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Attendee Submitted Thematic Flash Talks: Culture Friday, March 22, 2019 8:45 a.m.-9:45 a.m.

Culture PERCEIVING ACCULTURATION FROM NEUTRAL AND EMOTIONAL FACES

Bjornsdottir, R. Thora—University of Glasgow; Rule, Nicholas O.—University of Toronto

Descriptors: acculturation, nonverbal accents, face perception

Facial expressions of emotion can communicate various social group memberships, including culture. Specifically, perceivers can distinguish the faces of Japanese and Japanese-American individuals, particularly when they express emotion (Marsh, Elfenbein, & Ambady, 2003). Thus, cultural affiliation is visible from culture-specific “nonverbal accents” in emotion expression. This work, however, focused only on people belonging to one cultural category. What, then, of people who identify with more than one culture? In the current work we tested whether nonverbal accents might signal not only cultural group membership, but the degree of cultural identification, or acculturation. Using neutral, happy, and angry photos of 189 East Asian individuals with varying degrees of acculturation, we found across three studies that targets’ self-reported acculturation to Canada correlated positively with perceivers’ (total $N = 422$) judgments of how Canadian targets were, $r = .20$, 95% CI [.15, .25], $Z = 8.15$. Furthermore, accuracy was greatest when targets posed happy expressions, $r = .26$, 95% CI [.19, .35], $Z = 6.37$, supporting the idea that nonverbal accents communicate cultural identification. Finally, the intensity of targets’ happiness related to both their self-reported, $r(187) = .19$, $p = .009$, and perceived acculturation to Canada, $r = .61$, 95% CI [.63, .79], $Z = 16.77$, helping to explain perceivers’ accuracy and aligning with research on cultural display rules. Overall, nonverbal accents appear to communicate cultural identification not only categorically, but also continuously.

Culture THE PRIMACY OF EMOTION CATEGORIES: UNCOVERING 12+ CROSS-CULTURAL DIMENSIONS OF EMOTION EVOKED BY MUSIC AND EXPRESSED IN THE VOICE

Cowen, Alan S—University of California, Berkeley; Keltner, Dacher—University of California, Berkeley

Descriptors: emotion, culture, data science

Evidence regarding cross-cultural regularities in emotion-related behavior is central to the science of emotion. How many varieties of emotion are preserved across cultures in the experiences evoked in distinct situations and recognized in distinct expressions? Are emotion categories or affective features (e.g., valence, dominance) more culturally universal? Do emotional experiences and expressions fall into discrete clusters or span continuous gradients? We provide answers to these questions by examining high-dimensional cross-cultural regularities in emotional response using new large scale data analysis methods. We analyze 1.5 million judgments from participants in the US ($N = 2,980$), China ($N = 895$), and India ($N = 376$) of the emotional experiences evoked by 1841 music samples and expressed in 2519 prosodic speech samples. Within each modality, we uncover upwards of a dozen distinct dimensions, or varieties, of emotional response that are preserved across cultures. Cross-cultural regularities in emotional response are represented by emotion categories such as “awe”, which drive culture-specific predictions of affective features such as valence and arousal. Our findings, visualized within interactive maps of cross-cultural regularities in emotion-related behavior (<https://s3.amazonaws.com/musicemo/map.html>, <https://s3-us-west-1.amazonaws.com/venec/map.html>), reveal complex, high-dimensional spaces of emotion evoked by music and expressed in the voice.

Culture TALKING WITH THE HADZA: THE EVERYDAY EMOTIONAL LIVES OF HUNTER-GATHERERS IN TANZANIA

Hoemann, Katie—Northeastern University; Devlin, Madeleine—Northeastern University; Crittenden, Alyssa, N.—University of Nevada, Las Vegas; Feldman Barrett, Lisa—Northeastern University; Gendron, Maria—Yale University

Descriptors: culture, fieldwork, narrative

Research samples from small-scale societies have featured in tests of cross-cultural emotion perception. Yet the constrained nature of those tests has yielded limited insight into how individuals conceptualize their own emotional experiences. In November 2016, we traveled to Tanzania to work with members of the Hadza society, who, at the time of our visit, were semi-nomadic hunter-gatherers (there has since been a rapid decline in this lifeway). With the help of two community members who served as translators, we interviewed 93 individuals about their everyday emotional experiences. We asked each individual to describe a recent experience that made them feel either pleasant or unpleasant, and then to elaborate on this story through a series of semi-structured questions. Using both inductive and deductive methods, we coded the transcripts for themes, as well as emotion-related components and appraisals. This tiered approach allows us to leverage existing theoretical frameworks for describing the structure of emotions, and to investigate relationships between multiple ways of meaning-making. For example, stories about escaping from animals (an inductive theme) contained descriptions of suddenness ($r = .404$, $p < .001$) and uncontrollability ($r = .351$, $p = .003$). This event was even more consistently associated with the core relational themes of physical danger ($r = 1.00$, $p < .001$) and increased arousal ($r = .475$, $p < .001$). Taken together, these findings highlight the value of these data and the utility of ethnographic methods for capturing detail in emotional experience.

Funding: This research was supported by a U.S. Army Research Institute for the Behavioral and Social Sciences grant (W911NF-15-1-0647) awarded to Maria Gendron and Lisa Feldman Barrett.

Culture INDIVIDUAL AND CROSS-CULTURAL DIFFERENCES IN THE PERCEPTION OF PLEASURE AND THEIR INFLUENCE ON MEANING IN LIFE

Hong, Emily K—Queen’s University; Ji, Li-Jun—Queen’s University; Na, Jinkyung—Sogang University

Descriptors: culture, pleasure, meaning in life

Past research showed that pleasure enhances one’s meaning in life (King et al., 2006). In contrast, we propose that pleasure may threaten one’s meaning system in other cultures. In individualistic cultures where individuals’ hedonic happiness is highly valued, pleasure would satisfy one’s meaning in life. However, in collectivistic cultures where the welfare of the community is valued over personal happiness, pursuing pleasure would threaten one’s meaning system. As a result, pleasure would function as a source of meaning in individualistic cultures, while pleasure functions as a motivator to search for meaning in the collectivistic cultures. Three studies ($N = 764$) used between and within cross-cultural comparisons to examine culturally divergent relationships between pleasure and meaning. Post-hoc power analyses revealed that sample sizes of each study yielded adequate power for detecting medium effect sizes ($1 - \beta > .99$). Across three studies, we found that Koreans with high trait levels of pleasure (Study 1) and who recalled pleasurable moments (Study 2) sought more meaning than those with low pleasure, whereas the opposite pattern emerged for Canadians. In Study 3, a within cross-cultural comparison showed that Canadians with collectivistic norms showed greater meaning search when feeling pleasurable than those with individualistic norms, $B = .27$, $SE = .09$, $p = .004$. The findings contribute towards understanding dynamic relationships between meaning and pleasure with a cultural framework.

Culture

VARIABILITY AND UNIVERSALITY IN HUMAN EMOTION ACROSS 1,156 LANGUAGES

Jackson, Joshua C—University of North Carolina at Chapel Hill; Watts, Joseph—Max Planck Institute for the Science of Human History; Henry, Teague R—University of North Carolina at Chapel Hill; List, Mattis—Max Planck Institute for the Science of Human History; Forkel, Robert—Max Planck Institute for the Science of Human History; Greenhill, Simon—Max Planck Institute for the Science of Human History; Gray, Russell—Max Planck Institute for the Science of Human History; Lindquist, Kristen—University of North Carolina at Chapel Hill

Descriptors: Language, Culture, Emotion

Do emotion concepts such as “anger” and “happiness” have universal meanings? Following Darwin, proponents of the universality hypothesis argue that emotion concepts are universal because they derive from evolved neurobiological modules that serve as strong semantic constraints. In contrast, the constructionist hypothesis predicts that only lower-level qualities of emotion such as hedonic valence and physiological activation are universal; emotion concepts otherwise vary widely in their meaning across cultural groups because they are conceptual labels that humans develop using socially learned knowledge. We use new advances in historical linguistics to address this debate and quantify the universality of emotion concepts. Our approach builds concept networks for 19 different language families (1156 languages) to characterize and compare the relationship between emotion concepts across different languages. Emotion concepts are linked in these networks if languages colexify them using the same word—indicating semantic similarity. Consistent with a constructionist view, colexification patterns across language families are highly variable. All families organize emotion concepts according to valence and arousal, but the placement of specific emotion concepts (e.g., “anger”) differs significantly across families, $t=109.95$, $p<.001$. Semantic similarity is highest for language families in close proximity, $r=.23$, $p=.003$, suggesting that cultural borrowing shapes emotion concept expression. These findings shed new light on the universal and culturally variable aspects of human emotion.

Culture

SHOW ME YOUR FRIENDS, I’LL TELL YOU YOUR EMOTIONS: EMOTIONAL ACCULTURATION OF IMMIGRANT MINORITY YOUTH IN CROSS-CULTURAL FRIENDSHIP NETWORKS

Jasini, Alba—University of Leuven; De Leersnyder, Jozefien—University of Amsterdam; Gagliolo, Matteo—Free University of Brussels; Kende, Judit—University of Amsterdam; Phalet, Karen—University of Leuven; Batja, Mesquita—University of Leuven

Descriptors: emotional acculturation, friendship, immigrant minority

When immigrant minorities have positive contact with majority members, their emotions grow to fit those of the majority – they acculturate. In this study, we aimed to shed light on the role of friendships with majority in the emotional acculturation of minorities. These friendships may serve both as emotional socialization contexts and as gateways to the majority culture since they are relationships characterized by recurrent positive social contact. We expected that minority youth will show a higher emotional fit when they have many (vs. few) majority friends and when their majority friends are well- (vs. poorly) connected in the friendship network. The participants (945 minority and 1256 majority adolescents in Belgium) completed a sociometric questionnaire on their classroom friendships and rated their emotional experiences in two situations. For each minority, we calculated i) the extent to which their emotional patterns were similar to the average emotional pattern of their majority classmates in comparable situations, ii) the number of their majority friends in class, and iii) the degree to which their majority friends were well-connected in the class network. Multilevel models show that minorities had a higher emotional fit when they had many majority friends ($t(503) = 2.824$, $p < .01$) and when their majority friends were well-connected in the network ($t(503) = 2.000$, $p = .023$). Our findings suggest that when minorities have close relationships with majority members, they are socialized to experience the normative emotional experiences of the majority culture.

Funding: This study was supported by the Flemish Science Organization (FWO), grant awarded to Batja Mesquita, G.0493.13; Postdoc grant awarded to Jozefien De Leersnyder, 12L7816N).

Culture

CULTURALLY VALUED EMOTIONAL EXPRESSIONS INCREASE LOAN SUCCESS

Park, BoKyung—Boston College; Genevsky, Alexander—Erasmus University; Knutson, Brian—Stanford University; Tsai, Jeanne—Stanford University

Descriptors: culture, emotion

People from nations that value excitement more and calm less (e.g., European Americans) give more to excited vs. calm recipients (Park et al., 2017). We investigated whether these effects generalized to real lending decisions on the Kiva microlending platform (<https://www.kiva.org>). We randomly selected 60 borrowers who were supported by lenders from China, France, Germany, Hong Kong, Japan, Korea, Mexico, Taiwan, UK, and the U.S., and coded their facial expressions ($n = 631$). As predicted, lenders from nations that valued excitement more were more likely to give to borrowers who showed excited smiles ($z=2.33$, $p=.020$) and less likely to give to borrowers who showed calm smiles ($z=-2.14$, $p=.033$). Using another dataset with 13,500 borrowers (Genevsky & Knutson, 2015), we also found that borrowers showing more excitement were supported more by U.S. lenders ($z=3.51$, $p<.001$) and less by Taiwanese lenders ($z=-2.39$, $p=.017$), paralleling previous findings that European Americans value excitement more than Taiwanese do. These results demonstrate that people’s ideal affect drives lending decisions in the real world.

Culture

PEOPLE FROM POPULATIONS WITH MORE DIVERSE ANCESTRY HAVE MORE NUMEROUS AND MORE DIVERSE SOCIAL TIES: A SOCIAL NETWORK ANALYSIS

Wood, Adrienne—Dartmouth College; Kleinbaum, Adam—Dartmouth College; Wheatley, Thalia—Dartmouth College

Descriptors: culture, social connection, social network analysis

Culture modifies how and when people produce nonverbal signals. A socioecological factor known as historical heterogeneity—the extent to which a population has high ancestral diversity resulting from extensive migration—accounts for some of this cross-cultural variability. Populations that arose from extensive migration, like Brazil, are more expressive and produce more cross-culturally recognizable facial expressions than populations that have remained stable over centuries, such as Norway. We posit that historically heterogeneous populations developed cultures of expressive transparency to connect with others in the absence of shared background, norms, and language. We therefore predicted that people from historically heterogeneous countries are more successful in establishing ties when they join a new and diverse social network. We analyzed the social networks of international students ($N=842$) in 8 MBA cohorts at a prestigious business school where each year the entire MBA class completes a social network survey. The heterogeneity of the students’ primary country of citizenship (68 nations) positively predicted: how many other students reported them as friends ($t=5.84$, $p<.0001$), how well-connected they were to other well-connected students ($t=7.70$, $p<.0001$), and the extent to which they have unconstrained ($t=-3.94$, $p<.0001$) and unclustered ($t=-5.07$, $p<.0001$) social ties. This is the first demonstration of the present-day social consequences of historical heterogeneity and suggests some international students may be at greater risk of social isolation than others.

Attendee Submitted Thematic Flash Talks: Cognitive and Computational Approaches Friday, March 22, 2019 8:45 a.m.-9:45 a.m.

Cognitive and Computational Approaches FINDING PATTERNS IN EMOTIONAL INFORMATION: ENHANCED SENSITIVITY TO STATISTICAL REGULARITIES WITHIN NEGATIVE INFORMATION

Everaert, Jonas—Ghent University; Koster, Ernst, H. W.—Ghent University;
Joormann, Jutta—Yale University

Descriptors: statistical learning, emotion, Emotional enhancement effect

In everyday life, people are exposed to continuous flows of information. The ability to organize and segment this continuous input seems critical to understand what is happening around us. This study addressed an unexplored question about whether people can extract complex regularities in continuous flows of emotional information. Three experiments utilized a statistical learning paradigm in which participants first viewed an uninterrupted stream of emotional real-world visual scenes and then completed a forced-choice recognition task. Experiment 1 (N=60) showed that people were able to identify regularities in streams of negative visual scenes significantly higher than 50% chance, $t(59)=7.17$, $p<.001$, $d=0.93$. Experiment 2 (N=40) demonstrated that the ability to extract statistical regularities was enhanced for negative compared to neutral visual scenes, $t(39)=2.79$, $p=.008$, $d=0.44$. Experiment 3 (N=66) found that learning of statistical regularities was similar for negative and positive visual scenes, $t(65)=1.67$, $p=.099$, $d=0.21$. This pattern of findings provides consistent evidence for statistical learning mechanisms operating on emotional material such that individuals are able to learn co-occurrences among emotional stimuli in a continuous flow of information. Of note, statistical learning occurred despite that participants were not oriented toward the regularities, performed a distracting cover task, and stimuli were presented quickly. This study helps to understand the processes that enable people to make inferences about the complex input of the emotional world.

Funding: Research Foundation - Flanders (FWO Vlaanderen)

Cognitive and Computational Approaches THE ROLE OF THE AMYGDALA IN EMOTIONAL RE-EXPERIENCING DURING RETRIEVAL

Ford, Jaclyn H—Boston College; Kensinger, Elizabeth A—Boston College

Descriptors: Memory, Valence, Amygdala

Although the role of the amygdala in emotional memory retrieval has long been established, how such engagement varies depending on valence and retrieval context are less clearly understood. In the current study, participants were presented with positive, negative, and complex images and retrieved memories associated with each, pressing a button when successful. The button press divided memory trials into search and elaboration phases. Participants provided positivity and negativity ratings immediately following each trial, and then again in a post-retrieval survey. The relation between amygdala recruitment and emotionality ratings exhibited a four-way image valence-by-rating valence-by-rating time-by-phase interaction ($F(2,94)= 3.33$, $p=.04$, $\eta^2=.07$), with no other significant main effects or interactions. This interaction was driven by complex images, where amygdala activity during search was associated with enhanced negativity/decreased positivity immediately following retrieval, but with enhanced positivity/decreased negativity in the post-retrieval survey. Activity during elaboration was always associated with increased positivity. These findings suggest that the role of the amygdala during emotional memory retrieval is more complicated than was previously understood and set the stage for future research to build a more complete model of how the amygdala contributes to recall of emotionally complex events.

Cognitive and Computational Approaches INDIVIDUAL DIFFERENCES IN THE SENSITIVITY TO CONTEXTUAL CUES DURING VALENCE COMPUTATION

Kim, M. Justin—University of Hawaii at Manoa; Shin, Jin—Massachusetts
General Hospital/Harvard Medical School

Descriptors: valence, ambiguity, context

Computing the valence from facial expressions is a critical socioemotional process that entails integration of cues from multiple sources. Here, we leverage the ambiguity of valence in surprised faces to investigate how bottom-up processing of specific cues (i.e., facial features) may interact with top-down processing of complementary information (i.e., context). In a series of experiments that include 119 total participants, we used a model-based approach to show individual differences in the sensitivity to context, which dictate the output of valence computations (mean = 0.16, standard deviation = 0.37, min = -0.45, max = 0.87). Individual differences were reasonably stable within session ($n = 119$; Cronbach's Alpha = 0.91, Intraclass Correlation Coefficient [ICC] = 0.84, $p < 0.001$) and after one year ($n = 18$; Cronbach's Alpha = 0.62, ICC = 0.46, $p = 0.03$). Hierarchical regression analysis showed that context sensitivity was associated with the structural integrity of the left corticolimbic white matter pathways that connect the amygdala and the ventral prefrontal cortex – a neural circuitry that underpins the manipulation and integration of affective information ($n = 21$; second step after accounting for the effects of age, sex, and head motion: R Square Change = 0.25, F Change (1,16) = 7.01, Beta = 0.53, $p = 0.018$). Our findings offer a reliable behavioral metric that is convenient to acquire and resistant to demand characteristics, suggesting a potential utility in indexing individualized affective processing style and its association with mental health outcomes.

Cognitive and Computational Approaches CHANGING THE PAST: FINDING POSITIVE MEANING IN PAST NEGATIVE EVENTS ADAPTIVELY UPDATES MEMORY

Speer, Megan E—Rutgers University; Ibrahim, Sandra—Rutgers University;
Garcia, Vivien—Rutgers University; Garcia, Bernadette—Rutgers University;
Schiller, Daniela—Icahn School of Medicine at Mount Sinai; Delgado, Mauricio
R—Rutgers University

Descriptors: positive emotion, emotion regulation, memory

Finding positive meaning in past negative events is central to therapy and associated with enhanced mental health. Yet it remains unclear whether it leads to updates in the memory representation itself. Since memory enters a labile period during retrieval, this leaves the potential for modification each time it reopens. Here we test whether positively reappraising negative memories can adaptively update them, leading to the re-emergence of positivity at future retrieval. In Study 1 (N=102), participants reactivated 12 negative memories. They wrote descriptions, made emotion ratings, and then elaborated on them by either focusing on each memory's positive, negative, or neutral aspects, or performed a distracting task. To test for changes over time, they recalled their memories again 1 week later. Notably, only the positive group had enhanced positive emotion at future retrieval ($p<.001$). Individuals with the greatest change in positive content also had the greatest positive emotion increase ($p=.007$). Critically, we replicated these findings across 4 studies. In Study 2 (N=73), positive meaning finding only led to updates after a reminder and a 24hr, but not a 1hr delay, consistent with a reconsolidation account ($p=.03$). It was also more effective than receiving a monetary reward after retrieval (Study 3 N=56; $p=.05$). Finally, adaptive updates were long-lasting, remaining even after 2 months (Study 4 N=30, $p=.002$). This work highlights an efficacious strategy for coping with persistent maladaptive memories via positivity, which promotes wellbeing and resilience to adversity.

Funding: This research was supported by a Memory Disorders Award from the McKnight Foundation to M.R. Delgado and a grant from the American Psychological Foundation to M.E. Speer.

Cognitive and Computational Approaches

DECONSTRUCTING AFFECT INTENSITY AND VARIABILITY: AN EXPERIENCE SAMPLING STUDY OF AFFECTIVE DYNAMICS

Sperry, Sarah H—University of Illinois at Urbana-Champaign; Kwapil, Thomas R—University of Illinois at Urbana-Champaign

Descriptors: Affective Dynamics, Experience Sampling Methodology, Emotion

There has been a recent paradigm shift in affective science from studying individual differences in emotions via trait-based questionnaires to studying the experience of emotion as a dynamic process. In the present study, modern theories and measurement of affective dynamics were applied to better understand affect intensity and variability in daily life. Young adults ($n = 135$) completed the Affect Intensity Measure (AIM), Affective Lability Scale (ALS), and 7 days of experience sampling methodology (ESM) assessments that measured high and low arousal negative and positive affect as well as negative and positive experiences. Six affective dynamics were computed: Intensity, Within-Person Variance (WPV), Mean Square of Successive Differences (MSSD), Probability of Acute Change (PAC), Autoregressive Slope (AR(1)), and Reactivity. The ALS was associated with negative affect Intensity ($\gamma = .45, p < .001$), WPV ($\beta = .33, p < .001$), MSSD ($\gamma = .18, p < .01$), PAC ($\gamma = .30, p < .001$), and AR(1) ($\gamma = .13, p < .001$). In contrast, the AIM was primarily associated with positive affect WPV ($\beta = .23, p < .001$), PAC ($\gamma = .13, p < .05$), MSSD (Negative affect $\gamma = .28, p < .05$; Positive affect $\gamma = .34, p < .001$), and reactivity in the face of negative and stressful events. This study provided evidence that measuring affective dynamics in daily life provides moment-to-moment information about the experience of affect not captured by trait-based measures. Using ESM to model affective dynamics may enhance understanding of the transdiagnostic experience of emotion in real-world contexts.

Cognitive and Computational Approaches

INTEGRATING MULTIPLE TIMESCALES AND PROCESS MODELS: AN ILLUSTRATIVE APPLICATION OF A MULTILEVEL ORNSTEIN-UHLENBECK MODEL TO AFFECT DYNAMICS

Wood, Julie K—The Pennsylvania State University; Oravec, Zita—The Pennsylvania State University; Ram, Nilam—The Pennsylvania State University

Descriptors: Methodology, Affect Dynamics, Multiple Timescale Analysis

Motivation: Intensive longitudinal data often capture dynamic processes (such as affect dynamics) over rather short timescales (e.g., days, hours). However, a key postulate of many developmental theories is that these “fast” dynamical processes also develop over longer timescale (months, years). Method/Results: Expanding from an existing application of a hierarchical Ornstein-Uhlenbeck (OU) process model to characterize features of affect dynamics within the DynAffect framework (Kuppens et al., 2010), we demonstrate an illustrative application of a three-level OU model, fit in a Bayesian framework, to multiple bursts of intensive momentary affect ratings to examine interindividual differences and intraindividual change in intraindividual affect dynamics. Results show that both between- and within-person differences in depression over the course of a year are associated with differences in features of individual affect arousal dynamics. Novel Contribution: This is the first application of a three-level OU model to measurement burst affective data to model between-person differences, as well as within-person change in intensively-measured affect dynamics. The method also presents a general framework for conceptualizing and modeling long-term changes to short-term dynamical processes.

Cognitive and Computational Approaches

NONVERBAL SYNCHRONY AS AN ADAPTATION TO SOCIAL ENVIRONMENTS

Zhao, Fangyun—University of Wisconsin, Madison; Wood, Adrienne—Dartmouth College; Mutlu, Bilge—University of Wisconsin, Madison; Niedenthal, Paula—University of Wisconsin, Madison

Descriptors: Nonverbal Synchrony, Social Interaction, Affective computing

A recent hypothesis about the role of historical migration patterns in the evolution of cultures of emotion holds that populations with high ancestral diversity establish behaviors that facilitate social rapport and communication in part due to the initial lack of shared language. Prior correlational evidence suggests that members of heterogeneous cultures smile more often and express emotions with greater clarity than members of homogeneous cultures. The current study manipulated the use of language experimentally and tested the hypothesis that the inability to communicate through language increases expressive synchrony during the pursuit of a common goal. 57 pairs of participants completed four interactive tasks that elicit emotion and require cooperation. Facial expressions were analyzed via 3D real-time facial data. Results reveal expected group differences. Increase in facial synchrony over time was observed when communication through language is prevented. The current study provides initial evidence for the mechanisms that underlie cultural differences in emotional behaviors, suggesting that the inability to speak using a common language leads to increased nonverbal synchrony during dyadic interaction. This might in turn evolve into unique norms of emotional expressivity.

Attendee Submitted Thematic Flash Talks:

Health and Well-Being

Friday, March 22, 2019

8:45 a.m.-9:45 a.m.

Health and Well-Being

AGE DIFFERENCES IN REAPPRAISAL AND SUPPRESSION DEPEND ON RELATIONAL AND EMOTIONAL CONTEXTUAL FEATURES OF DAILY LIFE SOCIAL INTERACTIONS

Benson, Lizbeth—Pennsylvania State University; English, Tammy—Washington University in St. Louis; Conroy, David—Pennsylvania State University; Pincus, Aaron—Pennsylvania State University; Gerstorf, Denis—German Institute for Economic Research (DIW), Berlin; Humboldt University; Ram, Nilam—Pennsylvania State University; German Institute for Economic Research (DIW), Berlin

Descriptors: Context, Intraindividual variability, Experience sampling

Age related-differences in emotion regulation (ER) strategies of reappraisal and suppression are increasingly examined through experience sampling of momentary and context-specific ER strategy use. Following propositions from socioemotional selectivity theory (SST) suggesting age-related differences in adults' ER propagate from greater prioritization of social goals, this study examines how adults vary their ER strategy use in social interactions with differing relational and emotional contextual features. Specifically, multilevel models were fit to intensive longitudinal data from 150 adults aged 18 to 89 years who reported on 64,213 social interactions ($M = 427$, $SD = 146$) during 9 weeks of study. Results indicate age-related differences in suppression (but not reappraisal) relate to whether the interaction was with a close or non-close social partner ($\gamma_{11} = 0.01$). Additionally, there is evidence of interplay among relational and emotional contextual features. ER strategy use and emotional context (happiness, sadness) are more strongly coupled in interactions with close compared to non-close others ($\gamma_{30} = 0.10$,). As a novel test of SST, results from this study provide preliminary evidence that social goals are facilitated by being more in tune with emotion experiences in the moment and potential need for regulation when interacting with close others compared to non-close others. From a methodological perspective, this study provides a window into the exact areas of daily life where theories such as SST suggest age-related differences in ER strategy use will manifest.

Funding: This work was supported by the Pennsylvania State University Graduate Fellowship, the National Institute of Health (RC1 AG035645, R01 HD076994, P2C HD041025, UL1 TR002014), and the Penn State Social Science Research Institute.

Health and Well-Being

ALWAYS IN FLUX: ATTENTIONAL FOCUS INFLUENCES EMOTION REGULATION FLEXIBILITY

Eldesouky, Lameese—Stanford University; English, Tammy—Washington University in St. Louis

Descriptors: emotion regulation, flexibility, social relationships

The ability to flexibly adjust one's emotion regulation in response to changes in the environment has critical ramifications for psychological health. However, little remains known about what predicts emotion regulation flexibility. To address this important gap in the literature, we tested the impact of attentional focus on emotion regulation flexibility because it can capture the range of demands people respond to in their environment. We primed the attentional focus of one partner in 113 romantic couples, ages 18-59 years, using a story-writing task (self-, partner-, or relationship-focus) prior to a 10-min conflict discussion. Following the discussion, couples completed a novel measure of online emotion regulation, which was used to calculate two flexibility indices (categorical variability, switching frequency). Those who focused on their relationship as opposed to themselves regulated more flexibly, particularly in the latter half of the conversation (standardized fixed effect = .44, standard error = .22, p -value = .04). However, focusing on one's partner compared to the self

did not increase flexibility. These effects did not differ based on which partner was primed (standardized fixed effects = -.27 to -.33, standard error = .27-.28, p -values = .24-.31). These findings support the idea that people regulate their emotions more flexibly when they attend to more demands in the regulation environment. They also suggest that time plays a central role in flexibility and changing attentional focus in one person may lead to changes in their partner's flexibility.

Health and Well-Being

AFFECT VARIABILITY AND PREDICTABILITY: USING RECURRENCE QUANTIFICATION ANALYSIS TO BETTER UNDERSTAND HOW THE DYNAMICS OF AFFECT RELATE TO HEALTH

Jenkins, Brooke N—Chapman University; Hunter, John F—University of California, Irvine; Richardson, Michael J—Macquarie University, Australia; Conner, Tamlin S—University of Otago, New Zealand; Pressman, Sarah D—University of California, Irvine

Descriptors: recurrence quantification analysis, affect variability and predictability, health

Changes in affect over time have been associated with health outcomes. However, previously utilized measurement methods focus on variability of affect (e.g., standard deviation [SD], root mean squared successive difference [RMSSD]) and ignore the more complex temporal patterns of affect over time. Recurrence quantification analysis (RQA) may help alleviate this problem by assessing temporal characteristics unassessed by past methods. RQA metrics, such as determinism and recurrence, can provide a measure of the predictability of affect over time, indexing how often patterns within affective experiences repeat. In Study 1, we used simulated cases ($N = 900$) to contrast RQA metrics with commonly used measures of variability to demonstrate that RQA can further differentiate among patterns of affect ($SD: F(8, 891) = 163.77$, $p < .01$; $RMSSD: F(8, 891) = 106.21$, $p < .01$; $RQA: F(8, 891) = 392.96$, $p < .01$). In Study 2, using daily diary data ($N = 1,482$), we analyzed the associations between predictability, variability, and health, namely, depressive and somatic symptoms. We found that RQA metrics predicted health above and beyond mean levels and variability of affect over time. The most desirable health outcomes were observed in people who had high mean positive affect ($b = -0.48$, $p < .01$), low mean negative affect ($b = 0.56$, $p < .01$), low affect variability ($b = 0.31$, $p < .01$), and high affect predictability ($b = -0.16$, $p < .01$). These studies are the first to demonstrate the utility of RQA for determining how temporal patterns in affective experiences are important for health.

