symptoms, and (b) parents’ psychological symptoms predicted their SIP. 227 parents (M age = 42.16, SD = 7.33) and their children (M age = 12.67, SD = 2.26) completed questionnaires assessing the following SIP stages; threat interpretation, goal construction, response generation, self-efficacy and effectiveness. Youth also reported how they would respond to different peer-provocation scenarios. Parental ratings of their child’s self-efficacy was the only predictor of children’s psychological symptoms and their reported responses. These ratings were also moderately associated with parent’s own symptoms of anxiety and depression.

THE IMMIGRANT EXPERIENCE: ASSESSING THE IMPACT OF EXPOSURE ON CULTURAL IDENTITY CLARITY AND INTEGRATION

Camacho, Angelica; Kachanoff, Frank; Taylor, Donald M.

Human migration presents an inordinate challenge for both migrating groups and the groups who receive them. We investigate the counterintuitive idea that exposure to the receiving culture is necessary for immigrants to maintain clarity about their own heritage culture. We introduce a “graphic novel” methodology, whereby 22 immigrants were guided through their immigrant experience during three key periods (their first year, a defining period for them, and their current situation). As predicted, exposure to the receiving culture was positively associated with immigrants’ clarity of the receiving culture and importantly, their heritage culture. Moreover, clarity of their Canadian culture was also positively associated with immigrants’ clarity of their own heritage culture. Furthermore, exposure to the receiving culture was associated with immigrants’ cultural integration. Importantly, the correlation between exposure and cultural clarity was the strongest during immigrants’ first year in Canada. However, during that year, immigrants received the least exposure to Canadian culture.
EFFECTS OF SPONTANEOUS PRODUCTION RATES ON TEMPORAL ADAPTATION

Aharon, Maya; Scheurich, Rebecca; Palmer, Caroline.

Spontaneous production rates (SPRs) reflect the rate at which individuals spontaneously perform periodic tasks, such as walking, without external influences. Research suggests a correlation between one’s SPR and optimal rate of synchronization (Drake, Jones & Baruch, 2000). This study investigated the relationship between SPRs and adaptation to changing rates in a musical synchronization task. Musicians were recruited to tap the rhythm of a familiar melody. They first tapped the melody at a spontaneous rate as a measure of SPR, then synchronized their tapping with a metronome as it sped up or slowed down from a rate that matched, was slower than, or was faster than their SPR. Results showed that the adaptation to a rate change was greater when the rate returned to their SPR than when it moved away from it. This suggests a constraint placed by the SPR on rates to which humans can optimally adapt.

THE RELATIONSHIP BETWEEN SELF-REPORT AND PERFORMANCE-BASED MEASURES OF COGNITION IN PARKINSON’S DISEASE

Gentile, Erika; Djordjevic, Jelena; Dagher, Alain.

Parkinson’s disease (PD) is marked by cognitive decline, which is assessed by standardized neuropsychological test procedures. Self-report based measures are a time- and cost-effective alternative, but their accuracy is still uncertain. Additionally, mood disturbances in these patients were shown to affect both self-rating and performance on cognitive measures. The present study sought to examine the accuracy of self-report on cognition relative to performance on neuropsychological measures spanning five cognitive domains in PD patients and their relationships with depression, anxiety and apathy. Results showed that perceived deficits on the domain of attention were negatively correlated with performance on tests of attention. Further, only anxiety was correlated with both types of measures and accounted for a larger proportion of the variance in cognitive performance than self-ratings of cognition. Clinicians should be cautious in using self-report measures and be aware of the contribution of anxiety when assessing cognitive status in patients with PD.

ASSOCIATIONS BETWEEN INTERNALIZING SYMPTOMS AND AGGRESSIVE BEHAVIOR DURING EMERGING ADULTHOOD

Cohen, Jessica; Dirks, Melanie, A.

