Title: Exploring expressive writing to reduce test anxiety on an introductory psychology exam

Student Presenter: Emily Allen

Faculty Advisor: Green, Joseph

Abstract: Previous research suggests that a brief expressive writing exercise prior to a math exam can help alleviate anxiety and improve test-taking performance. Our study examined the effects of a short seven-minute expressive writing intervention among college students taking a mock introductory psychology exam. Over 100 students enrolled at The Ohio State University at Lima participated. Students were categorized as low, medium, or highly anxious based on responses on the Cognitive Test Anxiety Scale and a modified version of the Abbreviated Math Anxiety Rating Scale. We randomly assigned participants to write about their thoughts, feelings, and worries regarding an upcoming exam (experimental condition) or to write about factual content related to the course (e.g., names of theorists, how theories differed from one another, or facts learned in the course). Students then completed a 51-item mock exam. All students rated their anxiety level at multiple time points (i.e., before, during, and after the exam). Results are forthcoming. We hope to show that the benefits of expressive writing extend to social science courses such as introductory psychology. If successful, our research would add to previous findings showing that expressive writing about fears and concerns prior to taking an exam helps students cope with test anxiety.
Category: Psychology

Title: Evaluating gender differences in the effectiveness of different emotion regulation strategies

Student Presenter: Michael Behrendt

Faculty Advisor: Cheavens, Jennifer

Abstract: All people regulate their emotions in some way. Emotion regulation strategies can be conceptualized as a way for people to influence which emotions they have, when they have them, and how they express and experience them (Gross, 1998). People frequently use these strategies in their daily lives (Heiy & Cheavens, 2014). The way people achieve these modulations can be characterized as either adaptive or maladaptive. Maladaptive strategies are very effective at reducing negative emotion quickly but often can lead to future negative consequences such as rebound emotional effects (Gross, 1998) (i.e. the emotion returning at a higher intensity later) and rigid patterns of avoidance. Alternatively, adaptive strategies can help manage emotions in the present and without the potential future consequences present with maladaptive strategies. Research has primarily focused on the frequency and use of the strategies (Tamres et al, 2002), but there is a paucity of literature that explicitly describes whether moderators, such as gender, influence the effectiveness of the strategy used (Nolen-Hoeksema, 2012). In line with previous research, (Aldao et al, 2010; Nolen-Hoeksema, 2012; Tamres et al 2002), we examined how well various strategies regulated emotions in a sample of 150 undergraduate participants. The participants were instructed to use specific strategies to regulate their emotions for the duration of an emotion-eliciting video and changes in negative affect were recorded. Data collection has been completed and data analysis is currently underway. We will be using two-way mixed ANOVAs with gender and emotion regulation strategy as independent variables. Understanding how effective these strategies are for male and female participants can help facilitate a better understanding of how these strategies are implemented in our daily lives.
Abstract: Can people accurately determine their tipping point—that is, the point at which when tipped backward they would no longer be able to return to upright? Previous work has shown both that people consciously overestimate how much they are tilted backward and that people are fairly accurate at identifying the center of mass (COM)—the point that determines the tipping point—for various symmetrical objects and stick figures. We first sought to investigate people's conscious estimates of their tipping point and COM. First, we tilted participants backward in an inversion table and had them estimate their tipping point. We then took measurements of participants in order to calculate their COM, and, in turn, their actual tipping point. Participants overestimated their actual tipping point, but also estimated their COM to be higher than actual. Thus, while they indicated they could be tipped back ~3 times farther than actual, the estimates of their COM indicated a fairly accurate identification of their tipping point. We then investigated whether conscious perceptions of vertical might explain tipping point overestimates. After estimating their tipping point, participants indicated when they felt they were oriented vertically. Participants estimated vertical as ~8° tilted backward. The difference between perceived tipping point and vertical was ~9°, close to a person's true tipping point. The difference between conscious perceptions of the tipping point versus implicit knowledge of the COM is reflective of other work showing that conscious perceptions are independent of the mechanisms that guide their behavior. This may explain why, in spite of the fact that people overestimate their tipping point; they do not fall backward all of the time. The "lean a bit backward" perception of vertical shown here and overestimation of the tipping point may explain swaying and/or falling behavior.
Abstract: Undergraduates frequently study by re-reading previously learned material, despite the fact that testing oneself on material has been associated with higher exam scores and better long-term retention of information (Tullis, Finley & Benjamin 2013). As such, how can professors promote students' use of more beneficial study strategies like self-testing? I examined study choices of undergraduate students and efficacy of various interventions on study strategy selection. Participants were randomly assigned to a control group (N=30) or one of two intervention conditions; the visual diagram (N=30), or expert explanation condition (N=30). The diagram condition displayed a graph of evidence showing benefits of self-testing on memory performance, whereas the explanation condition included a brief textbook description of self-testing benefits. All participants first viewed a list of word pairs, then had the opportunity to re-study the word pairs before a final memory test. The intervention was introduced before the re-study phase, in which participants could choose on each trial to either see the word pair intact or test themselves by seeing only one word and typing in the missing word. This allowed me to evaluate whether the two interventions increased participants' selection of the more effective self-testing strategy. Participants were also asked to rank their confidence for remembering each word pair at the test. Finally, participants were tested on all word pairs by being shown one of the words and given a blank area to type in the missing word. Across conditions, participants were more confident about their memory for items on which they had self-tested. They also showed better memory accuracy for items they had self-tested on than items they had simply re-read. However, neither intervention increased students' selection of the self-testing method. This highlights the fact that student's study strategy selections are highly resistant to change, despite differences in confidence and accuracy.
Abstract: The current study is part of an ongoing investigation of the Meditation Breath Attention Scores (MBAS) as a brief mindfulness measure of focused attention on breathing that could improve concentration and objective performance on solving anagrams. Participants completed two sets of anagrams separated by the mindfulness meditation exercise. To permit an exploration of the role of expectancy on anagram performance, approximately half of our participants were explicitly told that the mindfulness exercise would result in improved performance on the second trial. We previously found that a brief 15-minute exercise in mindfulness meditation resulted in improved performance solving anagrams, relative to a control condition where participants watched a video (Green & Black, in press). Additionally, participants that received an enhanced expectancy manipulation reported higher average estimates of solving anagrams; however, their actual performance did not improve. We are in the final stages of analyzing data from over 200 undergraduate students that participated in our study. Participants also completed a standardized measure of hypnotizability along with self-report surveys assessing absorption and imaginative ability. We will explore whether these variables mediate the effect of mindfulness training and expectancy on anagram performance.
Abstract: People's personal interests shape significant facets of their lives, but pre-existing beliefs (e.g. "Men are better at math than women") may prevent personal interest development that aligns with actual experiences (e.g. a girl who finds doing math engaging; Chatard et al., 2007). We attempt to address this problem by manipulating visual imagery perspective to attune people to their actual experiences of interest and reduce the impact of pre-existing beliefs. Because first-person imagery invokes a processing style that facilitates bottom-up interpretations, whereas third-person imagery invokes a processing style that facilitates top-down interpretations (Libby & Eibach, 2011), we predicted that first-person imagery (vs. third) would more accurately attune people to their experience of interest on a given task. First, participants (N=246) were randomly assigned to complete either an interesting or boring anagram task and then view photographs depicting actions from either the first- or third-person visual perspective (Libby et al., 2009) before explicitly rating their interest in the anagram task. We found a significant interaction between anagram task and visual perspective on participants' ratings of interest (p=.01, F(1,241)=6.26). First-person imagery caused participants to rate the interesting task as more interesting than the boring task (pF(1,118)=13.25), whereas third-person imagery caused participants' ratings to be no different across the anagram tasks (p=.71, F(1,123)=0.14). Thus, participants primed with first-person imagery (vs. third) were more sensitive to the actual experience of the anagram task. We also found a significant interaction between gender and perspective (p=.004, F(1,237)=16.47) such that females primed with third-person imagery rated the anagrams as significantly more interesting than males (p(1,164)=9.33), but no significant gender differences arose when primed with first-person imagery. Thus, our results suggest that first-person imagery may be a useful tool for overcoming instances when previously held beliefs or stereotypes deter personal interest development.
Abstract: Music influences the way we move, whether we are dancing, running, or tapping our fingers. Research has indicated that music tempo influences gross and fine motor movements, as well as speech production. With music's ability to influence production rates, does music rate also have a robust effect on the fine motor task of finger tapping? The current study examined how the timing of auditory stimuli influenced participants' ability to keep a consistent finger tapping rate. It was hypothesized that participants' finger tapping rates would drift toward the presented auditory stimuli with faster stimuli producing faster tapping rates and vice versa. In Exp. 1, 60 participants tapped to a metronome with their dominant hand and continued this rate throughout the study, even if the auditory stimuli changed. Participants were also presented with varying auditory stimuli (fast and slow songs) while continuing to tap at the rate of the original metronome. In Exp. 2, 46 participants followed the same methodology, but also engaged in a secondary task in which they listened for errors in the auditory stimuli. Participants' inter tap intervals (ITIs) was recorded and analyzed to determine if they would change their ITIs to match the rates of the auditory stimuli. Results from Exp. 1 indicated that the rate of the auditory stimuli significantly influenced participants' ITIs, with faster tapping in the fast condition compared to the slow condition. Exp. 2 mirrored these results, but with a stronger difference between the ITIs within fast and slow conditions. The present results have implications for injury rehabilitation and therapy treatments.
Category: Psychology