Health and Well-Being

DO POSITIVE EMOTIONS ALWAYS LEAD TO INCREASED PERFORMANCE? EXAMINING THE UNEXPECTED BENEFITS OF MIXED EMOTIONS

Kapogli, Eirini—Universitat Ramon Llull, ESADE Business School; Engeler, Isabelle—University of Navarra, IESE Business School; Quidbach, Jordi—Universitat Ramon Llull, ESADE Business School

Descriptors: mixed emotions, emotional balance

Since the advent of positive psychology a decade and a half ago, the notion that happiness is beneficial to performance has gained tremendous traction. Top athletes regularly hire happiness coaches, while companies build lavish office playgrounds and appoint Chief Happiness Officers. But is sheer positivity really the best emotional state for performance? Here we suggest that contrary to people's intuition, mixed emotional states—that is experiencing both positive and negative emotions at the same time—might actually yield surprising benefits. To test this idea, we recruited a first group of 320 marathon runners and asked them to predict what would be the best (vs. worst) emotional states to experience when thinking about an upcoming race in order to beat their time goal. Participants strongly associated good (vs. poor) performance with high levels of positive emotions ($\beta = .51$, $p < .001$). We then recruited a second group of 2,390 marathon runners one week before a race and asked them to report their time goal as well as how they were actually feeling when thinking about the marathon. Finally, we tracked their performance in the race. Contrary to the predictors' intuition, we found that participants who performed best (i.e., beating their time goal) reported feeling slightly less positive emotions before the race than participants who performed poorly ($\beta = -.15$, $p < .001$). These findings contribute to the emerging literature showing that striving for emotional balance, rather than sheer happiness, may be beneficial in various life domains.

Health and Well-Being

VAGAL FLEXIBILITY PREDICTS HEALTH AND HAPPINESS AT 10-YEAR FOLLOW-UP

Martin, Jared, D.—University of Wisconsin, Madison

Descriptors: heart rate variability, health, well-being

Vagus nerve activity has been proposed as a peripheral indicator of health and happiness. Most studies on this topic assess vagal activity at rest (i.e., vagal tone). However, studies employing vagal tone routinely report no association with long-term outcomes. Here, I test whether a new indicator of vagal activity, vagal flexibility—changes in vagal activity in response to cognitive challenge—predicts long-term health and happiness. Within a nationally-representative sample of adults in the United States (N=1255), greater vagal flexibility negatively predicted mortality at 10-year follow-up (OR: .74, $p < .01$). Furthermore, vagal flexibility was associated with lesser negative affect ($p = .028$), greater positive affect ($p = .04$), and greater life satisfaction ($p = .01$), even after statistically accounting for initial levels of each outcome and common covariates (age, gender, BMI, race/ethnicity). Vagal tone negatively predicted mortality (OR: .83, $p = .04$) but did not predict any indicator of affect. Together, these findings demonstrate the relative utility of vagal flexibility over tone for predicting long-term health and happiness.

Health and Well-Being

UP-REGULATION OF LOVE AND POSITIVE EMOTIONS: AN ERP STUDY

Surti, Kruti—University of Missouri, St. Louis; Langeslag, Sandra, J.E.—University of Missouri, St. Louis

Descriptors: Love Regulation, Emotion Regulation, Cognitive Reappraisal

Romantic love decreases over time, often leading to divorces. How can one increase love for the spouse and marital satisfaction? We tested whether love and positive emotion up-regulation affect love for the spouse, marital satisfaction, and motivated attention to the spouse. We expected that thinking positively about the spouse and increasing positive emotions in general will increase love, marital satisfaction, and motivated attention as measured by the late-positive potential (LPP). Married participants (N=22) viewed spouse, pleasant, and neutral pictures. In up-regulation conditions, prompts encouraged participants to think about positive aspects of their spouse or to interpret upcoming pleasant pictures more positively. Participants completed infatuation, attachment, and marital satisfaction ratings and event-related potentials were recorded. Participants felt more infatuated after viewing spouse than pleasant pictures ($p = .001$). Participants felt more infatuated ($p = .001$), attached ($p = .001$), and satisfied with their marriage ($p = .01$) after love and positive emotion up-regulation than passively viewing pictures. There was a greater LPP amplitude in response to passively viewed spouse than pleasant and neutral pictures (both $ps < .01$), but there were no significant regulation effects on the LPP amplitude. So, both love and positive emotion up-regulation increased love for the spouse and marital satisfaction, but not motivated attention to the spouse. This project suggests married individuals can increase love and marital satisfaction using cognitive strategies.

Health and Well-Being

DO ANGER FREQUENCY AND EXPRESSION RELATE TO CAUSE-SPECIFIC MORTALITY RISK IN MEN?

Trudel-Fitzgerald, Claudia—Harvard T.H. Chan School of Public Health; Kawachi, Ichiro—Harvard T.H. Chan School of Public Health; Kubzansky, Laura D.—Harvard T.H. Chan School of Public Health

Descriptors: emotion regulation, anger, mortality

Anxiety and depression are related to all-cause mortality and diseases risk. While evidence has linked greater anger levels with elevated risk of cardiovascular diseases (CVD), less research has considered anger, notably its expression (eg, arguing), with risk of other causes of death. In the Health Professional Follow-Up Study, men free of chronic disease (eg, cancer, CVD; N=16729) noted levels of anger frequency/expression in 1996. Relevant risk factors (demographics, health

status and behaviors) were self-reported or extracted from medical records. Mortality data was obtained from state records and the National Death Index, and completed by reports from family members and postal authorities. Cause of death was assessed by physicians blind to study hypotheses. Multivariate Cox regressions modeled hazard ratios (HR) and 95% confidence intervals (CI) of risk of mortality until 2014. There were 4084 deaths over the follow-up. Men with greater anger expression levels were more likely to die from cancer (HR_{high}=1.18, CI=1.01-1.38), less from CVD (HR_{moderate}=0.86, CI=0.75-0.99), but not from all-cause or neurological, infectious, and respiratory diseases. Anger frequency was unrelated to mortality overall. Results were similar when testing anger frequency and expression in the models simultaneously. In men, anger—notably the outward expression of angry feelings—was linked to cancer and CVD mortality up to 18 years later but not to other causes of death, suggesting that not only the experience of negative emotions, but also the way they are managed, may be critical for health.

Health and Well-Being

CULTURAL VARIATIONS IN VALUATION OF NEGATIVE EMOTIONS AND CARDIOVASCULAR STRESS RESPONSES

Yoo, Jiah—University of Wisconsin, Madison; Miyamoto, Yuri—University of Wisconsin, Madison

Descriptors: culture, cardiovascular stress responses

Studies have showed that East Asians tend to evaluate negative emotions more positively than European Americans. Such positive valuation of negative emotions may lessen the link between negative emotions and cardiovascular responses, thereby leading to cultural variations in cardiovascular stress responses. The present study thus tested the role of valuation of negative emotion in cardiovascular stress responses among East Asian (n = 97) and European American students (n = 126). Participants rated their valuation of nervousness in the context of demanding tasks (e.g., feeling nervous enhances my performances) prior to their lab visit. A mental arithmetic task was administered as a laboratory stressor. Cardiovascular responses included heart rate (HR), high-frequency heart rate variability (HF-HRV), systolic and diastolic blood pressure (SBP; DBP) and were computed for four 5-min epochs: baseline, task, posttask1, and posttask2. East Asians valued nervousness more positively than European Americans, $\beta = .3$, t -value = 2.43, and such higher valuation of nervousness predicted attenuated HR and HF-HRV responses during task (HR: $\beta = -2.57$, t -value = -3.19; HF-HRV: $\beta = .27$, t -value = 3.79) as well as posttask1, and lower SBP levels across all the epochs. Furthermore, valuation of nervousness mediated the associations between culture and those cardiovascular measures. The results suggest that valuation of negative emotion may be a psychological account for cultural variations in cardiovascular stress responses that are crucially involved in the emotion-health linkage.

Funding: Global Health Institute (University of Wisconsin-Madison) Research Grant

Attendee Submitted Thematic Flash Talks:

Interpersonal Emotion

Saturday, March 23, 2019

9:00 a.m.-10:00 a.m.

Interpersonal Emotion

EMPATHY IN CONTEXT: SOCIOECONOMIC STATUS AS A MODERATOR OF THE LINK BETWEEN EMPATHIC ACCURACY AND MARITAL SATISFACTION AND MENTAL HEALTH IN MARRIED COUPLES

Hittner, Emily F—Northwestern University; Haase, Claudia M—Northwestern University

Descriptors: empathic accuracy, socioeconomic status, marital satisfaction

Being able to recognize what relationship partners are feeling has long been thought of as important for positive social relationships. Yet, we know little about whether the consequences of empathic accuracy differ by socioeconomic status (SES). Building on person-by-context models of emotion, the present laboratory-based study investigated SES as a moderator between empathic accuracy (i.e., convergence between self- and spouse-rated emotions during negative, positive, and neutral interactions) and marital satisfaction and mental health. Using multi-level modeling that clustered by couple, findings showed that SES significantly moderated the association between empathic accuracy and marital satisfaction ($B = .20$, $SE[B] = .08$, $p = .019$, 95% CI [.03, .37]) such that lower empathic accuracy of negative emotions (i.e., anger, disgust, embarrassment, fear, sadness, and shame) predicted lower levels of marital satisfaction at higher levels of SES, but not at lower levels of SES. These results remained stable when controlling for covariates including age, gender, and race; were more robust for income than education; did not differ by gender; were found in the negative and neutral (but not the positive) conversation. In contrast, greater empathic accuracy predicted better mental health outcomes (i.e., anxiety, depression, negative affect) at lower levels of SES, but not at higher levels of SES. These findings highlight the importance of considering the differential role of socioeconomic context in the link between empathic accuracy and marital satisfaction and mental health.

Interpersonal Emotion

HOW INTERPERSONAL EMOTION REGULATION IN EVERYDAY LIFE VARIES BASED ON GENDER: AN EXPERIENCE SAMPLING STUDY

Liu, Daphne Y—Washington University in St. Louis; Thompson, Renee J—Washington University in St. Louis

Descriptors: Interpersonal Emotion regulation, emotion sharing, gender difference

There is a rich literature on intrapersonal emotion regulation (ER), but little is known about the ways in which people regulate emotion through interactions with others, or interpersonal ER (IER). Using experience sampling (ESM), we examined how IER processes in everyday life vary based on gender. Sixty-four adults (52% women, mean age=50) without a history of mental health disorders completed two weeks of ESM, during which they repeatedly reported on how frequently, with whom (e.g., friends), and why (i.e., seeking empathy, advice) they shared negative feelings and experiences. They also reported which IER strategies their sharing partners employed (i.e., reappraisal, problem solving, affection, encouraging sharing, invalidation, blaming). On average, participants reported sharing emotions on 12% of their surveys. Women and men shared at a similar frequency, but women had more sharing partners than did men. Women shared with friends, family, and significant others, whereas men usually shared with significant others. Although women shared equally with women and men, $t=.78$, $p=.44$, men preferred sharing with women versus men, $t=4.31$, $p<.001$. How others responded to participants also varied by gender: Women were most likely to receive problem solving, and men were most likely to receive reappraisal. These findings are among the first to elucidate IER in naturalistic settings, providing a better understanding of the gender dynamics of IER. Future research should examine mechanisms driving these gender differences.

Interpersonal Emotion

DEPTH OF INFORMATION DISCUSSION IMPACTS COLLECTIVE EMOTION SYNCHRONIZATION

Pauketat, Janet V.T.—Princeton University; Coman, Alin—Princeton University; Kashima, Yoshihisa—University of Melbourne; Yzerbyt, Vincent—UC Louvain

Descriptors: collective emotions, social interaction

Collective emotions may synchronize through conversational interactions conducted in online chats. We explore the synchronization of emotions in groups interacting online in sequential chat rounds focused on joint recall. Participants in the USA ($N=120$) rated their group-based emotions towards Native Americans prior to reading an article about Westward Expansion and the genocide of Native Americans. Half of these participants then freely discussed what they remembered with other group members (10 groups). The other 60 participants focused on as many of the details of the genocide as they could remember (10 groups). All participants then re-evaluated their group-based emotions. We computed the collective emotion synchronization of each group ($N=20$) using a formula accounting for the similarity between every participant's emotion change from baseline to post-discussion with every other participant in their group. Results showed that motivating groups to focus on the genocide increased synchronization of negative emotions relative to freely conversing groups, $t(18)=2.34$, $p=.031$, $d=1.05$. Experimentally motivating participants to focus on the details of the genocide impacted the synchronization of collective emotions suggesting that emotions may synchronize based upon the depth of information discussed. Our research explores collective emotions using a novel method of social interaction to investigate the conditions under which emotions may synchronize extending from existing theories of collective emotion formation and propagation.

Interpersonal Emotion

ARE FATHERS IMPORTANT FOR FALLING IN LOVE? INSIGHTS FROM THE SOCIALLY MONOGAMOUS PRAIRIE VOLE

Rogers, Forrest D—University of California, Davis; Bales, Karen L—University of California, Davis

Descriptors: Socio-Affective Development, Social Attachments, Prairie Vole

The mother-offspring relationship is critical to socio-affective development in mammals. In biparental species, offspring social networks include fathers. For the monogamous prairie vole, paternal absence (sans substitution) in early development impedes social attachment to mates, as indicated by preference for a mate over a stranger (i.e. partner preference). Whether this impediment is a result of the loss of a specific paternal quality or simply the result of reduced care has remained unclear. To clarify this, we reared pups from 34 families under conditions of biparental (BP, $n=26$), mother only (MO, $n=13$), or maternal-plus-sister care (MS, $n=23$). The quantity of early maternal care was unaffected by condition; but care from all caregivers was significantly affected [$F(2, 33) = 21.1$, $p < .001$], where total care for MO pups was less than BP and MS pups ($p < .001$), but care for BP and MS pups did not significantly differ ($p = .059$). After a 24-hour cohabitation with a mate, female [$t(6) = 2.06$, $p = .085$] and male [$t(5) = 1.34$, $p = .238$] MO offspring failed to form partner preference; and MS males [$t(10) = 1.06$, $p = .31$], but not females [$t(11) = 3.56$, $p = .004$], failed to form partner preference. BP offspring did form partner preference [males: $t(10) = 3.34$, $p = .007$; females: $t(14) = 4.47$, $p < .001$]. Our findings suggest that fathers are by quality important for the development of close attachments in male but not female prairie vole offspring. Our findings inform how early social conditions may alter the development of affective experiences like attraction and love.

Funding: This research was supported by funding from NIH-HD071998 and the Bay Area Predoctoral Training Consortium in Affective Science (NIH 5T32MH020006-20).

Interpersonal Emotion

PROFILES IN EMPATHY: DIFFERENT EMPATHIC RESPONSES TO EMOTIONAL AND PHYSICAL SUFFERING

Stellar, Jennifer E—University of Toronto; Anderson, Craig—University of California, San Francisco; Gatchpazian, Arasteh—University of Toronto

Descriptors: empathy, emotion, physiology

A defining feature among humans is our unparalleled capacity to empathize with the suffering of others. However, suffering takes many forms. We hypothesize that physical and emotional suffering elicit divergent empathic responses at the behavioral, affective, and physiological levels. In a two-step exploratory (Study 1a; $n=126$) and confirmatory process (Study 1b; pre-registered; $n=92$), participants generated open-ended responses to emotional and physical suffering, which were coded, classified into thematic categories, and presented to a novel group of participants. Soothing (e.g., providing comforting touch, $t(91)=6.54$, $p < .001$, $d = .70$), calming, and Interpersonal Emotion regulation behaviors were more common in response to emotional suffering, whereas emergency mobilization behaviors were more common in response to physical suffering. In Study 3 ($n=83$), participants viewed pictures of physical and emotional suffering. Self reports and coded expressions of compassion were greater for emotional suffering, $t(81) = 5.63$, $p < .001$, $d = .51$; anxiety and distress were greater for physical suffering, $t(81) = 3.15$, $p = .002$, $d = .26$. In Study 4 ($n=73$), participants watched videos of physical and emotional suffering. Emotional and physical suffering elicited increased parasympathetic and sympathetic activation, $F(1, 59) = 13.92$, $p < .001$, $\eta^2 = .19$, though co-activation was greater for physical suffering. This work generates a more nuanced and comprehensive understanding of empathy, which addresses current debates and reconciles inconsistencies in its conceptualization.

Interpersonal Emotion

A BRIEF INTERVENTION TO BUILD EMPATHY IN MIDDLE SCHOOL

Weisz, Erika—Harvard University; Ong, Desmond C—Agency for Science, Technology and Research, Singapore; Carlson, Ryan—Yale University; Zaki, Jamil—Stanford University

Descriptors: empathy, intervention, prosocial behavior

Empathy—the ability to share and understand others' emotions—is a critical determinant of adjustment and wellbeing in early adolescence, but few studies examine whether empathy can be changed during this developmental period. In this large-scale field experiment, we took a novel approach to building empathy among early adolescents; rather than developing empathy-related skills, we bolster motivation to empathize by changing beliefs about empathy's malleability and social normativity. 973 7th graders participated in three intervention sessions during which they learned about the malleability or social normativity of empathy, and completed a follow up session approximately one month later. Results suggest that changing beliefs about the normativity of empathy increases empathic motives among 7th graders [$b = 1.597$ (95% CI, 0.278, 2.92); $t = 2.37$; $p = .018$], which indirectly affects crucial outcome measures like prosocial behavior ($ab = 0.571$, 95% CI [.249, .955], $p < .01$). These findings suggest that motivation-based empathy interventions are powerful tools for building empathy during early adolescence, and present a new avenue for creating enduring and generalizable changes in empathy with real-world impact.

Funding: National Science Foundation CAREER Award #1454518

Interpersonal Emotion

NEURODEGENERATIVE DISEASE CAREGIVERS' 5-HTTLPR GENOTYPE MODERATES THE EFFECT OF PATIENTS' EMPATHIC ACCURACY DEFICITS ON CAREGIVERS' ILL-BEING

Wells, Jenna L—University of California, Berkeley; Brown, Casey L—University of California, Berkeley; Hua, Alice Y—University of California, Berkeley; Soyster, Peter D—University of California, Berkeley; Chen, Kuan-Hua—University of California, Berkeley; Coppola, Giovanni—University of California, Los Angeles; Haase, Claudia M—Northwestern University; Levenson, Robert W—University of California, Berkeley

Descriptors: gene-environment interaction, caregiver, empathic accuracy

Caregivers of patients with neurodegenerative disease have high rates of mental health problems, many of which have been linked with declines in patients' emotional functioning. Caregivers also differ in their vulnerability to these declines, but the basis for these individual differences is not fully understood. With 54 patient-caregiver dyads, we focused on the impact of patients' ability to recognize emotions in other people (i.e., empathic accuracy) on caregivers' ill-being (i.e., standardized measures of depression, anxiety, and negative affect) and examined a genetic contribution to this vulnerability associated with the 5-HTTLPR polymorphism in the serotonin transporter gene of the caregivers. In prior research, individuals with the short/short genotype of 5-HTTLPR have been shown to be more strongly affected by environmental stressors. Thus, we hypothesized that caregivers' 5-HTTLPR genotype would moderate the association between low levels of patients' empathic accuracy and caregivers' ill-being. Results indicated that lower empathic accuracy in patients was associated with greater ill-being in caregivers. Moreover, caregivers' 5-HTTLPR genotype moderated this association with lower empathic accuracy predicting greater ill-being for caregivers with the short/short genotype ($\beta = -.59$, $p = .002$), but not for those with the short/long ($\beta = -.04$, $p = .82$) or long/long ($\beta = .07$, $p = .44$) genotypes. This finding contributes to our understanding of genetic factors associated with individual differences in caregiver vulnerability and resilience.

Interpersonal Emotion

THE PRESENCE OF ANOTHER PERSON AND AFFILIATIVE TOUCH MODULATE EVALUATIONS OF AFFECTIVE IMAGES DIFFERENTIALLY

Wingenbach, Tanja S.H.—Mackenzie Presbyterian University; Ribeiro, Beatriz—Mackenzie Presbyterian University; Nakao, Caroline—Mackenzie Presbyterian University; Boggio, Paulo S—Mackenzie Presbyterian University

Descriptors: touch, affect, social situations

Humans are inherently social beings and so the mere presence of another person can influence affect, cognitions, and behaviours. Whereas the effect of another's presence on emotion experience has been investigated, the effect on evaluations of affective stimuli is less well understood. Many interactions also involve social touch besides the presence of another person. It has been shown that touch has an effect on experienced affect, but little is known about its influence on evaluations of affective stimuli. Two studies were conducted to investigate the effect of the presence of another person and affiliative touch (1: hand-squeezing; 2: forearm-stroking) on evaluations of positive, negative, and neutral images. Female participants ($N(1) = 39$; $N(2) = 40$) rated the valence of 150 affective images across 5 experimental conditions. The interactions 'image valence*conditions' were significant ($p's < .001$). Negative images were evaluated significantly less negative when participants received touch than in the mere presence of another person in both studies ($p's < .001$). The presence of another person led to significantly more positive evaluations of positive images than when participants were alone in Study 1 ($p = .023$) and when participants received touch in Study 2 ($p = .005$). There were no significant effects on evaluations of neutral images ($p's > .05$). Affiliative touch seems to decrease the negativity of negative stimuli and the mere presence of another person to increase the positivity of positive stimuli, emphasizing human's social nature and the importance of touch.

Funding: This research was conducted within the Centre of Well-being and Human behaviour funded by the Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP; 2014/50282-5) including individual fellowships to the first and second author (2017/00738-0; 2016/19277-0).

Attendee Submitted Thematic Flash Talks:

The Brain, Body, and Affect

Saturday, March 23, 2019

9:00 a.m.-10:00 a.m.

The Brain, Body, and Affect

EFFECTS OF CHRONIC INTRANASAL OXYTOCIN ON SOCIAL BEHAVIOR, ANXIETY, AND CEREBRAL GLUCOSE UPTAKE IN JUVENILE TITI MONKEYS

Arias Del Razo, Rocio—University of California, Davis; Bales, Karen—University of California, Davis, California National Primate Research Center

Descriptors: oxytocin, social, autism

Intranasal Oxytocin (IN OXT) has been proposed as a treatment for autism spectrum disorder (ASD). However not much is known about the chronic effects of IN OXT. Titi monkey are socially monogamous and biparental, family bonds share important characteristics with human family bonds. We examined how developmental exposure to chronic IN OXT affects juvenile titi monkeys' interactions with family members, social preference for their parents versus unfamiliar adult pairs, anxiety-like behavior, and changes in cerebral glucose metabolism. Fourteen males and 15 females were treated intranasally with saline (n=14) or 0.8 IU/kg OXT (n=15), daily from 12 to 18 months of age. Compared to SAL-treated animals, OXT-treated animals spent more time grooming other family members (F1=8.97, p=0.006). During preferences tests, OXT-treated animals were more social (F1 = 8.35, p = 0.005), OXT-treated females displayed a preference for their parents (t=2.265, p=0.026) and OXT-treated males for the unfamiliar pairs (F1=10.89, p=0.001). During anxiety tests, OXT-treated males refused to complete the task more often than SAL-treated males and had longer latencies (p< 0.0001). Neuroimaging study revealed that OXT-treated animals had higher glucose uptake across the social salience network as a whole (F1,9 = 1.07, p = 0.042). Our results suggest that the prosocial effect of chronic OXT did not depend on anxiolytic properties. We also found important sex differences that should be considered in a translational context, these results are promising for the use of intranasal OXT as a treatment for ASD.

Funding: NICHD grant HD071998 and the Good Nature Institute

The Brain, Body, and Affect

TOP-DOWN INFLUENCES ON THE NEURAL REPRESENTATION OF FACIAL EMOTION PERCEPTION

Brooks, Jeffrey A—New York University; Chikazoe, Junichi—National Institute for Physiological Sciences; Stolier, Ryan M—New York University; Sadato, Norihiro—National Institute for Physiological Sciences; Bin Meshar, Maryam—New York University; Freeman, Jonathan B—New York University

Descriptors: emotion perception, social perception

Growing behavioral evidence suggests that factors such as context and emotion concept knowledge may shape the way emotions are visually perceived, leading to variability - rather than universality - in the perceptual structure of emotion. However, the neural basis of such top-down impacts on emotion perception remains underspecified. In a neuroimaging study (N = 40), we used a representational similarity analysis (RSA) approach to measure the correspondence between the conceptual, perceptual, and neural representational structures of the 6 "basic" emotions. When viewing faces, the representational structure of multi-voxel patterns in the right fusiform gyrus (x = 38, y = -43.6, z = -25; mean t = 4.54; 146 voxels) was significantly predicted by a subject's unique conceptual structure, even when controlling for potential physical similarity in the faces themselves. Conceptual structure also predicted multiple behavioral measures of emotion perception. In a second neuroimaging study (N = 37), we sought to explicitly manipulate the semantic context for facial emotion perception. Subjects viewed faces displaying angry, happy, or blended (ambiguous) facial expressions preceded by sentences describing a stereotypically anger- or happiness- eliciting scenario. Forthcoming multi-voxel pattern analyses will assess conceptual and contextual impacts on face representations in visual processing regions. We expect that response patterns to ambiguous faces will show representational similarity to angry/happy patterns when they are preceded by an angry/happy context.

The Brain, Body, and Affect

AFFECT-, VALUE-, AND CONTROL-RELATED BRAIN RESPONSES PREDICT THE EFFICACY OF PERSUASIVE MESSAGES

Dore, Bruce P—University of Pennsylvania

Descriptors: persuasion, neuroscience

Emotionally evocative messages can be an effective way to change behavior, but the neural pathways that translate messages into effects on individuals and populations are not fully understood. We used a functional neuroimaging approach to ask how affect-, value-, and regulation-related brain systems interact to predict effects of graphic anti-smoking messages for individual smokers (both males and females) and within a population-level messaging campaign. Results indicated that increased activity in the amygdala, a region involved in affective reactivity, predicted both personal quit intentions and population-level information-seeking, and this was mediated by activity in ventromedial prefrontal cortex (vmPFC), a region involved in integrative valuation. Further, the predictive value of these regions was moderated by expression of a meta-analytically defined brain pattern indexing emotion regulation. That is, amygdala and vmPFC activity strongly tracked with population behavior only when participants showed low recruitment of this brain pattern, which consists of regions involved in goal-driven regulation of affective responses. Overall, these findings suggest: i) that affective and value-related brain responses can predict the success of persuasive messages, and ii) that neural mechanisms of emotion regulation can shape these responses, moderating the extent to which they track with population-level message impact.

The Brain, Body, and Affect

THE DISSOCIABLE ROLES OF THE PREFRONTAL CORTEX AND AMYGDALA IN PROCESSING UNCERTAINTY

FeldmanHall, Oriol—Brown University; Glimcher, Paul—New York University; Augustus, Baker L—New York University; Phelps, Elizabeth A—Harvard University

Descriptors: lesion prefrontal cortex, physiological arousal, uncertainty

Decisions under uncertainty distinguish between those made under risk (known probabilities) and those made under ambiguity (unknown probabilities). Despite widespread interest in decisions under uncertainty and the successful documentation that these distinct psychological constructs profoundly—and differentially—impact behavior, research has not been able to systematically converge on which brain regions are functionally involved in processing risk and ambiguity. We merge a lesion approach (N=33; N=40 healthy controls) with computational modeling and simultaneous measurement of the arousal response to investigate the causal impact the medial prefrontal cortex (mPFC), lateral prefrontal cortex (IPFC) and amygdala have on decisions under uncertainty. Results reveal that the IPFC acts as a unitary system for processing uncertainty: lesions to this region disrupted the relationship between arousal and choice, broadly increasing both risk and ambiguity seeking (p=.01). In contrast, the mPFC appeared more selectively involved in expressing behavior under ambiguity (p=.03), suggesting that mPFC damage resulted in a more specific enhancement to ambiguity tolerance. Together, these findings suggest a partial dissociation between risk and ambiguity, such that the IPFC appears to play a more global role, while the mPFC appears to have a narrower function in processing the highly aversive nature of ambiguous uncertainty.

The Brain, Body, and Affect

COMPARING THREE MODELS OF AROUSAL IN THE HUMAN BRAIN

Haj Ali, Hadeel M—Haifa University; Kron, Assaf—Haifa University; Anderson, Adam K—Cornell University

Descriptors: arousal, self-reports, fMRI

Valence and arousal are frequently used to model the conscious experience of emotion. In this work, we distinguish between three versions of the valence-arousal model, according to how they interpret the arousal dimension; the first model assumes that arousal is separate qualia from bipolar valence. The second version interprets arousal as the intensity of bipolar valence, and the third version suggests that arousal is a linear combination of two separate unipolar dimensions of pleasant and unpleasant. Thirty participants viewed emotional pictures in the MRI scanner, while providing reports about their emotional response. Half of the reports were given with a bipolar valence and arousal scales, and the other half with two unipolar scales for pleasant and unpleasant feelings. Using parametric modulation approach, we compared the three models in their ability to predict neural activation in arousal-related regions; “arousal as separate qualia” model was estimated by traditional arousal self-reports, “arousal as intensity” model was estimated by absolute values of the bipolar valence scale, and “arousal as a linear combination of pleasant and unpleasant” was estimated by summation of unipolar pleasant and unpleasant scales. The results showed an advantage for the sum of pleasant and unpleasant in predicting neural activation in arousal-related regions, $p < .001$, $t(207) = 5.89$, followed by absolute values of valence, $p < .001$, $t(207) = 7.74$, and arousal, $p < .001$, $t(207) = 5.04$. These findings do not support arousal as distinct qualia from valence in human conscious experience.

The Brain, Body, and Affect

HIGH FREQUENCY HEART RATE VARIABILITY MODERATES SYMPATHETIC NERVOUS SYSTEM RESPONSES TO EYE CONTACT

Harrod, Ethan G—University of Wisconsin, Madison; Martin, Jared—University of Wisconsin, Madison; Niedenthal, Paula M—University of Wisconsin, Madison

Descriptors: Psychophysiology, Eye Contact/Gaze, Social Tolerance

Social interactions involve different levels of engagement. Eye contact invites social engagement but is also arousing and potentially ambiguous. How do people regulate their arousal responses to the achievement of eye contact as to manage engagement with others? The present study investigated the effect of resting high frequency heart rate variation (HF-HRV) on electrodermal activity (EDA) in response to direct eye contact. Participants ($n=74$) viewed 96 animated face stimuli of either direct gaze or averted gaze. Faces were viewed in two blocks, majority direct and majority averted. Participants exhibited greater average EDA in response to faces within the majority direct block versus the majority averted block. This effect was moderated by HF-HRV, $t(6777) = 3.22$, $p < .001$. The difference in EDA in response to faces in the majority direct block as compared to majority averted was lessened in participants with higher HF-HRV. These findings indicate that our ability to tolerate invitations to social interaction is linked to our ability to regulate our sympathetic nervous system. Further research should aim to investigate the possible evolutionary underpinnings as well as whether factors such as culture are linked to HRV and in turn tolerance of social interaction.

The Brain, Body, and Affect

EMOTION IN THE AGING BRAIN: A NEUROIMAGING META-ANALYSIS OF OLDER VS. YOUNGER ADULT EMOTION

MacCormack, Jennifer K—University of North Carolina at Chapel Hill; Stein, Andrea G—University of North Carolina at Chapel Hill; Satpute, Ajay B—Northeastern University; Kang, Jian—University of Michigan; Lindquist, Kristen A—University of North Carolina at Chapel Hill

Descriptors: Aging, Neuroimaging, Meta-analysis

To date, the fields of affective neuroscience and aging still know relatively little about how the aging brain represents emotional experiences and perceptions. We report the first-known functional neuroimaging meta-analysis on age-

related changes in functional activity during emotion. Using PRISMA standards, we identified and coded study-level experimental contrasts from 26 studies (1997-2018), containing data from 481 older adults (55-87 years, Mean age=69) and 461 younger adults (18-39 years, Mean age=24). Using a multi-kernel density analysis meta-analytic approach (e.g., Wager et al., 2004, 2007, 2015), we contrasted functional brain activations in older vs. younger adults during in-scanner emotion tasks (emotion induction and perception). Meta-analytic results (thresholded at $p < .001$) demonstrated that relative to older adults, younger adults more consistently showed increased activity within core limbic and paralimbic regions (amygdala, thalamus, caudate, claustrum, insula) that help generate and regulate the autonomic nervous system and interoception. Older adults on the other hand exhibited more consistent increases in activation in the dorsal anterior cingulate cortex and regions in the superior, medial, and inferior frontal gyri. Collectively, these findings help characterize age differences in older vs. younger adults' brain representations of emotions and provide insights for future investigations into the neural mechanisms underlying emotional aging.

Funding: This work was supported by a Ruth L. Kirschstein NRSA Predoctoral Fellowship to JKM from the National Institute on Aging.

The Brain, Body, and Affect

CONTROLLING THE UNCONTROLLED: INCIDENTAL EXPERIMENTER EFFECTS ON PHYSIOLOGICAL REACTIVITY

Thorson, Katherine R—New York University; Mendes, Wendy Berry—University of California, San Francisco; West, Tessa V—New York University

Descriptors: Psychophysiology, Autonomic nervous system, Experimenter effects

The degree to which experimenters shape participant behavior has long been of interest in experimental social science research. Here, we extend this question to measurements of peripheral psychophysiology, which are frequently used by researchers to understand participants' affective states. In studies of peripheral psychophysiology, experimenters often have direct, physical contact with participants, yet their effects on participants' physiological responses remain unknown. Using physiological data from nine social psychology studies in three research settings ($N = 1,341$), we ask: Do experimenters account for meaningful variance in participants' sympathetic nervous system (SNS) reactivity and when? In five out of nine studies, experimenters accounted for significant variance in participants' reactivity across different experimenter roles (e.g., evaluator and confederate) when (1) Experimenters interacted with participants while reactivity was being measured and/or (2) Experimenters had multiple instances of unscripted physical contact with participants. These findings contribute to a growing body of literature revealing the subtle ways in which experimenters can influence participants outside of the awareness of researchers and provide evidence that experimenters can influence the “under-the-skin” physiological responses of participants. We present recommendations for examining and reducing experimenter effects in physiological data and discuss implications for replication.

Attendee Submitted Thematic Flash Talks: Psychopathology and Stress Saturday, March 23, 2019 9:00 a.m.-10:00 a.m.

Psychopathology and Stress ACUTE CORTISOL ADMINISTRATION NORMALIZES NEGATIVELY BIASED MEMORY FORMATION IN DEPRESSION

Abercrombie, Heather C—University of Wisconsin, Madison; Gaffey, Allison E—Yale School of Medicine; Walsh, Erin C—University of North Carolina at Chapel Hill; Hoks, Roxanne M—University of Wisconsin, Madison; Ladd, Charlotte O—University of Wisconsin, Madison

Descriptors: depression, negative memory bias, cortisol

Decades of research point to cortisol insensitivity as a biomarker of depression. Despite a vast literature on cortisol's effects on emotional memory, the role of cortisol insensitivity in core psychological features of depression, such as emotional memory biases, is unknown. Sixty-five pre-menopausal women with varying levels of depression completed a dexamethasone suppression test (DST) and four experimental sessions, i.e., two visits for memory encoding of emotional pictures, each of which was followed 48 hours later by a recall test. Participants received 20 mg oral cortisol (CORT) or placebo prior to encoding. We investigated cognitive sensitivity to CORT, which was operationalized as change in negatively biased memory formation for pictures encoded during CORT vs. placebo. Systemic cortisol insensitivity (measured with the DST) predicted negative memory bias for pictures encoded during placebo, even when accounting for depression, $F=5.3$, $p<.05$. CORT administration (vs. placebo) alleviated negative memory bias associated with depression, $F=3.6$, $p<.05$, particularly for women with systemic cortisol insensitivity measured with the DST, $F=5.2$, $p<.05$. Results suggest that systemic cortisol insensitivity (measured with the DST) is related to negative memory bias and its alleviation by acute cortisol administration. These novel findings tie together knowledge regarding endocrine and psychological dysfunction in depression, and suggest that boosting the cortisol signal may normalize emotional cognition in depressed individuals with cortisol insensitivity.

Funding: This research was funded by a grant to H. Abercrombie from the National Institute of Mental Health (R01MH094478).

Psychopathology and Stress POSITIVE AND NEGATIVE AFFECT DURING SOCIAL SITUATIONS IN SCHIZOTYPY

Hardin, Kathryn L—Indiana University – Purdue University; Minor, Kyle—Indiana University – Purdue University; White, Anna—Indiana University – Purdue University

Descriptors: schizotypy, affect, social functioning

In the past decade, rapid advancements in technology have made it possible to measure social behavior in real-world situations. This provides new opportunities to assess social functioning and affect in peoples' natural environments. Social functioning deficits and affective disturbances have been shown in schizotypy, a group thought to be at genetic liability for psychotic and other psychiatric disorders. In this study, we examined if affect influenced simple and complex social behaviors in schizotypy during real-world situations. To test this, schizotypy ($n = 34$) and non-schizotypy ($n = 30$) subjects wore the Electronically Activated Recorder (EAR) for two days, and reported positive and negative affect hourly. Recordings occurred 12 times per day. Multilevel modeling was used to analyze: a) group differences in simple or complex social behaviors; and b) if affect differed in social situations. We observed negligible group differences in simple social behavior (effect size = 0.03) and medium differences (effect size = 0.54) in complex social behavior. When engaging in complex social behavior, the schizotypy group reported significantly lower positive affect (mean = 4.53, $SD = 1.82$), but not negative affect, than the non-schizotypy group (mean = 5.51, $SD = 1.24$). There were no differences in non-social situations. These findings illustrate that those with schizotypy are less likely to exhibit complex social behavior and report lower positive affect during

these behaviors, thus contributing to our understanding of affect's role in social behavior in schizotypy.

Psychopathology and Stress TO BE AFRAID, OR NOT TO BE AFRAID: PREFERENCES FOR AND OUTCOMES OF FEAR IN AVOIDANCE GOALS

Ho, Yuen Wan—Chinese University of Hong Kong; Fung, Hoi Lam Helene—Chinese University of Hong Kong

Descriptors: Emotion Regulation, Instrumental Emotion Regulation, Fear

According to the instrumental approach to emotion regulation, people are motivated to seek potentially useful, albeit unpleasant, emotions to attain their goals. Tamir and Ford (2009) examined whether people pursuing avoidance goals would prefer fear-related emotions but did not test whether fear would improve people's performance in achieving avoidance goals. Thus, our study examined motives and outcomes of experiencing fear, using a modified computer game paradigm (Tamir & Ford, 2009) in which 172 undergraduate students (68% female; mean age = 20.73) were randomly assigned to an emotion induction condition (i.e., listening to excitement-inducing, fear-inducing, or neutral music) and played a computer game associated with the pursuit of an approach goal, an avoidance goal, or neither approach nor avoidance. Regarding emotional preferences, we found a significant Goal X Emotion interaction, $F(4, 167) = 176.94$, $p<.001$, partial eta squared = .81. Participants had a stronger preference for fear (vs. excitement or neutral emotional state) when pursuing avoidance goals. Regarding game performance, we found neither a significant Game X Emotion interaction effect, $F(2, 167) = 2.70$, $p = .07$, nor any main effects for Game or Emotion, $F(1, 167) < .34$, $ps > .56$. Participants did not show improved performance in an avoidance game when listening to fearful music. Current findings showed that even when people prefer fear to attain avoidance goals, experiencing fear may not necessarily help people to obtain instrumental benefits in avoidance contexts.

Psychopathology and Stress COGNITIVE AND EMOTIONAL EMPATHY: RELATIONSHIPS WITH CAREGIVER MENTAL HEALTH

Hua, Alice Y—University of California, Berkeley; Wells, Jenna L—University of California, Berkeley; Brown, Casey L—University of California, Berkeley; Levenson, Robert W—University of California, Berkeley

Descriptors: empathy, caregiver mental health, dementia

Taking care of a person with dementia will become increasingly common as the older adult population grows. Many, but not all, caregivers develop high rates of mental health problems compared to non-caregiving adults. Caregivers' empathy may yield important individual differences in shaping their health outcomes. Although empathy is generally thought to be associated with positive outcomes, greater empathy may lead to worse outcomes through greater distress and burden associated with elevated mental health symptoms. We hypothesized that greater emotional empathy (feeling others' suffering) would be worse for caregiver mental health than cognitive empathy (knowing others' suffering). We examined emotional empathy (physiological, behavioral, and subjective responses to a film depicting suffering) and cognitive empathy (emotion recognition from films, continuous ratings of a person's emotions) in relation to caregiver mental health (standardized questionnaires) in 68 caregivers. Linear regression revealed that greater emotional empathy in the form of subjective distress to the film was associated with worse mental health, even when accounting for physiological and behavioral responses, two measures of cognitive empathy, and demographic and patient variables ($p <.001$). These findings indicate a context in which emotional empathy is associated with untoward outcomes. When facing a chronic stressor such as a caregiving, individuals who are higher in emotional empathy may benefit from creating some emotional distance in response to patients' suffering.

Psychopathology and Stress**AMYGDALA VOLUME MEDIATES THE EFFECT OF CUMULATIVE LIFETIME SEVERE STRESS EVENTS ON DIURNAL CORTISOL SLOPE IN OLDER ADULTS**

Schaefer, Stacey M—University of Wisconsin, Madison; Mogle, Jacqueline—Pennsylvania State University; Almeida, David M—Pennsylvania State University; van Reekum, Carien—University of Reading; Friedman, Esther M—Pardee RAND Graduate School; Lapate, Regina C—University of California, Berkeley; Nacewicz, Brendon M—University of Wisconsin, Madison; Seeman, Teresa E—University of California, Los Angeles; Gruenewald, Tara L—Chapman University; Davidson, Richard J—University of Wisconsin, Madison

Descriptors: amygdala, stress, cortisol

Stress exposure and dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis have been linked to structural alterations in the hippocampus and amygdala. Regulators of HPA activity, the hippocampus and amygdala are also targets of HPA stress hormone outputs, such as cortisol in humans. Cortisol has a diurnal rhythm, normally peaking 30 minutes after waking and falling to a nadir around midnight, but this pattern can be modulated by severe or chronic stress exposure. In humans the cumulative impact of adverse and stressful experiences may interact with and shape brain structure and the diurnal cortisol rhythm, such that individual differences in cortisol may be associated with hippocampal and/or amygdalar volume. We assessed over 20 possible severe stressful life experiences occurring in childhood through adulthood, and tested the associations between cumulative stress events, hippocampal and amygdalar volume, and diurnal cortisol slope (DCS) in 56 adults. Although cumulative stress events were not related to hippocampal volume, experiencing more major stressors was associated with smaller amygdala volumes ($r = -.30$, $p = .025$) and flatter DCS ($r = .40$, $p = .002$). Both number of stress events and amygdala volume predicted DCS even when controlling for age, gender, smoking status, average wake-up time, and hippocampal volume. Finally, amygdala volume was a significant statistical mediator of the effect of stressful life experiences on DCS, suggesting structural changes in the amygdala may contribute to changes in the diurnal cortisol rhythm.

Funding: This research was supported by the National Institute on Aging (U19 AG051426, PO1-AG020166), the National Institute on Mental Health (R01 MH043454), and the Waisman Intellectual and Developmental Disabilities Research Center (P30HD03352).

Psychopathology and Stress**THE DEVELOPMENT OF WORRY AND COGNITIVE BIASES IN ADOLESCENTS: A LONGITUDINAL STUDY**

Songco, Annabel—University of Oxford; Fox, Elaine—University of Oxford

Descriptors: Worry, Adolescents, Cognitive Biases

Worry is common in adolescents, however there is a relatively small body of research examining the cognitive mechanisms underlying worry throughout this important developmental period. The present study examined the causal relationship between cognitive biases and worry in adolescents over time. Data was drawn from 504 adolescents participating in the CogBias Longitudinal study at time point 1 (T1) and follow-up data from 450 adolescents at time point 2 (T2). Structural equation modelling with a cross-lagged panel analysis examined the stability and direction of causality between cognitive biases and worry from early (T1) to mid-adolescence (T2). Furthermore, we investigated the combined cognitive bias hypothesis to assess whether attention, interpretation, and memory biases were interrelated and work together during the worry process in adolescents. The results showed that Negative Bias at T1 predicted worry at T2 ($\beta = .10$, $p < .001$). Whilst the reverse relationship was also significant, as worry at T1 caused Negative Bias at T2 ($\beta = .10$, $p < .05$). There was no evidence to suggest that Positive Bias or Attention Bias in early adolescence predicted worry in mid-adolescence. In addition, Negative Bias, Positive Bias, and worry remained stable cognitive processes from early to mid-adolescence. Longitudinal research investigating the role of cognitive biases in the trajectory of worry from early to mid-adolescence is crucial to understanding the cognitive pathways involved in the aetiology of pathological worry and anxiety.

Funding: This work was supported by the European Research Council (ERC) under the European Union's Seventh Framework Programme (FP7/2007–2013)/ERC grant agreement no: [324176].

Psychopathology and Stress**COMMUNICATION OF FACIAL AFFECT DURING MOTHER-CHILD INTERACTIONS AS A POTENTIAL MECHANISM OF THE INTERGENERATIONAL TRANSMISSION OF SUICIDE RISK**

Tsypes, Aliona—Binghamton University; James, Kiera M—Binghamton University; Kudinova, Anastacia Y—Alpert Medical School of Brown University; Hastings, Paul D—University of California, Davis; Gibb, Brandon E—Binghamton University

Descriptors: suicide, electromyography, affect

Suicidal behavior runs in families, yet the mechanisms of the intergenerational transmission of suicide risk remain poorly understood. Mother-child relationships, particularly the ways in which these dyads communicate positive and negative affect, might be one such mechanism of risk. This study sought to empirically examine this in the dyads with and without a maternal history of suicide attempts (SA) during positive and negative interactions. Participants were 338 biological mother-child dyads, with 56 (16.6%) of mothers endorsing a history of at least one prior SA. The average age of the children was 9.30 years ($SD = 1.47$). Facial electromyography was recorded simultaneously from the mother and child during their interactions. Corrugator and zygomaticus activity were used to index changes in mothers' and children's facial displays of negative and positive affect, respectively. Mother zygomaticus activity was a stronger predictor of changes in girls' zygomaticus activity one second later among dyads with no history of maternal SA, $t(10746) = 12.37$, $p < .001$, r effect size = .12, than among those with a history of maternal SA, $t(1428) = 2.63$, $p = .009$, r effect size = .07. These effects were specific to the transmission of positive facial affect and were not observed for negative affect. They were also specific to girls. The study contributes to affective science by providing initial evidence for the difficulties in communicating and sharing positive affect in families with a history of maternal SA, which may represent an important mechanism of suicide risk transmission.

Funding: National Institute of Mental Health grant MH098060

Psychopathology and Stress**AVOIDANCE OF COGNITIVE EFFORT DURING A COGNITIVE TRAINING TASK IN DEPRESSION**

Wood-Ross, Chelsea—Queen's University; Milanovic, Melissa—Queen's University; Best, Mike W—Queen's University; Bowie, Christopher R—Queen's University

Descriptors: Depression, Cognitive Remediation, Avoidance

Cognitive remediation (CR) is a promising treatment for neurocognitive dysfunction in major depressive disorder (MDD). However, recent studies have shown those with MDD often do not apply their cognitive gains in everyday life. Features of depression might account for the mixed outcomes in CR, including disengagement from cognitive challenges and avoidance, which are not directly addressed in traditional CR. The present investigation examined how individuals with MDD avoid cognitive tasks similar to those used in CR as a function of difficulty. Individuals with MDD ($n = 28$) and a healthy comparison group (HC; $n = 24$) engaged in a computerized visual working memory task with titration of difficulty similar to CR tasks while EEG was recorded. After each trial, participants were asked to indicate how they would like to adjust the task difficulty on the next trial. While there was no difference between groups on the easy levels, participants with MDD decreased their difficulty level significantly more than HC on the difficult trials, $p = .005$, effect size = .14. Participants with MDD and HC did not differ on actual performance accuracy, however, participants with MDD perceived their performance to be significantly worse than HC on the difficult trials, $p = .003$, effect size = .16. Individuals with MDD had significantly greater alpha power at hard difficulty levels than easy levels, $p = .044$, effect size = .19. Avoidance of cognitive challenges in MDD has implications for understanding mechanisms related to cognitive performance and to efforts to modify cognitive impairment.

Poster Session A

Thursday, March 21, 2019

6:15 p.m.-7:30 p.m.

POSTER A-1

INDIVIDUAL DIFFERENCES IN INHIBITORY CONTROL ARE NOT RELATED TO EMOTION REGULATION

Gärtner, Anne—Technische Universität Dresden; Strobel, Alexander—Technische Universität Dresden

Descriptors: emotion regulation, cognitive control, reappraisal

The cognitive basis of emotion regulation (ER) has been extensively studied in the last decade. Especially inhibitory control (IC) has been proposed as an obvious candidate contributor to ER. However, inconsistent findings on the relationship between IC and ER have been reported, partly because previous studies applied single task measures in relatively small samples. Therefore, we examined the relationship between IC and ER using a powerful within-subjects design in a large sample of 190 young healthy adults. This study reached a power to detect correlations above $r = .20$. IC was measured with a battery of six commonly used tasks, and a latent variable approach was applied to provide a purer measure of IC ability. ER was measured with self-report measures on habitual use of ER strategies, and behavioral and physiological measures during a laboratory reappraisal task (valence and arousal ratings, corrugator electromyography, skin conductance response, heart period). Consistent results from standard and Bayesian analyses indicated that IC was not related to any ER measure (all $p > .196$; all $r < .2$; Bayes Factors for the null hypothesis (BF01) ranged between 1–12, indicating moderate to strong evidence in favor of the null hypothesis). The results are in line with recent neuroimaging findings and suggest that IC and ER rely on rather distinct processes. By providing the first systematic account in the largest sample to date, this study makes an important contribution for the understanding of cognitive control processes in ER and highlights challenges for further research.

POSTER A-2

DETACHMENT, POSITIVE REAPPRAISAL, AND ACCEPTANCE IN LATE LIFE: EXPERIENTIAL, PHYSIOLOGICAL, AND PERCEPTUAL EFFECTS

Rompilla, David B—Northwestern University; Hittner, Emily F—Northwestern University; Stephens, Jacquelyn E—Northwestern University; Haase, Claudia M—Northwestern University

Descriptors: Emotion Regulation, Aging, Emotion

The present study examined how emotion regulation strategies affect emotional experience and physiology in late life. Healthy older adults ($N = 129$; age: $M = 71.56$; 51.16% female; 79.84% white) watched different sad film clips under “just watch” (i.e., reactivity) and different emotion regulation (i.e., detachment, positive reappraisal, and acceptance; in counterbalanced order) instructions while peripheral physiological measures were continuously recorded. Participants reported on their subjective emotional experiences (e.g., sadness) after each trial as well as perceived effort and success for each strategy. Compared to reactivity trials, results revealed specific experiential, physiological, and perceptual profiles for each regulation strategy. In terms of emotional experience, detachment led to the greatest decreases in negative emotion (e.g., sadness, $p < .001$, $d = 1.02$), positive reappraisal led to moderate decreases (e.g., sadness, $p < .001$, $d = 0.69$), and acceptance showed no significant effects ($p = .117$, $d = 0.14$). In terms of physiology, detachment ($p = .001$, $d = 0.30$) and acceptance ($p = .002$, $d = 0.29$) led to increases in interbeat interval, and detachment also led to decreases in respiration rate ($p = .006$, $d = 0.25$). Positive reappraisal showed no significant effects on physiology. In terms of perceptions, participants perceived the lowest level of effort when applying acceptance ($p = .003$, $\eta^2p = .05$) and the lowest levels of success for positive reappraisal ($p < .001$, $\eta^2p = .17$). Implications for emotion regulation in late life are discussed.

POSTER A-3

IS INSTAGRAM DOING MORE HARM THAN GOOD? APPLYING AN IDIOGRAPHIC APPROACH TO INVESTIGATE THE IMPACT OF SOCIAL NETWORKING SITES ON PSYCHOPATHOLOGY

Diamond Altman, Allison E—University of California, Berkeley; Fisher, Aaron J—University of California, Berkeley

Descriptors: social networking sites, depression, anxiety

Social networking sites have grown extensively over the past decade, coinciding with the growing use of internet-enabled smartphones that allow access to these sites virtually at any moment. One social networking app, Instagram, allows for passive observation of other's photos, and extant research has connected this type of usage with myriad negative outcomes including lower self-esteem and depressed moods. An important next step is to understand the mechanisms by which this occurs in order to inform interventions that may ameliorate negative effects of its use. This study utilized ecological momentary assessment to examine moment-to-moment relationships among Instagram use, negative affect, and potential mechanisms. We employed contemporaneous and time-lagged analyses to examine how these specific constructs were associated at any given point in time, as well as how they drove each other from moment to moment. Subjects ($n=60$) were surveyed on Instagram use, symptoms, and potential mediators including self-confidence and social comparison. Nomothetic and idiographic lagged mediation models were employed to the data. Results indicate a significant relationship between the level of reported anxiety at one time and Instagram use at the next time point ($p=0.01$), and specific mediators will be discussed for individual participants. This work may clarify a link between Instagram use and negative affect on a person-specific basis, identify some of the key mechanisms, and inform interventions for what responsible phone usage may be for teens and adults alike.

POSTER A-4

ASSOCIATIONS BETWEEN MINDFULNESS AND TEMPORAL DISCOUNTING IN A SAMPLE OF OVERWEIGHT AND OBESE ADULTS

Mitchell, Alexis D—University of North Carolina at Charlotte; Paschall, Sarah Catherine—University of North Carolina at Charlotte; Levens, Sara M—University of North Carolina at Charlotte

Descriptors: mindfulness, temporal discounting, health behaviors

Temporal discounting (TD), the ability to select future rewards over short term gains, and mindfulness, the process of maintaining present moment awareness, are purported to have significant, differential impacts on health behaviors. Mindfulness and TD both impact health behaviors and are suggested to include components of self monitoring, however, the relationship between the two hasn't been fully investigated. Accordingly, we examined the relation between TD and mindfulness in a sample of overweight and obese adults. As part of a larger health focused study, participants ($N = 126$) completed a battery of questionnaires (including the Five Facet Mindfulness Questionnaire (FFMQ)), anthropometric measurements, and a computerized TD task. A series of regressions tested the association between subscales of the FFMQ and TD measures. Results revealed differences in how the mindfulness subscales associated with TD measures. Specifically the 'Observing' ($\beta = -.203$) and 'Describing' ($\beta = -.26$) subscales were associated with lower TD rates and a longer subjective devaluation time-frame respectively. In contrast, the 'Acting with Awareness' subscale was associated with a shorter subjective devaluation time-frame ($\beta = -.23$). This pattern suggests that the reflective perspective initiated through the observing and describing components of mindfulness may facilitate TD, whereas the acting with awareness component of mindfulness that focuses on the present moment, may make delay of gratification more challenging.

POSTER A-5

SOFTWARE PLATFORM REQUIREMENTS FOR EMOTION EXPERIENCE INCLUSION ARCHITECTURES IN ARTIFICIAL INTELLIGENCE

Carrillo Laguna, Angel G—University of Puerto Rico Mayagüez Campus;
Melendez, José L—University of Puerto Rico Mayagüez Campus

Descriptors: Emotions, Computer Science, Artificial Intelligence

Combined emotion and computer science related research studies have been increasing throughout the years, yet there remains a lack of applicable implementations. The cluster of existing open source projects are not optimized for the study of emotions. The use of Artificial Intelligence (AI) has been taken as the best approach into this genre of studies since it can be implemented and taught to do most any sort of task. Furthermore, AI's have been implemented based on how the human brain functions. We present a set of architecture and software requirements for a project open to everyone including those without the knowledge in Computer Science or Engineering, based on needs identified through literature review of a diverse base of human research studies related to neural and physiological responses during elicited emotional experiences. We verify the experimental conditions, data and processing algorithms of open-source projects and to what extent have they been developed. We also catalog AI development and their applicability and deficiencies with emotion-related human research studies. Based on the needs and observations found in the literature reviews and in open-source AI development for use in emotion-related human research studies, we present architecture and software requirements to address these issues for emerging AI algorithms.

Funding: Work funded through donations to the Computer Science and Engineering Department of the University of Puerto Rico at Mayaguez

POSTER A-6

DISGUST SENSITIVITY, PHYSICAL HEALTH, AND HEALTH ANXIETY

Skolnick, Alexander J—Saint Joseph's University; Rubertone, Cecelia N—Saint Joseph's University; Vance, Emily M—Saint Joseph's University

Descriptors: Disgust, Physical Health, Health Anxiety

Theory suggests disgust functions to keep humans safe from contagious threats in environment. No studies have examined one's disgust sensitivity (DS) and one's likelihood of becoming ill over time. We hypothesized that people high in DS might remain healthier than people low in DS due to likely stronger tendencies to avoid/withdraw from disgusting and/or contagious situations. We tested the prediction that high DS individuals will remain healthier over time (6 wks) as compared to low DS individuals. At Time1 we tested 124 undergraduates for their DS, baseline stress levels, and health status. Students with chronic illnesses were excluded from the sample. With weekly emailed prompts, participants reported any physiological symptoms from the PILL (validated symptom list) and their weekly stress levels. Overall, there were no significant correlations between DS and weekly mean PILL scores, all $r < .15$. Dividing PILL symptoms into high vs low terciles based on DS scores found no significant differences. However, testing a subset of 15 PILL symptoms diagnostic for colds, revealed a significant positive correlation with DS, $r = .18, p = .039$, and a medium effect of those with the highest terciles of DS having significantly more mean cold-related PILL items, $t = 2.25, p = .027, d = .52$, than those with the lowest DS terciles. A follow-up study ($n = 158$) found measures of disgust and health anxiety significantly positively correlated, $r = .43, p < .001$. Trait DS seems to be related more to health anxiety and less to a protective function for avoiding contagious illnesses (here PILL cold symptoms).

POSTER A-7

ACETAMINOPHEN REDUCES THE SENSITIVITY OF MACAQUE ANTERIOR CINGULATE NEURONS TO THE VALENCE OF DECISION OUTCOMES

Sharika, Kalamveetil-Meethal—University of Pennsylvania; Platt, Michael—University of Pennsylvania

Descriptors: social decision-making, tylenol, empathy

Human imaging studies have implicated areas associated with the affective component of pain, namely, dorsal anterior cingulate cortex (dACC) and anterior insula in empathy. Acetaminophen - active ingredient in tylenol/ paracetamol - has been shown to reduce BOLD activity in ACC, ease self-reported pain and also diminish empathy for others in distress suggesting that analgesics may interfere with the normal processing of affect associated with self and other outcomes. We recorded the electrophysiological activity of neurons in macaque ACC gyrus (ACCg) - an area that has been shown to be sensitive to others' positive outcomes - to test 1) if these neurons also process negatively valenced information for self and other and if yes, 2) whether this activity is sensitive to acetaminophen. Two monkeys were trained to make choices between two targets associated with varying magnitudes of fluid. The fluid on offer was cued to be either pleasant (fruit juice) or unpleasant (diluted quinine) for either self or a recipient monkey sitting across the room. Monkeys rapidly learnt the cue associations and showed an overall preference for good tasting fluid for both self and other ($p < 0.05, n = 2$ pairs). Preliminary analysis suggests that acetaminophen not only reduced the monkey's behavioral sensitivity to negative outcomes in general, but also diminished the sensitivity of ACCg neurons to discriminate between positive and negative outcomes for both self and other. These results aim to expand our understanding of the neural circuitry underlying the processing of affect in self and others.

POSTER A-8

THE DYNAMICS OF FRUSTRATION

Fung, Bowen J—California Institute of Technology; Camerer, Colin F—California Institute of Technology; Mobbs, Dean—California Institute of Technology

Descriptors: frustrative non-reward, reinforcement learning, motor vigor

As an emotion or mood, frustration is likely to play a critical role in aggression, domestic violence, gambling, and education, and thus is of high relevance to current societal problems. One striking finding is that frustrative non-reward (the absence of an expected reward) can increase general motor vigor. We wished to examine under what conditions this "frustration effect" would arise. To do this, we applied a computational model that had not previously been applied to human data. Subjects performed a motor control task while we surreptitiously recorded the vigor of non-instrumental motor responses. These motor responses were significantly larger after losses compared to wins, demonstrating a gross frustration effect. Moreover, despite a wide range of individual differences, the predictions of the computational model were able to accurately capture the trial-by-trial variation in these motor responses - with no free parameters to fit to the data. These findings provide robust evidence that the "frustration effect" can be examined from a reinforcement learning framework, and add to the growing repertoire of models that predict human behavior outside of the choice domain. Furthermore, the model parameters can provide precise estimates that are ideal for psychiatric classification and neuroimaging experiments.

Funding: This work is supported by a Conte Center grant to DM and CFC.

POSTER A-9

EMOTION DYNAMICS AS PREDICTORS OF SYMPTOM SEVERITY AND TREATMENT RESPONSE IN MOOD AND ANXIETY DISORDERS

Bosley, Hannah G—University of California, Berkeley; Fisher, Aaron J—University of California, Berkeley

Descriptors: emotion dynamics, psychopathology, psychotherapy

Studies of emotion in psychopathology often focus on emotion level; less is known about how fluctuation in emotion over time relates to psychopathology. We measured positive (PA) and negative affect (NA) in 32 individuals with mood and anxiety diagnoses (13 generalized anxiety, 5 major depression, 14 with both), 4 times daily for 30 days ($M = 111.2$ obs) before they received cognitive behavioral treatment. With this data, we calculated three within-person measures of emotion dynamics: (1) variability (experiencing emotional extremes: the within-person standard deviation of PA or NA in a person's time series); (2) instability (magnitude of point-to-point change in emotion: the mean squared successive difference for PA or NA); and (3) inertia (the extent to which emotions self-perpetuate over time: the autoregression of PA or NA). Multiple regression models were run to test variability, instability, and inertia of PA and NA (controlling for their within-person mean level) 1) as predictors of symptom severity (measures of depression and anxiety); and 2) as predictors of treatment outcome (pre-to-post change in symptom severity). Results showed that PA dynamics were not associated with symptom severity or treatment response. For NA, emotion dynamics were not associated with symptom severity. However, across the sample, greater instability of NA pre-treatment predicted better treatment outcome ($\beta = -1.34$; $p = 0.015$). Results indicate that NA emotion dynamics -- particularly instability -- should be considered in future studies of psychopathology and treatment effectiveness.

POSTER A-10

UNSUPERVISED CLASSIFICATION REVEALS DEGENERATE NEURAL REPRESENTATIONS OF ANGER

Doyle, Cameron M—University of North Carolina at Chapel Hill; Lane, Stephanie T—Institute for Defense Analyses; Killian, Taylor L—University of North Carolina at Chapel Hill; Brooks, Jeffrey A—New York University; Wilkins, Robin W—University of North Carolina at Greensboro; Gates, Kathleen M—University of North Carolina at Chapel Hill; Lindquist, Kristen A—University of North Carolina at Chapel Hill

Descriptors: Degeneracy, Intrinsic networks, Anger

Degeneracy refers to the ability of distinct biological systems to perform similar functions. We thus hypothesized that different patterns of neural network activity can characterize the same emotional experience across individuals. Participants ($N = 24$) underwent an anger induction while listening to unpleasant music in an fMRI scanner. A data-driven subgrouping algorithm (S-GIMME) revealed two subgroups of temporal patterns among canonical brain networks (e.g., anterior and posterior salience network, aSAL; pSAL; dorsal and ventral default mode network, dDMN; vDMN; dorsal attention network, DAN; frontoparietal control network, FPC) during experiences of anger. Subgroup 1 ($N = 10$) had greater connectivity within subnetworks of SAL (aSAL and pSAL) and DMN (dDMN and vDMN). Subgroup 2 ($N = 12$) had connectivity between the subnetworks of the DMN, but not subnetworks of the SAL, and was characterized by connectivity between pSAL and DAN, as well as connectivity among left and right FPC. Consistent with our hypothesis that different patterns of neural activation can produce the same emotion, these subgroups did not differ in the intensity of anger experienced ($p = .11$). However, Subgroup 1 experienced significantly more unpleasantness, $t(20) = 2.82$, $p = .01$ and scored higher on the Toronto Alexithymia Scale, $t(20) = 2.42$, $p = .03$. These findings suggest that greater within-network connectivity in SAL and DMN may confer more unpleasant anger experiences, and provide preliminary evidence for degeneracy in the distributed patterns of brain activation during emotional experience.

POSTER A-11

TRAIT EMOTION IN INDIVIDUALS WITH SCHIZOPHRENIA AND CLINICAL HIGH-RISK YOUTH

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Descriptors: Positive Emotion, Psychopathology

Alterations in emotional functioning have long characterized patients with schizophrenia (SZ). Recently, alterations in trait emotions have been hypothesized to lie at the core of this disease and may already be present among youth at clinical high risk (CHR) for developing psychosis. The present 2-study investigation examined alterations in trait emotions in SZ patients and CHR youth. In Study 1, 56 SZ patients and 34 matched healthy controls completed the Dispositional Emotion Scale (DPES), and clinical interviews measured symptoms and functioning. SZ patients reported higher levels of negative emotions than HC ($F(1, 80) = 7.42$, $p < .01$, $d = .64$). While SZ patients did not report more overall positive emotions, analyses at the discrete emotion level revealed opposing effects for different positive emotions with blunted joy, and elevated surprise among SZ patients. In Study 2, 50 CHR youth and 56 matched HC completed the modified DPES. CHR youth reported higher levels of negative emotions, and lower levels of positive emotions ($F(1, 103) = 16.38$, $p < .001$, $d = .80$) than HC. At the discrete emotion level, these alterations were much more widespread among CHR youth than in SZ patients suggesting the presence of a more generalized psychopathology element in CHR youth than SZ adults. CHR also showed stronger relationships between emotions and increased clinical symptoms and lower functioning. These findings give important insight into how individual affective systems are altered during the progression of schizophrenia and may help target early interventions for CHR youth.

POSTER A-12

EMOTIONAL AWARENESS PREDICTORS OF THE CONCORDANCE BETWEEN ACTUAL AND IDEAL AFFECT

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Descriptors: Ideal Affect, Emotional Awareness, Emotional Clarity

People differ in how they ideally want to feel and how they actually feel. Higher concordance between ideal and actual affect may represent better emotion regulatory skills or more realistic expectations about one's feelings. Emotional awareness (EA) is composed of one's ability to identify one's own emotions (clarity) and the attention one places on one's own emotions (attention). We hypothesized that EA would be associated with higher concordance between ideal and actual affect. Participants ($n=173$) completed trait ratings of ideal and actual affect for 16 emotions (e.g., excited, humble, anxious), clarity, attention, and one week of daily reports of their experiences of NA. To calculate concordance, we computed the correlation between ideal and actual affect for each participant. Using multiple regression, we tested whether clarity, attention, or their interaction predicted our index of concordance. The concordance between actual and ideal affect was significantly positively associated with clarity ($\beta=.06$), but unrelated to attention or the interaction between attention and clarity. Results held even when controlling for mean levels of NA experienced during the week. Our results suggest having clarity about one's feelings may facilitate either more successful emotion regulation toward one's ideal affect or shape more realistic expectations about how one should ideally feel. Future research should clarify how the experience, beliefs about, and understanding of emotions are connected in the development and maintenance of psychopathology and promotion of well-being.

POSTER A-14

AFFECTIVE IMPAIRMENT IS ASSOCIATED WITH OLFACTORY PERCEPTION ACROSS PSYCHOTIC DISORDERS AND THE GENERAL POPULATION

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Descriptors: olfaction, emotion, psychosis

Inability to experience pleasure (anhedonia) and to express emotion (inexpressivity) are important symptom clusters related to affective functioning in schizophrenia. These negative symptoms have been shown to involve anatomical and physiological abnormalities in temporolimbic and frontal brain regions. Olfaction is a sensory modality that is intimately associated with these neuroanatomical regions as well as with affective functioning. Examination of the connection between olfactory perception and negative symptoms may hence inform understanding of the mechanisms that contribute to these affective impairments. Additionally, anhedonia and inexpressivity are present not only in schizophrenia but also in other psychotic disorders and even at sub-clinical levels in individuals with no history of psychosis. In the present study we examined a sample of individuals with psychotic disorders (N=83) and their never-psychotic neighbors (NP; N=73) on odor identification ability. Hierarchical linear regression revealed that worse odor identification ability was associated with more severe anhedonia and emotional inexpressivity ($R^2=.054$, $p=.007$) and this relationship was not further explained by patient/non-patient status ($\Delta R^2=.002$, $p=.837$). This effect appeared to be specific to negatively-valenced odors ($R^2=.037$, $p=.028$), as positive odors were non-significant ($p>.10$). Overall, our findings provide evidence for a far-reaching relationship between olfactory perception and affective impairment transdiagnostically across psychotic disorders and in the general population.

POSTER A-15

ASSESSING MOOD'S EFFECTS ON ATTENTION IN VALUE-BASED DECISION MAKING

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Descriptors: reward, attention, computational modeling

Mood has been shown to bias the allocation of attention in a mood-congruent manner: humans focus on negative stimuli when in a bad mood, and on positive stimuli in a good mood. However, these effects have primarily been studied in the perceptual domain, and less is known about how mood-related attention biases might influence value-based decision making. We present a novel compound-generalization task designed to measure the effects of mood on attention in value-based choice. Subjects are first trained to associate simple cues with reward probabilities of 25%, 50%, or 75%, and are then presented with choices involving novel compound stimuli comprised of pairs of these simple cues (e.g., a choice between a compound stimulus comprised of two cues associated with 50% reward and a compound stimulus comprised of cues associated with 25% and 75% reward). We report behavioral, eye-tracking, and computational modeling results from a sample of $n = 25$ subjects. We quantify value-based attention as the weight that subjects assign to high-versus low-value cues in constructing the value of compounds. Results indicate that participants assign a stronger weight to negatively-valenced cues when computing the value of compounds. Moreover, individual differences in choices between compound stimuli were predicted by looking time toward high- versus low-value cues within a compound. Our findings suggest that this paradigm is a useful assay of value-based attention, paving the way for future work to investigate the effects of positive and negative mood inductions on value-based attention.

Funding: This work was funded by grant R01DA042065 from the National Institute on Drug Abuse.

POSTER A-16

EFFECT OF ACUTE STRESS ON MODEL-BASED LEARNING IN DEPRESSION

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Descriptors: Depression, Stress, Reinforcement Learning

Background: Stress has been implicated in the etiology of major depressive disorder (MDD), but the neural mechanisms underlying such risk remain largely unknown. Prior studies in healthy controls (HC) have shown negative effects of stress on reinforcement learning (RL), but the putative effects of stress on RL in MDD have not been tested. Using fMRI and a two-step RL task, we probed neurobiological changes in model-based (MB) and model-free (MF) RL after exposure to acute stress in MDD. Methods: During fMRI acquisition, 43 unmedicated adults (17 with current MDD) completed a sequential two-step RL task both before and after a well-established psychosocial stressor, which involved a combination of hand immersions in cold water and difficult arithmetic under social evaluation. During the RL task, participants were given a choice between two options, which transitioned to a subsequent common (70%) or rare (30%) state, where choices were rewarded randomly. Results: The contrast testing the Group (MDD vs HC) x Stress (pre vs post) x Learning (MF vs MB) interaction revealed increased activation in the left dorsolateral prefrontal cortex during MB decisions post-stress in the MDD group versus HC ($p=.002$). Uncorrected analyses ($p=.005$, $k>20$) revealed a cluster in the right caudate with increased activation during MF decisions post-stress in the MDD group versus HC.

Conclusions: These initial results reveal aberrant patterns of activation during MB decisions after stress in MDD and raise the possibility that the MDD group exerted additional cognitive control to make MB decisions.

Funding: NIMH Project # 2R37MH068376-12A1

POSTER A-17

A NEW SELF-REPORT INSTRUMENT FOR MEASURING EMOTION REGULATION FLEXIBILITY

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Descriptors: Emotion Regulation Flexibility, Resilience, self-report measure

Previous research on emotion regulation (ER) mostly focused on the use of single strategies. However, the ability of adaptive ER is rather defined as the flexible, context-dependent use of different strategies to attain personal goals. Therefore, we developed a self-report measure of flexible emotion regulation (FlexER) with 41 items. In a pilot study, 155 participants (121 female, mean age 23.39 years) completed the FlexER as well as questionnaires on Big Five, coping flexibility, measures of ER (flexible regulation of emotional expression, FREE; habitual use of ER, ERQ; ER skills questionnaire, ERSQ) (construct validity), and well-being, resilience, depression and anxiety (criterion validity). The analysis of item characteristics of the FlexER resulted in a 26-item scale. Reliability was satisfactory (Cronbach's $\alpha = .87$). Correlational analyses showed high associations with coping flexibility ($r = .558$), ERQ-Reappraisal ($r = .405$), and ERSQ ($r = .470$), medium associations with FREE ($r = .274$), ERQ-Suppression ($r = .253$), and conscientiousness ($r = .264$) (all $p < .01$). In a regression analysis, FlexER added to the prediction of resilience over and above all other predictors ($b = .177$; model: $F(8, 146) = 14.84$, $p < .001$, $R^2 = .42$). However, this could not be proven for well-being, depression and anxiety. In conclusion, our scale provides an important contribution to the investigation of resilience by offering a reliable and efficient measure of flexible emotion regulation. Further evidence for its criterion validity remains to be established in more diverse samples.

POSTER A-18

AFFECT, SOCIAL CONNECTEDNESS, AND STRESS IN COLLEGE FRESHMEN

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Descriptors: Social Support, Affect, Stress

College is a time of great transition, and freshmen students are particularly vulnerable to stress and its negative outcomes. Positive affect has been shown to buffer against negative affect and stress. Additionally, social connectedness, the extent to which people feel connected to the world around them, has been shown to broaden one's support network and support stress management, suggesting that social connectedness and support may moderate the association between affect and stress. We test this hypothesis using data from a larger study in which 128 first-year freshmen completed a battery of questionnaires at two timepoints during their freshman year that included measures of positive affect (PA) negative affect (NA), social connectedness, desired support, and perceived stress. A series of moderation models examined the direct relationship between PA, NA and perceived stress, and the moderating role of social connectedness and desired support respectively. Results revealed that PA ($\beta = -.2$) and NA ($\beta = .28$) and desired support ($\beta = -.31$) predicted perceived stress, yet social connectedness had no significant effect. In addition, while desired support moderated the association between PS and perceived stress in the hypothesized direction, the association was not significant. Results suggest that how much support a student would like to receive is more predictive of stress perception than social connectedness, suggesting that guidance on social support expectation may be helpful for facilitating adjustment to college and reducing stress.

POSTER A-19

INTERPERSONAL EMOTION DYNAMICS AND BODY WEIGHT IN ROMANTIC COUPLES

Butler, Emily—University of Arizona

Descriptors: interpersonal emotion dynamics, health, dynamic systems modeling

High quality romantic relationships are associated with better health, with the exception of body weight, where better relationship quality has been associated with higher body mass indices (BMI). We combine dynamic systems methods with affective science to address the novel question of whether some romantic couples are plagued by a vicious cycle of volatile interpersonal emotion dynamics, unhealthy behavior and weight gain. We investigate whether: 1) co-amplification (an interpersonal pattern of amplified emotional oscillations) contributes to partners sharing unhealthy behaviors (SUB) to promote relational quality, which 2) contributes to higher BMIs, which 3) contributes to emotional co-amplification as the couple copes with being overweight. In our prior work we found evidence for paths 2 and 3. Women in couples with higher SUB had higher BMIs, especially if the relationship was of higher quality, and couples in which the woman had higher BMI showed co-amplification when discussing health behaviors. In a new study with 74 couples we focus on the first path. SUB were rated from videotapes of couples' conversations and continuous emotional experience was self-reported using a rating dial while reviewing the video. Co-amplification was assessed with a coupled-oscillator model of emotional experience and accounted for 15% of the variance in SUB, with partner's amplification predicting higher unhealthy behavior ($b = 0.89$, $t(65) = 3.09$, $p = .003$). Together these results suggest that interpersonal emotional dynamics play an important role in maintaining a healthy weight.

Funding: This project was supported by the Heart, Lung, and Blood Institute (grant 1R21HL109746-01A1).

POSTER A-20

THE RELATION BETWEEN MIND-WANDERING, BRAIN FUNCTIONAL CONNECTIVITY, AND NEGATIVE AFFECT IN ADOLESCENTS: AN ECOLOGICAL MOMENTARY ASSESSMENT STUDY

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Descriptors: Mind Wandering, Functional Connectivity, Ecological Momentary Assessment

Ecological momentary assessment (EMA) research indicates that thinking about something other than one's current activity (i.e., mind-wandering) predicts lower mood in healthy adults (Killingsworth & Gilbert, 2010). Research has yet to examine the role of mind-wandering within adolescents experiencing higher levels of low mood. The present study used EMA to investigate the affective correlates and consequences of mind-wandering in adolescents with low mood (LM) and examined the association between mind-wandering and resting state functional connectivity. Fifty-five adolescents ages 12-18 years (33 HC and 22 LM) completed a resting state fMRI scan and subsequently downloaded a smartphone EMA app (2-3 surveys/day for 1 week). The frequency of mind-wandering was higher in LM participants (69.3% of EMA samples) relative to HC (59.8%) participants ($F(1,54)=5.87$, $p=.02$). LM participants were more likely to mind-wander to unpleasant (39.2%), relative to pleasant or neutral content, whereas HC participants were more likely to mind-wander to pleasant content (49.2%). Importantly, participants reported higher negative affect ($F(1,380)=10.23$, $p<.01$) and lower positive affect ($F(1,380)=3.68$, $p=.05$) when mind-wandering than when not. Greater levels of mind-wandering to unpleasant content were associated with decreased connectivity in brain networks related to attentional control (height threshold $p<.005$; FWE, $p<.05$). Daily smartphone-delivered EMA surveys allow for a fine-grained and ecologically valid assessment of the temporal relationship between cognition and affect in real time.

Funding: NIMH K23 Career Development Award (1K23MH108752-01) and Brain and Behavior Research Foundation

POSTER A-21

AGING BODIES, AGING EMOTIONS: INTEROCEPTIVE DIFFERENCES IN EMOTION REPRESENTATIONS AND SELF-REPORT ACROSS ADULTHOOD

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Descriptors: Aging, Emotion Knowledge, Interoception

Bodily sensations are closely linked to emotional experiences. However, most work assessing the body-emotion link focuses on young adult samples. Inspired by prior work documenting age-related declines in autonomic responding and interoception (e.g., Khalsa et al., 2009), we present two studies investigating age-related differences in the extent to which adults (18-75 years) associate interoceptive or internal bodily sensations with emotions. Study 1 ($N=150$) used a property association task to assess age differences in adults' tendency to associate interoceptive sensations (relative to behaviors or situations) with emotion categories (e.g., anger, sadness). Study 2 ($N=200$) used experience sampling to assess age differences in adults' tendency to report interoceptive sensations and emotional experiences in daily life. Consistent with prior literature suggesting that older adults have more muted physiological responses and interoceptive abilities than younger adults, we found using multilevel modeling that older adults' cognitive representations (Study 1) and self-reported experiences (Study 2) of emotion are less associated with interoceptive sensations than are those of younger adults (betas = $-.27$ to $-.12$, $ps<.05$ to $<.0001$). Across both studies, age effects were most prominent for high arousal emotions (e.g., anger, fear) and high arousal interoceptive sensations (e.g., racing heart). These findings are consistent with a "maturational dualism" account of emotional aging (Mendes, 2010), suggesting mechanisms by which emotions may change across the age-span.

POSTER A-22

NOSTALGIA CONDUCE TO HIGHER SELF-CONTINUITY THROUGH IDENTITY STABILITY AND NARRATIVE

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Descriptors: nostalgia, self and identity, self-continuity

Nostalgia, a sentimental longing for one's past, is a self-conscious emotion that is positively associated with self-continuity, a sense of connection between one's past and present selves (Sedikides et al., 2016). Here, we investigate mechanisms that underlie this association. People may achieve self-continuity by believing in an essence of self that is resistant to change (stable) and by constructing a narrative to give meaning to life transitions (Chandler et al., 2003). Identity stability and narrative may accompany frequent nostalgic engagement (Stephan et al., 2012). As such, three studies (N = 746) examined whether nostalgia is positively related to stable and narrative identities, which in turn are linked to self-continuity. Participants reported their nostalgic proneness and the extent to which they perceive their self as continuous, stable, and narrative. Results demonstrated that the relation between nostalgic proneness and self-continuity was mediated by identity stability, $b = .13$, $SE = .06$, 95% CI = [.03, .26], and identity narrative, $b = .08$, $SE = .04$, 95% CI = [.03, .18]. These mediational links remained significant after controlling for rumination. Study 3 further showed that nostalgia fosters self-continuity during life transitions, particularly through identity stability, suggesting that changes motivate people to search for cues signaling their continuity. Our study elucidates the unique characteristics of nostalgia that are functional for self-continuity maintenance via essentialist and narrative solutions.

POSTER A-23

COGNITIVE EFFORTFUL DISENGAGEMENT IN PATIENTS WITH SCHIZOPHRENIA

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Descriptors: effort, motivation, psychosis

Schizophrenia is associated with impaired cognition and also with amotivation and abnormalities in effort expenditure. It remains unclear whether reduced effort is responsible for any of the observed cognitive deficit, as we do not generally assess continuous effort during testing. In the current study, we use a novel paradigm to test whether disengagement of effort is greater during cognitive performance in individuals with first episode psychosis (FEP; $n = 32$) compared with healthy community members ($n = 27$). Our task, the Cognitive Effort and DisEngagement (CEDE), allows any trial to be skipped without penalty. No additional monetary incentives were used. Skips were used as an index of effort disengagement. FEP patients had lower overall accuracy on the task ($p = .006$), but they also made significantly more skips ($p = .011$). When only examining trials with attempted answers, FEP patients still had reduced accuracy, but it did not reach significance ($p = .137$), and the effect size was reduced by 65%. Groups did not differ significantly in number of incorrect responses ($p = .391$). Self-reported amotivation significantly predicted skips among individuals with FEP ($B = .57$, $p = .014$). Disengagement of effort is likely to account for a portion of cognitive test performance among individuals with psychosis. This calls into question the degree to which observed performance deficits in FEP are caused by true reductions in ability. This is an optimistic possibility, as effort is a more pliable phenomenon and may be more easily augmented with intervention than cognitive ability.

POSTER A-24

THE POSITIVE AND NEGATIVE AFFECTIVE MOVIE SET (PANAMS)

Frederiks, Kevin—Boston College; Kark, Sarah M—Boston College; Kensinger, Elizabeth A—Boston College

Descriptors: arousal, valence, video stimuli

Videos can induce strong and dynamic emotional responses in the laboratory setting, making their use ideal for complex questions about emotion and memory. Yet many stimuli sets do not contain a sufficient number of videos needed for the number of analysis trials required for reliable measures of memory or event-related psychophysiological or neural responses. We have created a database of 12- and 17-second versions of 185 video clips (65 negative, 60 neutral, 60 positive). The 12-second versions are particularly suitable for typical TRs used in fMRI. Here, we present young adult ratings ($n=44$) of valence, arousal, impact, and visual complexity of each of the videos. The results showed that negative and positive videos were more arousing, of greater absolute valence, and had a more intensive impact than the neutral videos ($ps < 0.001$). Overall, negative videos were the most visually complex ($ps < 0.001$), while positive and neutral videos were similarly complex ($p=0.4$). Hierarchical cluster analysis identified 5 distinct clusters of videos reflecting high and low arousal negative and positive videos and the neutral videos. Results suggest the type of rating scale used (verbal, non-verbal) influences the emotion ratings for positive videos ($ps < 0.005$). Preliminary data from a separate set of participants ($n=18$) showed sustained heart rate deceleration responses were strongest for the negative videos, followed by the positive and then neutral videos ($ps < 0.001$). The current stimulus set will be useful across of a number of settings in affective science research.

POSTER A-25

CAN RESTING-PHYSIOLOGY PREDICT STRESS-PHYSIOLOGY?

Garcia, Sandry M—Boston College; Kark, Sarah—Boston College; Frederiks, Kevin—Boston College; Kensinger, Elizabeth A—Boston College

Descriptors: Psychophysiology, Stress, Sex-differences

The present study examined whether it is possible to predict someone's stress response using their resting physiological markers of autonomic nervous system (ANS, i.e. skin conductance and heart rate) and hypothalamic-pituitary-adrenal axis (HPA, i.e. cortisol) activity. 65 subjects (32 assigned to stress condition) completed a resting-physiology session and returned to the laboratory a week later for the Trier-Social-Stress-Test (TSST), which has been used extensively to study stress responses in laboratory settings. Cortisol was measured before and after TSST, and ANS activity was measured during TSST. We aimed to replicate the effects of TSST on physiology, to test whether resting physiology predicts stress-related physiology, and to explore if sex influenced physiological reactivity or the relation between resting physiology and stress-related physiology. TSST increased cortisol ($p < 0.001$) and heart rate ($p < 0.001$) in the stress group, compared to controls. While evidence of a relationship between resting and stress physiology was limited, results showed a positive trend between skin conductance responses during stress and the magnitude of the resulting cortisol response ($p=0.07$). Our findings suggest that physiological activation at rest might not bear a significant influence on stress mounted in response to the TSST, but that ANS and HPA activity is perhaps coordinated around the time of a stressor, and that sex is an important factor in examining the effects of stress. A shorter delay between resting and stress physiology may better predict future stress-reactivity.

Funding: This research was supported by the National Science Foundation (Grant BCS 1539361) and the National Institute on Mental Health (NRSA F31).

POSTER A-26

COULD SOME EFFECTS OF EMOTION ON COGNITION BE DRIVEN BY VISUAL FEATURES RATHER THAN SEMANTIC CONTENT? FOUR CASE STUDIES USING THE IAPS IMAGES

Raila, Hannah—Yale University, Stanford University; Scholl, Brian J—Yale University

Descriptors: IAPS, vision, attention

Emotion is often studied by our field using emotional photos. By far the most common set is the International Affective Picture Set (IAPS). In hundreds of studies, these images have been used to draw links between emotion and cognition, and such links are assumed to depend on the images' meanings. This is a natural assumption, because the images' semantic content is so salient, while the visual features they may share (e.g., colors, contrasts, visual segmentation) are less obvious. Here, we show that this assumption can be false: in fact, previously discovered emotion/cognition connections can be obtained even when people are unable to discern any meaning at all in such images. We demonstrate this using four disparate case studies in which we use phase-scrambled IAPS images – which preserve low-level visual properties while eliminating recognizable semantic content – and replicate effects previously obtained with intact IAPS images. Effects from these case studies ($n = 170$ total) range various processes, from visual attention (e.g., people selectively view scrambled negative vs. neutral scenes, $p < .001$, $t = 4.00$) to priming (e.g., scrambled negative scenes prime negative subsequent judgments, $p = .011$, $t = 2.70$). Thus, valenced image categories (e.g., happy vs. unhappy scenes) have systematically different visual properties that can bias findings. We discuss the possible prevalence of such confounds in the literature at large, and we provide both a general method by which they can be tested in future studies as well as a novel set of phase-scrambled control images to do so.

POSTER A-27

STRESS AND EMOTION RECOGNITION INTERPLAY: PRELIMINARY RESULTS OF A COLLEGE SAMPLE

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Descriptors: Emotion Recognition, Chronic Stress, Perceived Stress

We investigated the relation between psychosocial stress and emotion recognition (ER). 89 college students without any psychiatric diagnosis volunteered for the study. To evaluate ER, we used Emotion Recognition (ER-40) task as a behavioral measure of ER of other people and Toronto Alexithymia Inventory (TAI) as self-report scale. To capture the stress typology of participants, Childhood Trauma Questionnaire (CTQ), Life Event Checklist (LEC), Perceived Stress Scale (PSS), and Chronic Stress Scale (CSS) were used. CSS scores were correlated negatively with ER-40 total correct responses ($pc: -0.25$, $p = 0.025$), ER-fear recognition ($pc: -0.24$, $p = 0.02$), however other stress measurements had no correlation with ER-40 scores ($p > 0.5$). All stress measurements correlated positively with TAI scores, except for LEC (CSS: $pc: 0.51$, $p < 0.001$, CTQ: $pc: 0.31$, $p = 0.003$, PSS: $pc: 0.41$, $p < 0.001$). We conducted linear regression analyses to predict scores in TAI from stress scales, separately. Independent of CTQ and PSS scores, we found that TAI is predicted by scores in CSS ($p = 0.008$), only, when corrected for all stress measurements, Beck depression scores, age and gender. As a novel contribution, our data suggests that ER is significantly affected by the number of experienced chronic stressful events, independent of perceived stress. Larger sample is needed to validate our findings. Consequences of this finding in social relations and psychiatric symptoms, in addition, neurobiological underpinnings can be assessed with prospective studies.

POSTER A-28

EMOTION DYSREGULATION: EFFECTS ON LONG-TERM PEER VICTIMIZATION, INTERNALIZING AND EXTERNALIZING PROBLEMS IN ADOLESCENCE

Ioannou, Myria—University of Cyprus; Charalampous, Kyriakos—University of Cyprus; Stavrinides, Panayiotis—University of Cyprus; Georgiou, Stelios—University of Cyprus

Descriptors: emotion dysregulation, long-term victimization

Long-term victimization can have tremendous consequences for psychopathology in adolescence and later life, and the investigation of the parameters that constitute someone a long-term victim of school bullying or a victim at risk for the development of mental health problems, is highly important but largely unknown (Kunst & Van Wilsem, 2013). The present study investigates the reciprocal relationship between emotion dysregulation, long-term victimization and development of internalizing and externalizing problems. Using a cross-lagged design with three time-points (every 4 months), we assessed a sample of 540 adolescents aged 15-18 years old from Cyprus on the Strengths and Difficulties Questionnaire, the Cognitive Emotion Regulation Questionnaire and the Revised Olweus Bullying Victimization Questionnaire. Structural equation modeling showed a reciprocal effect between all variables and a well-fitting model, with $\chi^2(620) = 718.729$, $p < .001$, CFI = .973, TLI = .948, RMSEA = .046 (.044, .049). The main effect was from victimization, to emotion dysregulation with emphasis on high use of self-blame, rumination and catastrophizing. Emotion dysregulation had a direct and additive effect on emotional difficulties, hyperactivity, conduct and peer problems, which further increased the likelihood for long-term victimization ($R^2 = .697$). This work implicates the need for victims to receive emotion regulation skills training, with an emphasis on cognitive reappraisal and guilt-processing, shortly after their first incident of victimization, in order to prevent long-term victimization.

POSTER A-29

SIGNS OF PSYCHOSIS RISK: THIN SLICES OF ALTERED EMOTIONAL BEHAVIOR IN YOUTH AT CLINICAL HIGH RISK FOR PSYCHOSIS

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Descriptors: emotional behavior, clinical high-risk youth, schizophrenia

Alterations in emotional behavior are key features of psychosis and may already be present prior to the onset of psychosis. In this study, 42 youth at clinical high-risk (CHR) for psychosis and 42 control youth aged 12-21 underwent video-recorded clinical interviews. Two trained raters (both licensed in the Facial Action Coding System) coded the first minute of video-recorded clinical interviews on a second-by-second basis using the Expressive Behavior Coding System for 10 different emotional behaviors (i.e., anger, contempt, confusion, disgust, fear, happiness, sadness, embarrassment, interest, surprise) with 20% overlap (ICC = .90). Findings revealed that, compared to control youth, CHR youth exhibited lower frequency ($p = .001$) and intensity ($p = .038$) levels of joy expressions, mirroring deficits later found in psychosis. Moreover, compared to control youth, CHR youth exhibited increased frequency ($p = .002$) and intensity ($p = .002$) levels of interest expressions, suggest that not all emotional behaviors are blunted in CHR youth and perhaps indicating interest in getting help in the context of these clinical interviews. The present findings show that (1) emotional alterations in CHR youth can be detected using thin slices of emotional behavior during the first minute of a clinical interview, (2) there is promise for the ability for human coders to pick up on subtle alterations in emotional behavior in CHR youth, and (3) these alterations occur prior to the onset of psychosis.

POSTER A-30

CARDIOMETABOLIC RISK AS MEDIATOR BETWEEN POSITIVE AFFECT AND MEMORY FUNCTIONING

Levin, Jason A—Northwestern University; Hittner, Emily F—Northwestern University; Stephens, Jacquelyn E—Northwestern University; Haase, Claudia M—Northwestern University

Descriptors: Cardiometabolic Risk, Positive Affect, Memory Functioning

Positive affect has been shown to predict better memory functioning, but biological mediators have remained understudied. Drawing from a US national sample of middle-aged and older adults ($N = 571$), the present study examined cardiometabolic risk as a mediator of the relationship between positive affect and memory. Positive affect was measured using an abbreviated version of the Positive and Negative Affect Schedule (i.e., asking how often in the past 30 days participants felt enthusiastic, active, proud, and attentive; $\alpha = .85$). Memory was measured using an immediate and a delayed recall test. Cardiometabolic risk was measured using a composite score (following established procedures; Boehm et al., 2016) of systolic blood pressure, diastolic blood pressure, triglycerides, high-density lipoprotein cholesterol, low-density lipoprotein cholesterol, glycosylated hemoglobin, waist circumference, and C-reactive protein. Mediation analyses revealed that cardiometabolic risk mediated the relationship between positive affect and memory ($\beta = .0133$, $SE = .0077$, 95% $CI = [.0017, .0317]$). Results remained robust when controlling for age, gender, race, and negative affect. Interestingly, mediation effects did not emerge for any individual indices of cardiometabolic risk ($ps > .05$) but only when analyzing the composite cardiometabolic risk score. These results contribute to our understanding of the link between positive affect and memory by showing that this link may be driven by dysregulation across multiple biological pathways.

POSTER A-31

A HIERARCHICAL VALUE-BASED DECISION-MAKING MODEL OF ADDICTION

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Descriptors: substance use disorders, learning and decision-making, computational psychiatry

Substance use disorders (SUDs) are the most prevalent and costly psychiatric conditions, with craving, withdrawal, and distress as central affective features. Several computational models have been proposed for SUDs, yet few incorporate all of the stages and symptoms that characterize SUDs. For example, computational learning and decision-making models of addiction focused on how drug use alters future drug-taking decisions, while Bayesian models outlined the effects of prior expectations on the representation of drug-related bodily states. Building on and integrating features of prior models, we propose a computational model using a value-based decision-making (VBDM) framework, grounded in neurobiology, based on evidence suggesting that drug-taking decisions are sensitive to multiple forms of costs. Ideally, this framework can model stages of SUD development, whereby the initial decision to take drugs can be understood in the context of interacting brain systems (e.g., craving, control), and the computation of priors. SUDs might then develop from a series of subsequent decisions, which affects the weights between model components, leading to future drug-taking decisions. This idea is consistent with models showing that drug use leads to increased valuation of drug cues and actions and decisions to use despite negative consequences. This model further incorporates goal-directed cognition in the PFC, and enhanced incentive salience to drug cues, which characterizes craving states, and contributes to impaired executive control in addiction.

POSTER A-32

NEURAL EVIDENCE OF PRIOR INFORMATION REGARDING THREAT AND ITS PROBABILITY FACILITATING SUBSEQUENT DETECTION OF THREATENING STIMULI

Jin, Jingwen—Stony Brook University; Szekely, Akos—Stony Brook University; Luhmann, Christian—Stony Brook University; Mohanty, Aprajita—Stony Brook University

Descriptors: fear, top-down, decision making

We frequently use prior knowledge in a top-down manner to anticipate and detect threats. However, most research has attributed fast detection of threats to bottom-up processing. Here we examined the neural mechanisms by which prior knowledge regarding threat and its probability facilitates threat detection. In a perceptual decision making task, prestimulus cues encouraged participants to use a “fearful face” or a “neutral face” set to discriminate between degraded fearful and neutral faces. Cues also provided information regarding the likelihood (25%/50%/75%) of encountering the target face. Neural activity was measured using functional magnetic resonance imaging (fMRI) in regions implicated in attention, threat, and visual sensory processing, while 16 participants performed the task. Results showed that prior to arrival of stimuli, threat cues increased activity in dorsolateral prefrontal cortex important for maintaining cue-related priorities in working memory and sensory areas indicating increased baseline activity (FEW-corrected at .05). Upon stimulus presentation threat cues increased activity in amygdala, occipital and temporal face processing areas and activity in amygdala tracked the faster detection of fearful faces following threat cues ($z=18$, $p<.05$). Furthermore, threat cues produced more differentiated patterns for fearful versus neutral faces in a visual area. In a literature focused on automatic processing of threats, our results emphasize the neural mechanisms by which prior knowledge regarding threat enhances perceptual decision making regarding threats.

POSTER A-33

EXPLORING MECHANISMS OF MOTIVATION: POSITIVE AFFECT, ANHEDONIA, AND EFFORT-BASED DECISION MAKING

Mow, Jessica L—Boston University; Fulford, Daniel—Boston University

Descriptors: Anhedonia, Motivation, Effort

Anhedonia is associated with diminished motivation, including impairments in effort-based decision-making. The extent to which momentary ratings of affect influence decisions to exert effort for reward remains unknown. In the present study, we explored the roles of positive affect (PA) and anhedonia on effort-based decision-making. 58 undergraduate students (mean age = 24) completed the Mood and Anxiety Symptom Questionnaire (MASQ) and an effort discounting task, in which they chose to either do nothing for \$1 or rapidly press a computer key for varying amounts of monetary reward. Trials varied by amount of effort required (20-100%) and reward value (\$1-\$5.73). Subjects also provided momentary ratings of PA (0-100 visual analog scale) throughout the task. Multilevel models revealed that, as expected, subjects were more likely to exert effort as reward increased and effort required decreased. In addition, PA during the task was a significant predictor of choices to exert effort ($b = 0.03$, $SE = 0.01$, $p < 0.05$). PA also moderated the impact of reward ($b = 0.02$, $SE = 0.01$, $p < 0.01$), but not effort required ($b = -0.06$, $SE = 0.04$, $p = 0.22$), on effort decisions; that is, higher PA was associated with a stronger relationship between reward value and choosing effortful options. Anhedonia, however, did not moderate this relationship ($b = 0.38$, $SE = 0.21$, $p = 0.07$), suggesting a stronger influence of PA than overall anhedonia on effort discounting. Future analyses will explore the impact of changes in PA on trial-by-trial effort discounting.

POSTER A-34

HOW DO FEAR STATES ACQUIRE AN ADVANTAGE RECOGNIZING OBJECTS? EXPLORING INTERACTIONS BETWEEN EMOTION AND VISUAL PROCESSES

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Descriptors: Emotion, Object Recognition

It is a well-known that fear facilitates rapid object identification. This has been explained by visual “short-cuts” supported by bottom-up visual processes, which operate via the ventral visual stream. However, recent work suggests top-down networks bias early perception and attention, indicating a role of alternative visual pathways that contribute top-down information to object recognition. The dorsal visual stream allows for such contribution, consisting of neurons that quickly process low spatial frequencies (SF) and send information to later stages of the ventral stream via the prefrontal cortex. If fear states enhance processing of low SF, this would suggest fear co-opts the dorsal stream to facilitate object recognition with top-down information. Thus, two studies examined if fear states enhance object recognition for objects presented in low SF. A within-subjects mixed block-event Emotion by SF (Low, High, Broad) design was used to investigate how emotions affect identification of common objects. It was predicted that fear states compared to neutral (Exp. 1; N=57), and disgust states (Exp. 2; N=50), would increase accuracy and decrease reaction time of categorization of the obfuscated objects. Critically, results revealed a significant effect of SF by emotion on accuracy ($p=.038$) in Exp. 1. For Exp. 2, the results did not reveal a significant difference in SF by emotion, but patterns matched predictions (fear highest marginal mean for low SF). These results provide preliminary evidence that fear states may co-opt speedy dorsal stream, facilitating image analysis.

POSTER A-36

STATUS-ALIGNMENT EFFECTS ON PHYSIOLOGICAL LINKAGE IN STUDENT-TUTOR INTERACTIONS

Dumitru, Oana D—New York University; Thorson, Katherine R—New York University; West, Tessa V—New York University

Descriptors: Physiological linkage, Social status

Social scientists have long been concerned with the ways in which social status affects individuals’ feelings, behaviors, and actions. In the present study, we investigated how two kinds of social status, namely contextual role and socioeconomic status (SES), interact to influence physiological linkage between students and tutors of varying SES. In sixty dyadic interactions, we measured students’ and tutors’ sympathetic nervous system reactivity throughout a thirty-minute tutoring session. We found “status-alignment” effects, whereby students were physiologically linked to tutors who were high in SES, but not to those who were low in SES. In contrast, tutors were linked to students who were low in SES, but not to those who were high in SES. These findings indicate that the match between status as defined by participants’ role in the interaction (tutor as high-status and student as low-status) and participants’ socioeconomic status, is associated with stronger physiological linkage from the interaction partner. We discuss behavioral correlates of these findings and implications for the study of physiological linkage in interpersonal interactions.

POSTER A-37

ASSOCIATION OF POSITIVE, NEGATIVE, AND DISORGANIZED SCHIZOTYPY DIMENSIONS WITH AFFECTIVE SYMPTOMS AND EXPERIENCES

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Descriptors: schizotypy, affect, depression

Schizotypy offers a useful construct for investigating the etiology, development, and expression of schizophrenia-spectrum psychopathology, as well as the comorbid expression of mood and anxiety disorders across the schizophrenia spectrum. The present study examined the associations of positive, negative, and disorganized schizotypy with affective symptoms and experiences in a sample of MTurk workers and college students ($n = 575$). Participants completed the Multidimensional Schizotypy Scale (MSS) and measures of depression, anxiety, social phobia, hypomanic traits, and state affect. As expected, positive schizotypy was significantly associated with hypomanic traits, whereas negative schizotypy was associated with reduced positive affect and reduced hypomanic traits. Although prior research has emphasized the association of positive schizotypy with depression and anxiety, the current results demonstrate that disorganized schizotypy is more strongly associated with elevated negative affect (over-and-above positive schizotypy). As such, these findings highlight the importance of examining disorganization of affect, in addition to the cognitive-behavioral deficits traditionally associated with disorganized schizotypy. Finally, the MSS and MSS-Brief demonstrated closely comparable findings. The present results provide further support for the construct validity of the MSS and the three-factor model of schizotypy.

POSTER A-38

EMBODIED EMOTIONS: METAPHORS FOR TRAUMATIC EXPERIENCES

Krulis, Lauren J—The New School; Fidelman, Jacqueline—Yeshiva University; Lee, Kellie Ann—The New School; D’Andrea, Wendy—The New School

Descriptors: Trauma, Body, Emotions

The prevalence of unexplained somatic symptoms presents a systemic problem within the healthcare system, which research into the mind/body continuum may help explain. It’s been established that emotions are intricately connected to physiological systems, however it is still unclear whether discrete emotions are tied to sensations topographically. The current study explores the interaction between verbal and nonverbal representations of stressful life experiences, particularly those that relate to childhood trauma, and its effects on one’s conceptualization of bodily experiences. Connecting bodily sensations to psychosocial and emotional factors can provide further insight into ways in which stressful life experiences are communicated within the body. In this study 74 community dwelling participants completed online self-report questionnaires and a body-mapping task. The study found a significant relationship between degree of childhood trauma exposure and degree of emotional metaphor use, $r(72)= 0.28, p=0.02$, degree of childhood trauma exposure and density of bodily representations, $r(72)= 0.36, p=0.01$. These results suggest that those with experiences of childhood trauma may use emotional metaphors and nonverbal representations to integrate stressful life experiences into a cohesive narrative; in other words, broadening the individual’s experience to encompass psychosomatic factors may enhance and support the individual’s experience of trauma within their self-narrative.

POSTER A-39

EMOTIONAL AWARENESS AND EMOTION REGULATION STRATEGY SELECTION

Landa, Isidro—Washington University in St. Louis; English, Tammy—Washington University in St. Louis

Descriptors: emotional awareness, emotion regulation, engagement

Emotional awareness is associated with more effective emotion regulation (ER). One way in which awareness can facilitate ER success is by optimizing strategy selection. We predicted that people with greater emotional awareness would be especially likely to use ER that facilitate engagement with emotions (e.g., positive reappraisal, acceptance, savoring) rather than disengagement strategies (e.g., distraction, suppression, distancing reappraisal). In a within-person design, using a diverse community sample ($N = 150$), we examined trait- and state-level emotional awareness as predictors of ER strategy use while watching emotion-eliciting film clips (disgust, sadness, or amusement). Results indicate that awareness most reliably predicted greater acceptance. Trait awareness marginally correlated with acceptance during the disgust clip ($r = .16$, $p = .093$) and with acceptance during the sad clip ($r = .18$, $p = .045$). Similarly, state awareness was correlated with acceptance during the disgust clip ($r = .24$, $p = .007$) and the sad clip ($r = .28$, $p = .001$). State awareness was also linked to greater positive reappraisal during the sad clip ($r = .18$, $p = .044$) and more savoring during the amusement clip ($r = .43$, $p < .001$). On the other hand, awareness was uncorrelated with the use of disengagement strategies, regardless of whether they are putatively adaptive (e.g., distancing reappraisal). These findings suggest that an engagement framework may be useful for understanding how emotional awareness impacts ER.

POSTER A-40

EFFECTS OF ROMANTIC LOVE ON EARLY AND LATE ATTENTION: AN EVENT-RELATED POTENTIALS STUDY

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Descriptors: Love, Attention, ERP

It is widely known that emotional stimuli are given attentional priority over less salient stimuli. Likewise, love-related stimuli are highly emotional and the effects of romantic love on cognition may resemble the effects of emotion on cognition. Thus, the current event-related potential (ERP) study examined whether beloved-related stimuli capture early and late attention during the early stages of love (i.e. infatuation). This study focused on the Early Posterior Negativity (EPN) that reflects early automatic attention and the Late Positive Potential (LPP) that reflects later motivated attention. It was predicted that faces of the beloved will elicit a larger EPN and LPP than faces of a friend or a stranger. Nineteen participants who had been in love for less than a year were asked to perform computer tasks in which they passively viewed the faces of their beloved, a friend, and a stranger while having their electroencephalogram recorded. Both the EPN and LPP were larger in response to the face of the beloved than to the faces of the friend or stranger (all $p < .015$). There were no significant differences in ERP responses between friend and stranger pictures (both $p > .23$), indicating that the larger EPN and LPP to pictures of the beloved were not due to familiarity. These findings suggest that the beloved captures early automatic attention and later motivated attention.

POSTER A-41

RELATIONAL MOBILITY AND THE EXPRESSION OF EMOTIONS: A CROSS-CULTURAL INVESTIGATION

Razavi, Pooya—Univer; Sugawara, Daichi—University of Tsukuba; Lin, Pingping—Kobe University; Tee, Eugene—YJ, HELP University; Lieber, Sara—University of Oregon; Razavi, Peivand—California State University, Northridge; Srivastava, Sanjay—University of Oregon; Saucier, Gerard—University of Oregon

Descriptors: Relational Mobility, Expressivity, Measurement

Research on the relationship between culture and emotional expressivity is often focused on constructs related to the self (e.g., independent self-construal) and a limited range of emotions. We extend these findings by investigating a socio-ecological cultural dimension called Relational Mobility (RM: the extent to which interpersonal relationships in a society are voluntary (High RM) vs. fixed (Low RM)) and its relationship with the expression of 6 emotions. In stage 1, based on 960 emotion narratives collected from participants from 4 countries, a scenario-based inventory was developed to measure participants' experience, expression and expressive variability across different situations for 6 emotions. In stage 2, this inventory was tested in 5 countries (China, Japan, Iran, Malaysia, US; $n > 200$, per country) along with different cultural measures. Results indicated within-culture positive relationships between RM and expression of happiness and pride ($r_s > .21$), and negative relationships with anger and sadness ($r_s < -.10$). Furthermore, there was a positive relationship between RM and variability in expressing emotions ($r_s > .15$) except for happiness ($r = -.10$). Mediation analyses revealed that cross-cultural differences in the expression of some emotions (e.g., pride) was partially mediated by differences in RM. These results are consistent with the idea that members of high RM cultures express emotions to increase their value in relationships, while those in low RM cultures focus on suppressing emotions that can lead to their rejection from their current network.

POSTER A-42

THE INFLUENCE OF UNCONTROLLED EATING ON RESPONSE INHIBITION FOR FOOD

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Descriptors: uncontrolled eating, response inhibition

Overeating contributes to the rising obesity levels and is a core symptom of binge eating disorder. Consequences associated with binge eating and obesity highlight the importance of understanding what factors contribute to uncontrolled eating. Previous research has shown that satiation influences the rewarding value and incentive salience of food, but that individual differences modulate such effects, possibly contributing to differences in eating behaviour. Most research has focused on weight status, but we investigated if differences in uncontrolled eating modulated satiation effects on response inhibition for food. Healthy individuals with low ($n = 18$) and high ($n = 23$) levels of uncontrolled eating performed a go-nogo inhibition task under inter-meal hunger conditions and after consumption of a high-caloric snack. We examined changes in commission errors as a reflection of changes in response inhibition for nogo stimuli. Food craving decreased after snack consumption in the low group, but this effect was stronger in the high group. We also showed an increase in blood glucose levels after consumption in both groups. However, we found no effects of satiation or uncontrolled eating on response inhibition. We only observed a significant effect of stimulus type, $t(119) = -3.96$, probability $< .001$, suggesting that individuals found it easier to inhibit responses to food than non-food items. Our findings show that in healthy individuals, snack consumption had no effect on response inhibition nor did differences in uncontrolled eating modulate such a satiation effect.

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POSTER A-43

INCOME PREDICTS MINORITY CHILDREN'S LEARNING OF EDUCATIONAL DETAILS BUT NOT GIST INFORMATION AFTER A NEGATIVE EMOTIONAL EXPERIENCE

Parsafar, Parisa—The University of California, Riverside; Ream, Robert K—The University of California, Riverside; Davis, Elizabeth L—The University of California, Riverside

Descriptors: race, income, learning

Income distribution across the U.S. is stratified by race/ethnicity, contributing to devastating gaps in school readiness and educational achievement outcomes. Findings from recent work suggest racial-income based discrepancies in math and reading achievement are largely explained by the everyday emotionally challenging environments in which minority children develop and learn. The goal of this study was to investigate these differences by testing educational learning outcomes within a broader negative emotional learning context. 175 White, under-represented minority-status children (Black and Hispanic), and multi-racial children experienced an emotional challenge –watched a brief, negative emotional film clip. After, they were asked to pay careful attention to an educational film and told they would be asked questions about it later. Children's memory for central, gist and detailed information from the educational film was later tested via cued recall. Using hierarchical linear regression models, we examined children's memory for central, gist and detailed information from the educational film as separate dependent variables. The greatest area where income played a divergent role in the learning outcomes of minority and majority race children was in memory for detailed educational information, $B = .226$, $t = 2.395$, $p = .019$, 95% CI [.038, .414]. This suggests non-cognitive emotion regulation skills may have critical influences on children's depth of learning, an important avenue for future research. Policy addressing children's emotional needs might reduce education gaps.

POSTER A-44

THE PLEASURE OF FAIRNESS? EXPLORING THE MOTIVATIONS OF FAIR BEHAVIOR USING THE DICTATOR AND ULTIMATUM TASKS

McCue, Matthew J—University of North Carolina at Charlotte; Levens, Sara M—University of North Carolina at Charlotte

Descriptors: Fairness, Pleasure, Economic decision making

Fairness is a central tenant of society, but individuals can vary greatly in their motivation to be fair. Some people may be fair because it gives them pleasure, while others may act fairly, not because it gives them pleasure, but because they feel socially obligated to do so (Mellers, Haselhuhn, Tetlock, Silva, & Isen, 2010). In social situations it is possible that other factors such as punishment sensitivity and inhibitory control may contribute to fairness motivations. To explore this, 198 participants completed a battery of questionnaires including the BIS/BAS scale and computerized versions of the Dictator and Ultimatum tasks in which they rated how pleasurable each choice option was for themselves and their partner. Pleasure ratings were correlated with absolute fairness to create a fairness-pleasure value. A task (Dictator, Ultimatum) by perspective (Self, Partner) repeated measure ANOVA was conducted on fairness-pleasure values with BIS scores entered as a continuous independent variable. Results reveal a significant Task by BIS interaction, $F(1,179) = 7.542$, $p < .01$. Follow up correlation analysis reveal that greater punishment sensitivity and inhibitory control is associated with a greater link between pleasure and fairness in the Ultimatum task ($r(194) = .2$, $p < .01$), but not the Dictator task. This pattern of findings suggests that individuals sensitive to negative consequences may re-frame fair behavior as pleasurable in socially accountable situations, because it may be socially desirable to do so, not because they find acting fairly inherently pleasurable.

POSTER A-45

THE RELATIONSHIP BETWEEN EMOTION AND EVERYDAY SOCIAL EXPERIENCES IN PEOPLE WITH AND WITHOUT SCHIZOPHRENIA: AN ECOLOGICAL MOMENTARY ASSESSMENT STUDY

Mote, Jasmine—Boston University; Gard, David—San Francisco State University; Fulford, Daniel—Boston University

Descriptors: schizophrenia, ecological momentary assessment, social interactions

People with schizophrenia (SZ) report social difficulties and reduced social pleasure on clinical measures, but few studies have examined the relationship between emotion and social experiences in daily life in this group. Adults with SZ ($n=20$) and without SZ ($n=15$) completed an ecological momentary assessment (EMA) study for 7 days, answering questions 3 times/day through a mobile app. During each signal, participants reported how many social interactions they had experienced since the last signal, whether they were currently with anyone, how well they knew those they were with, and their current emotion experience. We were interested in whether people with and without SZ differed in a) emotion experienced during social interactions, and b) the relationship between social context and happiness. People with and without SZ did not differ in the mean number of interactions or the extent that they felt happy when they were with others ($p's > .05$). Number of previous social interactions significantly predicted current happiness in those without SZ ($\beta = .27$, $p = .001$), but not in those with SZ ($\beta = .02$, $p > .05$). Trend associations suggested that people with SZ reported feeling less happy ($\beta = -.25$, $p = .09$), and people without SZ reported feeling more happy ($\beta = .26$, $p = .09$), when they were with people they knew well. These findings suggest that our understanding of social pleasure in SZ is likely not as straightforward as previously thought, as frequency and quality of social experiences may be related to pleasure differently in people with SZ compared to those without.

POSTER A-46

EUROPEAN CHURCHES AND CHINESE TEMPLES AS AFFECTIVE, THEATRICAL SPACES

Pizzato, Mark—University of North Carolina at Charlotte

Descriptors: performance studies, architecture, aesthetics

How are the affective networks of our brain's "inner theatre" shaped differently by Eastern and Western cultures, through the evolutionary drives of competition and cooperation? This talk draws on experiments by psychologist Richard Nisbett and neuroscientist Iain McGilchrist showing Westerners as more individualistic, analytical, and linear-thinking (left-cortical focused) with East Asians as more holistic, relational, and cyclical-thinking (right-cortical oriented). I develop a theoretical (inner theatre) model for these different cultural expressions, regarding potential emotions reflected in or evoked by European (Catholic and Protestant) churches and Chinese (Daoist and Buddhist) temples. My research in visiting 200 churches and 80 temples explores how affects such as awe, pride, security, fairness, nostalgia, humor, fear, rivalry, anger, grief, hope, trust, care, and joy become expressed—in different historical traditions—through architectures, artworks, and rituals with vertical/horizontal, rectilinear/round, focused/dispersed, closed/open, abstract/lifelike, and serious/playful designs. As a species, we evolved beyond instinctual patterns of behavior, but we are still fueled by affective drives, with cultures around the globe transforming our criteria for survival and reproduction. This project theorizes how the neural networks of our brain's inner theatre are shaped differently by Eastern and Western cultures—synthesizing research from the affective sciences, arts, and humanities.

Funding: North Carolina

POSTER A-47

SEXUAL OBJECTIFICATION AND BINGE EATING: THE ROLE OF NEGATIVE AFFECT

Bailen, Natasha H—Washington University in St. Louis; Koval, Peter—University of Melbourne; Holland, Elise—University of Melbourne; Haslam, Nick—University of Melbourne; Thompson, Renee J—Washington University in St. Louis

Descriptors: negative affect, emotion regulation, experience sampling

Binge eating is theorized to serve an emotion regulatory (ER) function, such that individuals binge in an attempt to decrease negative affect (NA). This is supported by research showing increased NA prior to binges. Given the prevalence and negative health implications of bingeing, it is important to determine when people binge as an ER strategy. Sexual objectification (sexualized gazing, touching, and appearance evaluations) could be one contributing factor, as objectification is associated with disordered eating. We examined whether momentary experiences of objectification were associated with bingeing, and whether bingeing successfully functioned to decrease NA. To this aim, 187 women (ages 18-40) from Melbourne, Australia and St. Louis, US participated in this experience sampling (ESM) study. For five days, participants reported momentary NA and occurrence of binges, objectifying events, and other stressors. Using multi-level modeling, we found that objectification was related to increases in binge likelihood, even after accounting for other stressors. Inconsistent with our hypothesis, however, we found that binges were associated with increases in NA. It may be that bingeing was a successful short-term strategy, but that the time frame we assessed was too long, obscuring any reductions in NA. Future experimental research could examine NA in shorter time increments to more precisely track its post-binge trajectory. These findings underscore the deleterious consequences of sexual objectification.

POSTER A-48

BELIEFS ABOUT THE EMOTIONAL EXPERIENCES OF THE RICH AND POOR

Cheek, Nathan N—Princeton University; Shafir, Eldar—Princeton University

Descriptors: Poverty, Bias, Emotion

How do people think about the emotional experiences of the rich and poor? We present a series of survey experiments (N = 1653) revealing that people show a “thick skin” bias such that they believe that the poor are less upset in the same situations as middle-class and wealthy people. Participants thought negative events ranging from mild (e.g., getting caught in the rain) to severe (e.g., being arrested after being falsely accused of a crime) would be less emotionally distressing for individuals from lower socioeconomic backgrounds, even though many of these events would be objectively worse for those with fewer material resources. In contrast to a simple dehumanization perspective, however, people also thought the poor would experience stronger, rather than weaker, positive emotions, suggesting that people believe that the hardship experienced by the poor toughens them against negative events while magnifying the pleasure found in even minor situations (e.g., sleeping in an extra hour). We further find that two professional populations—teachers and social workers—also show this bias. We propose that lay beliefs that the poor are simultaneously less upset when things go wrong and easier to please underlie a wide range of disparities in physical and mental health contexts, educational contexts, and legal contexts. This bias also has profound implications for the civility of everyday interpersonal interactions, and informs both theoretical understanding of the perception of others’ emotions and applied efforts to understand and reduce inequalities across many domains of life.

Funding: This research was supported by the National Science Foundation.

POSTER A-49

INNATE TURTLE FEAR? MONKEYS’ AFFECTIVE REACTIVITY TO LIVE ANIMALS IS INCONSISTENT WITH COMMON EVOLUTIONARY HYPOTHESES

Santistevan, Anthony C—University of California, Davis; Moadab, Gilda—University of California, Davis; Bliss-Moreau, Eliza—University of California, Davis

Descriptors: Rhesus monkey, Evolution, Affective reactivity

It has long been argued that it is evolutionarily beneficial to have robust affective reactions to potential dangers. An extension of this idea is that some stimuli are so threatening that they are innately linked to a robust behavioral response that, in humans, is experienced as fear. In primates, this class of stimuli is thought to include spiders and snakes—animals which are innocuous in some cases and lethal in others. If an aversion to such stimuli is innate and specific, we would expect that animals would be more reactive in the presence of novel stimuli which confer the most potential danger. We evaluated the behavior of rhesus monkeys to test the hypothesis that “potentially-dangerous” live animal stimuli (a tarantula and two species of snakes) would lead to a larger affective response compared to “non-dangerous” live animal stimuli (turtle, fish, crickets, gecko, and toad) or an empty fish tank (as a control condition). Monkeys responded to all animals, as evidenced by higher rates of affective behaviors in their presence compared to the empty tank (both $p < 0.05$). Contrary to prevailing hypotheses, the rate with which animals generated affect-related behaviors did not differ significantly between “potentially-dangerous” and “non-dangerous” stimuli (rate ratio = 1.05, 95% CI [0.82, 1.31], $p = 0.89$). Monkeys were equally reactive to the two snakes as they were to the turtle ($p > 0.05$). These data call into question whether rhesus monkeys’ reactivity reflects a reaction on the basis of innate threat of a stimulus, or may be based on another property such as novelty.

Funding: UC Davis Faculty Startup

POSTER A-50

AFFECT VARIABILITY WITHIN RISKY CHOICE FRAMING

Young, Nathaniel A—DePaul University; Mikels, Joseph A—DePaul University

Descriptors: Affect variability, Risk taking, Framing

In the framing effect, greater risks are taken if a choice is framed as a loss compared to an equivalent gain. Research indicates that greater mean negative affect toward the loss frame explains the difference in risk taking between frames. However, mean affect does not reflect variability in affect from decision to decision. The present work explored affect variability as a predictor of risk taking in risky choice framing. 32 participants completed 64 total framed choice trials (32 gain, 32 loss). For each trial, participants were endowed with an initial sum of money (e.g. \$40). The option on the left was framed as either a certain loss or equivalent gain (e.g. Lose \$20; Keep \$20). The option on the right was a gamble to keep or lose the entire endowment. For each trial, participants rated their feelings toward both the sure (How do you feel about the option on the left?) and gamble option (How do you feel about the option on the right?) on a scale of -3 (very negative) to +3 (very positive). Affect variability was determined by calculating the standard deviation for each choice option in both the gain and loss frames. Results show that participants gambled more in loss frames than gain frames. A moderated mediation analysis indicated that affect variability in the loss frame explained the framing effect (Indirect Effect=.068, 95%CI: .015, .13, $p=.012$). This work suggests that affect variability plays an integral role in risk taking. Importantly, variability may be especially crucial when a choice option involves a loss rather than a gain.

POSTER A-51

THE ROLE OF COGNITIVE EFFORT IN REGULATORY DECISION MAKING

Franz, Peter J—Harvard University; Kleiman, Evan M—Harvard University; Nock, Matthew K—Harvard University

Descriptors: emotion regulation, cognitive effort, decision-making

Researchers and clinicians have long hoped to understand why individuals often choose emotional avoidance instead of other more adaptive emotion regulation strategies, such as cognitive reappraisal, which is shown to be associated with better mental health outcomes. One reason for this could be that avoidance requires less cognitive effort in order to achieve emotional relief. In the present study, we wanted to test whether the value of relief decreases as the amount of effort required to achieve it increases. We designed a computer-based task in which participants make decisions about their willingness to invest cognitive effort in order to achieve relief from an aversive noise. Across 18 trials, adult participants were given the choice to perform either a low-effort cognitive task to achieve a noise reduction or a high-effort cognitive task to achieve a larger noise reduction. We used mixed-effects binary logistic regression to model participant choices. Preliminary results ($n=39$) suggest that participants were more likely to choose the low relief option as the difference in effort between options increased ($OR=0.31$, $CI=0.23-0.42$, $p<.001$). Further, participants were more likely to choose the high relief option as the difference in relief between options increased ($OR=1.02$, $CI=1.01-1.03$, $p<.001$). Our results demonstrate that this task may be an effective tool in understanding regulatory decision-making. We are currently collecting additional data to understand whether aversion to cognitive effort motivates individuals to choose avoidance as a regulation strategy.

POSTER A-52

“WHAT WAS, IS WHAT WILL BE”? AUTOBIOGRAPHICAL MEMORY AND PREDICTION OF FUTURE EVENTS IN DEPRESSION

Gadassi-Polack, Reuma—Yale University; Tran, Tanya B—Brown University; Joormann, Jutta—Yale University

Descriptors: depression, autobiographical memory, future thinking

The present study is the first to examine the association between biases in memory and future prediction in Major Depressive Disorder (MDD). 32 MDDs and 32 controls completed a cued-recall task. Participants rated memories for frequency occurrence to self and others and likelihood of events recurring, and listed social events planned for the next week along with likelihood of participation and enjoyment. A group X valence X self vs. others interaction emerged for frequency ($F[1,62]=65.76$, $p<.001$). For controls, negative events' frequency was higher for others ($t[31]=6.81$, $p<.001$); for MDDs it was higher for self ($t[31]=1.94$, $p=.06$), and positive events' frequency was higher for others ($t[31]=7.56$, $p<.001$). Only controls anticipated positive (vs. negative) events as more likely to recur ($t[31]=9.05$, $p<.001$). For both groups, future likelihood of positive events was predicted from frequency of these events happening to self ($F[3, 60]=16.74$, $p<.001$, $R^2=.46$). For MDDs, future likelihood of negative events was predicted from frequency of negative events happening to self ($F[2, 29]=14.10$, $p<.001$, $R^2=.49$); controls also relied on frequency of events occurring to others ($F[2, 29]=10.64$, $p<.001$, $R^2=.42$). Higher expected recurrence of positive events and lower expected recurrence of negative events predicted higher expected likelihood of participation ($F[2,50]=4.36$, $p<.05$, $R^2=.14$) and enjoyment ($F[2,53]=9.63$, $p<.001$, $R^2=.27$) from upcoming social events. These results suggest that memory in MDD is associated with negative future expectations, which may affect mood and motivation.

POSTER A-53

A LONGITUDINAL NETWORK ANALYSIS OF COGNITIVE AND EMOTIONAL VULNERABILITY FACTORS IN ADOLESCENCE

Parsons, Sam—University of Oxford; Booth, Charlotte—University of Oxford; Songco, Annabel—University of Oxford; Fox, Elaine—University of Oxford

Descriptors: network analysis, adolescence, emotional vulnerability

In the current study we used a longitudinal network analysis approach to examine the development of anxiety and depression in an adolescent cohort. Secondary school students ($n = 407$) participated in three waves of testing (approximately at ages 13, 14.5, and 16) offering a valuable opportunity to investigate the interrelations amongst individual vulnerability factors. We were interested in the interconnectivity of emotional vulnerability factors including rumination and worry, as well as vulnerability-linked cognitive bias factors. The focal point of this study poster will be the hypothesis-generation afforded by this data-driven exploratory approach. The network approach offers an informative way to visualise and investigate the connectivity amongst vulnerability factors and the relation to anxiety and depression outcomes, both; within each wave, and longitudinally over adolescent development.

Funding: Choose One

POSTER A-54

LOVE AND EMOTION REGULATION AFTER A ROMANTIC BREAK-UP

Horner, Scarlett B—University of Missouri, St. Louis; Langeslag, Sandra J.E.—University of Missouri, St. Louis

Descriptors: Emotion Regulation, Love Regulation, Late Positive Potential

Romantic break-ups can cause sadness, depression, and physical symptoms. This study compared two methods of alleviating heartbreak: negative emotion down-regulation and love down-regulation. We expected that emotion regulation would make people feel more positive than love regulation but that love regulation would make people feel less in love than emotion regulation. We also expected that love regulation would reduce motivated attention for the ex-partner as measured by the late positive potential (LPP) and upsetness about the break-up more than emotion regulation. Twenty-one participants (12 female) who were upset about a break-up viewed ex-partner pictures in three conditions: emotion regulation, love regulation, and passive viewing. In the emotion regulation condition, participants were prompted to think of positive aspects of being single. In the love regulation condition, participants were prompted to think of negative aspects of their ex-partner. After each prompt, participants viewed the ex-partner picture and the LPP was measured. Participants also rated infatuation, attachment, valence, and upsetness about the break-up. There were no differences between conditions for attachment, infatuation, valence, or upsetness about break-up. The LPP was smaller in both regulation conditions than in the passive viewing condition ($ps < .023$), but did not differ between emotion and love regulation ($p = .635$). Because emotion and love regulation showed a decrease in motivated attention, both strategies could be used to get over a break-up.

Funding: UM Research Board

POSTER A-55

EMOTION REGULATION IN DAILY LIFE: A LIFE-SPAN APPROACH

Krueger, Sydney M—Columbia University; Bolger, Niall—Columbia University; Ochsner, Kevin N—Columbia University

Descriptors: Emotion Regulation, Aging, Ecological Momentary Assessment

Over the adult life-span, there is a self-reported shift in daily life emotions towards feeling less negative and more positive. Socioemotional Selectivity Theory posits that age-related shifts in affect may be attributed to shifts in motivational goals (i.e. older adults prioritize situations that are more emotionally meaningful over others). Drawing on the emotion regulation literature, we hypothesized that variance in emotion regulation behavior between older and younger adults would explain why aging is associated with this “rosy glow.” We collected daily life measures (using phone-based Ecological Momentary Assessment) from 42 younger and 45 older adults over 7-days. At each time point, participants were asked about 1) their current emotions, 2) a recent emotion event and 3) if they regulated those events. Using multi-level linear models, we found older adults report lower ratings for anxiety, loneliness, guilt and excitement ($p < 0.05$). Using a multi-level logistic regression, we found older adults do not report regulating negative events more or less often than younger adults. The only strategy where we saw an age-related difference was distraction, for which older adults report using less frequently ($p = 0.05$). These results suggest that, while age-related differences in self-reported emotions in daily life are consistent in our dataset, these differences may not be related to emotion regulation behavior.

POSTER A-56

IS SOCIAL NETWORK SITE USAGE RELATED TO DEPRESSION? A META-ANALYSIS OF FACEBOOK-DEPRESSION RELATIONS

Yoon, Sunkyung—University of South Florida; Kleinman, Mary—University of South Florida; Mertz, Jessica—University of South Florida; Brannick, Michael—University of South Florida

Descriptors: depression, social networking site, Facebook

Facebook depression is defined as feeling depressed upon too much exposure to Social Networking Sites (SNS). Researchers have argued that upward social comparisons made on SNS are the key to Facebook depression. To examine the relations between SNS usage and depression, we conducted 4 separate meta-analyses relating depression to: 1) time spent on SNS, 2) SNS checking frequency, 3) general social comparisons on SNS and 4) upward social comparisons on SNS. We compared the four mean effect sizes in terms of magnitude. Our literature search yielded 31 articles with a total sample size of 15,189 for time spent on SNS, 12 articles with a sample of 8,041 for SNS checking frequency, 5 articles with a sample of 1,715 and 2,298 for the general and the upward social comparison analyses, respectively. In both SNS-usage analyses, greater time spent on SNS and frequency of checking SNS were associated with higher levels of depression with a small effect size ($r = .11$, $z = 7.62$, $p < .001$ for time spent; $r = .10$, $z = 3.06$, $p = .002$ for checking frequency). Further, higher depression was associated with greater general social comparisons on SNS with a small to medium effect ($r = .23$, $z = 4.04$, $p < .001$), and greater upward social comparisons on SNS with a medium effect ($r = .33$, $z = 4.98$, $p < .001$). Upward social comparisons on SNS were more strongly related to depression than were SNS-usage variables. Our results are consistent with the notion of ‘Facebook depression’ and also with the theoretical importance of upward social comparison as an explanation.

POSTER A-57

ALTERATIONS IN FACIAL EXPRESSIONS IN YOUTH AT CLINICAL HIGH-RISK FOR PSYCHOSIS

Gupta, Tina—Northwestern University; Haase, Claudia M—Northwestern University; Strauss, Gregory P—University of Georgia; Cohen, Alex S—Louisiana State University; Mittal, Vijay A—Northwestern University

Descriptors: psychopathology, facial expressions, automated coding

Alterations in facial expressions are features of a number of psychopathologies, including psychotic disorders. Identifying alterations in facial expressions during the period immediately preceding the onset of psychosis has significant relevance for elucidating pathogenic processes. The current study sought to determine the nature of alterations in facial expressions among youth at clinical high-risk (CHR) for developing psychosis using a comprehensive approach, incorporating clinical interview ratings and automated facial coding analysis. A total of 42 CHR and 42 control youth completed video-recorded clinical interviews and segments were submitted into a computerized tool to assess for seven basic facial expressions (e.g., joy). Relationships between facial expressivity and social functioning and psychosis conversion risk scores were examined. Findings from clinical interview ratings indicated that the CHR group exhibited blunting in facial expressions ($p = .05$). Automated analysis (providing the ability to look at specific expressions) revealed the CHR youth showed more blunting in joy expressions ($p = .003$) but increased anger facial expressions ($p = .008$). Lastly, blunted joy expressions among CHR youth were related to decreased social functioning ($p = .02$) and increased psychosis conversion risk calculator scores ($p = .02$), signaling heightened likelihood of conversion to psychosis. These findings show that alterations in facial expressions occur early in the pathogenesis of psychosis and may be an early behavioral marker of psychopathology.

POSTER A-58

THE IAT CONGRUENCY EFFECT DIFFERS BETWEEN AFFECTIVE AND NON-AFFECTIVE CONTENT: AN ERP EXPERIMENT

Berger, Uri—Yale University; Anaki, David—Bar Ilan University

Descriptors: IAT, ERP, N400

The implicit association test (IAT) is considered an important measure in social psychology. It was designed to detect automatic associations between mental representations of concepts, frequently in conjunction with affect-related categories (i.e., good or bad). The IAT detects associations by measuring the difference in response times to congruent and incongruent associations. With the ever-growing use of the IAT, it becomes crucial to examine whether it reflects associations between conceptual categories or whether it could also reflect affective categories. The present study compared between a cognitive IAT (animate and size categories) and an affective IAT (group-affiliation and disgust categories) using event-related potentials (ERP). The findings revealed a congruency effect in posterior locations (N400) followed by a late positive potential (LPP) component in anterior locations. Affect processing was evident in LPP in both occipital-parietal and central-frontal locations. Furthermore, an interaction of task and congruency was observed only in frontal locations and only for the N400. Specifically, in frontal locations, an N400 congruency effect was obtained only for the affective IAT. These results undermine the notion that despite the inability to discern behaviorally affective and cognitive associations in the IAT, neural evidence shows that the IAT could represent both types of representations.

POSTER A-59**MECHANISMS UNDERLYING HEALTHY FOOD CHOICE FOLLOWING BRIEF COGNITIVE TRAINING**

Sun, Wendy—Yale University; Khalvati, Kathryn—Yale University; Kober, Hedy—Yale University

Descriptors: food choice, craving, obesity

Choosing unhealthy foods over healthy foods is a major contributor to obesity, a pressing public health concern. We have shown that brief training in cognitive strategies (Regulation of Craving Training; ROC-T) improves food choices and decreases eating. However, the mechanisms underlying this promising intervention remain elusive. Participants (N=50; data collection ongoing) were randomized into 3 conditions: POSITIVE ROC-T (training to think about the positive benefits of eating healthy foods), NEGATIVE ROC-T (training to think about the negative consequences of eating unhealthy foods), or CONTROL (no training). They underwent fMRI and completed 1) a Food Choice Task, where they chose between healthy and unhealthy foods, 2) ROC-T/CONTROL, and 3) a second Food Choice Task. Before and after fMRI, participants rated the food on health and taste. Preliminary analyses show that after ROC-T, participants in the POSITIVE condition rated healthy foods as more healthy ($t(15)=2.15, p=.05$), and exhibited greater ventral striatum activity when they chose healthy foods over unhealthy foods. Those in the NEGATIVE condition rated unhealthy foods as less tasty ($t(12)=2.64, p=.02$), and exhibited less ventromedial prefrontal cortex activity. In addition, compared with the CONTROL condition, participants in the NEGATIVE condition exhibited less activity in the ventrolateral prefrontal cortex after ROC-T. The findings provide insight into how ROC-T improves food choices, and suggest that ROC-T alters food valuation. This has important theoretical, clinical, and public health implications.

POSTER A-60**COMPARING APPRAISAL STYLE ACROSS US AND CHINESE COLLEGE SAMPLES**

Qian, Weiqiang—Vanderbilt; Smith, Craig A—Vanderbilt University

Descriptors: Appraisal style, Cross-cultural comparison, Item response theory

Dispositional differences in making appraisals across situations have not been widely studied. However, the Appraisal Style Questionnaire (ASQ), which aggregates appraisals along the 7 appraisal component dimensions defined by Smith and Lazarus (1990) across 12 hypothetical situations, has demonstrated promising reliability and validity. In the present study we use the ASQ to compare appraisal styles cross-culturally using samples of Chinese (N=187) and American (N=212) college students. Comparisons of sample means across appraisals show strong evidence for group differences on relevance, future expectancy, problem-focused coping potential, and accommodative focused coping-potential (all $t \geq 3.698$, all $df=397$, all $p < .001$, all $d \geq .371$), with Americans scoring higher on each of the appraisal dimensions. For self-accountability, other-accountability, and congruence appraisals, the two samples do not reliably differ (all $t \leq 2.298$, all $df=397$, all $p \geq .022$, all $d \leq .231$). A multidimensional item response theory analysis indicates the ASQ functions similarly in the two samples, with the confidence bands of item discrimination parameter estimates overlapping across most or all of the 12 situations for each of the 7 appraisal dimensions. This bolsters the validity of using the ASQ to assess appraisal style differences across cultures.

POSTER A-61**MOTIVATIONS TO EXPERIENCE HAPPINESS OR SADNESS IN DEPRESSION: STABILITY OVER TIME AND CLINICAL IMPLICATIONS DURING STRESS**

Millgram, Yael—The Hebrew University of Jerusalem; Joormann, Jutta—Yale University; Huppert, Jonathan—The Hebrew University of Jerusalem; Lampert, Avital—The Hebrew University of Jerusalem; Tamir, Maya—The Hebrew University of Jerusalem

Descriptors: Emotion Regulation, Depression, Happiness

Research on difficulties with emotion regulation in depression devoted considerable attention to which emotion regulation strategies depressed individuals use and how effectively they use them. We propose that emotion regulation difficulties in depression may be linked not only to emotion regulation strategies but also to the motivation to experience certain emotions. We assessed the degree of motivation to experience happiness or sadness in major depressive disorder inside and outside the laboratory and over time, and their prospective links to clinical outcomes. Depressed individuals (N = 52) were consistently less motivated to experience happiness and more motivated to experience sadness than non-depressed individuals were (N = 50), $t_s > 2.49, p < 0.015$. The less motivated participants were to experience happiness, the less they tried to upregulate happiness in an emotion regulation task, $r(102) = 0.28, p = 0.004$, and the less they tried to downregulate negative emotions during real life stress, $r(97) = 0.33, p = 0.001$. Importantly, the less motivated depressed participants were to experience happiness, the more clinical symptoms they exhibited months later during a stressful period of time in their lives (i.e., exams), even after controlling for initial levels of symptoms, $\beta = -0.407, SE = 0.07, t = -2.38, p = 0.022$. These findings demonstrate, for the first time, that individual differences in the degree of motivation to experience happiness in depression may carry important clinical implications.

Funding: This research was funded by the Israel Science Foundation (grant #934/15).

POSTER A-62**THE IMPACT OF INCIDENTAL EMOTION ON CAUSAL ATTRIBUTION**

Han, Linfeng—Tsinghua University; Liu, Shiyu—Tsinghua University; Xu, Guangzheng—Tsinghua University; Hu, Chenhao—Tsinghua University; Sun, Pei—Tsinghua University

Descriptors: incidental emotion, causal attribution, appraisal

Causal attribution refers to the inference on who is mainly responsible for the event phrased in a causal dependent clause (e.g., Joe praised Tom because...). In the current study, we examined the impact of incidental emotions on individuals' causal attribution. Video clips were used to elicit anger (group 1, N = 26) and happiness (group 2, N = 30). Participants performed fast keyboard press to intuitively decide who caused the events in various situations described in causal dependent clauses constructed of: subject + verb + object + because + reason (e.g., Tony [subject] blamed [verb] Sam [object] because A. Tony is too harsh / B. Sam did a bad job). In group 1, repeated measures ANOVA revealed a significant interaction between verb property (positive, e.g., admire; negative, e.g., criticize) and induced affect (anger, neutral), $F(1,25) = 7.423, p = .012, ES$ (partial eta-squared) = .229. With negative verbs, participants tended to perceive the subject as responsible under the emotion of anger compared with neutral condition ($F(1,25) = 10.191, p = .004, ES = .290$). In group 2, repeated measures ANOVA revealed a marginally significant interaction between verb property and induced affect, $F(1,29) = 4.085, p = .053, ES = .123$. With positive verbs, participants tended to perceive the object as responsible under the emotion of happiness compared with neutral condition ($F(1,29) = 4.026, p = .054, ES = .122$). Our results provide the first evidence that incidental emotions can modulate individuals' causal attribution, which might be interpreted by the appraisal theories of emotions.

Funding: This project is supported by Tsinghua University Initiative Scientific Research Program.

POSTER A-63

MOTIVATIONAL EFFECTS ON ITEM AND SOURCE MEMORY ENCODING DURING COGNITIVE CONTROL PERFORMANCE

Alves, Lyneé A—University of Denver; Chiew, Kimberly S—University of Denver

Descriptors: Reward, Memory, Cognitive Control

Incentives enhance both cognitive control and memory encoding, but little is known about how these processes interact. This study tested incentive effects on memory for stimulus features that were either inhibited or incidental (neither attended to nor inhibited) during a cognitive control task (face-word Stroop). Participants (N=30) underwent two testing sessions 24 hours apart. In Session 1, participants completed a Stroop paradigm (gender judgments) using multidimensional stimuli with task-relevant information (gendered faces), task-irrelevant information to inhibit (superimposed text), and incidental information (colored border). The task was incentivized using monetary rewards. In Session 2, participants completed a recognition test. Participants completed an old/new item memory judgment on face stimuli; faces identified as old were subject to a second, 4-choice source memory judgment for both inhibited (label) and incidental (border) information encountered at encoding. Stroop reaction times were faster for reward trials than non-reward trials ($p < .001$), and interference costs decreased under incentive ($p = .008$), showing enhancement of cognitive control by incentive. Reward did not enhance subsequent memory, although improved subsequent item memory was observed for conflict vs. non-conflict trial stimuli ($p = .052$). Our results show that while reward may modulate cognitive control, and control influences memory encoding, reward influences on control may not directly extend to subsequent memory performance. Effects using punishment incentives are being investigated.

Poster Session B

Friday, March 22, 2019

5:45 p.m.-7:00 p.m.

POSTER B-1

WITH A LITTLE HELP FROM MY FRIENDS: THE ROLE OF SOCIAL PROXIMITY IN EMOTION REGULATION

Morawetz, Carmen—Medical University Vienna; Bode, Stefan—The University of Melbourne

Descriptors: emotion, amygdala, fMRI

Background: In the past, cognitive neuroscience research on emotion regulation (ER) has mainly focused on intrapersonal aspects. However, in emotional situations individuals seek support from others to regulate their emotions. In this study, we used functional MRI to investigate the effect of social proximity on emotion regulation. Methods: 37 participants (31 female, age: $M = 22$ yrs) performed a standard ER task using reappraisal to down-regulate emotions in response to aversive pictures. We implemented two interpersonal ER conditions (reappraisal with the help of the best Friend or a Stranger), an intrapersonal ER condition (self-directed reappraisal) and a control condition (no reappraisal). Two task-phases were implemented: (1) Instruction phase to reappraise by using a sentence attributed to the other person, or by using an individual strategy; (2) Regulation phase during which an aversive stimulus was presented. This was followed by an emotional state rating. Participants completed 6 runs with 24 trials. Results: A main effect of ER condition was observed ($F(1,36) = 65.47$; $p < 0.001$). Participants felt significantly less negative during the Friend compared to Stranger condition ($t(36) = -4.98$; $p < 0.001$). This effect was associated with decreased amygdala activity in the Friend compared to the Stranger condition. Conclusions: Our findings suggest that ER ability is more effective with the help of a friend, as reflected in higher ER success and an attenuation of amygdala responses, emphasizing the importance of social proximity for emotion regulation.

Funding: This research was funded by DFG grant (MO-2041/2-1).

POSTER B-2

DAMPENING OF POSITIVE AFFECT PREDICTS SUBSTANCE USE

Peckham, Andrew D—McLean Hospital and Harvard Medical School; McHugh, R. Kathryn—McLean Hospital and Harvard Medical School; Kneeland, Elizabeth—McLean Hospital and Harvard Medical School; Björgvinsson, Thröstur—McLean Hospital and Harvard Medical School; Beard, Courtney—McLean Hospital and Harvard Medical School

Descriptors: Dampening, Substance use, Craving

Positive affect is linked to increased craving for substances of abuse, yet little is known about regulation of positive emotion in substance use disorders. Individuals vary in tendencies to either amplify or dampen (down-regulate) positive emotion. In theory, dampening could be used as an attempt to avoid affective states that precipitate substance use. This study tested if dampening contributes to substance use outcomes in a transdiagnostic sample. Participants ($N = 141$) were adults endorsing risky substance use on self-report measures, recruited from an acute psychiatric day treatment program that requires abstinence. Craving and dampening (assessed with the Responses to Positive Affect scale) were assessed at admission. At discharge, participants were asked to report whether they used substances during treatment. Using logistic regression to evaluate likelihood of substance use during treatment, craving and dampening did not predict use ($ps > .08$); however, there was a significant interaction between dampening and frequency of substance use in the previous month, $b = .75$, $SE = .26$, $OR = 2.11$, $p < .01$. Odds of relapse were higher among those with heavier pre-treatment use, but only at high levels of dampening, $b = 1.41$, $SE = .46$, $p < .01$. This study provides preliminary evidence that dampening increases risk for substance relapse among those with high levels of pre-treatment substance use. Given that dampening is also linked to maladaptive outcomes in other domains, results point to the need for interventions to enhance healthy regulation of positive affect.

POSTER B-3

NEGATIVE EMOTIONS IN RUSSIAN AND AMERICAN CHILDREN'S BOOKS

Leontyeva, Anna—Georgetown University; Chentsova-Dutton, Yulia—Georgetown University; Halberstadt, Amy—North Carolina State University; Adams, Anita—University of Kentucky; Polyakova, Anna—Georgetown University; Rinker, Diana—University of Massachusetts Medical School

Descriptors: culture, emotion, Russia

Russian cultural contexts are thought to foster negative emotions (e.g., sadness). As children's books are one source of cultural knowledge about emotions, we examined whether children's books from Russia and the US differ in emotions they portray by comparing: 1) sets of popular books from Russia and the US; and 2) parental descriptions of books they read to their children. In Study 1, popular Russian books for preschoolers portrayed more positive as well as more negative emotions than popular US books ($ns=40,40$). Russian books were also more complex than US books, with complexity mediating frequency of portrayed emotions. In Study 2, Russian, Russian American, and American parents ($ns=160,51,60$) listed the latest books they read to their children and rated intensity of emotions in these books. Russian parents reported the same levels of positive emotions and higher levels of negative emotions than American parents, with Russian Americans in-between. As parents from Russia may prefer sadness compared to US parents, we asked participants to evaluate book stimuli that either did or did not portray sadness; we found no evidence of this preference. The findings suggest Russian children are more likely to encounter portrayals of negative emotions in children's books than US children, an effect not driven by parental beliefs about sadness. Russian parents may choose books based on other factors (e.g., tradition) and inadvertently select for negative emotions. Future studies should examine the extent to which these cultural factors shape understanding of emotions by children.

POSTER B-4

NEGATIVE AFFECT AND DIETARY DECISION MAKING: TESTING A TWO-PATHWAY MODEL

Smith, Angela, M.—University of Toronto; O'Leary, Daniel—Stanford University; Gross, James—Stanford University

Descriptors: Negative affect, Decision-making, Dietary

Maladaptive eating patterns, such as over-consumption of tasty and comforting foods or under-consumption of healthy foods, are highly intractable behaviors motivated by a wide range of underlying factors. In the present research, we examined the role of one motivational factor, negative affect. We proposed a two-pathway model by which negative affect fuels maladaptive eating: the taste pathway increases consumption of tasty, high energy-density food as a means of reducing affect. The health pathway decreases consumption of healthy, low energy-density food due to impaired top-down, self-regulatory control. In two studies, we administered a dietary decision-making task (total $N=99$; 60 women) assessing whether negative affect would increase the effect of taste on dietary decisions while decreasing the effect of health. Findings provided support for both pathways, such that negative affect increased the effect of taste while decreasing the effect of health during negative affect trials. In Study 1, the effect was stronger for the taste pathway ($b=3.79$, $SE=0.39$, $p<0.001$); while in Study 2, the effect was stronger for the health pathway ($b=1.49$, $SE=0.03$, $p<0.001$). We suggest that our two-pathway model may be useful both in understanding the psychological mechanisms motivating maladaptive eating behavior and in guiding interventions to change unhealthy patterns of eating.

Funding: Stanford University UAR Major Grant

POSTER B-5

GROUNDING ADULT EMOTIONAL VOICES TO MOTHERESE AND FEELINGS

Lim, Angelica—Simon Fraser University (Kyoto University)

Descriptors: developmental robotics, infant-directed speech, grounding

How might we create associations between emotional sounds and corresponding feelings? In this work, we collected motherese-like vocal data by asking 6 English-speaking participants to perform infant-directed speech to a small, interactive robot, resulting in 510 utterances. The robot entrained physically and vocally to the participant voices while training a 4-class Gaussian Mixture Model representing the dynamic distribution of the sounds. The participants recreated four motherese scenarios as described by Fernald: praise, comfort, prohibition and attention. We then classified acted adult voice data of happiness, sadness, anger and fear from the Berlin emotional speech database against the model trained with motherese. We found that dynamics collected through the motherese scenarios were closest as follows: happy voices were most correlated with praise speech (54%), sad voices were correlated most with comfort speech (55%), and fearful voices with attention speech (62%). Angry voices were confused between praise voices (47%) and prohibition (38%). The results suggest a developmental model where motherese may create the associations necessary to recognize adult emotional voices, as well as potentially feel their bodily associations, since praise motherese can co-occur with infants in a flourishing body state, and comfort voices with distressed body states. The underlying computational model of the developmental robot, including representations of the mirror system, insula and somatosensory cortex is discussed.

POSTER B-6

RELIABILITY OF INFANT HEART RATE MEASUREMENT USING SMARTPHONE PHOTOPLETHYSMOGRAPHY

Suga, Ayami—Unicharm Corporation, Nagoya University; Usui, Erika—Unicharm Corporation; So, Tatsuya—Unicharm Corporation; Uraguchi, Maki—Nagoya University; Ishikawa, Hiroki—Unicharm Corporation; Sasaki, Toru—Unicharm Corporation; Ohira, Hideki—Nagoya University

Descriptors: photoplethysmography, infant, heart rate

Recently, smartphone photoplethysmography (PPG) has enabled easy measurement of physiological indexes such as heart rate (pulse rate) and heart rate variability (HRV) in daily life. In adults, the accuracy of smartphone PPG has been found to be high. However, the accuracy verification of this method for infants is insufficient. In the present study, for a potential aim of examining mother-infant interaction by acquiring emotion and physiological data during daily life with the experience sampling method, we verified the reliability of pulse rate measured using smartphone PPG in infants. Twenty-three infants aged 2 to 54 months were included in this study. A small portable electrocardiography (ECG) device was attached to the chest of the infants to record heartbeat. The smartphone camera was placed on the fingertip or bottom of the thumb, and pulse rate was measured while the infants were sleeping. The 145 collected data showed a significant positive correlation between HR measured with the portable ECG device and pulse rate measured with smartphone PPG ($r=.81$, $p<.001$). The results suggest that the smartphone can be used for HR measurement in infants. Currently, we are collecting HR and HRV data from mothers and HR data from infants by using the experience sampling method with a smartphone to examine mother-infant interactions.

POSTER B-7

THE GRATEFUL DON'T CHEAT: GRATITUDE AS A FOUNT OF VIRTUE

Kates, Shanyu—Northeastern University; Duong, Fred—Northeastern University; DeSteno, David—Northeastern University

Descriptors: Gratitude, Cheating, Moral Virtue

Gratitude has been linked to behaviors involving the exchange of economic or social resources. However, given its emerging links to self-control, the possibility arises that gratitude might enhance other virtues unrelated to exchange that depend on an ability to resist temptation. Here, we investigated gratitude's ability to function as a "parent" virtue to reduce cheating. Participants ($n = 156$) were randomly assigned to either a gratitude, neutral, or happiness condition. Upon inducing the target emotions, we measured participants' willingness to cheat on an assignment procedure. Participants were instructed to use an "anonymous" computer randomizer to assign themselves either an easy or onerous task. They were told that whichever task they were not assigned to, the "next participant" would need to complete. However, in reality the randomizer was rigged to assign the hard task. Therefore, we measured cheating by whether participants intentionally assigned themselves the easy task. A Fisher-Freeman-Halton exact test confirmed that an association between emotion and cheating was highly probable ($p = .012$). Results indicated lower frequencies of cheating in the gratitude condition ($n = 1$), compared to neutral ($n = 7$) and happiness ($n = 10$) conditions. We then conducted mediational analyses which confirmed that both the direct and indirect effects of gratitude on behavior were significant. This demonstration of gratitude's influence on a moral decision unrelated to exchange speaks to the important role cultivating this emotion might play in shaping many types of moral action.

POSTER B-8

AN IDIOGRAPHIC APPROACH TO CLASSIFYING AND PREDICTING DISCRETE MOOD STATES PRIOR TO THERAPY

Bosley, Hannah G—University of California, Berkeley; Fisher, Aaron J—University of California, Berkeley

Descriptors: machine learning, psychopathology, prediction

If clinicians could make accurate time-forward predictions of individuals' mood states, they could deploy more effective, personalized interventions for mood and anxiety disorders. We present a novel approach to model and predict within-person mood fluctuations over time, using a combination of idiographic latent class analysis (LCA) and machine learning. 45 participants with mood and anxiety disorders completed surveys 4 times daily for 30 days; items measured positive/negative emotions + mood-relevant symptoms (e.g. worry, fatigue). We applied LCA to each participant's time-series to obtain discrete categories of mood states for each person. Each observation was classified by the mood state the person was in at that time. The modal number of classes was 2, ranging from 1-5; their content was idiosyncratic. We then identified predictors of presence of each mood state from a set of time variables (daily, twice-daily, and weekly sinusoids, day of the week, time of the day, and linear/curvilinear trends) using elastic net regularization, with a separate model for each dichotomous mood state. The final set of predictors of each mood state for each person were then re-run as predictors of presence of that mood state in logistic regression (97 models total). The predictive accuracy was assessed as area under the curve (AUC), where values of .50 represent predictions at chance and a value of 1 indicates perfect predictions. In our data, across 97 models, this approach yielded a mean AUC of .83 - indicating that we predicted mood with 83% accuracy from time variables alone.

POSTER B-9

PHYSIOLOGICAL AND SUBJECTIVE AROUSAL IN AGING

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Descriptors: aging, affect, superagers

Recent studies define a subset of older adults as "superagers" (SAs) characterized by memory performance statistically equivalent to younger adults (YAs). The mechanisms subserving this preserved memory function is not yet known, but previous work suggests that key salience network (SN) hubs modulate arousal-induced norepinephrine which facilitates encoding of and subsequent memory for salient, novel information. Consistent with this work, SAs have preserved SN connectivity (indistinguishable from YAs), as compared to typical older adults (TOAs) who show reduced connectivity. In SAs then, novel information may be more salient and thus associated with greater arousal compared to TOAs. To explore this, SAs ($n = 17$), TOAs ($n = 23$), and YAs ($n = 26$) viewed novel images while skin conductance response (SCR) was measured and gave arousal ratings post-stimulus. We predicted that SAs' arousal will resemble YAs but be greater than TOAs. A between-subjects ANOVA indicated that YAs ($M=7.17$, $SD=4.56$) showed greater SCR magnitudes than TOAs ($M=3.89$, $SD=3.79$, $p < .005$) while SAs fell in between ($M=5.17$, $SD =3.79$), but were not different from TOAs ($p < .34$) or YAs ($p < .11$). Both SAs ($M=3.43$, $SD=.19$) and TOAs showed greater subjective arousal ($M=3.41$, $SD =.25$, $p=.821$) than YAs did ($M=3.14$, $SD=.38$, $p's < .01$). Contrary to predictions, results suggest SAs may attenuate differences in physiological arousal to novel information. Ultimately, these findings contribute to a better understanding of the psychological factors that contribute to successful aging.

POSTER B-10

A GOOD SURPRISE: INTERPRETATIONS OF AMBIGUOUS EMOTIONAL EXPRESSIONS BECOME MORE POSITIVE FOLLOWING REAPPRAISAL BUT NOT SUPPRESSION

Brown, Catherine C—University of Nebraska, Lincoln; Neta, Maital—University of Nebraska, Lincoln

Descriptors: reappraisal, suppression, ambiguity

When presented without context, the expression of surprise can signal positive outcomes (e.g., a surprise party) or negative outcomes (e.g., witnessing an accident). Individuals differ in whether they rate surprise as positive or negative on average, a measure known as valence bias, and these ratings tend to remain stable even over a year. Despite these individual differences, negative interpretations are more automatic, as demonstrated through prior behavioral and neuroimaging studies. We propose that regulatory processes that override initial negativity (e.g., reappraisal) rather than merely inhibiting it (e.g., suppression) facilitate arriving at a positive interpretation of ambiguity. The present study investigated whether training in cognitive reappraisal (reinterpreting negative images to make them positive) would be more effective than training in expressive suppression (not letting emotions toward negative images show) in temporarily shifting interpretations of surprise to be more positive. Participants rated happy, angry, and surprised faces at baseline and one week later, after they practiced regulating their emotions toward negative images using either cognitive reappraisal ($n = 29$) or expressive suppression ($n = 29$). As predicted, more positive ratings of surprise followed cognitive reappraisal training ($p < .01$) but not expressive suppression training ($p = .88$). These findings support the theory that antecedent-focused regulatory cognitive processes, rather than response-focused inhibition, underlie positive interpretations of ambiguous social cues.

POSTER B-11

MOTIVATIONAL AMBIVALENCE IN RESPONSE TO TRAGIC EVENTS: THE CASE OF THE PARKLAND HIGH SCHOOL SHOOTINGS

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Swarthmore College

Descriptors: mixed emotions, empathy

In response to extreme emotional stimuli, such as a tragic event, individuals may exhibit a unique mix of positive, approach-oriented and negative, avoidance-oriented emotions. We argue, first, that individual differences in empathic concern and personal feelings of psychological “closeness” moderate these mixed emotional responses and how they change over time. Second, mixed emotions in response to tragic events may have consequences for our behavior, including whether we seek out or avoid additional information. In a large scale survey (N = 336) using mTurk and the Parkland High School shootings as an example, we demonstrate that participants reported high negative emotions, high positive emotions (i.e., sympathy/compassion and intrigue/curiosity), a mixture of the two, high subjective emotional conflict, and low neutrality (e.g., distance) in response to a tragic event. Both closeness and empathic concern moderated these effects, with individuals higher in closeness and those higher in empathy showing more extreme emotional responses. Emotional responses decreased over time (except for neutrality, which increased), and the rate of decrease was moderated by closeness, empathy, and their interaction. Finally, closeness (but not empathy) predicted an increase in information seeking behavior about the event. We argue that mixed emotions in response to tragic events may uniquely characterize the human experience, and may give rise to a state of motivational ambivalence in which both approach (e.g., curiosity) and avoidance (e.g., disgust) are co-activated.

POSTER B-12

PHYSIOLOGICAL AND SAD MOOD REACTIVITY TO SADNESS PREDICT FUTURE DEPRESSIVE SYMPTOMS

Bosma, Colin M.—University of Maine; Haigh, Emily A.P.—University of Maine

Descriptors: mood reactivity, psychophysiology, depression

Major Depressive Disorder represents a significant public health problem, as it is highly prevalent, tends to run a relapsing course, and is associated with notable economic burden (Buckman et al., 2018; Kessler et al., 2015). A better understanding of the mechanisms associated with relapse to depression is important for identifying treatment targets. Research has found mood reactivity (i.e., magnitude of change on self-reported sad mood following a negative mood induction) to predict time to depressive relapse (van Rijsbergen et al., 2013). Further, research has shown currently depressed individuals to experience decreased physiological reactivity to negatively-valenced stimuli compared to healthy controls (Bylsma et al., 2007). Currently, it is unclear whether mood and physiological reactivity in response to sadness impacts formerly depressed individuals' future depressive symptoms differently. This preliminary study evaluated the relationship between high frequency Heart Rate Variability (HF-HRV) and mood reactivity in response to a sad mood induction and follow-up depressive symptoms in formerly depressed individuals (N = 43; 13 formerly depressed, 30 controls). Results indicated decreased HF-HRV reactivity and greater negative mood reactivity to predict depressive symptoms at a 3-week follow up ($b = 0.22, p < .05, r^2 = .51$). Contrary to predictions, there was not significant difference between the formerly depressed and healthy control groups.

POSTER B-13

DO YOU KNOW HOW YOU REGULATE? THE MISMATCH BETWEEN SELF-REPORTED AND PHYSIOLOGICAL MEASURES OF EMOTION REGULATION

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Kraemer, David J.M.—Dartmouth College

Descriptors: emotion regulation, anxiety, psychophysiology

Many emotion regulation (ER) studies instruct individuals to regulate their emotions with specific strategies, but do not assess variability in how strategies are implemented. Spontaneous regulation research indicates that high-anxious individuals report suppressing more than reappraising. However, typical spontaneous regulation measures rely on self-report, which may not accurately reflect physiological processes. Here, we validate a physiological signature of ER and examine how it converges with self-reported ER tendency in low-anxious and high-anxious participants (LAP, HAP). Participants (N = 52) engaged in 3 ER conditions: spontaneous (SP), reappraise (RE) and suppress (SU) while viewing negative images. A non-linear mixed model confirmed that participants' facial electromyography signals differentiated ER condition, $R^2 = .264$. We computed a multivariate physiological profile of each participant to measure similarity across ER conditions. Self-reported reappraisal tendency predicts similarity between SP and RE, but only for HAP, $p < .0001$. Conversely, self-reported suppression tendency predicts similarity between SP and SU, but only for LAP, $p < .0001$. These results demonstrate a disparity between self-reported and physiological characterizations of ER and indicate variability in how individuals respond to ER instruction. Ongoing work aims to investigate how anxiety influences spontaneous and instructed ER in order to understand which measure—self-report or physiological—is accurate. Understanding this relationship has crucial implications for ER-based interventions.

POSTER B-14

ECOLOGICAL CONTROLLED INVESTIGATION OF FACIAL EXPRESSIONS IN RESPONSE TO FAILURE AND ACHIEVEMENT

Olteanu, Larisa—University of Haifa; Kron, Assaf—University of Haifa

Descriptors: facial expressions, valence

Facial changes are traditionally considered as a component of the affective reaction. However, recent studies that examined the real-life facial expressions call to reconsider the coherence and diagnosticity of the emotional facial behavior (e.g., Fernández-Dols & Crivelli, 2013). The current study examines the valence signature of facial behavior under an ecological, highly self-relevant and emotionally intense setting together with the advantages of a rigorously controlled experimental design. Forty participants learned their Israeli Psychometric Entrance Test (PET) score (equivalent of USA's SAT/ACT score - highly important for acceptance to university programs) for the first time during the experimental session. Participants were grouped into two categories (satisfied vs. unsatisfied with the final score) and their facial expressions were estimated by changes in two types of indexes: a “free-style” emotion recognition task (i.e., external raters categorized the facial reaction of the participants) and unit-specific evaluation (i.e., facial electromyography, automatic emotion recognition, and human coding of specific units). In addition, physiological and self-report measures were used to evaluate the participants' emotional state. The results showed significant facial changes between satisfied and neutral conditions (e.g., electromyography: $t(18) = -3.44, p = .002$), but not between unsatisfied and neutral conditions (e.g., electromyography: $t(20) = 0.67$). The coherence, diagnosticity, and stereotypical structure of real-life facial reaction to emotional stimuli are discussed.

Funding: University of Haifa

POSTER B-15

WHAT DO YOU WANT TO EAT? DIFFERENT REGULATORY STRATEGIES ARE IMPLEMENTED BY DISTINCT BRAIN REGIONS AND ALTER CHOICES THROUGH DISTINCT COMPUTATIONAL AND NEURAL ROUTES

Wilso, Daniel J—University of Toronto; Hutcherson, Cendri—University of Toronto

Descriptors: Cognitive regulation, Choice, Neuroimaging

How do people control what they eat? Although research shows that cognitive regulation can alter both choice and neural response to food in value- and control-related brain regions, results have been characterized by considerable inconsistency. Here, we tested the hypothesis that this heterogeneity may derive from differences in the regulatory strategies employed by subjects. We used fMRI while participants made choices about whether to eat foods while deploying one of three regulatory goals: respond naturally, focus on healthy eating, or decrease craving for food. To explore whether different strategies resulted in more or less durable changes in response, we also collected liking ratings for foods both before and after regulation. Using a combination of computational modeling and analysis of BOLD response, we identified several important differences between these two different regulation strategies. Our results suggested that, while a focus on healthy eating altered the sensitivity of the vmPFC and dlPFC to health and taste information, craving suppression resulted in global decreases in response without reduction in sensitivity to health and taste information. These changes also appeared to be implemented by distinct regions of lateral prefrontal and parietal cortex, and were tied to distinct parameters of the computational model. Our results suggest that regulation may be implemented through distinct routes, and that understanding this distinction may have important implications for when and why regulation results in lasting change in response to tempting foods.

Funding: Connaught New Researcher Award from the University of Toronto and Discovery Grant from the National Science and Engineering Research Council of Canada

POSTER B-16

FIRST PROOF OF EFFICACY OF A NOVEL TRAINING FOR THE REGULATION OF POSITIVE EMOTIONS IN INDIVIDUALS WITH AUTISM SPECTRUM DISORDER

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Descriptors: Emotion Regulation Training, Autism Spectrum Disorder

Emotional disturbances including difficulties to regulate emotions and low levels of positive emotions are of high prevalence in individuals with Autism Spectrum Disorder (ASD). In order to promote emotion regulation (ER) skills and to increase positive emotions in ASD, the present study aimed at developing a novel psycho-educative interactive multi-media training, as well as testing its efficacy. Twenty-eight male participants with high-functioning ASD (mean age: 18 years) completed the training; 13 in the training group and 15 in the control group. The training aimed at teaching three adaptive ER strategies (positive cognitive reappraisal, focus on positive aspects, and expressing positive emotions) in three sessions. Explanations, multimedia examples, exercises, and homework were provided. Questionnaires on ER strategies, humor, positive and negative emotions and well-being were completed before and after training.

The analyses revealed two significant interactions: time x group ($F(1,26)=4.14$, $p=.05$) regarding the use of ER strategies and time x group ($F(1,26)=5.62$, $p<.05$) with respect to the use of humor. Further analyses showed that the training group used adaptive strategies and humor significantly more often than the control group. This brief training shows promising effects in relation to adaptive ER in individuals with ASD. Within the setting of more comprehensive intervention programs, it has the potential to address emotional disorders. We assume that the increased use of adaptive ER strategies will have long-term positive effects on affect and well-being.

Funding: Swiss National Foundation: Ambizione Fellowship (PA00P1-154937) for A.S. and Fribourg Network for Mental Health for K.N., Switzerland.

POSTER B-17

PERSONALITY AND INDIVIDUAL DIFFERENCES IN EMOTION REGULATION

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Descriptors: Emotion Regulation, Personality, Neural Correlates

Emotion regulation (ER) is necessary, when type, intensity, or duration of an emotion is not adequate for a specific situation. During emotion regulation, activity in brain regions associated with cognitive control intensifies, and activity in brain regions associated with emotion responding diminishes. Immediately after regulation, activity in the amygdala increases and forms a paradoxical aftereffect. Extensive literature exists describing immediate and short-term neural effects, but only few studies targeted the association between individual differences in personality traits and neural correlates of ER. $N = 85$ healthy participants completed the NEO Five Factor Inventory and the PANAS scale to measure personality traits and positive and negative affect. An ER task with relaxation period was conducted within the fMRI scanner. Participants should permit their emotions or distance themselves from negative and neutral images. During ER, activation in the prefrontal cortex and deactivation in the left amygdala was found. During the post-regulation period, an immediate paradoxical aftereffect was marginally found in the amygdala. Personality traits did not predict arousal ratings and neural activity in the amygdala during emotion regulation or post-regulation. To conclude, we replicated typical activation and deactivation patterns during intentional emotion regulation. Depending on the statistical approach, we partially replicated the paradoxical aftereffect in the amygdala. However, there was no association between personality traits and activation in the amygdala.

POSTER B-18**WHEN IDEAL AFFECT MATCH MATTERS: CULTURAL DIFFERENCES IN GIVING UNDER COGNITIVE DEMAND**

Blevins, Elizabeth—Stanford University; Qu, Yang—Northwestern University; Tsai, Jeanne L—Stanford University

Descriptors: Culture, Giving

What factors influence giving to strangers? Previously, we found that people offer more money to recipients whose emotional expressions match their “ideal affect,” or the emotions they ideally want to feel. When playing multiple trials of the Dictator Game, European Americans offered more to excited (vs. calm) recipients while Koreans offered more to calm (vs. excited) recipients. Here we explored the boundary conditions of “ideal affect match” under cognitive demand. European Americans (N = 122) and Chinese (N = 103) played the Dictator Game under both high and low cognitive demand. Under high demand, European Americans offered more money to excited recipients (M = .27, SE = .06) than to calm recipients (M = .08, SE = .04), $p = .03$, 95% CI = [.01, .35]. However, under low demand, European Americans did not differentiate their offers to excited (M = .17, SE = .07) and calm (M = .12, SE = .04) recipients, $p = .57$. In contrast, Chinese offered more money to calm recipients (M = .21, SE = .05) than to excited recipients (M = -.04, SE = .06) under both high demand, $p = .01$, 95% CI = [.07, .43], and low demand, $p = .002$, 95% CI = [.12, .49] (calm: M = .24, SE = .04; excited: M = -.06, SE = .07). When Chinese had more cognitive resources to deliberate, ideal affect still match influenced their offers. We are currently exploring whether these cultural differences might be due to the greater value placed on social equality in the U.S. than in China. Taken together, these results reveal that multiple factors shape giving and vary across cultures.

POSTER B-19**RELiance ON SOCIAL MODELING MODERATES ASSOCIATION BETWEEN DEPRESSIVE SYMPTOMS AND CO-RUMINATION**

Fearey, Eliot—University of Maine; Lawrence, Hannah R—University of Maine; Schwartz-Mette, Rebecca A—University of Maine

Descriptors: interpersonal emotion regulation, depression, co-rumination

Co-rumination (CR), perseverative problem-talk between two people that focuses on negative experiences and feelings, occurs among those with depressive symptoms (Rose, 2002). The current study sought to determine whether looking to others to manage one’s emotions (i.e., interpersonal emotion regulation; e.g., Hofmann, Carpenter, & Curtiss, 2016) impacts the likelihood of CR among those with depressive symptoms. Specifically, we hypothesized that looking to others for modeling of how to cope would moderate the association between depressive symptoms and CR. College students (N = 274; M age = 19.33; 66% female) reported on depressive symptoms (CES-D; Radloff, 1977), interpersonal emotion regulation (IERQ; Hofmann, Carpenter, & Curtiss, 2016), and co-rumination (Co-rumination Questionnaire; Rose, 2002). Co-rumination was significantly correlated with depressive symptoms ($r = .127$, $p < .05$) and all subscales of the IERQ, including looking to others for: enhancing positive affect ($r = .33$, $p < .01$), perspective taking ($r = .27$, $p < .01$), soothing ($r = .34$, $p < .01$), and social modeling ($r = .26$, $p < .01$). Moderated regression analyses revealed a significant interaction between depressive symptoms and reliance on social modeling ($b = .05$, $p < .05$) such that only at high levels of social modeling did depressive symptoms predict co-rumination ($b = .53$, $p < .01$). Data suggest that those with depressive symptoms and who look to others to model coping behaviors are more likely to engage in CR. Implications of findings for intervention will be discussed.

POSTER B-20**A LONGITUDINAL INVESTIGATION OF THE RELATIONSHIP BETWEEN DEPRESSION, CHILDHOOD MALTREATMENT, AND NEGATIVE SELF-REFERENTIAL ENCODING**

Jopling, Ellen—University of British Columbia; LeMoult, Joelle—University of British Columbia

Descriptors: Depression, Childhood Maltreatment, Self-Referential Encoding

This study aimed to determine whether negatively biased self-referential encoding represents a mechanism through which different types of childhood maltreatment are prospectively associated with symptoms of depression during a stressful, ecologically-valid period. Within the first three weeks of beginning university, students (N=160) completed a well-validated cognitive task that indexes negative self-referential encoding biases (SRET), and the Childhood Trauma Questionnaire (CTQ). Approximately 3 months later, immediately prior to students’ first final exam period, students completed the Beck Depression Inventory (BDI-II). A series of bootstrapped mediation analyses indicated that negatively biased self-referential encoding mediated the relation between emotional types of childhood maltreatment (i.e. emotional abuse, emotional neglect, and physical neglect) and later symptoms of depression, all $p < .05$. In contrast, negatively biased self-referential encoding did not mediate the relation between more physical types of childhood maltreatment (i.e. physical abuse and sexual abuse) and symptoms of depression. Findings from this study suggest that emotional types of childhood maltreatment are more likely than physical types of childhood maltreatment to lead to depression because they promote the development of negatively biased self-referential encoding. The present study offers an important contribution to theoretical models of psychopathology as it is the first to connect several important areas of literature, both emerging and well-established in nature.

Funding: This study was partially funded by the Social Sciences and Humanities Research Council of Canada (SSHRC).

POSTER B-21**A MULTI-METHOD INVESTIGATION OF EMOTIONAL REACTIONS TO VIOLATIONS OF HONOR**

Razavi, Pooya—University of Oregon; Shaban-Azad, Hadi—University of Tehran; Srivastava, Sanjay—University of Oregon

Descriptors: Honor culture, Appraisals, Gender

Studies on the reactions to the violations of honor are often based on samples from the US, focusing primarily on responses to harm or insult. We extend these findings by studying “gheirat,” a moral-emotional concept ubiquitous in some Middle Eastern cultures and closely related to honor. Across four studies on Iranian adults (N = 1113), using qualitative interviews (Study 1), mixed-methods surveys (Study 2 & 3), and an experimental design (Study 4), we found that three types of situations elicit gheirat: perception of harm to namoos (i.e., the extended self), sexual betrayal by namoos, and violations of sexual norms in relation to namoos. Gheirat elicited by each situation-type had a distinct pattern of emotional response: Violations by namoos were associated with higher self-blame (e.g., guilt, disgust towards self; $b = 0.38$, $t(345) = 3.03$, $p = .003$) and socially fearful emotions (e.g., anxiety, loneliness; $b = 0.64$, $t(345) = 4.96$, $p < .001$), whereas perceptions of harm were associated with higher bold/empowered emotions (e.g., proud, lively; $b = 0.46$, $t(345) = 3.28$, $p = .001$). Furthermore, our results indicated that, in contrast to common beliefs about “masculine honor,” the difference between men and women in their intensity of emotional responses to honor violations were often small (Cohen d s < 0.15) and non-significant. These findings (a) promote a more nuanced understanding of honor-related emotions beyond hostility and anger, and (b) suggest the need for updated theories regarding gender differences in the experience and expression of honor-related emotions.

POSTER B-22

ABSTRACTNESS OF EMOTION REPRESENTATIONS INCREASES FROM CHILDHOOD TO ADOLESCENCE: OBSERVER-RATED AND PSYCHOLINGUISTIC EVIDENCE

Nook, Erik C—Harvard University; Stavish, Caitlin M—Harvard University; Sasse, Stephanie F—Harvard University; Lambert, Hilary K—Harvard University; Mair, Patrick—Harvard University; McLaughlin, Katie A—Harvard University; Somerville, Leah H—Harvard University

Descriptors: Development, Abstraction, Language

People can represent emotion concepts concretely by anchoring them on specific situations (e.g., “I felt angry when my sister broke my toy”) or abstractly by distilling the general factors that produce emotions across situations (e.g., “people feel angry when their goals are blocked”). Here, we developed an Emotion Vocabulary Assessment to capture how 196 participants aged 4-25 defined 24 emotions. We used both human coding and psycholinguistic methods to test how emotion abstraction varied across age. Smoothing spline regressions showed that the ability to define emotion words rose across childhood and plateaued around age 11. Human coders rated the abstractness of participants’ responses, and these ratings increased through adolescence, plateauing significantly later, around age 18. An automated psycholinguistic analysis of abstractness also showed that emotion representations became more abstract across age, $b=.32$, $p<.001$. Finally, coders classified the strategies participants used to define emotions. Young children tended to describe emotions using concrete strategies such as providing example situations or by referring to physiological markers, but use of these strategies decreased with age. Conversely, the tendency to use more abstract strategies such as providing synonyms or general definitions that distilled the general causes of emotions increased with age, $ps<.001$. This work provides a tool for assessing emotion definitions and shows that adolescence is a period in which emotion words are comprehended but their level of abstraction has not fully matured.

POSTER B-23

NONVERBAL SYNCHRONY AND ALLIANCE RUPTURES: A STUDY USING VIDEO ANALYSIS SOFTWARE

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Descriptors: Nonverbal Synchrony, Alliance Ruptures, Psychotherapy

The study of nonverbal synchrony examines the degree to which individuals’ nonverbal cues, such as body movement, coordinate in time. Within the psychotherapeutic dyad, nonverbal synchrony has been shown to correlate with therapeutic alliance and outcome (Ramseyer & Tschacher, 2011). However, nonverbal synchrony research has yet to address ruptures in the therapeutic alliance. To address this gap, the present study analyzed an archive of client-therapist video-films comprising 118 fifty-minute sessions that were collected in the early 1990s and subjected to rigorous study by Jeremy Safran and his research students. The naturalistic sample consisted of 14 therapist-patient dyads, who completed 12 sessions (6 weeks of relational psychodynamic therapy and 6 weeks of cognitive behavioral therapy). 118 sessions were included, as some were omitted due to quality. Patients and therapists provided self-reports of rupture frequency, intensity and resolution, after each session. Nonverbal synchrony values were computed using a software program called Motion Energy Analysis (MEA), which quantifies bodily motion by tracking frame-to-frame pixel changes. Results showed that there was no significant correlation between MEA synchrony and rupture frequency or intensity. However, when patients perceived a rupture in a session ($n=20$), synchrony correlated negatively with perceptions that the rupture was resolved, $r = -.572$, $p=.005$. Low and moderate synchrony was, in other words, linked up with patients’ reporting the rupture was resolved.

POSTER B-24

THE ROLE OF DIFFERENTIATION AMONG RELATIONSHIP FEELINGS WITHIN COUPLES

Lazarus, Gal—Bar-Ilan University; Rafaeli, Eshkol—Bar-Ilan University

Descriptors: emotion differentiation, romantic relationships, experience sampling methods

Emotion differentiation reflects the extent to which individuals represent or experience their emotions as distinct. Several studies have documented the salubrious effects of such differentiation, particularly for negative emotions, and have examined it vis-à-vis global feelings –felt without reference to any particular context. No study to date has examined context-specific feelings. The present work builds on a tradition of examining emotions experienced within one particularly important context – namely, emotions reported within individuals’ committed and intimate relationships, which we refer to as Relationship Feelings (RFs) – and explores differentiation among such RFs. Specifically, we sought to examine the extent to which differentiation among RFs allows romantic partners to distinguish between their own (or their partners’) feelings on the one hand, and relationship quality indices, on the other. We collected daily diaries from 80 committed couples for a period of 35 days. Differentiation among negative RFs moderated the associations between partners’ emotions and perceived partner responsiveness (PPR; absolute interaction terms t ’s between 2.23 and 3.66). Differentiation among positive RFs moderated the associations between partners’ emotions and PPR ($2.97 < T < 5.64$) and intimacy ($2.83 < T < 3.17$). All analyses showed associations to be stronger for partners lower in RF differentiation. The results suggest that differentiating among RFs contribute (for better and worse) to separating one’s immediate emotional experience from one’s relational experience.

POSTER B-25

DEPRESSION AND MOTIVATION: PARSING MONETARY, SOCIAL, AND LIQUID INCENTIVES

Hallenbeck, Haijing W—Washington University in St. Louis; Yee, Debbie M—Washington University in St. Louis; Naumann, Ashton A—Washington University in St. Louis; Thompson, Renee J—Washington University in St. Louis; Braver, Todd S—Washington University in St. Louis

Descriptors: depression, motivation, incentives

People with depression often experience decreased motivation to pursue rewarding experiences. Whether this decreased motivation is specific to different incentive types or associated with a more general motivational deficit is unknown. Extant behavioral paradigms assessing motivation have typically focused on monetary incentives, only rarely considering other incentive types (e.g., social, food/drink). We predicted that depression would be associated with decreased motivation for monetary and social incentives, and also explored the association with a primary incentive (liquid), due to mixed findings in this domain. Participants ($n = 74$, 18-40 yrs) completed a depressive symptom questionnaire and a cued task-switching paradigm in which they could earn monetary rewards and receive additional motivational incentives as performance feedback for successful reward attainment (i.e., reward rate; our index of motivation). Importantly, the feedback was social (i.e., happy face) or liquid (i.e., juice) in nature. Depressive symptoms were nominally associated with lower motivation for monetary ($r = -.04$, $p = .72$), social ($r = -.18$, $p = .13$), and liquid ($r = -.18$, $p = .12$) incentives. These associations did not reach statistical significance, which may be due to somewhat lower levels of depressive symptoms in our sample; however, they are consistent with a general deficit in processing motivational feedback in depression. Future investigation of these effects in a clinically depressed sample may more clearly elucidate the locus of motivational deficits and inform treatment targets.

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POSTER B-26

IDENTIFYING NEURAL EMPATHY SYSTEMS IN NATURALISTIC DATA

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Descriptors: Empathy, Emotion Perception, Accuracy

Empathic accuracy (EA) is the capacity to correctly infer the inner mental experience of others. Neurological research suggests that EA involves two main brain systems (Shamay-Tsoory, 2011; Zaki & Ochsner, 2011): Emotional empathy which spontaneously simulates experiences (e.g., feeling pain when seeing another person in pain), and cognitive empathy, which infers experiences by analyzing informational cues. Sened et al. (2016) proposed a model for identifying these systems in naturalistic data by linking emotional empathy (which involves perceivers' own experience) with the portion of accuracy mediated by perceivers' experience (indirect accuracy), and cognitive empathy with the portion of accuracy remaining after adjusting for perceivers' experience (direct accuracy). We present new support for the model by using long reaction times (RTs) as markers for the more elaborate processing required in cognitive empathy. In two dyadic diary studies (N=100, N=75 couples) and one dyadic lab study (N=35 couples), we looked at direct accuracy for negative moods - the association between perceiver and target reports of target moods, adjusted for perceivers' own mood. We hypothesized that greater direct accuracy would be associated with longer RTs; in contrast, indirect accuracy would not. Our hypothesis was supported in all studies (Study 1 $b(SD)=.027(.012)$, $t(1872)=2.28$, $p<.05$; Study 2 $b(SD)=.032(.015)$, $t(2419)=2.14$, $p<.05$; Study 3 $b(SD)=.02(.009)$, $t(659)=2.18$, $p<.05$). These findings may allow researchers to distinguish between empathy systems in naturalistic studies.

Funding: This work is supported by grants from the BSF, the John Templeton Foundation, and the Azrieli Foundation.

POSTER B-27

COMPUTATIONAL MODEL OF THE VALUATION OF AFFECTIVE STATES

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Descriptors: valuation, decision-making, drift diffusion model

The value placed on an object is often positively related with the valence of the affective state that it elicits. Other times, greater value is assigned to objects that engender negative affect (e.g., horror films). However, the psychological processes by which people flexibly value affect are not understood. To investigate this question, participants completed a novel "art curator" paradigm in which they created two art galleries with different themes: happiness and unhappiness. Participants ($n=54$) placed bids on IAPS images for inclusion in each gallery and earned money to the extent that the resulting galleries elicited the target emotions. In this way, the relationship between affective valence and value was manipulated by the gallery. To examine the underlying decision processes, choice data was fit with a drift diffusion model. People more easily integrated affect when affect and value were congruent as indicated by greater weight being given to affect during evidence accumulation in the happy gallery ($b = 0.13$, 95% CrI [0.07, 0.18]). Furthermore, nondecision processes were slower in the unhappy gallery, suggesting that a transformation was performed before initiating decision-making ($b = -0.03$, 95% CrI [-0.05, -0.01]). Additional analyses found that people higher in affective sensitivity showed a stronger overall relationship between affect and value whereas people who tend to emotionally suppress showed a weaker relationship. A follow-up EEG study is underway to examine how the neural processes involved in the flexible valuation of affect unfold over time.

POSTER B-28

NON-TARGET EMOTIONS AND WORKING MEMORY IN HEALTHY OLDER ADULTS

Stephens, Jacquelyn E—Northwestern University; Rompilla, Jr., David B—Northwestern University; Hittner, Emily F—Northwestern University; Haase, Claudia M—Northwestern University

Descriptors: Emotional experience, Working memory, Aging

Laboratory studies of emotion are often designed to elicit specific target emotions but may also elicit non-target emotions (e.g., depicting loss is thought to elicit sadness but may also elicit awe or anger). Non-target emotions are elevated in psychopathology (e.g., schizophrenia) and neuropathology (e.g., Alzheimer's disease), but have rarely been studied in healthy older adults. This study examined the relationship between non-target emotions and working memory in 129 healthy older adults (age in years: $M = 71$, $SD = 4.4$; 53% female; 80% white). Participants were instructed to "just watch" three sad film clips and reported on their subjective experiences of 10 emotions (target: sadness; positive non-target: awe, calm, excitement, gratitude, happiness, love; negative non-target: anger, disgust, fear) after each clip. Working memory was measured by averaging the number of correct responses across three tasks (Digit Span, Adaptive Span, Corsi Block; $\alpha = .66$). Manipulation checks showed that the film clips successfully elicited sadness (i.e., the target emotion). Regression analyses revealed that greater experience of positive and negative non-target emotions predicted lower working memory performance. Findings for positive (but not negative) non-target emotions remained robust when controlling for age, sex, education, and target emotion ($B = -.32$, $SE = .06$, $p = .001$). The target emotion did not predict working memory performance ($B = -.16$, $SE = .04$, $p = .08$). Possible pathways explaining the relationship between non-target emotions and working memory are discussed.

POSTER B-29

EYE CONTACT FACILITATES SHARED ATTENTION DURING NATURAL CONVERSATION

Wohltjen, Sophie E—Dartmouth College; Wheatley, Thalia P—Dartmouth College

Descriptors: Eye contact, Pupillary synchrony, Naturalistic conversation

Previous research has indicated that attention is associated with the pupillary response (see Laeng et al., 2012 for review) and that spontaneous pupillary synchrony between individuals indexes shared attention (Kang & Wheatley, 2017). We recorded pupillary dilations of 19 dyads while they conversed freely for ten minutes to investigate whether natural eye contact increases pupillary synchrony. We computed the similarity of partners' recorded pupillary time series using Dynamic Time Warping. We then compared pupillary synchrony during moments with eye contact to pupillary synchrony during moments without eye contact. Moments of eye contact during a conversation were identified via video captured by cameras located at the nasion of both participants' eye-tracking glasses. This perspective allowed us to annotate moments when both participants were looking at their partner's eyes. We found that pupil dilations of conversation partners synchronized more when making eye contact than when not making eye contact ($t(8) = 2.59$, $p = 0.019$). These results extend previous work by demonstrating that pupillary synchrony arises during moments of shared attention in natural conversation. Furthermore, eye contact appears to be an effective modulator of shared attention and may be deployed strategically to maximize the attention of another mind. Kang O & Wheatley T (2017). Pupil dilation patterns spontaneously synchronize across individuals during shared attention. *JEPGen*, 146(4), 569–576. Laeng B, Sirois S & Gredebäck G (2012). Pupillometry: A window to the preconscious? *PPS*, 7(1), 18–2.

POSTER B-30

EUROPEAN AMERICANS HAVE MORE ROMANTIC PARTNERS BECAUSE THEY SEEK EROS LOVE

Cachia, Julie Y. A.—Stanford University; Alice, Moon—University of Pennsylvania; Tsai, Jeanne L—Stanford University

Descriptors: culture, ideal affect, relationships

Cultural differences in ideal affect (the emotions people want to feel) have been associated with different views of well-being and old age. In this study, we examined whether cultural differences in ideal affect influence conceptions of romantic love, and if so, whether this has consequences for relationship behavior. European American ($N = 154$) and Asian American ($N = 54$) college students in the U.S. completed measures of ideal love style, number of past relationships, and duration of current relationships. We predicted that European Americans, who value high-arousal positive states more, would value Eros Love (a passionate, high-arousal love style) more than would Asian Americans, and that this would translate to shorter relationship duration and more past relationships. We also predicted that Asian Americans, who value low-arousal positive states more, would value Storge Love (a companionate, low-arousal love style) more than would European Americans, and that this would predict longer relationship duration and fewer past relationships. As predicted, European Americans valued Eros Love more than did Asian Americans, $t(41.20) = -2.02$, $p = 0.05$, and as a result, had significantly more partners than Asian Americans, $b = 0.16$, 95% CI = [0.003, 0.39], $p = 0.032$. However, no significant cultural differences were observed in duration of current relationships, nor in the extent to which Storge Love was valued. These findings suggest that cultural differences in ideal high-arousal positive affect are related to people's conceptions of romantic love.

POSTER B-31

EYE BLINK RATE AND PUPIL DILATION AS PSYCHOPHYSIOLOGICAL CORRELATES OF APPROACH MOTIVATION AND PLEASURE

Parent, Jourdan H—Boston University; Mote, Jasmine—Boston University; Peckham, Andrew D—Harvard Medical School & McLean Hospital; Mow, Jessica Lee—Boston University; Ling, Sam—Boston University; Fulford, Daniel—Boston University

Descriptors: Approach Motivation, Eye Blink Rate, Pupil Dilation

The motivational pathway in the brain is characterized by dopaminergic and norepinephrine signaling. Eye blink rate (EBR) and pupil dilation (PD) are potential psychophysiological indicators of tonic dopamine (Jongkees & Colzato, 2016) and norepinephrine (Gilzenrat et al., 2010), respectively, that can be assessed non-invasively. What remains unknown is the extent to which EBR and PD are associated with standard self-report and behavioral measures of motivation and drive. In this study, we are using a remote eye tracker to record baseline EBR and task-based PD in undergraduate students (preliminary $n = 8$). The behavioral activation scale (BAS; Carver & White, 1994) and the motivation and pleasure self-report scale (MAP-SR; Llerena et al., 2013) are used to assess approach motivation and pleasure. Participants also perform computer-based tasks of motivation and effort. We predicted that greater baseline EBR, and task-based PD, would be associated with higher approach motivation and pleasure. Preliminary findings indicate a positive trend between baseline EBR and the BAS Drive subscale ($r = .69$, $p = .06$). No significant associations are currently found between EBR and the fun-seeking ($r = .10$, $p = .81$) or reward responsiveness ($r = .28$, $p = .50$) subscales of the BAS or with the MAP-SR total ($r = .02$, $p = .96$). Preliminary results suggest that EBR may be associated with the behavioral activation rather than the pleasure component of motivational behavior. Future analyses will include associations between EBR and PD and performance on behavioral tasks of motivation and effort.

POSTER B-32

DISPOSITIONAL COMPASSION REFLECTS DIFFERENCES IN SOCIAL UTILITY

Ocampo, Joseph M—University of California, Berkeley; Keltner, Dacher—University of California, Berkeley

Descriptors: compassion, decision making, prosociality

Emotions are powerful drivers of social decisions, but there is not much work bridging the gap between emotion science and judgment and decision-making (JDM) research. Using mathematical functions from JDM that quantify satisfaction in terms of outcomes for the self and other (social utility), the current work demonstrates that dispositional compassion correlates with differences in the social utility function. In a correlational study, Amazon Mturk workers ($N = 180$) completed self-report assessments of emotion dispositions, current positive and negative affect, personality and prosociality. Participants then completed a task used by Loewenstein et al (1989) in which they stated their preferences on a likert scale regarding monetary outcomes between themselves and a hypothetical neighbor (e.g., SELF gains \$300, OTHER gains \$400). The preference ratings of each participant was used to calculate coefficients estimating utility for money gained for the self, relative advantage (SELF > OTHER payout), and relative disadvantage (SELF < OTHER payout). In separate regressions with compassion as the predictor, compassion did not predict utility for self ($\beta = -.12$, $p = .11$) or utility of relative disadvantage ($\beta = -.07$, $p = .38$), but did predict decreased utility for relative advantage ($\beta = -.29$, $p < .01$). When controlling for prosociality using multiple regression, the effect of compassion remains ($\beta = -.18$, $p = .01$). Dispositional compassion may reflect underlying differences in social utility judgments even in the absence of suffering.

POSTER B-33

ARE INDIVIDUAL DIFFERENCES IN AFFECTIVE REACTIVITY CONSISTENT ACROSS CONTEXTS? A MULTIMETHOD INVESTIGATION USING SUPERVISED MACHINE LEARNING

Wormwood, Jolie B—University of New Hampshire; Mills, Caitlin—University of New Hampshire; Siegel, Erika—University of California, San Francisco; Quigley, Karen S—Edith Nourse Rogers Memorial VA Hospital; Northeastern University; Barrett, Lisa F—Northeastern University

Descriptors: Affective Reactivity, Individual Differences, Supervised Machine Learning

Affective reactivity refers to the intensity and consistency of an individual's subjective, behavioral, and physiological responses to evocative stimuli and contexts. While a large body of empirical work has investigated multimodal affective reactivity within singular evocative contexts (see, e.g., research on emotional coherence), limited research has attempted to track multimodal responding within individuals across diverse evocative contexts. In the present study, participants ($N = 260$) completed a series of distinct affective reactivity tasks, including an acoustic startle task, a picture and sound rating task, and a social stress task, while we recorded behavioral and self-report measures of reactivity as well as measures of peripheral physiological reactivity (e.g., indices of cardiovascular activity, facial muscle movement, and electrodermal activity). Supervised machine learning was used to test whether physiological responding during the picture and sound rating task could be leveraged to predict behavioral, physiological, and/or self-report measures of reactivity across the other two tasks. Using leave-one-out cross-validation methods, results indicated that a neural network algorithm could predict some cross-task measures of reactivity with very high accuracy (e.g., RMSEA = .008 for the model predicting startle latency from physiological reactivity to high arousal pictures and sounds), but not others. These findings contribute to ongoing debates concerning the stability and consistency of individual differences in affective reactivity across modalities and contexts.

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POSTER B-34

INCREASING POSITIVE, DECREASING NEGATIVE, AND ENGAGING WITH NEGATIVE EMOTIONS ACROSS THE ADULT LIFESPAN: AN EXPERIENCE SAMPLING STUDY

Livingstone, Kimberly M—Northeastern University; Isaacowitz, Derek M—Northeastern University

Descriptors: emotion regulation, aging

Although age differences in emotion regulation frequency and/or effectiveness have been used to explain high levels of well-being in older age, research has been mixed. One open question is the extent to which age groups differ in how much they (a) decrease negative, (b) increase positive, and (c) engage with negative emotions in daily life. This experience sampling study examined these tendencies across five strategies proposed by the process model in younger (YA, ages 20-39), middle-aged (MA, ages 40-59), and older (OA, ages 60+) adults (total N=148). For 10 days, participants reported five times a day on emotion regulation goals, use of 18 tactics across 5 strategies, and affect change. Age groups did not differ in frequency of regulation (multilevel odds ratios .71 to .83, contrast p 's > .50). Compared to other age groups (YA OR=1.43, MA OR=1.18), OAs were more likely to try to increase positive emotions (OR=2.16), especially via positive situation and attention regulation. MAs were more likely to avoid negative situations; YAs were more likely to accept emotions. YAs reported more negative affect before regulation than MAs ($\gamma=.44$, $SE=.21$, $p=.043$) and OAs ($\gamma=.46$, $SE=.21$, $p=.025$). OAs reported more positive affect after regulation than YAs ($\gamma=.34$, $SE=.15$, $p=.028$); MAs showed smaller affect change than YAs ($\gamma=-.34$, $SE=.14$, $p=.020$). This research suggests that in everyday lives of older adults, up-regulating positive emotions may explain high levels of emotional well-being better than (the more commonly investigated) down-regulating negative ones.

Funding: This research was supported by the National Institute on Aging Grant R01 AG948731.

POSTER B-35

MODELING HUMAN PERSPECTIVE IN ARTIFICIAL INTELLIGENCE COMPUTING SYSTEMS

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Descriptors: Artificial Intelligence, Emotion Modeling

The development of computing-based systems that exhibit human perspective requires accurate models for incorporation of emotions based on the best available knowledge regarding the origin and processes underlying emotional experience. Yet seemingly opposing theories of emotion have been proposed and justified based on significant bodies of research. To address the need for a computational model consistent with the broad base of subject matter research, we chose to combine the James-Lange theory and the constructed emotions theory. The James-Lange theory proposes that emotions are felt through the brain's interpretation of physiological changes, while the constructed emotions theory suggests that emotions are created by the brain influenced mainly by experience-based concepts. Our model includes both mechanisms. We find that by combining the two theories into a single model it becomes possible to create algorithmic implementations consistent with each theory dependent upon the specifics regarding a given elicited emotion study or the overall use case. Emotions may be analyzed not only as the brain's interpretations of nervous system information, but also as predictions created by the brain based on past learning. These findings provide a practical approach for treating emotions in computing systems, allowing for more effective study of the inter-relationships between emotions and human thought, thus encouraging and facilitating the consideration of emotions in artificial intelligence decision making systems.

POSTER B-36

DIFFERENT VARIETIES OF FEAR ENGAGE DISTINCT, DISTRIBUTED NEURAL ACTIVATION PATTERNS

Wang, Yiyu—Northeastern University; Boatman, Grace—Pomona College; Satpute, Ajay B—Northeastern University

Descriptors: Fear, fMRI, Constructionist

Many current models of fear assume that a core set of brain regions underlies fear across many situations in which fear is experienced. Despite the prevalence of the view, a growing body of work suggests that the neural correlates of fear may actually vary substantially depending on the situation, such that no single area or set of areas underlies fear across them. To formally test this idea, participants (N = 22) were induced to feel fear in three distinct contexts while undergoing functional magnetic resonance imaging (fMRI). Specifically, they were shown sets of video clips that evoked fear of spiders, heights, and social situations, and rated their experienced fear, arousal, and valence after each video. Critically, each situation contained videos that were more, or less, fear evoking, allowing for parametric or dose-dependent analyses that controlled for semantic content. Contrary to predictions stemming from a core areas model, no brain areas consistently showed greater activity that tracked with increasing fear experience across situations. Instead, different varieties of fear engaged distinct and distributed cortical activation patterns. These findings suggest that neural basis of fear involves a many-to-one mapping between brain activation patterns and mental phenomenon – i.e., a distributed and degenerate neural architecture. These findings support constructionist theoretical accounts of emotion and have translational implications for fear and anxiety disorders that rely on a core areas model.

POSTER B-37

THE EFFECTS OF PARENTAL STRESS ON 3-YEAR-OLD CHILDREN'S BASELINE EEG ALPHA ACTIVITY AND INTERNALIZING SYMPTOMS

Vincent, Katherine M—Harvard College; Xie, Wanze—Boston Children's Hospital; Harvard Medical School; Wade, Mark—Boston Children's Hospital; Harvard Medical School; Nelson, Charles A—Boston Children's Hospital; Harvard Medical School; Harvard Graduate School of Education

Descriptors: EEG alpha activity, child internalizing symptoms, parental stress

The neural mechanisms underlying the effect of parental stress on child social behaviors remain unclear. Drawing on a longitudinal sample, the objective of the current study was to examine the associations between parental stress, children's baseline EEG alpha activity, and children's internalizing symptoms. Parental stress was assessed with a questionnaire on recent stressful life events before their visits to the lab. Baseline EEG was recorded at infancy (5, 7, or 12 months) and 3-years follow-up (3YF) visits (N = 120). EEG alpha power and frontal alpha asymmetry (FAA) were calculated. Regression analyses showed that stressful life events experienced by parents were significantly predictive of child internalizing symptoms ($b = 3.122$, $SE = .842$, $p < .001$) at 3 years. Greater right FAA was related to higher levels of internalizing symptoms at 3 years ($b = -1.709$, $SE = .772$, $p = .029$). Frontal alpha relative power was also significantly associated with internalizing symptoms ($b = -1.324$, $SE = .847$, $p < .001$). Parental stress was not predictive of EEG alpha power or FAA during infancy or at 3 years. This study confirms the deleterious effects of parental stress on children's internalizing behavior. The associations found between child internalizing symptoms and lower alpha power and increased right FAA could have clinical implications as biomarkers for child internalizing symptoms and anxiety.

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POSTER B-38

ADVANCING A SITUATED NEUROSCIENCE OF EMOTION

Leshin, Joseph—The University of North Carolina at Chapel Hill; McCormick, Ethan—The University of North Carolina at Chapel Hill; Doyle, Cameron—The University of North Carolina at Chapel Hill; Nam, C S—North Carolina State University; Lindquist, Kristen—The University of North Carolina at Chapel Hill

Descriptors: emotion, context, fMRI

Most research on the brain basis of emotion assumes that emotion categories (e.g., anger, disgust, and happiness) manifest identically across people and situations, with the same neural mechanisms supporting the same emotion category across all instances. The current project examines situational variance in the experience of emotion using functional magnetic resonance imaging (fMRI). Participants (N = 44) underwent an fMRI task in which they were presented with normed images that varied in emotion (sad vs. fear) and situation (social vs. non-social context). Preliminary analyses show significant main and interaction effects of emotion and situation, suggesting that the neural basis of emotion is a product of both the emotion experienced and the situation in which that emotion is experienced. First, there was a main effect of emotion: fear recruited greater insula activation than sadness in both social and non-social contexts. Second, there was a main effect of situation: social contexts recruited greater amygdala activation than non-social contexts for both fear and sadness. Third, there were interactions between emotion and situation. For example, sadness experienced in a social context recruited greater medial frontal areas (dmPFC and mOFC) than sadness in a non-social context and more than all experiences of fear. In contrast, fear experienced in both social and non-social contexts recruited greater amygdala activation more than sadness in non-social contexts. These findings suggest the neural basis of emotions, such as sadness and fear, differ across situations.

POSTER B-39

ADVERSE CHILDHOOD EXPERIENCES: A MODERATOR OF THE RELATION BETWEEN PARENTAL EMOTIONAL EATING AND FEEDING PRACTICES

Halladay, Lauren E—University of Oregon; Harrington, Ellie M—University of Oregon; Trevino, Shaina D—University of Oregon; Giuliani, Nicole R—University of Oregon

Descriptors: Emotional Eating, Trauma, Feeding Practices

Emotional eating, eating to cope with negative affect rather than to satiate hunger, contributes to obesity and is strongly associated in parents and children (Braden et al., 2014). Determining the mechanisms underlying this association is essential for developing effective interventions to support healthy eating and emotion regulation behavior in children. One strong candidate is how parents feed their young children, specifically using food to regulate a child's emotions. In addition, parents who have experienced trauma may be more likely to engage in these practices, as trauma history is associated with disordered eating (Breland et al., 2017; Fuemmeler et al., 2009). However, this association has never been directly tested. The present study examined parent trauma history as a moderator in the predictive relationship between parent emotional eating and child feeding practices. Mothers (N = 71) completed surveys regarding parent emotional eating, child feeding practices, and parent trauma history as part of a larger study investigating parenting behaviors that support the development of self-regulation in preschool-aged children. Results suggest that parent trauma history significantly moderated the association between parent emotional eating and parent feeding practices used to regulate their child's emotion, $R^2 = .12$, $F(3, 67) = 3.10$, $p < .05$. These findings offer insight into how histories of trauma may interact with parental emotional eating and feeding practices that utilize food to regulate child emotions.

POSTER B-40

DO EMOTION CONTROL VALUES HINDER LAW ENFORCEMENT OFFICERS FROM SEEKING MENTAL HEALTH SERVICES? EMOTION CONTROL VALUES AND MENTAL HEALTH CARE STIGMA

Burmeister, Lori B—Arizona State University; Roberts, Nicole A—Arizona State University; Little, Jennifer—Arizona State University; Ornelas, Daisy I—Arizona State University; Bursleson, Mary H—Arizona State University

Descriptors: Emotion control, Police, Stigma

Controlling emotions can be both beneficial and costly. In law enforcement, emotion control is viewed as essential to prevent conflict escalation and even physical harm. This emphasis on the importance of controlling emotions may also be problematic. We investigated if higher levels of emotion control values were associated with 1) greater job stress (i.e., more burnout and greater operational and organizational stress), 2) greater stigma for seeking mental health services, and 3) less willingness to pursue mental health services. Seventy (50 male, 20 female) law enforcement officers completed an online survey including an emotion control values scale (e.g., "people should control their emotions at all times") and other measures. Results supported our hypotheses, showing that higher levels of emotion control values were related to more burnout, greater operational and organizational stress, greater perceptions of mental health care stigma and less willingness to seek mental health services. These results may suggest that law enforcement officers with higher levels of emotion control values may have greater need (e.g., higher stress and burnout) for mental health services but may be less likely to seek services compared to law enforcement officers who value emotion control to a lesser extent. Thus, contexts encouraging emotion control may need to consider the detriments as well. Interventions could focus on providing opportunities for law enforcement officers to express emotions constructively (e.g., peer support groups) and to receive appropriate treatment when needed.

POSTER B-41

THE ANNOTATOR'S FACIAL ACTIVITY DURING EMOTIONAL LABELING: A STUDY OF FACE VIDEO ANALYSIS

Konstantinova, Maria—Neurodata Lab LLC; Perepelkina, