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STEREOTYPIC ENGAGEMENT AND FUNCTIONAL PLAY IN CHILDREN RECEIVING AN EARLY INTENSIVE BEHAVIORAL INTERVENTION FOR AUTISM SPECTRUM DISORDER IN QUEBEC

Agarwal, A.; Fernandez, M.; Sladeczek, I.

Autism Spectrum Disorder (ASD), a diagnosis characterized by the DSM-5 as the presence of persistent deficits in social communication and interaction as well as restricted, repetitive patterns of behavior, interests, or activities, is known to occur in about 1.7% of children. Early Intensive Behavioral Intervention (EIBI), based on the principles of Applied Behavior Analysis, is considered to be a well-established treatment for ASD. While studies have found the treatment to be associated with large changes in IQ and moderate changes in adaptive behavior, there is little research studying the effects of EIBI on repetitive behavior, with mixed results. Stereotypic behavior, defined as purposeless or out-of-context movements or actions that are repeated two or more times, includes subtypes such as whole body stereotypy in which a child repeatedly rocks or sways back and forth, as well as hand and finger stereotypy in which a child may flap or clap their hands. Stereotypic engagement may detract from children's cognitive attention and interfere with their ability to complete tasks. Functional play has been associated with positive developmental outcomes, including language and cognitive ability. Research has found that when children are taught to play functionally, their engagement in stereotypic behavior also decreases. In this project, we study the frequency and duration of engagement in functional play and stereotypy in 20 participants receiving an Early Intensive Behavioral Intervention for ASD. We anticipate a decrease in children's stereotypic behaviors from pre- to post-intervention, mediated by an increase in functional play engagement

CHARACTERIZING HOW EMOTION IMPACTS THE ABILITY TO RECALL COMPLEX MEMORIES IN YOUNGER AND OLDER ADULTS

Agostino, C; Lalla, A; Sheldon, S

Emotion impacts the way information is encoded and recalled. There is evidence that positive information is selectively recalled by older but not younger adults, known as the positivity bias (Carstensen & Delima, 2018). The aim of this study was to investigate the impact of emotional content on memory and test for the presence of this bias using complex narratives and images. Healthy young and older adult participants heard six narratives with different emotional content (positive, negative, neutral) that were each presented with emotionally-neutral visual images associated with the narrative. After a delay, participants performed two memory tests. First, they recalled the narratives and rated their memory on a series of scales (vividness, emotion). Second, participants answered recognition memory questions about the associated visual images and rated the confidence and source of each recognition memory response. When examining the ratings of vividness, emotional valence and intensity associated with recalling the narratives, the results showed that older adults rated their memories more vividly than younger adults. Also, all participants correctly rated the narrative valences, and rated positive and negative narratives as more emotionally intense than neutral ones. For the recognition memory test, there was a near significant interaction between emotional content and age group ($p = .06$), such that older adults were more accurate for images paired with positive than negative narratives, and this effect was not found in younger adults. Broadly, the reported result suggests that healthy aging is characterized by a subtle preference for positive compared to negative information.

NECESSITY AND FUNCTIONAL ROLE OF VENTRAL HIPPOCAMPAL INPUTS TO THE NUCLEUS ACCUMBENS IN CONSUMPTIVE PLEASURE

Akimoto, J; Yang, A; Britt, J.

Ventral hippocampal (VHipp) projections to the nucleus accumbens (NAc) are hypothesized to be involved in consumptive pleasure. 1Hz stimulation of these inputs increased licks per bout, an objective measure of consumptive pleasure; however, its functional importance and contributions to the mechanisms of pleasure are still not well understood. A flavor preference was induced in a mouse model via manipulation of sucrose concentration paired with flavor associations in a flavor preference task to observe their natural behavior when developing a flavor preference. Licks per bout varied with sucrose concentration as predicted, and a “bout preference effect” was found where mice displayed a preference for the solution that previously had a higher sucrose concentration despite lowering the sucrose concentration back down to baseline. Then, involvement of VHipp inputs in consumptive pleasure was tested through optogenetic inhibition of VHipp but yielded no significant decrease in licks per bout. Low-frequency stimulation of VHipp projections, however, increased licks per bout, supporting VHipp involvement in consumptive pleasure. This suggests VHipp’s unique role in promoting consumptive pleasure but not in aversive behaviors. Thus, a new preference task with VHipp inhibition was introduced to assess its role in conditioned flavor preference. Blocking of the conditioned flavor preference proved successful and suggests a possible role in memory formation of increased sweetness-flavor associations and encoding of their pleasurable affect in those memories. VHipp innervations to the NAc are sufficient to block a conditioned flavor preference and are functionally important for consumptive pleasure, which in turn mediates the reinforcement of choice behaviors.

EFFECTS OF ENDOGENOUS OPIOID RECEPTOR BLOCKADE ON PERCEPTIONS OF SOCIAL SUPPORT

Allard, V.; Tchalova, K.; Bartz, J.

Having adequate social support is essential to human physical and mental health and to counteract the negative effects of social stress. Due to this critical importance it is essential to further our understanding of the biological mechanisms involved in perceptions of social support. Prior research indicates that the endogenous opioid system is involved in social comfort and social support. Thus, opioid receptor blockade disrupts social bonding and impairs feelings of closeness. However currently it is not known if this effect is mediated by perceptions of social support and interpersonal closeness nor how these perceptions might be impacted by naltrexone. This especially important in the context of stress where the perceptions of support and affiliative behaviours might be protective. This randomized double-blind study examined whether opioid receptor blockade will impact these social perceptions in a face-to-face interaction when anticipating an in-lab psychosocial stressor task. Participants (n = 6) received either 50mg of the opioid receptor antagonist naltrexone or a placebo and proceeded to perform an interaction with a social supportive partner that they brought to the lab. This interaction occurred while participants prepared for a social stress task, in the form of an evaluated self-presentation. Preliminary results were non-significant. Expected finding as are that compared to the placebo group participants in the naltrexone group perceived less social support from their partner and felt less close to their partner during the interaction. These findings would suggest that the endogenous opioid system plays a role in how we perceive our social interactions, namely how close and supportive we perceive others to be in a time of stress. These perceptions may then in turn impact the behavioural and affective processes of individuals when responding to a social stressor. Keywords: opioids, naltrexone, social support, feeling of closeness

VOLUNTARY EMOTION REGULATION OF THE POSTAURICULAR REFLEX

Halicki-Asakawa A., Suissa-Rocheleau L., Racine S.

Emotions are hypothesized to be partially driven by the defensive (avoidance) and appetitive (approach) motivational systems. Psychophysiological measures can be used to quantify emotional and motivational reactivity at the reflexive level. The startle blink reflex and postauricular reflex measure the defensive and appetitive motivational systems, respectively. The startle blink is potentiated to negative stimuli, whereas the postauricular reflex is potentiated to positive stimuli, relative to neutral stimuli. When participants are asked to regulate (i.e., enhance or suppress) their reactions to emotional stimuli, the startle blink reflex has been found to be up- and down-regulated accordingly. It is currently unknown whether the postauricular reflex is similarly affected by voluntary attempts to regulate an emotional response. We presented 42 participants with positive, negative, and neutral images followed by instructions to either enhance, suppress, or maintain their emotional response. Auditory startle probes were presented either before the regulation instruction (to assess unregulated emotional reactivity) or following the regulation instruction to assess emotion regulation. Analysis revealed that startle blink magnitudes were potentiated to negative images compared to neutral and pleasant images but were not affected by regulation cues in the expected pattern. PAR reactivity to positive, negative, and neutral images did not differ significantly. There was some evidence that voluntary regulation of PAR is specific to positive vs. negative images, although both suppress and enhance cues resulted in increased PAR magnitude relative to maintain cues.

THE ROLE OF CASPASE-3 IN ACTIVE DECAY OF LONG-TERM MEMORY

Baran-Goldwax, M; Groves, I; Hardt, O

Forgetting is usually thought of as a malfunction of memory. However, recent research highlights that much forgetting results from constitutive memory processes. One of these endogenous forgetting processes is active decay, which involves a systematic removal of long-term memories. This process requires NMDA receptor activation, which promotes the internalization of GluA2-containing AMPA receptors from the post-synaptic sites. However, it is unclear how these two events are linked. Here, we test the idea that active decay recruits pro-apoptotic pathways. These pathways are involved in cell death, but also underpin long-term depression (LTD), a form of synaptic plasticity that requires NMDAR activation and the removal of GluA2/AMPA receptors. During LTD, activation of the pro-apoptotic kinase caspase-3 triggers GluA2/AMPA internalization. Therefore, we tested whether caspase-3 is also involved in active decay. We first allowed rats to acquire the location of two objects in a test arena, which rats naturally forgot within 5 days. We then infused the caspase-3 inhibitor z-DEVD-fmk into the dorsal hippocampus of rats for 5 days, between days 2-6 of the 7-day retention period after which memory was tested. Rats infused with the inhibitor expressed significantly stronger memory for the previously learned object locations compared to rats infused with the inactive vehicle. Our results therefore indicate that the natural loss of long-term memory involves caspase-3, suggesting that active decay recruits pro-apoptotic pathways. The dysregulation of this process could lead to pathological memory loss typical in neurodegenerative conditions, such as Alzheimer's disease, which ultimately leads to the death of neurons.

THE CONTRIBUTION OF FATIGUE TO WORK DISABILITY IN INDIVIDUALS WITH MUSCULOSKELETAL DISORDERS

Bergeron, K. ; Sullivan, M. J. L.

Fatigue, defined as overwhelming exhaustion that adversely impacts one's cognitive and/or physical functioning, has been found in individuals with pain-related work disability. However, whether fatigue contributes to work disability independently from pain severity or depression has not been examined. In this study, participants who were off work due to a musculoskeletal condition enrolled in the Progressive Goal Attainment Program (PGAP) return-to-work intervention were assessed on their levels of pain severity, depression, and fatigue. The contribution of these three variables to self-reported disability and occupational reengagement was then examined. A pre-treatment cross-sectional multiple linear regression found that pain, depression, and fatigue were all significant contributors to self-reported disability. However, only post-treatment change in pain and depression significantly affected post-treatment change in self-reported disability, and only post-treatment change in depression significantly affected occupational reengagement. In light of the existing evidence of a relationship between fatigue and work disability, the magnitude of change in fatigue caused by the PGAP may not have been sufficient to drive a change in work disability or occupational engagement.

STEREOTYPES INFLUENCE IMPLICIT COGNITIVE PROCESSES UNDERLYING TRAIT EVALUATIONS FOR TARGETS FROM DIFFERENT RACE AND GENDER GROUPS: INSIGHTS FROM MOUSE-TRACKING

Bertin, J, A; Xie, S; Hehman, E

People evaluate others on different personality traits (e.g. intelligence and trustworthiness) from a glimpse of their face. These impressions are formed rapidly, but dynamically, and may be influenced by social category information such as race and gender and their associated stereotypes. Using mouse-tracking - a dynamic measure of implicit cognitive processes - and real face stimuli from the Chicago Face Database, we sought to investigate the implicit role of stereotypes in impression formation. Undergraduate participants ($N=73$) each rated 150 randomly-ordered faces of Black, White, and Asian men and women along one of six traits: attractiveness, friendliness, dominance, physical strength, trustworthiness, and intelligence. Participants rated each face by selecting between two competing responses (e.g., less intelligent, more intelligent). We hypothesized that perceivers' mouse tracking trajectories would show more deviance (indicating more deliberation and/or initial attraction to unselected response) when evaluating stereotyped groups on stereotype-relevant traits. For instance, participants' mouse-tracking trajectories may waver more for one race-gender group, illustrating the influence of stereotypes on their thought process. Preliminary results indicated that, for evaluations of intelligence, perceivers' mouse trajectories deviated as a function of the targets' race, gender, and a race x gender interaction. Furthermore, mouse-tracking trajectories showed wavering when perceivers were evaluating the attractiveness of female targets versus male, indicating a more complexed thought process for females when evaluating attractiveness. In sum, preliminary results from this ongoing study demonstrate that race and gender interact to influence the *process* of impression formation when evaluating traits relevant to stereotypes about targets' groups.

EARLY LIFE EXPERIENCE AND THE BRAIN: ASSOCIATIONS BETWEEN MATERNAL PARENTING BEHAVIORS AND INFANT NEURAL RESPONSES TO EMOTIONAL STIMULI

Boyle, A; Sandre, A; Weinberg, A

The first year of an infant's life is marked by a period of neural sensitivity to environmental factors and extensive neural development, such as the development of facial and emotional processing systems. These processes set the stage for the development of emotional regulation skills, and therefore their dysfunction can pose a risk for psychopathology. The present study examined associations between maternal behaviors, specifically sensitivity, intrusiveness/overcontrol and positive regard measured during an in-lab play session, and infant neural responses to happy, fearful and neutral mother and stranger faces. Neural responses were measured through the Nc and P400 components of the event-related potential, reflecting attention allocation processes and structural encoding processes, respectively. While no significant associations between maternal behaviors and infant neural responses were observed, trends suggest that maternal sensitivity and positive regard may be associated with sensitization of attentional processes and desensitization of encoding processes in response to happy mother faces, while intrusiveness and overcontrol may be associated with a desensitization of neural correlates of attention and encoding processes in response to fearful stranger faces. This study is the first to propose an experimental design to examine possible differences in associations between maternal behaviors and infant responses to emotional stimuli depending on whether expressions are made by an infant's mother or by a stranger.

PROBING THE UNCONSCIOUS MIND USING INSTRUMENTAL HYPNOSIS

Brownstein, M; Da Silva Castanheira, J; Landry, M; Raz, A

The notion that hypnosis provides access to the unconscious mind is widespread among scholars and clinicians. However, there is currently no direct evidence to support this claim. Previous research has shown that hypnosis can eliminate conflict interference effects in the Stroop task by derailing the automatic reading response. The purpose of the current research study is to address the assumption that hypnosis can influence unconscious processes by testing whether hypnotic alexia—suppression of lexical processing—can occur when a word is solely processed at the unconscious level (i.e. participants are unaware it was presented to them). Highly suggestible individuals completed a priming task in which they were primed with a word that was either congruent or incongruent with target stimuli; we also manipulated prime awareness (there were both subliminal and supraliminal word-primers). Participants completed the computer task under normal alertness and following a posthypnotic alexia suggestion. Our results show a priming effect in the baseline condition, thus confirming the reliability of the task. Following the hypnotic suggestion, we expected to observe the absence of priming effects for both subliminal and supraliminal trials. Consistent with previous findings, our results show that participants can suppress the automatic reading response as evidenced by a reduced priming effect. However, this effect appears to be limited to supraliminal processing, thereby indicating that the influence of hypnosis over the unconscious mind remains inconclusive.

DIARY STUDY: EFFECTS OF DAILY FAT-SHAMING EXPERIENCES ON ATTENTIONAL BIAS

Chen, Z; Ravary, A; Baldwin, M. W.

Fat-shaming is a common phenomenon that often leaves a person feeling rejected. This process of external devaluation can lead to negative self-perception and evaluation, increasing risk for poor mental health. It is important to better understand how our current fat-shaming social environment can influence people's implicit cognitive processes and potentially perpetuate body image insecurity. We studied the impact of real-life fat-shaming experiences on implicit social cognitive biases using a 4-day diary design. Female undergraduates (N=17; ages 18 to 22) without a history of depression, anxiety or eating disorders were recruited. Participants completed a self-evaluation survey at baseline and on each of the subsequent three days, a modified dot-probe to test for attentional bias, followed by a daily assessment questionnaire, including self-report experiences of fat-shaming during the day. The cued attentional dot-probe is a reaction-timed task that assesses automatic attentional bias responses toward threatening information. Correlational and regression analyses were conducted to study the relationship between daily fat-shaming experiences and daily attentional bias toward rejecting social cues. Results showed that a fat-shaming experience was associated with an attentional bias toward rejection when cued with obese on average across days ($n=14$; $r=0.714$, $p=0.004$) and within days (average $r=0.30$). This finding supports the hypothesis that fat-shaming events can lead a person's attention to be drawn toward negative social stimuli.

EXAMINING SELF-COMPASSION AS A MODERATOR IN A NOVEL TRAINING INTERVENTION

Chowdhury, F; Ravary, A; Baldwin, M. W.

A recent study by Ravary and Baldwin (2018) has shown that when individuals' self-worth contingency domain (e.g., body image) is threatened, they are likely to show an attentional bias toward rejection. The aim of the present study was to investigate the efficacy of a novel cognitive training task (i.e., the cued-dot-probe training task) to reduce attentional biases for negative social information in specific instances when body-related insecurities are triggered. In particular, we examined the moderating role of self-compassion in our training intervention. We predicted that self-compassion would moderate the effects of our training intervention on participants' negative attentional bias and body image state. We recruited 264 women ($M_{age} = 22.24$, $SD = 1.82$) through Mturk. A variety of personality characteristics relating to self-esteem and body image insecurity were measured and attentional biases were assessed at pre and post-training intervention. The findings indicated that high self-compassionate people had lower obese-cued rejection biases following the training task, whereas the level of negative body image state was lower for low self-compassionate people when they received the training intervention. In addition, our exploratory correlational analyses showed that lower self-compassion was associated with greater thinness contingency and lower self-esteem. Our study suggests that it is important to consider individual characteristics such as level of self-compassion when examining the effectiveness of training interventions on different outcomes. Finally, our findings imply that self-compassion can buffer against the negative effects of thinness contingency.

ALTERING THE ACCESS TO AUTOBIOGRAPHICAL EPISODES WITH PRIOR SEMANTIC KNOWLEDGE: AN AGING INVESTIGATION

Crépeau-Hubert, F.; Peters, S.; Sheldon, S

Autobiographical memory consists of one's past personal knowledge and encompasses episodic memories (i.e. contextually bounded events) and semantic knowledge about the self and the world. When retrieving autobiographical memories, both dimensions interact such that semantic knowledge affects how episodes are recalled. The present study investigates how information from semantic memory affects the access to the episodic component of autobiographical memory. Since aging selectively affects episodic memory, leaving semantic memory processing relatively intact, we conducted this study in younger and older adults. Prior to retrieving a specific memory to a cue word, participants were presented with a true or false statement, either framed as a general fact, an autobiographical fact, or a repeated event. Participant's response times were measured. Our results reveal that there were differences between age group such that younger adults rapidly accessed autobiographical episodes regardless of the priming condition. Older adults, in contrast, benefited more from the prior activation semantic personal knowledge such that memories accessed in the autobiographical fact and the repeated event conditions were both retrieved faster than those accessed in the general fact condition. These results support the proposal that there are subtypes of semantic memory that are organized in a hierarchy, such that personal semantics are more closely linked to episodic memory than general facts are. These findings also provide insight on ways to overcome episodic memory deficits.

PREDICTING TREATMENT RESPONSIVITY BASED ON INDIVIDUAL CHARACTERISTICS IN PEDIATRIC CHRONIC PAIN PATIENTS

Desjardins, S.; Vogel, T.; Roy, M.

Background: Chronic pain conditions are complex, multifaceted and heterogenous. Consequently, responsivity to pharmacological treatment is far from optimal. In the field of medicine, attempts to develop individualized treatments have become increasingly widespread. Our study investigated whether individualized treatment can be applied to chronic pain, and more specifically, whether individual patient characteristics can predict responsivity to different treatments. *Hypothesis:* We hypothesized that responsivity to specific treatments would vary as a function of individual characteristics and that certain treatments would predict better outcomes compared to others depending on the characteristics of the patient. *Methods:* Pediatric female patients receiving treatment for chronic pain at a chronic pain clinic in Montreal (n = 165) were assessed using questionnaires and quantitative sensory testing at different time intervals. To predict treatment responsivity, a regression model was built for each subject. The predictors included treatment, functional disability inventory (FDI) score, quantitative sensory testing (QST) and the interaction between treatment and FDI as well as treatment and QST. The outcome variable used was patient global impression of change (PGIC). *Results:* The predicted PGIC scores associated with the optimal treatment were significantly higher than the predicted PGIC scores for the standard treatment factually received, $t(97) = 26.94, p < .001$. *Conclusions:* These results suggest that individualized treatment can be applied to chronic pain and that shaping treatment based on the individual characteristics of the patient may yield greater improvement than standard treatment.

MOVEMENT COORDINATION AS A TOOL TO INVESTIGATE POTENTIAL GENDER DIFFERENCES IN SOCIAL INTERACTIONS

Di Francesco, C.; Latif, N.; Onishi, K. H.; Nadig, A.

Movement coordination is the natural tendency for social partners to perform similar behaviors in both form and time. It is a foundation for effective social exchange, fostering feelings of interpersonal connectedness. Emerging research suggests atypical movement coordination during social interactions involving people with autism spectrum disorder (ASD), but the way in which males and females with ASD engage in social interactions has also been suggested to differ. To better understand potential gender differences in social interaction, we examined whether movement coordination differs in people with ASD versus neurotypicals (NT), and whether any gender-based differences are greater in ASD than in NT controls. We recruited 5 undergraduate students as NT controls and 13 adults with ASD. Participants conversed with an experimenter and the conversation was videotaped. We used movement analysis software to quantify movement coordination between participant and experimenter, and demonstrated that adults with ASD coordinated their movements to a greater degree than NT adults. A trend where ASD females coordinated to a greater degree than their male counterparts was also found, an effect that was not observed with NT adults. The difference in coordination across ASD and NT adults might be explained by having different experimenters in both groups. The enhanced coordination in females with ASD may mask their social difficulties. This study demonstrates the importance of further investigating movement differences across gender, which may provide insight in to why females with ASD tend to present as less impaired in nonverbal modes of communication, when engaging in social interaction.

USING TIMING OF A NATURAL DISASTER IN PREGNANCY TO DISTINGUISH DIFFERENT NEURODEVELOPMENTAL PATHWAYS TO SUBCLINICAL TRAITS OF THOUGHT DISORDER AND AUTISTIC-LIKE TRAITS IN ADOLESCENCE: VISUAL ILLUSIONS IN PROJECT ICE STORM

Di Lonardo, A.; King, S.

Patients with schizophrenia spectrum disorders and those with autism spectrum disorders both show superior performance compared to controls on higher order integration tasks like the Ebbinghaus visual illusion. Both patient groups have presented superior performance on this task, resulting from weak top-down processes, assumed to stem from certain neurodevelopmental dysfunctions. The task can be done under two conditions; a Helpful (easy to integrate context) condition and a Misleading (difficult to integrate context) condition, each recruiting different brain mechanisms. Project Ice Storm has linked different timings of prenatal exposure to the 1998 Quebec Ice Storm to subclinical thought disorder (TD; a symptom of schizophrenia) and autistic-like traits, which may be associated to some neurodevelopmental dysfunctions. Our goal was to use the timing in pregnancy of the Quebec Ice Storm to help distinguish separate pathways between PNMS and traits of subclinical TD and autistic-like traits via different aspects of a visual illusion at the age of 15½ (N=58). Timing in pregnancy did not moderate PNMS effects on contextual integration or autistic-like traits. However, we did find that timing moderated the effect of objective and subjective PNMS on subclinical traits of TD, with a main effect of objective stress on subclinical traits of TD. There were main effects of subjective distress on both the misleading and helpful condition performances, with subjective distress being significantly higher for those presenting abnormal performance (worse on Helpful, and better on Misleading conditions). These findings elucidate how PNMS may affect traits of TD by possibly influencing perceptual brain mechanisms.

INVESTIGATING THE DISTRACTIVE EFFECTS OF MUSIC ON PAIN PERCEPTION

Diushekeeva, A; Vogel, T; Roy, M.

Listening to music has been shown to have analgesic effects in numerous studies. For instance, Roy et al. (2008) found that listening to pleasant musical excerpts significantly lowered reported pain intensity when compared to unpleasant musical excerpts and a silent control condition. This finding suggests that music's emotional valence plays a role in its pain-reducing effects. Nonetheless, mechanisms by which music alleviates pain remain unclear. One plausible mechanism underlying music-induced analgesia is distraction — listening to music may decrease pain perception by shifting attention away from the painful stimulus. Similar to performing a challenging cognitive task, listening to music may decrease pain perception by competing for limited attentional resources. In order to test the hypothesis that the analgesic effects of music are mediated by distraction, healthy participants in our within-subjects design listened to pleasant music, scrambled music, and silence while receiving painful thermal stimulations and performing both a cognitively demanding task (the n-back task) and an easy task (the left-right task). Our findings revealed that pleasant music did not reduce pain compared to silence and scrambled music, regardless of the cognitive task. On the other hand, scrambled music increased pain compared to silence. These results conflict with previous studies on music-induced analgesia and find no support for music's distractive effects, but suggest that scrambled music can be used as an unpleasant acoustic condition increasing pain.

CAN YOU READ ME? PERSONALITY PREDICTORS OF EMOTIONAL EXPRESSION ACCURACY

Dragon, M; Nitschke, J; Bartz, J

Humans have a fundamental need to belong and empathy can facilitate the achievement of this need. Empathic accuracy (EA), the extent to which a perceiver is accurate in assessing a target's thoughts and feelings, is one way to determine the level of empathy a person has. Studies on EA have focused on characteristics of the perceivers but it has been found that a lot of variability in EA comes from the targets. However, particular aspects of the targets' personality that influence EA have yet to be identified. The present study attempted to analyse the effect of the self-concept clarity (SCC) of targets on the EA of perceivers. We hypothesized that people with higher SCC would be better able to express their emotions, and therefore be more understood by perceivers. We also looked at other variables, including alexithymia, self-esteem, and gender. We used a classic empathic accuracy task paradigm, comparing the ratings on emotional valence of the targets to those of the perceivers, to compute mean EA scores for each target. Contrary to our hypothesis, we found that male with high SCC were less readable when talking about a negative event. However, our theoretical hypothesis was confirmed when we looked at alexithymia: targets higher in alexithymia were less readable. These results suggest that targets who have trouble identifying their emotions produce lower EA scores, but that those having a more general confused self-concept do not. More research focused on targets' personality is needed to understand the mechanisms underlying these results.

KNOWING ONESELF AND GAUGING SIMILARITY OF POTENTIAL ROMANTIC PARTNER: CREATION AND TESTING OF A NEW PARADIGM

Dromer, E.; Kubin, D.; Lydon, J.

The similarity-attraction effect is the highly robust finding that similarity increases initial interpersonal attraction (Byrne, 1971). Research also suggests that clearly defined and stable self-beliefs may be important for decision making (Setterlund & Niedenthal, 1993). We sought to examine if clear and stable self-beliefs might help individuals make self-other comparisons in terms of similarity in the context of online dating. The aim of the present study was to develop and to test a new paradigm to manipulate self-target similarity and to explore whether self-concept clarity would moderate the ability to perceive similarity. A sample of 91 single undergraduates (Ages 18-25; $M = 20.23$, $SD = 1.32$) from McGill University first self-reported on their self-concept clarity, attitudes and personality traits, and then viewed 16 profiles of fictitious others who varied in terms of how similar they were to participants on attitudes and personality traits. After viewing each profile, participants were asked to evaluate how similar it was to them. Results revealed that as the level of self-profile similarity increased, so did perceived similarity, demonstrating the ability of the procedure to appropriately modify the similarity between profiles and participants. However, self-concept clarity did not moderate the ability of participants to perceive similarity which implies that regardless of self-concept clarity, people were able to perceive similarity in the same way. In conclusion, the paradigm may be used in future studies to explore if self-concept clarity influences attraction and partner selection.

INVESTIGATING THE EFFECTS OF NARRATIVE STYLE ON MEMORY RECALL

Dutemple, E; Sheldon, S

The way that a memory is recalled is determined by the purpose of retrieval. In everyday life, memories may need to be recalled as accurately as possible, such is the case in testimonials, or to serve social function, such as when telling a story to a friend. The goal of the present study was to investigate how these two forms of retrieval altered the details recovered from a previously learned episode. In a between-subjects design, young healthy participants heard stories that involved a protagonist experiencing an everyday event. After a 30-minute delay, participants in the social condition were asked to recall the story as if they were telling it for a social purpose and the participants in the control condition were asked to recall the story as accurately as possible. All participants returned 24 hours later to re-tell the social in the same narrative style. When we compared the details recalled across the groups, those in the social condition recalled fewer details overall and forget more peripheral details over the testing session than the control group. When the descriptions were analyzed for content with the Linguistic Inquiry and Word Count, we found the control group produced narratives that represented analytic thinking to a greater degree than the social group. Together, these findings provide insight into how the purpose for retrieving a memory will guide the details that are recalled.

CONTEXTUAL INFLUENCE OF REGIONAL GENDER BIAS ON FACIAL GENDER CATEGORIZATION

Feng T., Oforu E. K., Hehman E.

Past research has shown that regional bias could have a downstream effect on the perception and behaviours of an individual. We investigated the influence of regional gender bias on individual perceptual boundary of gender categories. Specifically, we examined whether explicit and implicit gendered associations (i.e. men are linked with career, women are linked with family) are correlated with the degree of femininity needed to categorize a face as female and the degree of masculinity needed to perceive a face as male. 275 participants indicated when faces changed from male to female through Amazon Mechanical Turk, an online platform for paid studies. They subsequently provided postal codes for an estimation of regional gender bias by using an existing database, Project Implicit. Results have shown that explicit gender bias about women compared to men is negatively related to the femininity required to perceive a face as female. Furthermore, no significant associations were found between implicit gender bias and the masculinity required to label a face as male. Findings suggest that regional gender bias may influence an individual's perception of facial gender boundary.

ATTACHEMENT, SOUTIEN À L'AUTONOMIE ET PROGRÈS DANS LES BUTS PERSONNELS DANS LES RELATIONS AMOUREUSES : UNE ANALYSE DE LA THÉORIE DE L'AUTODÉTERMINATION

Gilbert, A.A.; Moore, E.; Koestner, R.

Des études précédentes ont investigué les effets du soutien à l'autonomie et du soutien directif dans les relations amoureuses sur le progrès dans les buts personnels. Le soutien à l'autonomie était défini comme étant la reconnaissance empathique de la perspective unique de la personne tandis que le support directif était défini comme étant des conseils pratiques et de la résolution de problèmes. La présente étude examine la mesure dans laquelle les jeunes comptent sur leur partenaire pour recevoir du soutien et compare l'effet du soutien à l'autonomie et du soutien directif de la part de leur partenaire amoureux. Un groupe de 379 étudiants ont répondu à un total de 6 questionnaires étendus sur une période de 7 mois évaluant une multitude de variables telles que le progrès dans leurs buts et le soutien qu'ils reçoivent. Les résultats obtenus révèlent qu'un attachement sécurisé avec son partenaire est un antécédent important à la perception de soutien à l'autonomie, mais pas à la perception de soutien directif. Nous avons également trouvé que la perception de soutien à l'autonomie de la part de son partenaire, mais pas du soutien directif, est associée à un plus grand progrès dans les buts personnels. Ce progrès était à son tour associé à une hausse du sentiment de bien être subjectif des participants.

EXTERNALIZING AND INTERNALIZING BEHAVIORS IN ADOLESCENCE AND AGE OF FIRST USE OF SUBSTANCES

Giordano, T; Marchica, L; Derevensky, J

The greatest risks to adolescent health and well-being include substance use and mental health problems. Previous research has shown a strong relationship between mental health disorders and substance use disorders, as well as a relationship between an early age of onset of substance use and increased presence of mental health problems, or for risk of later mental health problems. However, the direction of influence of this relationship remains unclear. Using data from the 2018 Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board/Wood County Educational Service Center Survey on Alcohol and Other Drug Use among American adolescents in Wood County, Ohio, this study aims to further the understanding of the relationship between early onset substance use and mental health problems among American adolescents. Further, the current study aimed to explore the effect of gender on the relationship between the presence of externalizing and internalizing problems on age of onset of substance use. The final sample consisted of a total of $n = 1,184$ students (Mage = 16.07 years-old, SD = 1.331) who had used cannabis and a total of $n = 2,470$ (Mage = 15.59 years-old, SD = 1.608) students who had drunk alcohol due to the exclusion of participants that had never used alcohol or cannabis between the ages of 12 and 17, grades seven through twelve. Results indicated that as problem severity scores increased for all the mental health subscales (aggression, delinquency, depression & anxiety) the age of onset of substance use for both cannabis and alcohol decreased. Gender was not shown to be a significant moderator for any of the interactions. Key words: Substance Use, Adolescents, Externalizing and internalizing problems

THE CONTROL OF ATTENTION BIASES METACOGNITIVE JUDGEMENTS

Gossack, A; Da Silva Castanheira, J; Landry, M; Raz, A.

The phenomenology of agency – feeling in control over our actions – is central to our interactions with the world. In attention-based research, the study of agency (i.e. the control of attention) has typically been explored with a focus on endogenous attention. However, recent findings highlight how endogenous attention can be subdivided into two attention subsystems in order to further tease apart a sense of agency. This taxonomy comprises the purely voluntary and rule-based attention systems, with the former involving a stronger sense of agency. In order to gain a better understanding of these two systems' differing effects on metacognition, participants completed a target discrimination task in which they provided an objective discrimination response and a subjective confidence judgement about their own performance. Performance levels were equated across conditions through titration, in order to directly assess the influence of attention on confidence reports. Our results showed higher confidence levels in the purely voluntary attention condition compared to the rule-based attention condition, suggesting that agency may play a role in producing metacognitive biases.

THE EFFECTS OF NON-INVASIVE BRAIN STIMULATION ON THE REWARD NETWORK –A SYSTEMATIC REVIEW AND EXPLORATORY META-ANALYSIS

Hodzic-Santor, B; Kirschner., M; Dagher, A.

While non-invasive brain stimulation (NIBS) has been investigated as a potential therapeutic for a variety of disorders characterized by reward dysfunction, much less is known about the extent to which reliable effects can be produced on the reward network. This review summarizes the current approaches investigating the effects of NIBS coupled with imaging techniques (PET or fMRI) to assess the effects on the reward system based on stimulation protocol (i.e. TBS, TMS, tDCS) and stimulated region. Exploratory meta-analyses were conducted to estimate of the magnitude of the effects. Results suggest that NIBS significantly affects a number of structures within the reward network, including the striatum, ventral tegmental area, and the orbitofrontal cortex and that NIBS appears to be a useful tool to modulate dopamine release, task-related activity, and resting state connectivity of the reward system. However, results also showed that effects vary considerably from study to study and are likely to be small. Variability in findings across studies is likely due to differences in methodology as well as differences in individual functional connectivity. While NIBS is promising in its ability to modulate activity of the reward system, the field would benefit from a more systematic investigation of effects, both by stimulation site and protocol, in order to determine the optimal method for modulating reward system activity and connectivity. This would advance our basic understanding of the interaction between different brain regions and networks and in its ability to modulate dysfunctional networks present in many forms of neuropsychiatric disorders.

ENDOGENOUS OPIOIDS AND ATTACHMENT: THE EFFECTS OF AN ENDOGENOUS OPIOID RECEPTOR BLOCKADE ON ATTACHMENT BEHAVIORS

Holden, O; Tchalova, K; Bartz, J.

Close social bonds are essential to a healthy and happy life; however, little is known about the neurochemical mechanisms that drive social bonds and attachment. The brain opioid theory of social attachment (BOTSA) states that μ -opioids are released through experiences of social bonding and mediate the pleasant feelings stemming from social bonding and affiliation. Thus, according to BOTSA, the release of opioids may be critical to continued bonding. However, the role of opioids in attachment behaviors toward close others has not been examined fully. The current study used a randomized, double-blind, placebo-controlled, 2 (social support vs. no social support) x 2 (naltrexone vs. placebo) design. Half of the participants brought a close other, while the other half arrived alone. Upon arrival, participants completed a variety of questionnaires including one assessing general attachment style, naltrexone (50mg) or a placebo were administered, and they completed a stress task known as the Trier Social Stress Task. Interactions with their partner were covertly recorded and coded. We predicted, in line with BOTSA, that naltrexone will increase support seeking and anxious behavior towards partners. Additionally, this effect may be mediated by individual differences in attachment, such that securely attached individuals will be more affected.

APPROACHING AVOIDANCE: TOWARDS A MORE FINE-GRAINED UNDERSTANDING OF THE RELATIONSHIP BETWEEN SELF-CRITICAL PERFECTIONISM, NEUROTICISM AND EXPERIENTIAL AVOIDANCE

Jenkins, R.; Tobin, R.; Dunkley, D.

This study of 343 community adults (221 females; 122 males) examined the relative contributions of specific perfectionism components and neuroticism in predicting experiential avoidance cross-sectionally and over one year. Participants completed measures of two higher-order perfectionism dimensions (self-critical [SC], personal standards [PS]) and neuroticism at Time 1, and measures of experiential avoidance at Time 1 and Time 2 one year later. Experiential avoidance was assessed with the Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) and the Brief Experiential Avoidance Questionnaire (BEAQ; Gámez et al., 2014), which employs multiple specific experiential avoidance subscales. Hierarchical regression analyses revealed that SC perfectionism components and neuroticism both uniquely predicted Time 1 experiential avoidance scales concurrently. SC perfectionism measures also predicted increases in experiential avoidance scales over one year when controlling for the effects of neuroticism. In contrast, neuroticism did not provide incremental power over SC perfectionism components in predicting increases in experiential avoidance scales over one year. Socially prescribed perfectionism and discrepancy proved to be the most pathological components of SC perfectionism in predicting experiential avoidance scales cross-sectionally, while the concern over mistakes component showed the greatest unique predictive validity in the prospective analyses.

HIPPOCAMPAL INPUT TO THE NUCLEUS ACCUMBENS PROMOTES CONSUMPTIVE PLEASURE

Jussaume, A; Yang, A; Britt, J

Dopamine had long been thought of as a key player in the pleasure-reward system. However, recent evidence suggests that its role lies more with wanting, than explicitly with pleasure. The nucleus accumbens (NAc) has been shown to be a vital component of hedonic processing of rewards. There is a noticeable “pleasure hotspot” in the rostradorsal quadrant of the NAc, that only accounts for 10% of its total volume. The remaining 90% may lack the ability to enhance the pleurability of food. This suggests that the NAc itself may not act alone and that another pathway into the pleasure hotspot may be involved. It had been previously shown by the Britt lab that optogenetic stimulation of a glutamatergic pathway from the ventral hippocampus to the NAc increases consumptive pleasure. With the knowledge of the existence of this pathway, using a flavor preference experiment in mice would lead to a better characterization of its role in pleasure. If glutamatergic inputs from the ventral hippocampus to the NAc are important in consumptive pleasure, then upon their stimulation we should see a flavor preference shift for a flavored solution paired with this stimulation, versus an unpaired solution. The data shows that a natural flavor preference can develop by increasing sucrose concentrations of flavored solutions to see how a preference occurs on its own, without stimulation. Stimulating the ventral hippocampal inputs to the NAc results in an artificially produced flavor preference in the absence of a natural incentive for one to occur. These data are consistent with the idea that glutamatergic inputs from the ventral hippocampus to the NAc are involved in pleasure in the CNS.

THE EFFECT OF GOAL-RELATED ACTION CRISIS ON STUDENT HEALTH AS A FUNCTION OF GOAL DIVERSITY

Kaloyannis, I; Holding, A; Koestner, R

This study investigated the effect of goal-related action crisis on subjective and objective indicators of health. 230 university-level participants participated in a study regarding goal progress over the academic year. They were asked to list 3 goals they planned to pursue and their progress for each was monitored at 3 time points over the academic year. They individually completed four instruments online to assess stress levels, physical health symptoms, anxiety symptoms and degree of goal-related action crisis. Additionally, a hair cortisol sample was obtained at two time points from each participant. Each participant's results for these physical and mental health indicators were analyzed with respect to their reported experience of goal-related action crisis to determine if there were significant negative health outcomes associated with difficulties in goal pursuit. During goal-related action crisis, for each indicator, a significant effect was found. In a second part of this study, the participants' goals were coded according to various categories (such as fitness goals, academic goals, social goals, etc.) and each participant was rated as having either low goal diversity (2-3 of their 3 personal goals within the same category) or high goal diversity (all goals in different categories). Goal diversity was found to moderate the effect of goal-related action crisis on health outcomes, where higher goal diversity buffered the negative impact of action crisis on health.

A ONE- DAY ACCEPTANCE AND COMMITMENT THERAPY WORKSHOP LEADS TO REDUCTIONS IN EMOTIONAL EATING BEHAVIOUR IN ADULTS

Khanyari S; Frayn M; Knäuper B.

Emotional eating is the tendency to overeat in response to negative emotions. It has been linked to both physical health concerns and mental health concerns, regardless of weight status. Interventions for emotional eating have been developed based on Acceptance and Commitment Therapy (ACT). However, these interventions only address emotional eating in the context of weight loss programs and are therefore not available to individuals of normal weight. The present study aimed to test the feasibility and acceptability of a one-day ACT workshop that taught skills to reduce emotional eating, regardless of weight. The workshop was delivered in a single day and aimed to reduce emotional eating by improving values clarification and commitment, acceptance, and mindfulness. Follow-ups were conducted at 2-weeks and 3-months post-intervention. Results suggest feasibility and acceptability of the one-day workshop; participants described appreciating the brevity of the program and its applicability to their everyday lives. Improvements in emotional eating and associated ACT processes were found at 2-weeks and 3-months. A repeated measures MANOVA revealed a significant main effect of time, with follow-up ANOVAs indicating that this effect held for all variables. Subsequent multiple regression analyses showed that reductions in emotional eating were driven largely by increases in mindfulness. The results from this study can be used to inform a larger scale randomized controlled trial (RCT) to determine the efficacy of the program in a larger sample and eventually disseminate it in other real-world settings.

INDIVIDUAL DIFFERENCES IN REMEMBERING AND IMAGERY ABILITY ARE REFLECTED IN HIPPOCAMPAL FUNCTIONAL DYNAMICS

Le Duc, W.; Brunec, I.; Bellana, B.; Sheldon, S.

The link between episodic memory ability and hippocampal function is traditionally studied with laboratory measures of learning and retrieval. However, the relationship between real-word memory abilities and hippocampal remains an open question. This goal of this study was to test the relationship between the tendency to use episodic versus semantic memory for naturalistic (i.e., autobiographical) forms of remembering and functional variability in the anterior and posterior hippocampus. We additionally established whether self-reported imagery ability related to the established hippocampal variability measures. We found that greater variability in the hippocampus, particularly the anterior sub-region, was related to a self-report measure of episodic but not semantic autobiographical memory tendency. Further, individual differences in spatial but not object imagery ability correlated with this measure of hippocampal function across tested sub-regions. These data highlight a link between intrinsic hippocampal functional dynamics and an individual natural approach to remembering.

COMPETITION BETWEEN STIMULUS- AND GOAL-DRIVEN ATTENTION REVEALS LIMITED INTERACTION OVER DECISION CRITERION

Lee, V. V. V., Landry, M., Da Silva Castanheira, J., & Raz, A.

Attention has often been conceived as the gateway to consciousness. Whether or not attention is a prerequisite for conscious perception remains a debated topic in the field. Nevertheless, few would deny there exists an inextricable link between the two. Therefore, attention is often used as a proxy to explore conscious perception. Most commonly attention can be divided into goal-driven and stimulus-driven attention. Yet, existing literature has tended to look at the two modes of attention independently rather than in parallel, leaving the question of whether there exists an interaction between the two unexplored. The current project attempted to address this question by testing the independence of the two attentional systems. Using a novel double cueing approach, we engaged participants' goal-driven and stimulus-driven attention simultaneously by presenting goal-driven and stimulus-driven cues in each trial. Participants were prompted to respond if a target was present or absent after two mask latencies (22ms- short; 55ms- long). We measured their detection accuracy and applied Signal Detection Theory to our analysis. At the level of perceptual sensitivity (d'), we uncovered two main effects for both goal-driven attention and mask latency. On the other hand, for decision criterion, we found two main effects for both goal-driven and stimulus-driven attention. The findings are consistent with our hypothesis that stimulus-driven and goal-driven attention remain functionally independent at a behavioral level.

DEVELOPMENT AND PRELIMINARY VALIDATION OF A NEW MEASURE OF FRIENDSHIP AND DATING VICTIMIZATION IN ADOLESCENTS AND EMERGING ADULTS

Lévesque, C; Dryburgh N; Dirks M

Friendship victimization has not been studied in adolescent populations, in part due to the lack of measures that test it. The aims of the current study are to (a) obtain preliminary evidence for the reliability of a new measure of victimization in the close relationships of adolescents, (b) to examine gender differences in regards to victimization in romantic relationships and friendships, and (c) to assess whether friendship victimization is correlated with romantic relationship victimization. A self-report questionnaire was administered online to 157 undergraduate students (80.9% female) at McGill University, questioning participants about friend and dating partner victimization. The results suggest a one-factor model for both friendship and romantic relationships, with high internal consistency for both (.917 and .954, respectively). It was also found that victimization in friendships was significantly correlated with victimization in romantic relationships. Significant gender differences were found in friendships but not in romantic relationships. Ultimately, this new measure could be used to assess the prevalence of victimization occurring within friendships.

ATTENTION IS NOT SUPERFICIAL: ATTRACTIVE FACES CAPTURE BUT DO NOT SUSTAIN ATTENTION

Li, Y; Pereira E. J; Ristic, J.

Faces are powerful in drawing attention. Past research has shown that faces, and especially eyes, bias our attention in a spontaneous and robust manner. However, a recent study investigating the mechanism underlying this bias showed that attentional biasing towards faces goes away when extraneous factors such as luminance, configuration, size, and attractiveness are carefully controlled. A further question remains regarding which of these particular factors is the most important in controlling this bias. One possible candidate is facial attractiveness, which has been shown to be a powerful driving cue that can capture and sustain social attention. Thus, the present study investigated if attractive faces spontaneously bias attention. We recruited 20 participants and asked them to perform a dot-probe task, wherein social (an attractive face), non-social (a house), and neutral cues were presented for a short period of time, followed by a target that could appear at the previous location of one of the cues. Participants were asked to respond quickly and accurately to the target, and we measured spontaneous eye movements to the cues and response times to the target. We found that participants' eye movements were strongly biased towards the face cue, particularly the eye region, but that response times did not differ when targets appeared at the previous location of the face or the house. These data suggest that once other extraneous factors are controlled, attractive faces may capture our attention initially but that they do not sustain attention long-term.

DOES OXYTOCIN HEIGHTEN THE EMOTIONAL SALIENCE OF SOCIAL MEMORIES?

Lopez, C.; Nitschke, J.; Bartz, J.

Research in non-human animals indicates that oxytocin plays a critical role in mother-infant bonding and social memory. Following this prior work, Bartz and colleagues (2010) investigated whether oxytocin supports attachment representations in humans. They administered oxytocin (vs. placebo) to participants and measured recollections of maternal care and closeness in childhood. Results showed that attachment style moderated oxytocin's effects on recollections. More securely attached individuals showed more positive recollections following oxytocin administration (vs. placebo), whereas more anxiously attached individuals showed more negative recollections following oxytocin administration (vs. placebo). These observations suggest that, rather than having broad positive effects, oxytocin may heighten the emotional salience of social cues. We aimed to replicate and extend this study to probe oxytocin's effects on social memory. To this end, we administered intranasal oxytocin to 79 healthy male and female adults in a randomized, double-blind, placebo-controlled, crossover designed study. Approximately 1 hour after drug administration, participants completed the Autobiographical Memory Test (AMT), modified to assess participants' memories of their mothers in childhood. We then used the Linguistic Inquiry and Word Count coding system to quantify the positive emotion, negative emotion, and overall emotional tone used by participants in the AMT. Consistent with Bartz et al. (2010), attachment style moderated the effects of oxytocin, with more anxiously (but not more securely) attached participants using more negative emotion words in their autobiographical memories of their mother in childhood. These findings corroborate the study by Bartz et al. (2010) and provide support for the social salience hypothesis of oxytocin.

A NEW ATTENTIONAL BLIND SPOT? INTROSPECTING REACTION TIME FOLLOWING STIMULUS-DRIVEN ORIENTING

Lu, A.; Landry, M.; Raz, A.

Introspection represents the ability to examine and report on one's cognitions. Previous research highlights how introspection is prone to several cognitive biases, yet individuals still maintain overall limited access to their own minds. Here, we aim to examine whether attention orienting would prompt this sort of internal bias and produce a blind spot in introspection. In this effort, we tested the participant's accuracy at judging their reaction time in the context of a cueing task. To this end, participants ($N = 13$) completed pairs of spatial cueing trials, then self-reported which of the two trials they believed they were faster to discriminate on. By varying the cue type (peripheral or central cue), the stimulus-onset asynchrony (short or long latency), and the cue validity (valid or invalid) of the pairs of trials, we expected to observe participants' introspective ability to fall short in specific situations. Indeed, in trials with peripheral cues and long SOA, we anticipated performance to dissociate from cueing (i.e., participants would perform better for uncued trials). Relying on signal detection theory, our results fail to find any evidence of decreased introspective sensitivity regardless of cue type or SOA. Moreover, we do not find any evidence suggesting a shift in decision criteria for both cue types and SOAs. Our findings suggest that introspection is unaffected by automatic attention and that people may be aware of their performance in the context of cueing trials with noncontingent validities.

THE EFFECTS OF FAT-SHAMING TWEETS ON ATTENTIONAL BIASES AND EMOTIONAL REACTIVITY

Mactavish, A.; Ravary, A.; Baldwin, M. W.

Previous work has shown that individuals whose self-worth is contingent on thinness show an attentional bias toward social rejection when cued with failure in this domain (i.e. obese). It has also been shown that fat-shaming messages in the media have an effect on implicit anti-fat attitudes. What is unknown, however, is the effects of exposure to fat-shaming on cued attentional biases. We recruited 278 women between the ages of 18 and 25 through Mturk. Participants first completed self-report questionnaires measuring their self-esteem and self-worth contingencies. Participants were then randomly assigned to read a series of Tweets, three of which being fat-shaming Tweets (experimental condition, N=144) or elder-shaming Tweets (control, N=134), before completing a cued dot-probe task with cue words obese, thin, moral, and immoral. Finally, they completed body/weight satisfaction items, responded to a body image threatening vignette, and recalled Tweet content. Thinness contingency was found to be associated with lower self-esteem, greater body and weight dissatisfaction, and more negative affect in response to threat. There was a marginally significant interaction of thinness contingency and condition on total rejection bias, in which participants in the fat-shaming condition who scored higher on thinness contingency showed the greatest total rejection bias in the dot-probe task. These findings suggest that exposure to fat-shaming content has an effect on attentional biases, and that thinness-contingent self-esteem contributes to negative affect and body dissatisfaction when reminded of failure in this domain.

WITH A LITTLE HELP FROM MY FRIENDS ARE EMPATHIC ACCURACY AND MOTIVATION TO HELP ASSOCIATED WITH PERCEIVED SOCIAL SUPPORT IN FRIENDSHIPS OF SAME-GENDERED EMERGING ADULTS?

Mangini, J; Khullar, T; Dirks, M

In emerging adulthood (ages 18-25 years old), perceived social support from friends has been shown to improve adjustment to university (Buote et al., 2007; Friedlander, Reid, Shupak, & Cribbie, 2007; Tao, Dong, Pratt, Hunsberger, & Pancer, 2000), self-esteem (Friedlander, Reid, Shupak, & Cribbie, 2007), and ward off the negative effects of stress on mental health (Cohen & Hoberman, 1983; Demir, Orthel-Clark, Özdemir, & Özdemir, 2015; Hartup & Stevens, 1997; Schaefer, Coyne, & Lazarus, 1981; Taylor, Doane, & Eisenberg, 2014). While empathic accuracy (the ability for a perceiver to be able to accurately infer the content of another's feelings and thoughts) and motivation to help have both independently been shown to have a positive effect on perceived social support in other types of dyadic relationships (e.g. romantic), their role in friendships remains unclear. In the present study, we examined the effect of empathic accuracy and motivation to help on perceived social support in same-gender friend dyads. We hypothesized that the relationship between empathic accuracy and social support would be moderated by motivation, such that a positive association

THE ROLE OF EPISODIC MEMORY IN DECISION MAKING FROM DESCRIPTION

Martakis, K.; da Silva Castanheira, K.; Sheldon, S.; Otto, R.

Although previous research has investigated the role of episodic memory in risky decision-making from experience, less is known about how these processes contribute to the decisions we make from description. To this end, we explored the possible contributions of episodic memory processes in risky decision-making by randomly assigning participants—drawn from a sample of healthy young adults ($N= 25$)—to one of two possible conditions: episodic simulation or simple arithmetic. Participants completed a risky decision-making task which involved making a series of choices between gambles and certain amounts in order to estimate their risk preferences and psychoeconomic functions taken from Prospect Theory (i.e. utility function and probability weighting function). We hypothesized that episodic simulation of consumer behaviour would result in assigning greater utility to smaller amounts compared to the controls (i.e. arithmetic condition). Our results suggest that episodic simulation had no effect on overall risky choice or on the psychoeconomic functions when compared to the arithmetic condition. Exploratory analyses revealed differences in response time on the risky decision-making task, suggesting that although there was no observed effect of episodic memory on decision-making, the approach taken to deliberate may be phenomenologically different between conditions. Future work should further explore the contributions of episodic memory to decision-making using different control manipulations and across different measures of risk taking.

POLICE OCCUPATIONAL STRESS: THE MODERATING EFFECT OF SELF-COMPASSION AND DISPOSITIONAL MINDFULNESS

Manova, V; Fleischmann, M. H; Khoury, B

Law enforcement is a high-stress occupation that involves exposure to both organizational stressors that are administrative in essence, and operational stressors that range from routine patrolling to traumatic encounters. Research supports that self-compassion and mindfulness interventions predict reduced psychological distress (e.g. depression, anxiety, and stress) in law enforcement, yet research is discrepant on the extent to which self-compassion and individual facets of dispositional mindfulness (i.e. one's tendency to be mindful across daily situations) predict decreased psychological distress in police officers. In this study, we investigated the moderating effect of specific facets of dispositional mindfulness and self-compassion on the interaction between experiencing organizational and operational stressors and perceived stress, anxiety, and depression. Measures of police stress, traumatic events, self-compassion, mindfulness, depression, anxiety, and stress were administered online to a sample of Canadian sworn officers ($N = 21$). Using a simple linear regression analysis and simple slope tests, we found that the facets acting with awareness (AWA) and non-judging (NJ) moderated the interaction between experiencing operational stressors and perceived stress. When officers were low (-1 SD) or average (mean) on AWA or NJ, the interaction between operational stressors and perceived stress was significant, however it was no longer significant when officers were high

WANT TO BET? THE PSYCHOLOGICAL FACTORS UNDERLYING THE RE-EXPLORATION OF DREADED PAINFUL ACTIONS

Meunier G-I.; Slimani H.; Roy M.

Pain conditions us to avoid potentially harmful behaviours. However, this learning can become maladaptive when the dreaded actions are still avoided although they no longer lead to pain. In this study, we aimed at determining which personality traits motivate re-exploration (i.e. choosing an option that has been avoided), as it offers a path to exiting the cycle of maladaptive avoidance behaviour. The participants first completed a set of nine psychometric questionnaires. Thereafter, they underwent an auction procedure to measure how much they were willing to pay to avoid visual cues that they learned to associate to low or high pain levels. On each trial, they received \$1 and were asked how much of this amount they were willing to give back to avoid the electric shock related to a specific visual cue. Naturally, the higher the anticipated pain the higher the participants would bid to avoid it. After reinforcing this learning, we lowered the pain associated with the high-pain cue to the level announced by the low-pain cue. Although instructed that this association might change over time, the participants were not notified when the rules actually changed. The number of trials taken by participants to bid similarly for the two cues was used as an index of extinction of maladaptive avoidance behaviour. We expected that individuals who scored higher on harm avoidance, pain catastrophizing, and fear of pain would pay more money, and for a longer period of time, to avoid a painful stimulus that is no longer there. To date, only two participants were tested and none of them showed signs of re-exploration, suggesting that their need to avoid pain overrides their desire to gain rewards.

THE INFLUENCE OF SEXUAL AROUSAL ON EMOTION PERCEPTION IN MEN: A PILOT STUDY

Nahas, J; Zarnescu Artenie, D; Olson, J; Raz, A; Veissière, S.

Facial emotion recognition is a universal human ability. However, state factors such as stress and mood have been shown to alter one's perception of facial expressions. Moreover, facial emotion perception is essential to nonverbal communication, which college students have reported as the primary method whereby they negotiate sexual consent. While sexual arousal has been shown to affect cognitive processes such as decision-making, it is not clear how it impacts nonverbal communication. The present study aims to uncover the effects of sexual arousal on facial emotion perception in heterosexual men. Sixty healthy participants will complete a facial emotion perception task through which they will rate the perceived valence of female faces expressing 7 emotions and a neutral expression. They will complete the task under both a sexual arousal and a neutral mood condition. In the sexual arousal condition, participants will watch a pornographic video; in the neutral mood condition, they will watch a figure-skating video. We expect that participants will rate all facial expressions more positively when they are in a sexually aroused state compared to when they are in a neutral mood. Preliminary results from the pilot study (n = 11) indicate that participants' ratings are in the hypothesised direction. This study will allow us to assess whether sexual arousal can alter emotion perception in men. Identifying the presence of a positive bias will help uncover the state of social cognition during negotiations of sexual consent. This could ultimately help inform healthy sexual communication education, such as consent workshops.

CHARACTERIZING VERTEBRATE SOL CALPAIN: TROUBLESHOOTING MOUSE CAPN15 CLONING

Ni, A.; Sossin, W. S.

Calpains are calcium-dependent proteases that are involved in many cellular processes, including memory. The small optic lobes (SOL) calpain is an evolutionarily conserved calpain and structurally diverges from well-known classical calpains. In *Aplysia californica*, SOL calpain is required for a form of non-associative memory and its dominant negative mutant inhibits cleavage of overexpressed PKC AplIII (the *Aplysia* homolog of PKC ζ). In chordates, on the other hand, SOL calpain's function is less clear as a brain-specific transcript exists for PKM ζ . Here, we cloned the *Mus musculus* SOL calpain gene, CAPN15, using the baculovirus expression system. The CAPN15 clone was then intended to be transfected in insect SF9 cells and purified to be used in activity assays. As our CAPN15 clone was shorter than expected, we troubleshooted the cloning protocol. We optimized: (a) the bacterial expression yields by first cloning into the pJET1.2 vector; (b) the screening step by digesting with additional restriction enzymes and selecting for colonies that were completely clear of contamination traces and; (c) the PCR amplification. We now know a mispriming event occurred during the amplification, this will be corrected in future experiments. The cloning protocol for mouse SOL calpain has thus been fully optimized and will be used to generate full-length accurate CAPN15 constructs.

THE EFFECTS OF PATCHING ON THE PULFRICH PHENOMENON

Novozhilova, S., Reynaud, A., Hess, R.F.

Short term monocular deprivation modulates ocular dominance, such that the previously deprived eye's contribution increases, while that of the non-deprived eye decreases. This study examines the effects of short-term monocular occlusion on the Pulfrich phenomenon, an illusory perception of a horizontally moving object moving in an elliptical orbit in depth. The goal is to explore the effects patching will produce on the perception of the Pulfrich effect. The stimulus used for testing consists of elements defining a cylinder rotating in depth, allowing to measure interocular delay. There are two different stimuli: The P-Stimulus is composed of small elements oscillating slowly, which stimulates the parvocellular pathway, and the M-Stimulus which is composed of large elements oscillating rapidly which stimulates the magnocellular pathway. One experimental session consists of baseline measures, one hour patching (opaque or translucent), and a post-patch testing. The point of subjective equivalence (PSE) is extracted from psychometric functions obtained during baseline and post-patching measures. Deprivation of the left eye shifts the PSE negatively, deprivation of the right eye shifts the PSE positively on the psychometric function. Contrary to expectations, patching induces an interocular delay, indicating that patching effects are not exclusively mediated by contrast gain mechanisms. The amplitude of this effect is larger for the M-Stimulus in comparison to the P-Stimulus suggesting that the plasticity induced by short term deprivation is subjected to dynamic components of the visual pathway. Additionally, opaque patching in comparison to the translucent patching produces a larger PSE shift, explained by a luminance based mechanisms.

NO TIME TO INVEST? CHRONIC STRESS LEADS TO A REDUCTION IN HELPING BEHAVIOUR

Oliverio, S; Nitschke, J; Bartz, J

Humans are social beings; we are wired to connect to others as a means of increasing our general wellbeing. Social relationships are one way that we can achieve this state of psychological and physical health; and prosocial behaviours, such as helping others is invaluable to the creation of these social networks. Prosocial behaviour is especially important in times of high demand, for example when experiencing stress. Although acute psychosocial stress is known to be an adaptive response that increases prosocial behaviour, the effects of chronic stress on prosocial behaviour has not been systematically investigated. In the current study, we investigated the effects of chronic stress on prosocial helping behaviours. To explore this association participants engaged in the Public Good's Game, an indicator of prosocial helping behaviour, and completed a subjective measure of chronic stress, the Trier Inventory of Chronic Stress Scale. Here we show that participants that are higher in chronic stress as measured by subjective ratings on the Trier Inventory of Chronic Stress Scale acted less prosocial in the Public Good's Game. Additionally, we investigated whether the effects of social support as measured by social network size and quality, would moderate the association between chronic stress and prosocial behaviour. In this regard, we had participants complete the Social Network Index to measure the quality and quantity of their social networks. Here we found that Social Network Index did not predict prosocial helping behaviour, neither did it buffer the effect of chronic stress on prosocial helping behaviour.

THE EFFECTS OF SOCIAL STIMULI AND SOCIAL ANXIETY ON SELF-REFERENTIAL PROCESSING

Penisoara, A; Landry, M; Da Silva Castanheira, J; Raz, A.

Prevalent views argue that social information influences the self-model (Markus, 1987), however the relationship between social stimuli and self-referential processing has seldom been directly explored. As such, we were interested in determining whether social stimuli would affect the speed and accuracy with which participants recognize self-relevant information. In this study, undergraduate students (N = 15) completed a paired-matching task designed to probe the priority one assigns self-relevant information. At the beginning of each trial, participants were primed with a socially relevant (i.e. face) or socially irrelevant (i.e. noise) image to investigate the effect of social stimuli on the participants' self-model. Participants' self-reported levels of social anxiety were also assessed using the Liebowitz Social Anxiety Scale. Since it has been shown that socially phobic individuals have a heightened response to social stimuli, especially negative ones (Heinrichs & Hofmann, 2001), we wished to explore how individual differences on reported social anxiety levels may modulate this self-referential effect. Our results corroborate Sui, Rothstein and Humphrey's (2013) findings that participants are faster and more accurate for self-relevant information for match trials. Yet, we fail to provide any evidence that social stimuli enhance the processing of self-relevant information, nor do we find any evidence for a relationship between self-reported levels of social anxiety and self-referential processing. In short, our project exemplifies how self-relevant stimuli are processed in priority; this robust effect, however, is minimally influenced by external social stimuli.

HYPERVENTILATION AND VASOVAGAL SYNCOPE DURING HEAD-UP TILT

Pomaki, E; Mennitto, S; Ditto, B.

Vasovagal syncope is characterized by a transient loss of consciousness due to insufficient blood flow to the brain. While not the most serious cause of unconsciousness, it is quite common and problematic. As reflected in the name, it has been traditionally viewed as the result of a maladaptive cardiovascular response involving pronounced vasodilation and a vagally-mediated decrease in heart rate leading to a significant decrease in blood pressure. However, recent evidence suggests that respiratory patterns may also contribute to syncope. Hyperventilation, a pattern of breathing that is too quick or too deep, causes decreases in carbon dioxide and cerebral blood flow, therefore increasing the likelihood of fainting. The main purpose of the present study was to examine the role of hyperventilation in patients with a previous clinical history of vasovagal syncope who underwent head-up tilt testing.

ASSOCIATIONS AMONG FRIENDSHIP QUALITY AND INTERPERSONAL BEHAVIOURS DURING CHILDHOOD AND ADOLESCENCE: A META-ANALYTIC INVESTIGATION

Ponath, E; Dryburgh, N; Dirks, M

Having a high-quality friendship promotes positive social and emotional well-being for youth. How youth behave may be linked to the quality of their friendships. We report a meta-analytic review of studies examining associations between friendship quality and interpersonal behaviour in children and adolescents. We focused specifically on four broad categories of interpersonal behavior: aggression, withdrawal, assertiveness, and prosocial behaviour. In total, analyses included 103 effect sizes drawn from 51 independent studies. Results demonstrated small but statistically significant associations between positive and negative friendship quality and all four interpersonal behaviours. The largest associations were between greater aggression and negative friendship quality, and greater prosocial behaviour and positive friendship quality. Tests of heterogeneity were significant for all effect sizes except for prosocial behaviour and withdrawal with negative friendship quality, suggesting that important moderators of these relations may exist. These results suggest that interpersonal behavior may play an important role in the maintenance of high-quality friendships.

INVESTIGATING THE ROLE OF NUCLEUS ACCUMBENS GLUTAMATERGIC AFFERENTS IN RODENT COMPULSIVE BEHAVIOUR

Pronovost-Morgan, C.; Lafferty, C.; Britt, J.

Obsessive-compulsive disorder (OCD) is a common psychiatric disease with unknown molecular underpinnings and inadequate treatments. A core feature of OCD is compulsive behaviour, defined as the maladaptive repetition of unrewarded or inconsequential behaviours. While the neural mechanisms that underlie compulsive behaviours remain unknown, human and rodent models of OCD have been linked to disruptions of nucleus accumbens (NAc) physiology. Recent studies have shown that stimulating particular glutamatergic inputs to the NAc can produce lasting changes in the expression of compulsive behaviours. In order to further our understanding of the etiology of compulsions in rodents, we use optogenetics to assess whether excessive glutamatergic drive from particular NAc inputs (the paraventricular thalamus, PVT and ventral hippocampus, vHPC) is sufficient to provoke OCD-like phenotypes in healthy wild-type mice. We assessed compulsive behaviours in the short- and long-term, as measured with self-grooming and movement stereotypy. Following stimulation of PVT inputs, we observed an immediate increase in self-grooming, whereas stimulation of vHPC inputs caused a real-time increase in path stereotypy. These data suggest that aberrant glutamatergic signalling from different NAc inputs underlies discrete aspects of compulsive behaviours. By shedding light on the heterogeneity of OCD phenotypes, the present study points to novel treatment avenues that better cater to subtypes of clinical populations.

HEDONIC REACTIONS TO FOOD IN RELATION TO STATE NEGATIVE AFFECT: INVESTIGATING THE MODERATING EFFECT OF DISORDERED EATING SYMPTOMS

Quansah, J., Mehak, A. & Racine, S. E.

Binge eating and restrictive eating are core symptoms of eating disorders, which are associated with significant psychological distress and impairment. Theories addressing food-related reward suggest that individuals with disordered eating experience altered hedonic reactivity to food - an appetitive drive to achieve pleasure through eating. Whereas individuals with binge eating typically show heightened reward responses to food, restrictive eating may relate to decreased reward reactivity. It is currently unknown whether state factors, like affect, impact hedonic reactions to food in individuals with disordered eating, however some evidence suggests that negative affect sensitizes reward reactivity to appetitive stimuli. The current study examined whether negative affect relates to hedonic reactivity to food, and whether this relationship differs based on eating pathology symptoms. 88 female participants with and without binge eating and restrictive eating were recruited and evaluated for degree of disordered eating symptoms. Baseline negative affect was assessed, as well as both self-report and physiological measures (i.e., the postauricular reflex electromyography) of hedonic reactions to food. Contrary to expectations, results indicated that negative affect did not significantly correlate with any of the measures of hedonic reactivity. Binge eating and restrictive eating did not demonstrate significant moderating effects on this relationship. Significant associations were found between BMI and EPSI Restricting scores, as well as valence and craving ratings. A number of insights may be garnered from this study and serve to inform future study designs, which will better our understanding of symptom-specific reward reactions to food. *Keywords:* Binge eating, Negative affect, Reward Processing

LEARNING FROM SKYPE: A PILOT STUDY ON THE ROLE OF SOCIAL INTERACTION IN WORD LEARNING

Rao, S; Nadig, A; Onishi, K. H

Despite the prevalence of mobile devices, young children experience a *video deficit*, or difficulty learning from screen media relative to learning in a face-to-face context. This discrepancy is reduced if young children experience or observe social interactions on-screen, but it is unclear which of these two situations yields better word learning. The current study piloted procedures aiming to compare 24-month-olds' word learning across different types of on-screen social interactions. On Skype, adult participants ($N = 4$) were taught labels for novel objects in one of two conditions: participant-directed or other-directed interactions. Participants in the *participant-directed condition* interacted with an experimenter who spoke to them as if they were a child. In the *other-directed condition*, participants watched two adults speak to each other as adults usually do. After the Skype call, participants completed word learning tests, where they were asked to name the novel objects and identify which object went with each novel label. Adult participants performed equally well in word learning tests in participant-directed and other-directed interactions. These results indicate that young children may potentially be able to learn words from our experiment. Further piloting is needed to confirm our findings with adults and finalize procedural details to prepare for child participants. Findings from a future study with 24-month-olds may have implications for the creation of educational media.

PREDICTING SEXUAL AGGRESSION IN UNIVERSITY STUDENTS USING THERMOGRAPHY: A PILOT STUDY

Rappel, J.; Dubé, S.; Santaguida, M.; Vachon, D.

Sexual aggression affects at least 20% of university women, and can lead to immense personal and public costs. However, research on predictive factors of sexual aggression is limited, particularly using physiological measures. Infrared thermography presents a promising new method of measuring sexual aggression due to its accuracy, non-invasiveness, and successful use in other areas of sex research. This study examined thermographic genital arousal in response to coercive versus non-coercive sexual scenarios and the convergence of these responses with other measures of sexual aggression. University men ($N = 15$) viewed consensual pornography and then seemingly non-consensual pornography, with arousal being measured via thermographic imaging and subjective arousal ratings. Results indicate that those who endorse sexually aggressive attitudes display higher subjective arousal to non-consensual videos ($r = .30$). Also, decreases in genital arousal from the consensual video to the non-consensual video were somewhat less pronounced in men with sexually aggressive attitudes ($r = .13$, \square shaft) and sexually aggressive behaviours ($r = .11$, \square tip). However, differences in genital arousal decreases during the non-consensual video were more strongly associated with laboratory proxies of sexual arousal, including performance on the sexual imposition task ($r = .24$, Δ shaft; $r = .41$, Δ tip) and the passage stopping task ($r = .29$, Δ shaft; $r = .20$, Δ tip). Given the cost of sexual aggression, identifying predictive factors is an important first step towards the development of effective preventative measures and programs.

ASSOCIATIONS BETWEEN NEURAL RESPONSES TO REWARD AND POSITIVE AFFECT DURING ACUTE STRESS

Renault, H; Ethridge, P; Weinberg, A.

An association between neural response to reward, stress, and the development of depression has been documented in the literature but the nature and direction of these associations remains unclear. Additionally, a heightened reward sensitivity has been hypothesized as a factor that may buffer against the negative effects of stress that might subsequently lead to depression. Therefore, the present study sought to test this hypothesis by examining whether students' neural response to reward in their first month of university was associated with their positive affect during midterm examination stress a few weeks later. Forty-two first-year university students completed a monetary reward and loss task to elicit the reward positivity (RewP), an event related potential that is sensitive to reward and has been shown to be a marker of depression. In addition, participants completed daily surveys measuring their positive affect and the amount of positive and negative events that they encountered over the course of the day for nine days. Results demonstrated that participants with a larger RewP showed significantly greater positive affect following positive events in their lives during a time of acute stress. Our findings indicate that a greater neural response to reward may potentially buffer against the negative effects of stress through the maintenance of positive affect in response to positive events. The present findings further our understanding of risk and resilience for depression which has important implication for the prevention and treatment of the disorder.

PUTTING THE I IN INTERGROUP: HOW INDIVIDUALS AND GROUPS MORALISE AN INTERGROUP CONTEXT

Romanelli, S. C; Kachanoff, F. J; Kteily, N. S; Taylor, D. M.

The phenomenon of interindividual-intergroup discontinuity refers to the reality that intergroup interactions are more competitive than interindividual interactions. Most previous theorising contends that the intergroup (vs. interindividual) context itself ultimately leads to competitive group behaviour. The present research, however, proposes an alternative: that individuals and groups think differently regardless of context, due to their adherence to distinct moral playbooks. We thus investigated how individuals vs. groups would moralise and behave within the same competitive intergroup context. To this end, we conducted an intensive laboratory simulation, where groups of participants determined how to distribute zero-sum monetary resources to their ingroup and two other outgroups. Group members first individually recorded, and justified, their preferred distribution decisions. Groups then collectively decided on the ultimate distribution decisions and recorded their rationale. Previous research would hypothesise that the intergroup context would always activate the group moral playbook, making both individuals and groups more competitive. Alternatively, we hypothesised that individuals within the intergroup context would use the individual moral playbook, promoting equality and cooperation, whereas groups within the same intergroup context would use the group moral playbook, emphasising ingroup interest. Results indicated that individuals and groups demonstrated egalitarian behaviour approximately 57% of the time. Furthermore, whereas mention of equality in written justifications predicted individual- and group-level distribution behaviour, mention of ingroup interests only predicted group-level distribution behaviour. Taken together, these findings indicate that whilst the individual moral playbook is activated and influences individual and group behaviour, the group moral playbook only seems to impact group behaviour.

THE ROLE OF AROUSAL IN SCREEN-BASED LEARNING IN TODDLERS: A PRELIMINARY STUDY

Saiyed, F.; Nadig, A; Onishi, K. H.

Evidence on whether toddlers can learn from screens is mixed, due to different types of on-screen social contexts eliciting different effects. Responsive interactions are a potential key factor in eliciting screen-based learning. Arousal may be an underlying mechanism which links reciprocal interactive contexts and screen-based learning in toddlers. With adult participants, we pilot a method which manipulates interactive context to be used later as a measure of arousal and learning in toddlers. Participants viewed a teacher providing novel labels and demonstrating functions for novel objects in one of three interactive contexts: the participant was either taught directly, an on-screen adult was taught, or an inanimate object was seemingly taught. Arousal was measured by pupil diameter, observed before and after the interactive manipulation. Participants were tested on word learning, through production and recognition tasks, and on knowledge transfer, through tasks to demonstrate the taught functions using different objects with shapes similar to the original objects. Participants learned the novel words in all conditions indicating that the teaching episodes were effective. There was no statistical effect of social context on either learning or arousal, and no correlation between arousal and learning. This is potentially due to too few data points, but it may indicate that in adults, arousal does not underlie the link between social interaction and learning. Based on this preliminary study, we expect that toddlers will also learn from an on-screen teacher and but maintain that toddlers may learn selectively from responsive conditions and show a different pattern of arousal response.

EXAMINING THE ROLE OF PERCEIVED INVESTMENT IN EMERGING ADULTS' FRIENDSHIP DISSOLUTION BEHAVIOUR

Santucci, K; Khullar, T; Dirks, M

For emerging adults (ages 18-25 years), high-quality friendships are associated with better emotional adjustment. Of course, sometimes friendships end. To date, little is known about when and why emerging adults end their friendships, a critical gap in our knowledge given that friends are important source of social support during this stage. In previous research emerging adults reported engaging in three separate types of friendship dissolution behaviours: ending the relationship completely, distancing oneself from the friend, and compartmentalizing the relationship (i.e., restraining certain topics of discussion). The present study examined emerging adults' endorsement of these behaviours and perceptions of the friends' investment in the relationship, in response to challenging situations with a same-gender friend. Seventy-eight undergraduates (14% male, mean age=20.6 years), completed a questionnaire featuring twelve hypothetical vignettes describing transgressions by or conflicts with a friend. We hypothesized that (a) endorsement of dissolution behaviour would depend on situation type, (b) emerging adults would perceive lower relationship investment from their friend when a transgression occurred, compared to a conflict, and (c) lower perceived investment by the friend would be associated with greater endorsement of dissolution behaviours. All three dissolution behaviours were more likely to occur in friendship transgressions and participants perceived lower investment from their friends in these situations. Perceiving lower investment from the friend predicted greater endorsement of all three dissolution behaviours; the association between situation and both ending and compartmentalizing behaviours was no longer significant after accounting for perceived investment. Ultimately, these findings suggest that perceiving that the friend is not invested in the relationship may be a risk factor for friendship dissolution.

PERSONALITY CHANGE BELIEFS, AUTONOMOUS MOTIVATION, AND PERSONALITY CHANGE GOAL PROGRESS.

Saucier, A.; Moore, A.; Koestner, R., PhD

In this study, goal progress was investigated in students who possessed goals to change along the personality traits of extraversion or conscientiousness. The progress in these goals was analyzed in association with trait-specific mindset compared to mindset for the other trait. Autonomous motivation was also explored in the context of goal progress and mindset. A mindset is a belief about the changeability of a characteristic. The two forms of mindset are growth and fixed with the former being the belief that a trait is malleable, while the latter that it is static. It was hypothesized that a growth mindset in extraversion and conscientiousness would be positively associated with greater goal progress at changing along each trait. Autonomous motivation was hypothesized to be positively related to growth mindset in both traits and to greater goal progress. A three-wave prospective study was performed and involved three surveys administered electronically. 379 students expressed goals to change in extraversion or conscientiousness. Participants also responded to measures of goal-specific autonomous motivation, mindset, and perceived goal progress. The findings failed to indicate that greater goal progress of change along extraversion is related to a growth mindset in extraversion when compared to a growth mindset in conscientiousness. There was also no relation found between a growth mindset in conscientiousness, vs. one in extraversion, and greater goal progress in conscientiousness change. A growth mindset in extraversion was found to be related to autonomous motivation for extraversion change goals, but this pattern did not emerge for conscientiousness. Our findings suggest that more research is needed on the variables, such as mindsets, that influence goal progress.

SPONTANEOUS SUBJECTIVE EXPERIENCES AND NEURAL MECHANISMS OF HYPNOSIS

Savard Lamothe, A., Landry, M., Da Silva Castanheira, J., Raz A.

Following a hypnotic induction highly hypnotizable individuals typically report spontaneous changes in their subjective experience. These changes include variations in feelings of relaxation and mental absorption. Previous research has attempted to determine the neural correlates of these subjective experiences, however there is little consensus over the findings. Using EEG, this study adopted a neurophenomenological approach to explore the association between self-reported levels of relaxation and mental absorption, and individual differences in spectral power and functional connectivity. We recorded EEG and self-reported relaxation and mental absorption prior to and following a hypnotic induction in 10 highly hypnotizable participants. First, the hypnotic induction corresponded with significant changes in alpha and beta oscillations. Next, feelings of relaxation were negatively related with power in theta waves at posterior sites. Lastly, we observed changes in functional connectivity patterns across theta, alpha and gamma waves. Taken together, these findings suggest that hypnosis is associated with widespread changes in brain oscillations and connectivity that depend on the subjective experience and depth of the hypnotic state.

TO BE YOURSELF, OR NOT TO BE? THE ASSOCIATIONS BETWEEN ACCURACY, AUTHENTICITY, AND LIKING IN FIRST IMPRESSIONS

Schwartzman, E; Kerr, L; Human, L.

Previous research on platonic first impressions has found that accurately perceiving a target's unique personality traits is related to greater liking of that target. Moreover, past studies have linked authenticity—defined as congruence between one's behaviour and one's thoughts and feelings—with being liked more, as well as with being perceived more accurately by others. In light of these findings, we investigate authenticity as a potential mechanism through which accuracy gives rise to liking. The present study used a video perceptions paradigm (N_{targets} = 103; N_{perceivers} = 51) to examine whether perceived authenticity mediates a positive association between accuracy and liking in first impressions. Contrary to our hypotheses, we found that accuracy was associated with significantly less liking, and we found no significant correlation between accuracy and perceived authenticity or between perceived authenticity and liking. These findings highlight the need for further investigation of the mechanisms of the accuracy-liking association in the contexts of both video perceptions and face-to-face interactions.

ARE ATTRACTIVE ALTERNATIVE'S PERSONALITIES PERCEIVED WITH ACCURACY OR ROSE-COLORED GLASSES?

Seewooruttun, P; Tissera, H; Lydon, J

The presence of attractive alternatives (i.e., other potential romantic partners) can threaten one's current romantic relationship. Yet, those motivated to persist in their relationship engage in maintenance responses to fend off this threat. Although past work has focused on biased perceptions of attractive alternatives, no one has yet investigated accuracy of perceptions of attractive alternatives. In general, more attractive individuals are perceived more accurately, yet it is unclear how this finding translates to a context of relationship threat. The present study examined how individuals' motivation to remain in romantic relationships, as indexed by relationship identification, shapes the association between perceived attractiveness and accuracy in a high vs. low threat context. Participants (N=222) were first randomly assigned into either high or low threat condition, where they watched the video of an available vs unavailable attractive alternative and rated his/her attractiveness and personality. Results revealed that condition did not moderate the association between perceived attractiveness and relationship identification to predict accuracy. However, perceived attractiveness and condition interacted to predict positivity of perceptions, such that when perceived attractiveness was low, perceivers in the high threat condition viewed the target less positively than those in the low threat condition. There was also an interaction between condition and relationship identification, suggesting that low identifiers in the high threat condition viewed the attractive target less positively than in the low threat condition. Overall, although the level of threat did not shape accuracy of perceptions, it did influence how positively perceivers, especially low identifiers, viewed attractive alternatives.

IS HUNGER A HIDDEN DETERMINANT OF ADOLESCENT HEALTH?

Shaw, M; Elgar, FJ

Objectives: In a national survey of 11- to 15-year-olds, we examined (1) whether hunger relates to mental and physical health outcomes, and (2) whether associations hold after controlling for deprivation. *Methods:* Data were collected from 29,784 students across 377 schools in the 2013/14 Canadian Health Behaviour in School-aged Children (HBSC) study. Linear and logistic regression analyses tested associations between hunger and health outcomes with and without an index of material deprivation in the models. *Results:* Hunger was negatively related to all health outcomes before and after controlling for deprivation. *Conclusions:* Hunger is a distinct risk factor for poor health in adolescents. Policy action is needed to reduce food insecurity and account for the cumulative risk of hunger and deprivation.

HOW DOES REWARD AFFECT THE TASK-INDUCED ANALGESIC PROPERTIES OF DISTRACTION?

Taing, M.; Vogel, T; Roy, M.

Pain is a salient sensory and emotional experience that demands attention. One form of reducing perceived pain intensity is through engagement in a demanding task, which is called task-induced analgesia. Conversely, pain's demand on attention can also hinder performance on a task, known as pain interference. Limited resource models of attention suggest that task performance and pain processing compete for resources in a shared limited-capacity pool of attentional resources. It remains uninvestigated whether it is possible to influence the allocation of these resources towards one task or another. The present research aimed to assess how rewards can influence the allocation of resources between task performance and pain perception. Fifty-four healthy participants were offered monetary rewards for performing a difficult cognitive task (2-back task) and an easy cognitive task (left-right arrow task) while receiving painful thermal stimulations. The painful temperatures, non-painful temperatures, and difficulty of the cognitive tasks were individually calibrated. Reward resulted in decreased pain intensity ratings for the difficult cognitive task. Reward also prevented pain from interfering with task performance. In line with the limited resource models, participants allocated more cognitive resources towards performing a task when made aware about potential monetary rewards, which increased engagement in the task. These results suggest that rewards can influence goal-directed behaviours in the context of pain.

IF YOU CAN READ MY PERSONALITY, CAN YOU READ MY EMOTIONS? INVESTIGATING THE GOOD TARGET IN FIRST IMPRESSION CONTEXTS

Thierry, S; Mignault, M; Human, L

Having our personality and emotions accurately perceived by others, or '*expressive accuracy*' (Funder, 1995), has long been considered important for social functioning, and tends to be associated with psychological adjustment, or well-being (Allport, 1937; Human, Mignault, Rogers, & Biesanz, 2018). In our everyday social interactions, some people make their personality and emotions easy to read, and are considered '*good targets*', whereas others are harder to perceive or '*bad targets*' (Funder, 1995). Previous literature has identified characteristics that predict a good target of personality and emotions separately (e.g., Human & Mignault, 2018), but we have yet to examine whether targets who can accurately express their personality can also accurately express their emotions. Further, does well-being, one of the strongest predictors of personality expressive accuracy, also relate to accurately expressing one's emotions? Using a round robin design, participants engaged in getting-acquainted interactions and rated their own as well as one another's personality and emotions. Results showed that though on average targets tended to be seen both in line with their personality and with their emotions, being a good target of personality did not predict being a good target of emotion. Further, well-being related to personality accuracy, but not to emotion accuracy, suggesting that different characteristics are at play in determining whether people will accurately express who they are and how they feel.

HOW RELATIONSHIP IDENTIFICATION AND EXECUTIVE CONTROL INTERACT TO PREDICT THE DEVALUATION OF ATTRACTIVE ALTERNATIVE DATING PARTNERS

Turk, S; Camacho, A; Lydon, J

Major theories of romantic relationships have established that attractive alternative dating partners pose a threat to relationship survival. In an effort to protect their romantic relationship, involved individuals have been shown to devalue the attractiveness of alternative partners. Relationship identification and executive control have been independently investigated as factors that predict whether individuals respond to the threat of attractive alternatives by devaluing their physical attractiveness. The present research aims to investigate how relationship identification and executive control interact to predict the emergence of relationship maintenance mechanisms, particularly devaluation. An impression formation paradigm in which participants were presented with a video filmed by an attractive alternative, and asked to rate his or her attractiveness, was used (N = 138, 75% female). Individuals who highly identify with their relationship but demonstrate weak executive control abilities were expected to perceive the attractive target as a threat to their current relationship, and thus engage in devaluation. Results were consistent with our hypothesis but not statistically significant ($p = .238$). Additional analyses revealed the predicted interaction for female participants but not males. Multiple explanations are possible for the null finding for men.

THE RELATIONSHIP BETWEEN CULTURE AND EMPATHIC ACCURACY IN ROMANTIC RELATIONSHIPS

Virmani, L.; Heyman, J.; Human, L

Past work has shown empathic accuracy to be important in romantic relationships (Simpson, Oriña, & Ickes, 2003) and cultural differences have been implicated in empathic accuracy (Atkins, Uskuk, & Cooper, 2016; Ma-Kellams & Blascovich, 2012). But how do cultural differences relate to empathic accuracy in romantic relationships? The present study aimed to examine this by looking at the relationship between cultural differences and empathic accuracy in the romantic relationship context. Romantically involved couples ($N = 100$) completed an online questionnaire in which culture was reported and then completed three interactions after which they rated their own emotions and perceptions of what they thought their partner's emotions were. Empathic accuracy was assessed using the Social Accuracy Multilevel Modeling Procedure and was split into two aspects of accuracy: distinctive empathic accuracy (i.e. seeing one in line with one's unique affective profile) and normative empathic accuracy (i.e. seeing one in line with the average, socially desirable affective profile). Culture of the participants was categorized as Eastern (e.g., East Asian, South Asian), Western (e.g., Caucasian/White), and Other (e.g., Mixed, Middle Eastern). We found that neither the culture of the perceiver nor the culture of the target predicted distinctive empathic accuracy. Further, neither the perceiver's nor the target's culture predicted normative empathic accuracy. Overall then, culture seems to be unrelated to empathic accuracy in romantic relationships. *Keywords: culture, empathic accuracy, romantic relationships.*

ROLE OF MEANING-MAKING IN THE LINK BETWEEN COGNITIVE APPRAISAL AND PERINATAL DEPRESSION: HURRICANE HARVEY FLOOD STUDY

Voisard, B.; Elgbeili, G.; King, S.

Prenatal maternal stress (PNMS) has been identified as a risk factor for perinatal depression, which affects 25% of perinatal women. However, due to the challenge of teasing out objective stress, subjective stress and cognitive appraisals, little is known about the specific role of cognitive appraisal in this relationship. In a sample of women participating in the Hurricane Harvey Flood Study who were pregnant or in preconception when experiencing the hurricane, a small but significant negative correlation was found between positive cognitive appraisals of the hurricane and number of depressive symptoms two months later. Furthermore, positive cognitive appraisals are thought to reflect meaning-making. This study aimed to increase understanding of the role of meaning-making in the association between cognitive appraisal and depressive symptoms of perinatal women from the Hurricane Harvey Flood Study through the analysis of expressive writing entries. We hypothesized that meaning-making would mediate the association between cognitive appraisal and symptoms of depression, and that we would find an interaction between meaning-making a cognitive appraisal such women with greater depressive symptoms at recruitment would benefit the most from meaning-making. While we did not find these effects, we did find that meaning-making was significantly more present in the journal entries of women whose symptoms of depression showed improvement. This suggests that meaning-making is one of the factors involved in the improvement of depressive symptoms after a perinatal stressor.

SEMANTIC FLUENCY IN PERSONS WITH ALZHEIMER'S DISEASE

Wicks, S; Koski, L

Innovations in magnetic stimulation have revolutionized dementia research, particularly in respect to Alzheimer's disease. Repetitive transcranial magnetic stimulation (rTMS) applies a fluctuating magnetic field on the brain by running an electrical current through a wire or coil. This can depolarize or hyperpolarize neurons at specific sites of the brain. rTMS has been suggested as a treatment for Alzheimer's disease. Many studies have used multiple sessions of rTMS and seen positive results. We were curious if only one session could make a significant difference in cognitive ability. In our study we set out to investigate if semantic fluency as measured by the Animals Test improves after one session of 20 Hz TMS over the dorsolateral prefrontal cortex (DLPFC) bilaterally among people with mild to moderate Alzheimer's disease as compared to participants who received the sham stimulation. We hypothesized that mild improvement would be seen based on the beneficial effects

SERIAL ORDER PROCESSING AND THE EPOPTIC PROCESS IN RODENTS

Wiseman, M; Zlantkina, V; Petrides, M

The concept of working memory and the manifold processes subsumed within it is integral to human beings' elevated cognitive capacity. Specifically, the ability to monitor the sequence of events while they are held online in memory allows us to organize our thoughts, plan for the future, and make rational decisions. Studies with human subjects and macaque monkeys have provided convincing evidence that the middle region of the lateral prefrontal cortex (mid-dLPFC), or cytoarchitectonic areas 46 and 9/46, is distinctly involved in serial order memory processes. Rodents lack the granular area that sits anterior to the human premotor cortex and is proposed to be responsible for the monitoring ability known as the "epoptic process." It is presently unknown whether rodents are capable of this process. Thus, we plan to systematically assess rodents on a Serial Order Memory Task using a radial arm maze. If rodents cannot learn to distinguish between the relative position of two middle stimuli in a sequence, it would provide evidence that this ability is supported by an absent mid-DLPFC. Understanding the limits of rodent cognition - given their lack of homologous cytoarchitecture to that in the primate PFC - would allow for the further appreciation of the phylogenetic origins of the mammalian brain and provide a more holistic understanding of cognitive neuroanatomy.

THE EFFECTS OF SPATIAL FREQUENCY AND BANDWIDTH ON BINOCULAR SUMMATION AT THRESHOLD- AND SUPRATHRESHOLD LEVEL

Wössner L; Dr. Kingdom F.

Binocular summation (BS), allowing the better detection of stimulus patterns in the environment, has been measured as a ratio of monocular contrast thresholds over binocular contrast thresholds, termed the binocular summation ratio, or BSR. A meta-analysis conducted by Baker et al. (2018) considered BSR as a function of spatial frequency. They concluded from their meta-analysis that BSR increased with spatial frequency at threshold level; however, there is a confounding variable that precludes a firm conclusion concerning the effect of spatial frequency on BSR: the number of cycles of luminance modulation for each stimulus, as measured by bandwidth, which in previous studies has increased along with spatial frequency. The present experiment measured BSR as a function of spatial frequency *and* bandwidth. Psychometric functions of proportion correct detections were measured as a function of contrast, for horizontally-oriented Gabor patches (sinusoidal grating patterns contained within a Gaussian envelope) at various spatial frequencies and bandwidths. Stimuli were presented to the left eye, the right eye and to both eyes at both threshold and suprathreshold contrast levels. During an experimental session, the left-eye, right-eye and both-eye stimuli were randomly interleaved, so that subjects were unable to tell which eye(s) the stimuli were projected to. We aimed to replicate Baker et al.'s findings that BSR increases as spatial frequency increases at threshold- and suprathreshold contrast levels. We were unable to replicate their findings at threshold contrast level but found increases in BSRs as spatial frequency increases at suprathreshold contrast level.