We examined the associations between anxious and depressive symptomatology with aggressive behaviors in general and in same-gender friendships among emerging adults. Work done with children has suggested a link; however, it remains relatively unexplored among emerging adults. With data collection still ongoing, to date we have sixty-four undergraduate students (62.5% female) aged between 18 and 25 (\(\overline{x}= 19.63; \text{SD}: 1.12\)) who have completed measures of their reactive and proactive aggression, their reported use of aggressive strategies to manage challenging situations that occur within their same gender friendships, as well as their anxious and depressive symptoms. For 25 participants, a friend reported on their reactive and proactive aggression. Results indicate that in the context of friendships, men endorse significantly more aggressive responses, and are more likely to be proactively aggressive in general than women. Firm conclusions can’t be drawn until recruitment is complete, and gender as a potential moderator should be examined.
THE EFFECTS OF SELF-OTHER MERGING AND SELF-CONCEPT CLARITY ON EMPATHY

Libenstein, Jamie; Krol, Sonia; Bartz, Jennifer.

Empathy intuitively involves some degree of self-other merging, however, the precise role of self-other merging in empathy remains unknown. We investigated whether self-concept clarity (SCC) moderates the effect of self-other merging on empathy and prosocial behaviour. Fifty participants self-reported on SCC and were randomly assigned to the synchronous or asynchronous condition of the enfacement illusion (self-other merging manipulation). Synchronous, but not asynchronous, stroking between one’s own and a target’s face has been shown to induce self-other merging. To measure merging, participants performed a self-recognition task involving morphed images of the two faces. Participants watched a video of the same target recounting a negative autobiographical event and continuously rated their emotions to assess empathy and self-reported their willingness to help the target. Results showed that we were unable to manipulate self-other merging and that SCC did not moderate the effect of self-other merging on empathy and prosocial behaviour.

BILINGUALISM AND YOUR SOCIAL LIFE: IS THERE A RELATIONSHIP?

Aguila, Kylene Anne; Gullifer, Jason; Vingron, Naomi; Rouillard, Vincent; Palenski, Paige; Li, Kexin; Titone, Debra.

Language is a system of communication shaped by social forces. Half of the world’s population is bilingual, however, little is known about how bilingual social networks shape language processing. Here, we investigate how bilinguals’ differing language use across social spheres (family, friends, school, online social networks) impacts word form and meaning competition during a monolingual vs. bilingual L1-L2 lexical decision task. When the task requires only one language, we expect French-English bilinguals to show inhibition of competing meanings for interlingual homographs which share word form but not meaning (coin = money in English vs. corner in French). When the task requires both languages, we expect homograph facilitation due to shared word form. Results bear on neurocognitive accounts of bilingualism that predict a relationship between cross-language activation and whether bilinguals commonly use multiple languages within social spheres (integrated use), or whether they use only one language within spheres (compartmentalized use).

THE INFLUENCE OF EMOTIONAL VALENCE ON THE LINK BETWEEN EMPATHY AND MEMORY

Giorgio, Lisa-Maria; Sheldon, Signy.

Memory is involved in many non-remembering functions. A recent body of work has shown that remembering past events also play a role in a variety of mental tasks important for social functioning, including empathy. In the current study, we investigated how the ability to engage in episodic processes is linked to empathic behavior. During the trial phase, participants (N=24) viewed six positive and six negative videos of people recalling autobiographical memories and had to make continuous empathic judgments about the emotionality of the videos. During the test phase, we asked participants to recall as many details as they could about each of the trial videos. The main findings of the study show higher accuracy of empathic responding for positive memories and higher recall accuracy for negative memories. Our results suggest that emotional valence serves as a factor that influences the recruitment of episodic memory as a support for negative empathic responding, but not positive responding.
YOU DON’T SEEM SAD: EMOTIONAL EXPRESSIVE ACCURACY AND DEPRESSIVE SYMPTOMS

Brett, Angela; Krol, Sonia; Dirks, Melanie, A; Bartz, Jennifer.

Depressive symptoms have been linked to reduce emotional expressivity, which likely has negative consequences for social functioning. However, little is known about whether this lack of outward expression corresponds to people’s internal experience; in other words, are greater depressive symptoms also associated with reduced emotional expressive accuracy. We tested this hypothesis by filming 64 participants as they discussed emotional events in their lives (3 positive, 3 negative). Next, participants viewed their own videos, and gave continuous ratings of how their affect while speaking on a 9-point scale (Very Negative-Very Positive). Finally, three female raters viewed all videos, and rated how they perceived the target to be feeling. Our index of expressive accuracy was the correlation between target and raters’ judgements. A repeated-measures ANOVA was used to examine the associations between valence (positive, negative), rater, target gender, and depressive symptoms.

DOES SELF-CONCEPT CLARITY MODERATE THE RELATIONSHIP BETWEEN SELF-OTHER MERGING AND EMPATHY?

Bernstein, Ian; Krol, Sonia; Libenstein, Jamie; Bartz, Jennifer.

Empathy is necessary for social relationships and, intuitively, requires some degree of self-other merging. However, the role of self-other merging in empathy remains poorly understood, with some researchers arguing self-other merging is crucial for empathic responding, and others arguing it leads to personal distress. We propose self-concept clarity (SCC) as a moderator of the self-other merging-empathy relationship. We experimentally manipulated self-other merging by randomly assigning fifty participants to the synchronous or asynchronous condition of the enfacement illusion. Synchronous, but not asynchronous, stroking between the participant’s and target’s faces has been shown to induce self-other merging, as assessed by explicit and implicit measures. Participants self-reported on SCC as well as personal distress and empathic concern reactions after watching a video of the target recalling a negative autobiographical event. Results revealed no effect of condition on merging, and no evidence of the moderating role of SCC on the relationship between self-other merging and empathy. Possible reasons why the manipulation failed are discussed.

THE EFFECTS OF ALCOHOL AND HOSTILITY ON ANGRY AND QUARRELSOME RESPONSES TO PERCEPTIONS OF THE OTHER’S QUARRELSOMENESS

Lau, Marianne A; Sadikaj, Gentiana; Moskowitz, Debbie.

Previous research has shown that alcohol consumption increases aggression among hostile-aggressive individuals, especially in response to interpersonal provocations. Little research has examined, however, this effect of alcohol on the behaviour of hostile individuals in naturally-occurring interpersonal interactions. This study explored the influence of trait hostility on the effect of alcohol consumption on angry and quarrelsome responses to perceived quarrelsome behaviour in the other. A sample of 113 participants from the community completed event-contingent recordings in which they reported their angry-hostile affect, quarrelsome behaviour, perception of others’ quarrelsome behaviour, and the number of alcoholic drinks consumed within 3 hours of each interpersonal interactions over 20 days. Results revealed that increases in alcohol consumption enhanced angry and quarrelsome responses to perceived quarrelsome in others among high hostile individuals; no such effect of alcohol was found among low hostile individuals. Findings suggest that alcohol consumption may undermine hostile individuals’ behavioural control in interpersonal interactions.
EXPLORING THE INFLUENCE OF COGNITIVE RESOURCES ON BODY OWNERSHIP

Mattuck, Shira; Thériault, Rémi; Landry, Mathieu; Raz, Amir.

While the distortions in body ownership induced by the Rubber Hand Illusion (RHI) have been primarily attributed to bottom-up multisensory integrative processes, recent research demonstrates the modulatory effects of higher order cognitive processes such as attention and top-down expectation within this paradigm. The current study sought to a) replicate previous results pertaining to the RHI, including neural correlates and b) ascertain whether cognitive resources influence the induction of body ownership illusions by assessing whether a cognitive load task modulates the RHI. Illusion strength was measured using both a validated self-report questionnaire and the participants’ electrodermal activity arousal related to threatening the rubber hand. Our results replicate previous findings by showing a significant difference between illusion strength for asynchronous and synchronous stroking. However, our results do not support the hypothesis that cognitive load influences the strength of the RHI. Keywords: rubber hand illusion, top-down, bottom-up, cognition.

A LITTLE LESS CONVERSATION: THE ROLE OF EXECUTIVE CONTROL AND IDENTIFICATION IN PROTECTING ROMANTIC RELATIONSHIPS

Maaz, Sabrine; Auger, Emilie; Lydon, John.

Attractive alternatives to one’s current partner threaten one’s romantic relationship. People can resist the temptation they pose using various strategies such as devaluing the attractiveness of the alternative or mentioning one’s partner to signal unavailability. These responses vary based on the level of executive control and the degree to which one incorporates one’s partner into one’s sense of self (identification). We sought to clarify how the two factors contribute to devaluation. We presented romantically involved individuals with an introductory video of an attractive preferred-sex confederate, leading them to believe that they would meet. Participants interacted with the confederate via Instant Messenger before or after rating the attractiveness of the confederate. Consistently with past findings, the interaction between executive control and identification was significant (p=0.024): among high identifiers, those low in executive control devalued more than those high in executive control.

ALL YOU NEED ARE HUGS: DOES INCREASING A SENSE OF PHYSICAL SECURITY BUFFER THE EFFECTS OF ACUTE PSYCHOSOCIAL STRESS?

Saeed, Gul; Nitschke, Jonas P.; Lydon, John E. & Bartz, Jennifer A.

Feeling secure is a fundamental human motive that facilitates exploration and helps us cope with threats in the environment. Previous research has focused on the buffering effects of psychological security, whereas less is known about the effects of physical security. Preliminary work has shown that wearing deep pressure vests (DPV), which are thought to evoke a sense of physical safety, buffers the effects of acute rejection. We investigated whether feeling physically secure can buffer the effects of other forms of stress—namely, social evaluative stress. To this end, participants were randomly assigned to a physical safety or control condition, in which they wore a deep pressure vest (DPV) or control vest, respectively. All participants then experienced an acute psycho-social stressor (Trier Social Stress Task); biological and subjective stress were assessed throughout the TSST paradigm. We hypothesized that participants wearing the DPV would report lower levels of subjective stress compared to controls.
THE EFFECTS OF STRESS AND MATERNAL DEPRESSION ON SOCIAL REWARD PROCESSING

Stewart, Emma K; Ethridge, Paige; Weinberg, Anna.

One of the greatest risk factors for adolescent depression is having a depressed mother. This may be due to hereditary abnormalities in the brain’s response to rewards. Additionally, stress is associated with abnormal reward processing and major depression onset. The reward positivity (RewP) is a positive spike in the voltage of signals from regions involved in reward processing, like the basal ganglia. It can be detected by electroencephalography (EEG). In this study, we recruited teenage girls between the ages of 11 and 19 to complete the UCLA Life Stress Interview and take part in a computerized task involving positive and negative social feedback. One group had mothers with a history of recurrent depression, while the other group had mothers without any psychopathology. We found that maternal depression predicted a more blunted RewP in response to social rewards. However, neither stress nor its interaction with maternal depression predicted the RewP amplitude.

EFFECTS OF NOVELTY ON THE SELECTIVITY OF LONG-TERM FEEDBACK LEARNING

Maltezos, Sarantia; Fellows, Lesley; Sharp, Madeleine.

Much of our everyday learning depends on incrementally learning associations guided by feedback. While the factors that modulate the acquisition of feedback learning have been well defined, much less is known about the long-term memory of feedback learning. Other forms of learning, such as episodic memory, appear to depend on dopamine-mediated contextual cues, like novelty. Here, we specifically asked whether exposure to novelty during the acquisition of incrementally-learned associations leads to better long-term memory for these associations. We used an incremental learning task with a multiple-reversal structure and manipulated the learning context by presenting novel or familiar images preceding each trial. We then tested long-term memory for the stimulus-outcome associations. Preliminary results suggest that after a two-day delay there is a greater tendency to choose the stimulus associated with novel images, even though this bias is not present initially. These early results suggest that associations learned in the context of novelty are preferentially consolidated into long-term memory. Ongoing data collection will help establish the robustness of this finding and its dopamine-dependence.

SELF-CONTROL MOTIVATION AND THE AUTOMATIC AVOIDANCE OF ATTRACTIVE ALTERNATIVES

Zhang, Jenny; Auger, Emilie; Engstrom, Holly; Lydon, John E.

The successful maintenance of romantic relationships is an important goal for many people, but some succumb to temptation when faced with the relationship threat of an attractive alternative. As a relationship protection mechanism, engaging in avoidant behaviours toward these tempting alternatives is one method by which romantically-involved people can defend their relationship. However, it is less clear whether automatic avoidance plays a role as a goal protection mechanism in the context of relationships, and whether this strategy requires the presence of self-control motivation. To answer this, we measured the preferential biases of single and romantically-involved participants on the approach-avoidance task toward attractive and control target faces, either with or without being first depleted of self-regulatory motivation. In contrast to previous findings in our lab, we did not find evidence for automatic biases to approach among singles or avoid among the romantically involved. Study limitations suggest a need for further investigation.
DOES PERSONALITY MATTER? TREATMENT OUTCOME IN EATING DISORDERS

Khanizadeh, Ariane; Fletcher, Émilie; Kahan, Esther; Schmitz, Norbert; Steiger, Howard.

Assessing personality in the context of eating disorder (ED) treatment may enable mental health professionals to identify individuals who are likely to improve in therapy. The present study sought to examine the heterogeneity of personality within ED subgroups and its influence on treatment. A latent-class analysis yielded three underlying groups of ED patients: the first was highest on neuroticism and lowest on agreeableness, the second was highest on agreeableness and conscientiousness, but lowest on neuroticism, and the third was lowest on extraversion, conscientiousness, and openness, and intermediate on neuroticism and agreeableness. Each cluster differed in ED symptomology and intake therapeutic alliance, but not intake autonomous motivation (AM) levels. Also, clusters did not predict treatment outcome. Individually, higher neuroticism and lower conscientiousness predicted ending treatment prematurely. AM and therapeutic alliance, factors that have been implicated in treatment, were not found to affect the relationship between personality dimensions and treatment outcome.

ESTABLISHING THE LINK BETWEEN CONTACT COMFORT AND THE NEED TO BELONG

Léah Suissa-Rocheleau, Kristina Tchalova, Jennifer Bartz

"All humans have a deeply held need to belong – to secure and sustain relationships with other people. Research has shown that when this need is threatened, individuals employ a number of affiliative strategies to restore feelings of belongingness. However, no research has previously examined the relationship between belongingness needs and seeking of contact comfort, one of the primary modalities through which social connection is established. In this research we piloted a novel task for measuring social motivation through contact comfort seeking. We assessed individuals' dispositional feelings of social (dis)connection, as well as manipulated belongingness needs with bogus personality feedback. We then examined, under the guise of a consumer decision task where participants had to rate various objects, whether individuals experiencing higher levels of social disconnection would show greater interest in a soft and warm object. This research provides an expansion of the measures used in the field of rejection and belongingness research."

IMPLICATIONS OF AFFECTIVE DISSONANCE WITHIN PSYCHOPATHY

Bernier, Sarah; Chazan, Devon; Samo, Andrew; Tansley, Shannon; Mogil, Jeffrey; Vachon, David.

Empathy is a construct that has been extensively researched and demonstrated to be crucial for psychopathy. Recently, a new definition of empathy was proposed which brings in an interesting factor into play: Affective Dissonance, which is an incongruent experience to what others are experiencing. This definition was empirically supported and shown to be more predictive of externalizing behaviours. The current study investigated the relationship between Affective Dissonance and psychopathy in the context of different social situations. Three social conditions, low, baseline and high empathy, were elicited through participants (N = 36) interacting with a confederate. The effects were measured through a thermal pain task as well as an empathy and psychopathy questionnaire. The main findings of this study show that Affective Dissonance plays an important role in the construct of psychopathy, suggesting that the issue is more complex than a general “lack” of empathy, and indicative of a deficit in empathic response.
QUALITATIVE AND QUANTITATIVE CYTOARCHITECTONIC ANALYSIS OF THE PARACENTRAL CORTEX OF THE HUMAN BRAIN

Lelyuk, Alexandra; Israel, Sonia; Novek, Jennifer; Petrides, Michael.

Parcellation of the cerebral cortex of the human brain based on the cytoarchitecture has been a long-standing challenge for neuroanatomical research. Early efforts consisted of qualitative analysis involving microscopical inspection of histological sections. More recent studies have introduced computerized quantitative methods of analysis aiming to complement the role of the observer. However, such methods either utilized mathematical features that could not easily be related to the differences in the visually observable biological characteristics or required complex analyses. The current study attempts to address these issues. Focusing on the medial Brodmann areas 4 (primary motor cortex) and 6 (supplementary motor area) that are clearly distinguishable microscopically, the sensitivity of a novel quantitative method based on relative intensity profiles of individual cortical layers was tested in supplementation to qualitative cytoarchitectonic analysis of an optimally cut, i.e. perpendicularly to the sulci and gyri, histological section. Data analysis is currently in progress.

SMOOTH PURSUIT ABNORMALITIES IN SUBTYPES OF ATTENTION DEFICIT HYPERACTIVITY DISORDER

Carboni Jimenez, Andrea; Douglas, Virginia; O'Driscoll, Gillian

ADHD is characterized by deficits in attention and motor control, and is thought to involve abnormalities in frontal-striatal circuitry and the dorsal attentional network. Smooth pursuit eye movements rely on attention and motor control and are sensitive to deficits in these circuits. Pursuit studies in ADHD have yielded conflicting results but have not distinguished between ADHD subtypes. Methods: 31 boys aged 12-14 (10 ADHD-Combined, 12 ADHD-Inattentive, 9 Controls) generated smooth pursuit at two target frequencies. Eye movements were recorded by an Eyelink 2. ADHD-Inattentives had significantly lower pursuit gain before catch-up saccades than Controls, while ADHD-Combined showed a trend. ADHD-Inattentives made significantly more total saccades and catch-up saccades at the higher target frequency than both Controls and ADHD-Combined. Groups also differed in anticipatory saccade rates at high target frequency. Smooth pursuit is sensitive to neural dysfunction in ADHD, with the subtypes showing abnormalities that differ in both degree and kind.

ME, MYSELF AND I: LANGUAGE AS A PREDICTOR OF THE HELPING BEHAVIORS

Lapierre, Charles; Nitschke, Jonas; Bartz, Jennifer.

The level of stress in Universities has increased dramatically in the past decade. This chronic stress experienced by many college students has been linked to increased rates of anxiety/depression as well as lower academic performances. Recently, research has focused on the cognitive drawbacks of stress as well as its effect on pro-social behaviours. More precisely, it has been shown that stress has a significant influence on empathy and helping behaviours. Ninety-five students participated in the current study, which investigates a potential new predictor of stress and helping behaviours: written language. As expected, the attentional focus and helping behaviours of participants who were exposed to stress transpired through their use of pronouns (I, me, you, they) and emotion words. Finally, in an era overwhelmed with stress, predicting people’s attentional focus and stress responses based on a short excerpt of language might be beneficial.
THE DOMINO EFFECT: EMPATHY IN BLOOD DONATION

Neprily, Kristen; Ditto, Blaine.

Social contagion of physical symptoms in blood donation hinders donor retention. The reasons people take on others’ physiological symptoms are unknown. However, a theory of empathy has been proposed as a possible mechanism. The goal of the present study was to investigate donors’ susceptibility to emotional contagion, based on whether donors saw others experiencing vasovagal symptoms and their levels of cognitive empathy (COG), affective resonance (RES) and affective dissonance (DIS). Participants completed the Blood Donations Reactions Inventory, Medical Fears Survey and Affective and Cognitive Measure of Empathy (ACME). We detected a positive link between increased vasovagal reactions during blood donation and higher empathy ratings for COG and RES, suggesting increased susceptibility to vasovagal symptoms when seeing another experience a vasovagal reaction (VVR). Donor sex, age, body mass index, treatment condition, predonation anxiety or the number of previous donations did not mediate the effect. Through experimental assessments of empathy (susceptibility to emotional contagion) with observational and subjective self-reports, we were able to study self-insight.

A STUDY COMPARING THE TREATMENT OUTCOMES OF TWO INPATIENT PROGRAM PROTOCOLS FOR ADULTS WITH ANOREXIC SPECTRUM DISORDER

Azzi, Michelle; St-Hilaire, Annie; Paquin; Hodge, Chloé; Steiger, Howard.

Due to the relentless nature of Anorexia Nervosa (AN) in adults, treatment often requires hospitalization, leading to high costs and limited availability of treatment. To increase efficiency of treatment, it is important to assess the possibility of shortening the duration of hospitalization without compromising treatment outcomes. To do so, this study compared treatment outcomes of two inpatient protocols run at the Douglas Mental Health University Institute: a longer hospitalization that normalizes weight and a shorter hospitalization that progressively returns to normal functioning. Inpatients were assessed on Body Mass Index (BMI), eating disorder symptoms (EDE-Q), and problem difficulty (BASIS-32) at three different time points of hospitalization: admission, discharge, and 2-10 month follow-up. At discharge, results show significant differences between both protocols in BMI and BASIS-32 total score; however, both protocols yield similar treatment outcomes on all measures at follow-up assessment, thus providing support for the feasibility of effective shorter duration inpatient treatment.

TO FEEL OR NOT TO FEEL: HOW PAIN AND ILLNESS INFLUENCE SOCIAL APPROACH AND PAIN RESPONSE

Tabaka, John; Tansley, Shannon; Tuttle, Alex; Cordeiro, Matos, Elisa; Harji, Ziyaan; Samo, Andrew; Santella, Christina; Mogil, Jeffrey.

Watching others in pain elicits empathy and motivates social approach. Empathy enhances pro-social interactions and seeing others in pain can increase one’s own pain intensity, referred to as emotional contagion. We aimed to explore whether pain or illness can modulate differences in social approach and pain response in humans. We hypothesized that pain-related behaviours would elicit social approach and increased pain response to a cold stimulus while illness-related behaviours would motivate social avoidance and decreased pain response to a cold stimulus. Healthy individuals (18-35 years) were recruited. Female participants sat significantly closer to female confederates displaying pain behaviours and sat significantly farther from female confederates displaying illness behaviours (n=17-19, p<0.05). The same trend was not observed in male participants interacting with male confederates. Female VAS Pain Intensity scores revealed emotional contagion for pain behaviour (n=17-19, p=0.03). In males, the display of pain or illness behaviours did not cause emotional contagion. Social approach behaviour and increased pain response to a cold stimulus (increased emotional contagion) for others exhibiting pain behaviours were observed in females but not males.
THE LATE POSITIVE POTENTIAL PREDICTS PERCEIVED STRESS IN FIRST-YEAR UNIVERSITY STUDENTS

Scholes, Samantha, Sandre, Aislinn, and Weinberg, Anna

The transition from high-school to university can be a major source of stress for many adolescents, increasing risk for later psychopathology and academic difficulties. Increased attention to negative or positives images may enhance or reduce perceived stress following the transition into university. The Late Positive Potential is a neural marker of attention to emotional stimuli that reflects attention to motivationally salient information. The present study examined whether attention to pleasant or unpleasant images at the start of the academic year predicted subjective experiences of stress six weeks later among first-year university students. The LPP was examined during the viewing of emotional images in first year students at the start of the year. A larger LPP to positive images at the start of the academic year was associated with lower perceived stress levels six-weeks later. Future studies should investigate how perceived stress may link reward processing with symptoms of anxiety and depression.

THE RELIABILITY AND VALIDITY OF A PHOTOPLETHYSMOGRAPHY BASED MEASURE OF ARTERIAL STIFFNESS

Lew, Jimin; Horsley, Kristin; Ditto, Blaine.

Background: Increased arterial stiffness is a risk factor for the development of cardiovascular disease. Photoplethysmography is an underused technique to evaluate arterial stiffness through the assessment of pulse wave velocity (PWV). Limited studies have examined differences between various measurement techniques, making the application of photoplethysmography-based PWV difficult. Methods: Young women (N = 12) were invited to the Psychophysiology Lab for two appointments, one week apart, at the same time of day. At Time 1, PWV measurements were obtained using a previously validated device (Complior), and using a novel, photoplethysmography-based device (Biopac). At Time 2, PWV was assessed using both devices, and the experimenter positions were alternated to assess operator dependence and interrater reliability. Results: Complior showed a test-retest reliability for carotid-femoral PWV, while Biopac showed a test-retest reliability for carotid-posterior-tibial PWV. Interrater reliability was only observed for Complior. Conclusion: PWV measurements using photoplethysmography may be more reliable over a longer segment.

EFFECTIVENESS OF RESPIRATION CONTROL IN BLOOD DONATION

Zdravkovic, Ana; Ditto, Blaine.

Unpleasant vasovagal reactions to blood donation, marked by syncope or less severe symptoms such as dizziness, produce a more negative donation experience and thus reduce the likelihood that people volunteer to give blood and lower the blood supply. This study focused on the possible reduction of negative vasovagal reactions to donating blood through use of respiratory control methods, and possible moderation of these effects by sex and medical fear. Data were collected at Hema-Quebec Blood Drives from donors who were selected at random to participate in the study. Four hundred and fifteen participants were assigned one of four conditions: applied muscle tension, respiratory control, combination of both respiratory control & muscle tension, or none. Following the donation period, participants completed the Blood Donation Reactions Inventory and Medical Fears Survey. Results indicated the largest benefit for individuals reporting lower levels of medical fears. In this subsample, the intervention did not significantly benefit participants with high medical fears, nor did it negatively impact their fear levels.
THE RELATIONSHIP BETWEEN AFFECTIVE DISSONANCE AND AGGRESSION

Chazan, Bernier, Sarah; Samo, Andrew; Tansley, Shannon; Mogil, Jeff; Vachon, David

The recent development of the Affective and Cognitive Measure of Empathy (ACME) suggests a particularly strong association between aggression and empathy due to the newly added component: affective dissonance. Affective dissonance is the lowest end of the empathy scale where one does not just feel any empathy but rather experiences an incongruent emotional response to another’s expression of emotion, such as pleasure in another’s pain. Part of a larger study (N=36), intended to link pain levels with empathy, the present investigation uses correlational analyses to look at relations between aggression (physical and verbal) and empathy (cognitive, resonance and dissonance) using the Aggression Questionnaire and ACME, respectively. This study aimed to replicate the previous findings between empathic tendencies and aggressive behaviours as well as further investigate any sex differences in the relationship amongst the two constructs. The findings show that the expected correlation found between empathy and aggression was largely accounted for due to the dissonance component. Females and males showed interesting trending differences, although additional research with a larger sample must be conducted to further explore these associations.

AN INDIVIDUALIZED FEEDBACK INTERVENTION ABOUT PERFECTIONISM AND DAILY STRESS, COPING, AND MOOD: A PILOT CASE STUDY

Ashkenazy, Quinn; Dunkley, David.

This pilot case study tested an explanatory feedback intervention that provides students with individualized feedback about how their daily stress and coping processes and perfectionism interact to trigger and maintain negative and (lower) positive mood. One treatment-seeking female university student completed perfectionism and mood measures. Then, she completed daily records of stress, coping, and affect for seven days. Two weeks later, the participant received individualized feedback about her daily stress, coping, and mood patterns in a one-on-one session while she provided ratings and verbal feedback about the intervention. Deviation-score and mean-comparison analyses largely supported the relevance of previous empirically-supported models in explaining the student’s daily changes in negative and positive mood, as well as the maintenance of her mood problems and her strengths. Participant ratings and verbal feedback demonstrated the usability and acceptability of the feedback to the student. The student’s sadness, positive affect and empowerment improved from pre-post intervention.

EPISODIC MEMORY ENHANCES RISK-TAKING BEHAVIOR

St-Amand, David; Otto Ross and Sheldon Signy.

When we make decisions, we must often rely on our memories of what happened the last time we made a certain choice. Previous research has shown that our memory of events sometimes involves specific details about what happened (episodic memory), and sometimes is composed of more general information (semantic memory). Here we investigated how inducing participants to use their episodic memory in an interview would impact their behavior on a decision-making task they learn from experience. We discovered that inducing the use of episodic memory made participants take more risks. They also recalled more positive outcomes when thinking of the risky option in the task. This suggests that episodic memory may induce more risk-taking because we tend to better remember the good things that previously happened when taking risks.
Metabotropic glutamate receptors (mGluRs 1-8) are expressed throughout the pain neuraxis and therefore play a cardinal role in pain modulation. Of particular interest, mGluR5 has been implicated in nociceptive signaling under inflammatory conditions. Previous studies have shown that antagonizing intracellular mGluR5 receptors (but not plasma membrane mGluR5 receptors) relieves inflammatory pain. This suggests that intracellular mGluR5 receptors are the primary mediators of pain signaling under inflammatory conditions. Accordingly, we expect that membrane permeable mGluR5 antagonists will attenuate thermal and mechanical hypersensitivity following inflammatory injury, whereas non-permeable antagonists will not. The present study compares the analgesic efficacy of permeable fenobam and impermeable LY393053 in an inflammatory model of pain, thereby clarifying the role of intracellular mGluR5 in pain modulation. The present study did not find evidence that fenobam significantly attenuates thermal or mechanical hypersensitivity following CFA-induced inflammation.