Title: The relationship between pain and sexual functioning among women with gynecologic malignancies

Student Presenter: Mina Cheriki

Faculty Advisor: Carpenter, Kristen

Abstract: Many women with gynecologic malignancies experience impaired sexual functioning, including pain during intercourse (Abbott-Anderson & Kwekkeboom, 2011). In addition, many patients with chronic non-sexual pain report sexual difficulties that can impact quality of life (Kwan et al., 2005). It is important to better understand the relationship between pain and sexual functioning in gynecologic cancer survivors to develop assessments and interventions that address the role of pain in this population. Analyses were conducted using baseline (pre-treatment) data from an RCT of a psychosexual intervention for gynecologic cancer survivors. N=69 women with gynecologic malignancies (40% endometrial, 35% ovarian, 22% cervical, 3% other) completed questionnaires related to sexual function (Female Sexual Function Index [FSFI]) and pain (The International Pelvic Pain Society Pelvic Pain Assessment [PPA]). The PPA includes subsections for sexual, pelvic, and other body pain. Total and subsection PPA scores were obtained by summing the items. The FSFI produces a total sexual functioning score as well as the following subscales scores: arousal, desire, lubrication, orgasm, pain, and satisfaction. Total PPA scores were significantly correlated with arousal (r=-.29, p=.05), desire (r=-.29, p=.02), pain (r=-.40, p=.01), satisfaction (r=-.30, p=.01), and total (r=-.33, p=.01) scores on the FSFI. Total sexual pain scores were significantly correlated with arousal (r=-.37, p=.01), desire (r=-.36, p=.01), lubrication (r=-.33, p=.02), orgasm (r=-.32, p=.32, p=.03), pain (r=-.59, p...
Title: Functional activation during reading-related skills in opposite-handed MZ twins

Student Presenter: Landon Cluts

Faculty Advisor: Petrill, Steve

Abstract: The purpose of the present study was to examine differences in functional activation during reading-related skills among monozygotic (MZ, or identical) twin pairs. Previous literature suggests left lateralization of language areas associated with working memory in right-handed adults. In addition, prior research has shown that left-handed adults may be more bilateral in their processing of working memory. MZ twins provide a unique approach for studying the etiology of differences in functional brain activation, as functional differences can be examined while controlling for genetic differences between individuals. Data from four opposite-handed MZ twin pairs (Age range 14 to 18) were analyzed in the current study. Twins were also administered reading-related measures such as working memory and reading comprehension. Results examined differences in functional activation in reading-related measures compared to baseline, based on handedness. Because MZ twins are almost completely genetically identical and live in the same environments, these differences are indicative of non-shared environmental and/or epigenetic effects. Since MZ twin pairs are genetically identical, any functional differences in activation, lateralization, or handedness are due to either non-shared environmental factors or an unknown difference which should be studied farther.
Category: Psychology

Title: The effect of rate priming on information processing

Student Presenter: Coryn Coleman

Faculty Advisor: Hupp, Julie

Abstract: The current study is looking at the effects of music speed on cognition, specifically how rate priming with music can affect processing speed, reading rate, and reading comprehension. Previous research has measured how music and language are processed, and found evidence that music and language share temporal mechanisms across domains. When exposed to a slow prime, participants slow down their own language production compared to fast primes. This effect has also been found across other cognitive domains (i.e., visual, motor) suggesting that there is domain generality in temporal processing. A recent study found that participants exposed to a slow speech prime took longer on a decision making task than those exposed to the fast prime, which suggests domain generality of temporal processing. The current study is investigating processing speed after being exposed to musical rate priming. Eighty college students will first listen to a 3-minute classical musical selection (slow: 80 BPM, fast: 120 BPM), or no music (control condition). Then, participants will complete the Purdue Pegboard Task (PPT), a test that measures processing speed and The Nelson Denny Reading Test (NDRT), a test that measures reading rate and comprehension. Task order is counterbalanced across participants. A series of 3(Prime Condition) x 2(Order) ANOVA’s will be conducted on processing speed, reading rate, and comprehension. The predicted results are that participants exposed to the fast music prime will have a higher score on the PPT and NDRT rate, showing faster processing speed. It is also predicted that participants primed with fast music will have a higher NDRT comprehension score. This research could show implications for improving educational outcomes in the future. Data collection is underway and will be completed by the end of February 2017.
Category: Psychology

Title: The relationship between female sexual distress, general distress, and sexual pain among gynecologic cancer survivors

Student Presenter: Kate Conroy

Faculty Advisor: Carpenter, Kristen

Abstract: Sexual pain is a common problem for gynecologic cancer survivors that is associated with psychological distress (Bober & Varela, 2012, Gershenson et al., 2007). It is important to understand this relationship in gynecologic cancer survivors to help guide conversations between patients and healthcare providers about quality of life concerns. Analyses were conducted using baseline (pre-treatment) data from an RCT of a psychosexual intervention for gynecologic cancer survivors. N=69 cancer survivors (40% endometrial, 35% ovarian, 22% cervical, 3% other) completed questionnaires related to mood (Center for Epidemiologic Studies Depression Scale [CESD], Profile of Mood States [POMS]), sexual function (Female Sexual Distress Scale [FSDS]), and pain (The International Pelvic Pain Society Pelvic Pain Assessment [PPA]). The PPA includes questions about sexual, pelvic, and general body pain. A total pain score was obtained by summing the ratings of PPA questions. A significant portion of women reported at least some level of sexual pain (17-30%). Specifically, 18 women reported burning vaginal pain with sexual activity, 21 reported deep pain with intercourse, and 12 reported pelvic pain lasting for hours or days after intercourse. Sexual distress scores were correlated with measures of general distress (CESD \( r=0.25, p \))
Category: Psychology

Title: The association of resting heart rate variability and false memory: a preliminary study focused on memory valence

Student Presenter: Havovi Desai

Faculty Advisor: Thayer, Julian

Abstract: Research suggests that higher resting high frequency heart rate variability (HF-HRV) is associated with both better health and cognitive control, including memory control. Previously we found greater resting HF-HRV was associated with fewer false memories. However, lower HF-HRV is associated with a greater negativity bias, and research has yet to understand how the valence of the memories (positive, negative, or neutral) may influence these results. Baseline-resting HF-HRV was collected for 5 minutes using an electrocardiogram in accordance with Task Force (1996) guidelines. Participants then completed a false memory paradigm. During the task, participants first completed a presentation phase, in which participants were shown a total of 6 word lists with each list containing 12 words (2 word lists per valence). Immediately following the presentation phase, participants completed the recognition phase, in which they were to indicate if they previously saw a word. Outcome variables include: hits rates (defined as the proportion of true words correctly identified as true), and false alarm rates (defined as the proportion of lure or false words incorrectly identified as true words). Controlling for age, gender, and respiration, preliminary results showed lower resting HF-HRV to be associated with a higher tendency to incorrectly identify both neutral ($r = -.349$, $p = .034$) and negative ($r =-.362$, $p = .029$) false memories; however a similar pattern was not observed for positive false memories ($r = .152$, $p = .220$). These results are in line with our lab’s previous work, suggesting that those with lower resting HF-HRV have difficulties with correctly identifying false memory-words. Importantly, this pattern was found in negative and neutral, but not positive, memory-words. These preliminary data support the novel idea that individual differences in resting HF-HRV may not predict control over positive memories, and may best predict control over negative and neutral memories.
Abstract: Children with developmental disabilities (DD) often have sociability and/or attention deficits that may negatively impact their ability to learn and develop at the same pace as their typically developing (TD) peers. The early childhood years are a key time for learning important pre-academic and social skills. Socialization and attention are essential for learning in a preschool classroom. The structure of classroom activities should promote opportunities for social interactions and on-task behavior for children with and without attention and sociability deficits in order to foster growth and learning. However, no previous research explores the influence of classroom structure on the attention and sociability of DD versus TD children. The purpose of this pilot study is to determine if classroom settings are scaffolding opportunities for sociability and attention for children with these deficits, and specifically to explore whether preschoolers with and without DD have more attention and sociability in structured or unstructured activities. Behavioral coding schemes for attention and sociability were developed and pilot tested. A second rater coded 13% of observations to achieve inter-rater reliability. 5 DD and 5 TD preschoolers were each observed 4 hours and data was collected on their attention and sociability during structured and unstructured activities. ANOVA analyses showed a statistically significant interaction between social interaction type (adult v. peer) and setting type (structured v. unstructured). More adult social interactions occurred during structured settings, while significantly more peer social interactions occurred during unstructured settings. Further regression analyses indicated that, on average, as structure increases, peer social interactions decrease. These findings suggest structured activities may hinder opportunities for peer social interaction rather than promote them. Decreased exposure to peer socialization may put children at a developmental disadvantage. Future research should explore this finding in a new context with a larger sample size to test generalizability.
Category: Psychology

Title: The role of self-control in confronting one’s own sexist beliefs

Student Presenter: Jennifer Eidemiller

Faculty Advisor: Fujita, Kentaro

Abstract: Women hold significantly fewer STEM jobs than men, partially due to sexism. To address sexism, people first must determine whether they are sexist. However, egalitarians could experience a self-control conflict (conflict between long-term and short-term goals) when an opportunity to take a sexism assessment becomes present. On one hand, sexism assessments align with egalitarians' long-term goals to address potential sexism. On the other, potential negative feedback from sexism assessments opposes egalitarians' short-term protective goals to view themselves as egalitarian. Previous work on construal level (construing something abstractly versus concretely) demonstrates high-level construal (abstract thinking) promotes long-term goals over short-term goals whereas low-level construal (concrete thinking) promotes the opposite (Fujita, 2012). We predict high-level construal, compared to low-level construal, encourages egalitarians to take a sexism assessment. To test our hypothesis, 405 Mechanical Turk participants were randomly assigned to a high or low-level construal condition and completed a category/exemplar task (Fujita et al. 2006), directly manipulating construal level. Next, participants reported egalitarian beliefs and interest to take a sexism assessment. The majority of participants reported moderately high egalitarian values (M= 4.60 on a six-point scale), suggesting even "low" egalitarians (1 SD below the mean) value equality to some extent. We found a significant interaction between construal level and egalitarianism b= -.30, t (401) = -2.79, p = .005. Counter to predictions, construal level did not affect high egalitarians (+1 SD, initially predicted to experience conflict), (p =.3708). However, high-level more so than low-level construal increased low egalitarians (-1 SD) interest to take a sexism assessment, (p=.0024), Our results suggest construal level is helpful to low egalitarians. High egalitarians might possess so much motivation to address potential sexism they do not experience conflict wanting to protect their self. This research suggests utilizing construal level to increase sexism intervention participation related to STEM fields.
Abstract: Inducing a mindset of abstraction, i.e. high-level construal, increases people's performance in various measures of self-control. This has been found with both explicit attitudes towards tempting stimuli and implicit associations with tempting stimuli. The current research seeks to extend this effect further, investigating whether construal level may affect automatic deployment of attention. Following work in the realm of addiction, which linked temptation strength with attentional bias, we tested whether construal manipulation may affect which objects attention is directed to. To induce high or low level construal, we used the previously validated "Category - Exemplar" task. To measure the effect of abstraction on attentional bias, we used Change Blindness, a paradigm in which participants spot a change made to a flickering picture. We conducted our test in the domain of food temptations. For half of the participants, the changed object was tempting (cupcake) for the others it was neutral (mug). The aim of our research was to see if construal manipulation, changed object, and self-reported dieting status would interact to predict the attentional bias in the Change Blindness task. Results supported our prediction, as we found a three-way interaction in which dieters in a high-level construal saw tempting stimuli slower than dieters in a low-level construal (t(132)=2.29, p=.0238). A limitation to these promising results, however, is that the bulk of the interaction was found in the control group.
Abstract: Worry is a common cognitive activity devoted to anticipating future threats. However, chronic worry is a hallmark of Generalized Anxiety Disorder. GAD has the lowest treatment success rate out of all anxiety disorders, reflecting limits in current understanding. Effortful control is an individual's capacity to engage in self-regulation of their thoughts and behavior. Recent work shows that worriers high in EC can avoid anxious arousal despite worrying by constraining their worry to a verbal mode of thinking. In contrast, worriers low in EC tend to worry in images, which engenders constant high anxious arousal. These two styles are similar to two styles of insecure attachment. Adult attachment style is the pattern of responses, developed in childhood. Avoidant attachment is characterized by an avoidance of showing one's anxiety. Anxious attachment is demonstrated through prominent displays of anxiety to gain attention. Most chronic worriers tend to have one of the insecure attachment styles or both, reflecting disorganized attachment. This study tests the prediction that which style of insecurity an individual shows will reflect their level of EC. Those with high EC will tend to be avoidant whereas those low in such capacity will tend toward anxious attachment. Over 700 individuals were administered the Depression Anxiety and Stress Scale (DASS), Effortful Control Scale (ECS), Experience of Close Relationships Questionnaire (ECR-S), and the Worry and Anxiety Questionnaire (WAQ) through Survey Monkey. Data was then analyzed through a multiple regression using SPSS. Results largely accorded with predictions. Additionally, ancillary analyses showed that high levels of effortful control seems to act as a protective factor against GAD symptoms despite high levels of anxious or avoidant attachment. These findings show the importance of considering individual differences in effortful control for understanding how severe worriers resolve attachment insecurity and risk for severe worry given such insecurity.
Category: Psychology

Title: In-session cognitive change as a predictor of session-to-session symptom change in cognitive therapy for depression

Student Presenter: Olivia Fitzpatrick

Faculty Advisor: Strunk, Daniel

Abstract: Numerous studies of cognitive therapy for depression (CT) suggest that reductions in negative cognition coincide with decreases in depressive symptoms over the course of treatment. This evidence is consistent with the theory that cognitive change may be responsible for therapeutic gains. However, such findings could also be accounted for by a reverse causal relation or the role of third variables. In this study, we investigate in-session cognitive change as a predictor of session-to-session symptom change in the early phase of CT. By examining session-to-session changes, we aimed to capitalize on brief intervals when cognitive change has occurred but the resulting change in depressive symptoms has yet to be observed. The Beck Depression Inventory-II, completed before each session, served as our measure of depressive symptoms. Cognitive change was assessed following each therapy session through a five item self-report instrument. In order to rule out any stable patient characteristics as potentially confounding variables, we disaggregated the within- and between-patient variability in cognitive change scores. In line with our expectations, analyses indicate that raw, in-session cognitive change significantly predicted subsequent symptom change during a single session-to-session interval (N = 126; b = -.110, SE = .036, p = .003). Relatedly, between-patient, in-session cognitive change significantly predicted session-to-session symptom changes (b = -.123, SE = .040, p = .003). Inconsistent with our hypothesis, within-patient, in-session cognitive change scores did not significantly predict session-to-session symptom change (b = -.129, SE = .104, p = .216). These results provide evidence that changes in symptoms that are observed during CT for depression may be caused by in-session cognitive change, which is potentially driven by between-patient variability.
Abstract: Bisexuals experience sexual orientation-related discrimination from both the heterosexual and gay communities (Brewster & Moradi, 2010), which has been linked to bisexuals’ disproportionately high rates of mental illness compared to their gay and straight peers (Molina et al., 2015). Sexual orientation self-disclosure (a process associated with mental health and relationship satisfaction; Meyer, 1995) among bisexuals is lower than among gay individuals, and thus this has been proposed as an underlying mechanism for bisexuals’ poor mental health outcomes (Schrimshaw et al., 2013). Another mechanism may involve the nullification of bisexual identities in monogamous relationships (Hartman-Linck, 2014), which is likely to be associated with negative psychological consequences (Pachankis, 2007). This theory has not been experimentally examined and is in contrast to research showing that romantic relationships positively influence psychological health (Gordon et al., 2012). This study experimentally examines the role of relationships (specifically, relationship satisfaction) in mediating the link between discrimination and disclosure. Bisexual adults (N=116) completed the Everyday Discrimination Scale (EDS), Outness Inventory - Family (OI-FAM), and the Couple Satisfaction Index-4 (CSI-4), and viewed two bisexual-specific discrimination-inducing film clips of the heterosexual and gay communities. Finally, they completed two disclosure tasks (one written, one forced-choice). Data analysis for the experimental discrimination and disclosure tasks is still in progress; however, a preliminary analysis was run using the aforementioned surveys. Results revealed that EDS ($\beta=.035, SE=.015, p=.023$) and CSI-4 ($\beta=.649, SE=.0313, p=.040$) both independently predicted OI-FAM, but EDS did not predict CSI-4 scores ($p=.490$); that is, support was not found for the proposed mediation. Instead, this finding suggests that relationship satisfaction and discrimination both independently play crucial roles in sexual orientation disclosure for bisexuals. Further investigation of this relationship (using this study’s experimental data) is needed to elucidate the role of relationships in bridging the mental health gap experienced by the bisexual community.
Abstract: Previous investigators have reported small but positive correlations between several self-report scales measures of dissociative ability and hypnotic responsiveness (e.g., Green, Kvaal, Lynn, Mare, & Sandberg, 1991; Nadon, Hoyt, Register, & Kihlstrom, 1991; Woody, 1990). To our knowledge, however, researchers have not examined the Wessex Dissociation Scale (WDS; Kennedy et al., 2004) or the Dissociative Processes Scale (DPS; Harrison & Watson, 1992) with regard to predicting hypnotic performance. As part of an ongoing study examining associations between various measures of personality and hypnotic responsiveness, approximately 180 undergraduate students enrolled at The Ohio State University at Lima completed the WDS, DPS, and the Dissociative Experiences Scale-II (Carlson & Putnam, 1993), along with the Tellegen Absorption Scale (Tellegen & Atkinson, 1974), the Inventory of Childhood Memories and Imaginings (Wilson & Barber, 1981), and a brief 3-item measure of participants' expectancy to respond to suggestions before administration of the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A; Shor & Orne, 1962). We will examine inter-correlations among our measures and discuss potential implications of our findings.
Category: Psychology

Title: Resting high frequency heart rate variability and everyday music listening tendencies

Student Presenter: Geoff Green II

Faculty Advisor: Thayer, Julian

Abstract: Research has compartmentalized everyday music listening tendencies into three main motivations, including cognitive (intellectual appreciation), emotional (emotional regulation), and background-stimulus (background noise) listening. Research has showed that listening to music can influence brain activity, including executive brain regions such as the prefrontal cortex, and has been linked with overall well-being. Interestingly, high-frequency heart rate variability (HF-HRV) is considered an index of both overall health and executive brain region activity, while lower HF-HRV is associated with lesser activity in executive brain regions, poorer overall health, and poorer self-regulation abilities (e.g. emotion regulation). However, to date, no study has linked HF-HRV with individuals' motivations to listen to music, as they may have consequences for both physical and psychological well-being. The following study sought to examine how HF-HRV under various conditions was associated with self-reported everyday music listening tendencies. In a sample of 36 college-aged participants (22 women), continuous heart rate data was collected via an electrocardiogram as participants first completed a 5-minute resting-baseline, followed by a physiological (standing) and psychological (memory) task, each followed by a 5-minute recovery period. During a subsequent questionnaire period, participants completed a 15-item questionnaire that assessed their music listening tendencies. Results showed a greater tendency to listen to music in an emotional manner was significantly associated with HF-HRV during the orthostatic (r = -.439, p
Category: Psychology

Title: Pushing people to their tipping point

Student Presenter: Mara Hernandez

Faculty Advisor: Shaffer, Dennis

Abstract: Can people accurately determine their tipping point—that is, the point at which when tipped backward they would no longer be able to return to upright? Previous work has shown both that people consciously overestimate how much they are tilted backward and that people are fairly accurate at identifying the center of mass (COM)—the point that determines the tipping point—for various symmetrical objects and stick figures. We first sought to investigate people's conscious estimates of their tipping point and COM. First, we tilted participants backward in an inversion table and had them estimate their tipping point. We then took measurements of participants in order to calculate their COM, and, in turn, their actual tipping point. Participants overestimated their actual tipping point, but also estimated their COM to be higher than actual. Thus, while they indicated they could be tipped back ~3 times farther than actual, the estimates of their COM indicated a fairly accurate identification of their tipping point. We then investigated whether conscious perceptions of vertical might explain tipping point overestimates. After estimating their tipping point, participants indicated when they felt they were oriented vertically. Participants estimated vertical as ~8° tilted backward. The difference between perceived tipping point and vertical was ~9°, close to a person's true tipping point. The difference between conscious perceptions of the tipping point versus implicit knowledge of the COM is reflective of other work showing that conscious perceptions are independent of the mechanisms that guide their behavior. This may explain why, in spite of the fact that people overestimate their tipping point; they do not fall backward all of the time. The "lean a bit backward" perception of vertical shown here and overestimation of the tipping point may explain swaying and/or falling behavior.
Category: Psychology

Title: The helpful narcissist: an exploration of why grandiose narcissists and vulnerable narcissists are motivated to help others

Student Presenter: Alessia Italiano

Faculty Advisor: Crocker, Jennifer

Abstract: Although grandiose and vulnerable narcissists are both self-absorbed and highly entitled, grandiose narcissists can be prosocial, helping others under some circumstances. We predict that grandiose and vulnerable narcissists differ in the amount they help and their motivations to help. Specifically, when grandiose narcissists have self-image goals, i.e., are motivated by impression management concerns, they will help high status people to enhance their public image. In contrast, if grandiose narcissists have compassionate goals, i.e., are motivated by their concern for others' well-being, they should help low status people in need. In comparison, we predict vulnerable narcissists help less in general. However, when vulnerable narcissists have self-image goals, they may help both high status and low status individuals since they are concerned with gaining others' approval. Participants completed self-report questionnaires assessing their levels of narcissism and self-image/compassionate goals. Participants then completed the "tangram task" - a behavioral measure which assesses helping behavior via number of problems solved for their fictitious partner. We manipulated the partner's status (high school student as low status, undergraduate student as a control, and graduate student as high status). Next participants answered questions related to their helping behavior, including their motivations to help and emotions after helping. We are currently in the process of analyzing data, which will include correlations and multiple regressions. If hypotheses are correct, regressions will show that interpersonal goals (self-image and compassionate goals) and the status of the partner moderate the relationship between narcissism and helpfulness. The results of this study will advance researchers' conceptual understanding of grandiose and vulnerable narcissism. Due to narcissists' problematic relationships with others, and the lack of existing research on their motives for helping, results from this study will help us understand their goals, which may inform interventions to improve their relationships.
Category: Psychology

Title: The effects of linalool (lavender) and peppermint aroma on cognitive performance

Student Presenter: Robert Kaufman

Faculty Advisor: Simons, Christopher

Abstract: What if there was a way for people to perform better on tests, make less mistakes, and work more efficiently? Previous research has suggested that a person can achieve enhanced cognition and task performance simply by breathing the scents of certain natural substances. The amount of supporting research to back up these claims, however, is limited. This project seeks to understand the question of how peppermint and lavender (linalool) aromas affect cognitive performance. Its purpose is to provide a clearer understanding of the psychological and psychopharmacological effects (specifically regarding performance), if any, that these aromas can produce in human subjects. Subjects were evaluated in three separate conditions (no aroma, linalool aroma, and peppermint aroma) using the PEBL (Psychology Experiment Building Language) Math Processing Task, which involves answering simple math problems as quickly and accurately as possible. Results show that subjects exposed to the peppermint aroma showed significantly faster response times compared to their respective no aroma conditions. Subjects exposed to the linalool aroma showed both significantly faster response times and increased accuracy compared to their respective no aroma conditions. These findings could have widespread application, including the ability to potentially increase productivity, accuracy, or general task performance for people exposed to the aromas. In addition, this study may open the door for further research on aromas to determine what other effects on humans or uses they could have.
Abstract: Different emotion regulation strategies have been categorized as adaptive or maladaptive due to their positive or negative associations with symptoms of psychopathology (Aldao et al., 2010). However, difficulties in emotion regulation can also be a result of a person's lack of clarity about how to implement the strategies (Aldao and Vine, 2014). We examined the quality of use and resulting effectiveness of three emotion regulation strategies (reappraisal, humor, and distraction) among undergraduates (n=97) when viewing video clips aimed at arousing negative emotion. This study will assess the quality of emotion regulation strategy implementation by having independent raters code the descriptions of strategy implementation provided by the participants. The association between implementation quality and strategy effectiveness will then be assessed by relating the former to emotions experienced before and after each video clip. Strategy effectiveness is a function of the magnitude of the drop in negative affect in response to a negative affect inducing video clip. Data analysis is in progress but we expect to find a significant positive correlation between strategy implementation quality and emotion regulation effectiveness and, conversely, a negative correlation between implementation quality and levels of emotion dysregulation and psychopathology. This study will provide insight into the quality of emotion regulation strategy use which can positively affect the approach of coaching emotion regulation strategy use in therapy.
Category: Psychology

Title: The effect of attitudinal ambivalence on anchoring

Student Presenter: Tyler Knaplund

Faculty Advisor: Wegener, Duane

Abstract: The Anchoring Effect, a process by which numbers in the environment influence the way one thinks and makes decisions, has largely been studied in the fields of Judgement and Decision Making and Economics. Recently, studies have been done to apply principles from Social Psychology, specifically attitudes and persuasion, to anchoring. The following study continues in this pursuit. Specifically, we looked at the effect of one's preexisting attitudes on the effectiveness of numerical anchors and at potentially moderating effects of attitude ambivalence. Participants were given measures of attitude and ambivalence towards various foods and then put through a traditional anchoring paradigm. That is, participants were asked whether they would be willing to pay more or less than a high or low anchoring value for a given food item. After reporting whether they would pay more or less, they were asked to report the most they would pay. Data are collected, and I am using linear models to test for the anchoring effect and the influence of attitude and ambivalence. I am hoping to find support for my primary hypothesis that attitude-inconsistent anchors have less influence on participants' reported willingness to pay than attitude-consistent anchors. In addition, ambivalence may serve to moderate those effects (with ambivalent attitudes having less of an effect than unambivalent - univalent - attitudes). These findings would have important implications for the field of numerical anchoring, as most models of anchoring have not addressed attitude-related motives as a determinant of anchor effectiveness. In addition to adding to the general knowledge about attitudes and anchoring, these results support the notion of applying findings and principles from one field to another for the purposes of creating a more integrated science and generating new research questions.
Category: Psychology

Title: The effects of glucose consumption on attentional control

Student Presenter: Lydia Kwong

Faculty Advisor: Leber, Andrew

Abstract: Previous evidence shows that cognitive functions such as memory are improved by glucose consumption, suggesting these functions are dependent on energy metabolism. However, it is not clear whether glucose influences attentional control. Attentional control is the ability to allocate attention to relevant information and ignore irrelevant information. In this study, we test the effect of glucose consumption on performance on a Rapid Serial Visual Presentation (RSVP) task. In this demanding attentional control task, participants identify a target letter of a specific color appearing in a series of rapidly presented letters in different colors. This task requires strong attentional control to focus on the target color and ignore irrelevant colors. A colored outline square surrounding the RSVP stream, the "distractor," appears at different time points before or after the target letter. If the distractor matches the target color, the participant's attention is captured, resulting in reduced accuracy. In this double-blind within-subject study, participants complete two sessions. In random order, participants are assigned a glucose drink and a placebo drink. Thus far, data replicate the capture effect and demonstrate that it extends into our modified paradigm. Upon completion of data collection, we will test the influence of glucose. We predict that glucose will increase attentional control and affect performance in one of two ways. One possible result is that, after consuming the glucose drink, participants will be able to disengage attention more rapidly from distractors, allowing accuracy to improve back to baseline more quickly. Alternatively, increased attention may cause stronger engagement with the distractor, paradoxically worsening accuracy. The results of this study have real world implications for situations requiring periods of sustained attention, such as for air traffic controllers. Understanding the relationship between glucose and attention may aid in developing methods to increase attentional control in completing demanding tasks.
Individuals experience specific emotions, as opposed to general affective feelings, when they use conceptual knowledge to integrate multiple sources of information into a unified appraisal (Moors, 2010). Our study explored how manipulating visual imagery perspective (first-person vs. third-person), which differentially facilitates qualitatively distinct processing styles (Libby & Eibach, 2011), can promote the experience of general affective feelings as emotion. Past research suggests that first-person imagery facilitates greater reliance on experiential processing, whereas third-person imagery facilitates greater reliance on conceptual processing (Shaeffer et al., 2015). Our study specifically investigated visual imagery perspective’s (first-person vs. third-person) effect on the experience of negative affective feelings as sadness. First, participants completed a sadness recall task. Next, they completed the Implicit Positive and Negative Affect Test, an implicit measure capturing general affective feelings. Before completing the Positive and Negative Affect Schedule, an explicit measure capturing current emotional experience, participants viewed action photographs shot from either the first-person or third-person perspective. Analyses revealed that third-person (versus first-person) photographs caused greater correspondence between the experience of sadness-related emotions and negative general affective feelings. Findings suggest third-person (versus first-person) imagery facilitates the experience of general affective feelings as specific emotions. This is important because the experience of specific emotions, as opposed to general affect, has predictable downstream consequences (Lerner et al., 2015) and may be adaptive for emotion regulation (Izard et al., 2011).
Category: Psychology  
Title: Paying-it-forward: Can multiple types of support lead to it?  
Student Presenter: Matthew Leipzig  
Faculty Advisor: Crocker, Jennifer  

Abstract: Paying it forward refers to the tendency for people who receive help from one person to help others later. Past research has found that instrumental support, which provides tangible benefits, can lead to paying it forward as a result of gratitude (Bartlett & DeSteno, 2006). However, there are different types of support. We tested whether emotional support, which communicates caring for a person, increases the likelihood of paying it forward. Because previous research has linked high compassionate goals with providing social support, we also hypothesized that compassionate goals might moderate this effect (Crocker & Canevello, 2008). Participants completed measures of compassionate goals. Afterwards, participants completed a stressful or non-stressful task, and either received or did not receive emotional support. After participants were told that the experiment was over, they were compensated and given an opportunity to donate money. Factorial ANOVA analyses revealed that regardless of the stressfulness of the task, participants felt more gratitude when they received support. However, there was no effect of receiving support on the amount of money donated. Furthermore, compassionate goals did not moderate this relationship. A possible explanation for these findings is that people may only pay forward support that matches the type of support they received. If true, this factor could play an important role in how people attempt to create supportive environments.
Abstract: Cortisol is a hormone that plays a primary role in the body's response to stress. Cortisol levels are frequently used as an index of anxiety. Individuals diagnosed with cancer are at risk for chronic high levels of cortisol given the persistent stressors that they face. Some cancer patients may be even more vulnerable, especially those faced with social and practical problems such as financial distress. The purpose of our study was to explore the relationships between social stressors faced by cancer patients and two indices of anxiety: self-reported worry and blood cortisol levels. We hypothesized a positive relationship between cortisol levels, worry and social concerns, a positive relationship between worry and social concerns, and a positive relationship between worry and financial distress. Twenty-eight individuals with mixed cancer diagnoses (e.g., breast, colon, lung) enrolled in a cognitive-behavioral intervention designed to address worry, insomnia, and uncertainty. Participant's pre-intervention serum cortisol levels were measured. Participants also completed self-reported levels of worry utilizing the Penn State Worry Questionnaire (PSWQ; Meyer et al., 1990). Practical and social concerns (e.g., financial difficulties, housing concerns, difficulties obtaining medications) were obtained using the James Supportive Care Screening (SCS; Wells-Di Gregorio et al., 2013). A moderate, negative, relationship (r = -.47, p = .02) was found between worry and cortisol levels. No statistically significant relationships were found between worry and social/practical concerns, or between cortisol levels and social/practical concerns. Overall, our results demonstrate disparities among our self-report and physiological measures of anxiety. Our findings were consistent with Giese-Davis and colleagues' results (2004) suggesting that some cancer patients under chronic stress may exhibit a dysregulated, flattened cortisol slope, especially those presenting as highly anxious. Future studies might consider looking at cortisol levels longitudinally to see if a negative cortisol slope develops over time.
Self-compassion in an interpersonal context

Min Liu

Crocker, Jennifer

This experiment examines relational benefits of self-compassion. Self-compassion emphasizes kindness and compassion toward oneself without harsh judgment especially when one encounters difficulties or failures (Neff, 2003a). Recent evidence that self-compassion negatively correlates with depression and anxiety while positively correlating with happiness, positive affect, and social connectedness suggests that self-compassion has adaptive benefits for psychological functioning (Neff, 2003b; Neff & Vonk, 2009; Neff, Rude, & Kirkpatrick, 2007). Importantly, self-compassion also has interpersonal benefits; for example, it associates positively with compassionate goals, the intention to care for close others (Crocker & Canevello, 2008). Because most findings are correlational, this study tests the causal link between repeated self-compassionate exercises and increased compassionate goals, through a mediator of belongingness. I hypothesize that self-compassion provides interpersonal benefits by increasing compassionate goals through an increase of belongingness. A longitudinal survey study recruited undergraduate participants (N=155) and randomly assigned them to one, three, or five sessions of online surveys. Each survey contained a self-compassionate letter-writing exercise with an interpersonal focus (adapted from Breines & Chen, 2012). Data analysis is underway. A mixed regression model will be applied to test the effects of the three self-compassion conditions on compassionate goals and examined change over time. I predict that completing more self-compassionate exercises will cause participants to develop greater compassionate goals, with increasing belongingness as the mechanism of this effect. If supported, the expected results can provide experimental evidence that repeated letter writing is an effective way to induce self-compassion and bring care and compassion into interpersonal relationships.
Abstract: The purpose of the present study was to examine differences in functional activation during reading-related skills among monozygotic (MZ, or identical) twin pairs. Previous literature suggests left lateralization of language areas associated with working memory in right-handed adults. In addition, prior research has shown that left-handed adults may be more bilateral in their processing of working memory. MZ twins provide a unique approach for studying the etiology of differences in functional brain activation, as functional differences can be examined while controlling for genetic differences between individuals. Data from four opposite-handed MZ twin pairs (Age range 14 to 18) were analyzed in the current study. Twins were also administered reading-related measures such as working memory and reading comprehension. Results examined differences in functional activation in reading-related measures compared to baseline, based on handedness. Because MZ twins are almost completely genetically identical and live in the same environments, these differences are indicative of non-shared environmental and/or epigenetic effects. Since MZ twin pairs are genetically identical, any functional differences in activation, lateralization, or handedness are due to either non-shared environmental factors or an unknown difference which should be studied farther.
Category: Psychology

Title: Quantity or quality: participation and general health outcomes in TBI patients

Student Presenter: Emily Markham

Faculty Advisor: Bogner, Jennifer

Abstract: Traumatic Brain Injury (TBI) is a chronic health condition with severe physical, social, and cognitive implications. Individuals who have sustained a TBI likely experience deficits in frontal brain executive functioning, which is needed for successful living within the community. This decreased ability to participate and restrictions in life involvement increase one’s risk for various health-related problems. Previous research potentially suggests that patients with increased and/or balanced participation in the community have better social and rehabilitation outcomes, which can be associated with improvements in general health. This study sought to determine the extent to which the quantity or quality of one’s participation predicts health outcomes in TBI patients. Data was originally collected through the Ohio Regional TBI Model System longitudinal study through interviews with participants. It had not been analyzed in this context. Participation at one year follow-up was measured over three main areas: productivity, social relations, and being out and about in the community (PART-O). The standard deviation of the three domains was used to determine balance across these areas. The average item score was used to determine overall amount of participation. General health at two year follow-up was measured using questions regarding physical health and overall general health, as well as a questionnaire that assessed depression symptoms (PHQ-9). Multiple and logistic regression were applied to control for covariates that have previously been associated with health outcomes. The study found that the amount of participation at one year post-TBI inversely predicts the amount of depressive symptoms reported at two years post-TBI (p = 0.027). Other relationships between participation and health outcomes were not significant. Early intervention with participation in TBI patients may improve depressive symptoms; further understanding of this relationship will allow for improved treatment and rehabilitation in patients following an injury.
Category: Psychology

Title: The neural basis of self-control

Student Presenter: Fiona Molloy

Faculty Advisor: Turner, Brandon

Abstract: Intertemporal choice is an important type of decision-making requiring one to choose between a smaller reward given at a sooner date and a larger reward given at a later date. Individuals who choose the larger-later option more frequently exhibit more self-control, which has implications in all aspects of life from healthy eating to saving money. Previous research has shown that the interaction of four brain regions is crucial to this process: the posterior parietal cortex (pPC), the ventromedial prefrontal cortex (vmPFC), the dorsolateral prefrontal cortex (dLPFC), and the dorsomedial frontal cortex (dmFC). At this point, it remains unclear how the dLPFC affects the dmFC to invoke self control. To elucidate this mechanism, we collected behavioral and fMRI data from twenty-one participants who completed a monetary intertemporal choice task. We first fit behavioral data, including choice and response times, with a modified Multi-alternative Decision Field Theory (MDFT) model. Ongoing analyses are being carried out to build a General Linear Model using the estimated parameters to predict neural activity. This model, unlike previous theories, focuses on the monetary and temporal attributes of the offers themselves, rather than assuming canonical temporal discounting functions as in previous studies. We compared several variants of the MDFT model and found that the best-fitting model contained mechanisms like lateral inhibition and selective attention, and could accurately capture both choice and response. In terms of neural data, the lateral inhibition parameters of the model may predict brain activation of the dLPFC. Additionally, the attention bias parameter of the model may predict activity in the vmPFC. The parameters in the model are thought to provide insight into how self-control is carried out. Future experiments can be applied in clinical research, such as with addiction and obesity.
Previous research in the fields of both high school and higher education suggest a clear link between math and science skills. This research shows a co-morbidity of reading and math disabilities, but little research is present on how these two are correlated with science skills. The purpose of the present study was to examine differences in science skills in college students at risk for math difficulties. Participants (N = 463, mean age = 19.90 years, SD = 2.25 years) completed a 90 minute test battery consisting of measures of science, math, and reading; furthermore, questionnaire measures of educational background and attitudes toward science were also given throughout the test battery. Participants scoring lower than a standard score of 85 in either math fluency, or quantitative concepts were defined as at risk for math difficulties. The at risk group was broken down into 3 subgroups, low in math fluency, low in quantitative concepts, and low in both areas. Groups were compared using t-tests on variety of math and science outcomes. The results showed that those low in quantitative concepts were generally lower than the control group in math outcomes, reading, science attitudes, science reasoning, and number of science classes taken in high school. Those low in math fluency showed no difference compared to control group. Finally, those low in both areas showed the same results as those just low in quantitative concepts. These results are consistent with previous research showing differences in college STEM outcomes are related to choices made in high school regarding STEM engagement.
Title: Multisensory integration and modality dominance

Student Presenter: Jessica Parker

Faculty Advisor: Robinson, Christopher

Abstract: Multisensory integration, or the merging of information from multiple sensory modalities, is important for many everyday tasks. Shams, et al. (2000), used the Sound-Induced Flash Illusion to test integration of sensory information by presenting beeps and flashes simultaneously, and participants were asked to report how many flashes they saw. The number of beeps affected how many flashes they saw, which implies integration. Multisensory integration could stem from auditory dominance, where the auditory modality affects processing in the visual modality, but not vice versa (Robinson & Sloutsky, 2010). The modality appropriateness hypothesis also predicts an asymmetry with modality dominance favoring the modality best suited for the specific task, with auditory stimuli dominating visual processing on temporal tasks (Welch & Warren, 1980). Thus, it was hypothesized that auditory information would have a strong effect on visual processing, but not vice versa. Adults in the current study saw 2, 3, or 4 flashes and heard 2, 3, or 4 beeps, and were asked to report how many stimuli were presented for the assigned modality. In the unimodal visual block, only visual stimuli were presented, and in the unimodal auditory block, only auditory stimuli were presented. There were also two crossmodal blocks, where both modalities were presented simultaneously and participants were asked to respond to only the auditory or visual modality (previous research only tested one modality). Trials could be congruent (same number of beeps and flashes), or incongruent (different number of beeps and flashes).

Multisensory integration was quantified by accuracy of responses and comparisons to the respective unimodal baselines. Specifically, congruent and incongruent auditory stimuli significantly affected visual processing; whereas, there was little evidence that visual input affected auditory processing. These findings support auditory dominance and modality appropriateness hypothesis in adult populations and have implications on tasks that require multisensory integration.
This study examined cross domain priming effects of speech rate on decision making. It was hypothesized that participants primed with slow speech would make subsequently slower and more advantageous decisions. In order to assess effects of speech rate on decision making, a manipulation procedure was performed featuring a neutral script recorded using fast (3.49 syllables/second) or slow (2.36 syllables/second) speech rate. This was followed by the Hungry Donkey Task, which is a child friendly computerized decision making task. The task features four doors, and unbeknownst to the participant, the doors are rigged; two are advantageous (low risk), and two are disadvantageous (high risk). A higher score indicates more advantageous selections; scores were calculated across 3 blocks of 20 trials. This procedure was utilized across two samples (65 adults and 42 preschool children). A 2(Age) x 2(Condition) x 3(Block) mixed ANOVA examined response latencies. There was a significant main effect of Condition, F(1,103) = 5.41, p = .022; slow prime condition was slower to respond than fast condition. A main effect of Age was also significant, (1,103) = 20.13, p F(1,103) = 3.09, p = .082; slow condition performed marginally better than fast condition. Finally, there was a Condition x Age interaction, F(1,103) = 3.81, p = .054; post hoc analyses revealed that adults only outperformed children in slow condition, p = .023, d = 0.444. Speech rate priming affected decision making; fast prime led to faster and worse decisions. This study also found that adults primed with fast speech performed similarly to children. Overall, the slow prime led to slower and better decision making.
Abstract: Aging is associated with declines in cognitive functions including attentional control and goal maintenance. Despite these declines, older adults report less mind-wandering (MW), or redirecting of attention from an external task to internal thoughts. MW can be classified as task-unrelated thought (TUT) or task-related interference (TRI), defined as evaluative thoughts concerning task performance. Evidence of the functional costs of MW among older adults is discrepant, warranting further examination of the implications of MW on performance, particularly based on its content qualities. The current study investigated age-related differences in the frequency, temporal focus, and judgmental nature of MW and their associations with performance. Seventy-five older adults and 50 young adults completed two computerized tasks measuring sustained attention: a Go/No-Go task, and a word version of the Continuous Performance Task. In both tasks, MW was measured using quasi-random probes prompting participants to describe their thoughts. Across both tasks, older adults reported fewer MW episodes, specifically fewer proportions of TUTs compared with young adults. Although there was no difference in the judgmental nature of these MW thoughts, older adults reported fewer past-focused MW and more present-focused MW than young adults. Interestingly, MW negatively impacted performance for both older and young adults, with TRIs explaining critical variance in accuracy scores. Future analyses would involve examining the impact of past-focused TUTs vs. TRIs on accuracy scores of older compared with young adults. The results of this study will thus provide us with critical information on the impact of differential mind-wandering for functional performance across the developmental spectrum.
Abstract: Every day, stigmatized individuals face the sting of social exclusion. Likewise, those associated with stigmatized individuals are subject to similar consequences through stigma by association. When people are associated in one's mind, one's attitude toward one person can spread to the other person. In this study, we examined stigma by association regarding people with mental illness and their friends and family. Our research indicates that the strength of perceived stigmatized qualities in neutral targets can be affected by alleged causes of the disorder and the relationship of the target to the stigmatized person. Research participants read information highlighting either a genetic cause for Schizophrenia, an environmental cause, or neither. Then, participants evaluated someone described as related to a person with Schizophrenia, with varying degrees of environmental and genetic closeness (e.g., identical twin versus friend). Previous research demonstrates spreading of negative general attitudes accompanying stigmatized people to those with whom they are associated. This study demonstrates that specific stigmatized traits (e.g., aggression) are also being transferred. Consistent with holding a default view of Schizophrenia being caused by genetics, participants who received information describing an environmental cause (and as a result may believe in two causes: genes and environment) were especially likely to view a target as possessing stigmatized qualities when he shared both genetics and environment with the person with Schizophrenia. Associative stigma for this shared-genetics-and-environment target exceeded that for targets who only shared one cause (e.g., genetics or environment). This suggests that stigma by association increases when someone is presented with new information that corresponds to their existing beliefs about causes of a disorder. This work will impact the mental health field by addressing how education on true causes of mental disorders affects stigma by association in relation to people with such disorders.
Abstract: Rumination is a maladaptive emotion regulation strategy consisting of repetitive thinking about things that have happened in the past. Excessive use of rumination has been linked to different kinds of behavioral dysregulation such as binge eating, binge drinking (Nolen-Hoeksema et al., 2008) and non-suicidal self-injury (Selby & Joiner, 2009). Selby argues that these risky and impulsive behaviors serve as a mechanism to try and distract oneself from the escalating spiral of negative affect elicited by rumination (2009). The present study tests this model by investigating how trait level rumination, or how often one tends to ruminate, is associated with engagement in risky decisions in order to avoid a ruminative task. To investigate this, we designed a modified probability discounting task that asks participants to make choices and take risks about a hypothetical rumination task. In each trial, participants chose between 100% chance of completing the rumination task and an uncertain option where there was a possibility of completing a neutral activity. As such, choosing the uncertain option represents a form of risk taking behavior. For our analysis, we used methods described by Reed et al. (2011) to find the K estimate and the Area Under the Curve (AUC), both of which measure one’s decision-making curve. Our results showed no relationship between rumination and choices on the probability discounting task for either the K estimate (p = .581) or the AUC (p = .362). Future research should improve upon this task and work towards a better understanding of the pervasive cycle of chronic rumination. Understanding the relationship between rumination, risk-taking behavior and decision making can lead to the development of new ways to break the cycle and help many people to stop going down the negative path of ruminative thought and instead use healthier strategies to regulate their emotions.
Category: Psychology

Title: Cognitive dissonance: a closer look at the impact of discomfort on spreading of alternatives

Student Presenter: Myra Saeed

Faculty Advisor: Wegener, Duane

Abstract: Not all choices are simple and pleasing. Often, people are forced to make decisions between things they either like or dislike equally, and they face discomfort as a result. Festinger’s cognitive dissonance theory argues that people can experience conflict when opting to forego a favorable option or when opting to accept an unfavorable option. Individuals try to reduce this discomfort by evaluating chosen options more favorably and/or evaluating unchosen options less favorably (a phenomenon known as "spreading of alternatives"). Recent critiques by Chen and Risen have challenged the role of dissonance-based discomfort in post-choice spreading of alternatives. The current research attempts to address the critiques in two ways. First, showing a role for measured discomfort would help to make a case for dissonance. Second, previous work using an essay-writing paradigm has found dissonance effects to be stronger when the essay is counterattitudinal rather than proattitudinal. This suggests that spreading might be more driven by dissonance when choosing between two disliked rather than two liked options. In the ongoing research, participants evaluate a set of food items and are randomly assigned to make a choice between either two equally favorable options (the positive-choice condition) or two equally unfavorable options (the negative-choice condition). Attitudes are measured before and after the choice, and the level of discomfort is also measured after the choice but before the post-choice ratings of the alternatives. If more discomfort accompanies the negative-choice condition, this study would support the relevance of cognitive dissonance theory for the free-choice paradigm and qualify the types of decisions where dissonance occurs. If measures of discomfort predict the amount of spreading for either choice condition, this would also help to support the relevance of dissonance theory for choices between equally-evaluated alternatives. Data collection and analyses will proceed in Spring 2017.
Abstract: Acetaminophen, one of the most commonly-used analgesics, has recently been found to increase impulsivity. For example, acetaminophen increases risk-taking (Keaveney & Way, in prep) in a lab paradigm that has previously been shown to predict gambling and substance abuse (Ledgerwood et al., 2009) as well as smoking (Lejuez et al., 2003). Acetaminophen has also been shown in both lab experiments and ecological correlational studies to be associated with increased aggression (Way et al., in prep). Therefore, the aim of this study is to investigate acetaminophen's effects on self-control in a novel situation: impulsive eating. Using a previously validated paradigm (Hare et al., 2009), Ohio State undergraduates completed a 2-hour study in which they first rated the healthiness and tastiness of various foods before drug consumption. Then, in a double-blind procedure, participants were randomly assigned to receive either 1000mg of acetaminophen or a placebo, both in liquid vehicle. Approximately 60 minutes after drug consumption, participants made a series of decisions about food preferences. Specifically, participants indicated their preference for each of the foods they had previously rated relative to one food they had rated as neutral in both taste and healthiness (Hare et al., 2009). Participants also made a choice between grapes and M&Ms and received the option they chose at the end of the study. In line with previous research on acetaminophen, we hypothesize that acetaminophen will increase impulsivity primarily in dieters, exhibited by an increased preference for tasty but unhealthy foods. Data collection is ongoing with a current sample size of 30 participants and a target sample of 100 participants. Given that 23% of the U.S. population takes acetaminophen each week (Kaufman et al., 2002), it is imperative to fully understand its effects on impulsivity across different domains of self-control.
Abstract: Family expressiveness refers to the intensity and frequency of parents' positive and negative expressions with family members. Parents' expressions expose children to many emotions so that children learn to understand and interpret their own and other's emotions. The goal of this study is to further our understanding of the role of family expressiveness (fathers' and mothers') in children's ability to recognize facial expressions. It was hypothesized that: 1) mothers' and fathers' positive expressiveness and anger would be positively related; 2) mothers would display sadness more frequently to girls than boys; and 3) compared to boys, girls would show higher accuracy in recognizing sadness. Participants were 49 3 or 4-year old children (time 1) and their parents, drawn from a larger longitudinal study. Audio recordings of parent-child conversations in the home setting were coded for family expressiveness including parents' positive expressiveness consisting of positive emotion expressions (parental laughing), positive evaluation of child, general positive statements, positive self-evaluation and love expressions toward family members, as well as parents' negative expressiveness consisting of negative emotion expressions (parental crying, sighing, yelling, verbal aggression), negative evaluation of child, general negative statements, and negative self-evaluation. To assess emotion understanding, children were asked to recognize basic facial expressions (happy, sad, anger, and fear) in the laboratory setting. The presented results are exploratory as data coding is still ongoing. To test hypotheses, independent sample t-tests, correlation and regression were used. Preliminary results suggested that only mothers' and fathers' positive expressiveness was correlated ($r = .32, p = .02$). Additionally, girls showed higher accuracy in recognizing sad expressions ($t = 1.83, df = 47, p = .059$). The findings suggested that mothers and fathers were consistent in expressing positive emotion at home and that girls tended to be more sensitive to sad facial expressions than boys.
Abstract: There are many tasks in our daily lives that require us to quickly process and respond to multisensory information. Common tasks such as driving or talking to others are prime examples of this multisensory processing. Previous research shows that when presented with multisensory information the visual modality dominates the auditory modality. In the classic Colavita task, participants must quickly respond to stimuli by reporting if each stimulus was auditory or visual. When given a cross-modal stimulus, many participants only reported the visual stimulus (as opposed to responding to both stimuli). This led to the conclusion that the visual modality was dominate over the auditory modality. However, recent studies have found in infants and children that the auditory modality seems to take precedence over the visual modality. Infants and children are better at discriminating pictures when presented in silence than when presented with sounds or words. The goal of this study was to examine if auditory stimuli slow down visual responses on a visual spatial task. In the current study, a dot appeared in twelve different locations on a touchscreen and adults were instructed to tap the dots as fast as possible. In this experiment, dots were presented with or without an auditory stimuli, however, participants were instructed to either pay close attention to the sounds, the dots, or there was no attentional instruction. Auditory stimuli slowed visual responses and attentional manipulations had no effect on response time. This suggests that directing attention does not affect which modality is dominant. These findings are consistent with a potential mechanism underlying auditory dominance, which suggests that auditory stimuli automatically engage attention and slow down or delay visual processing.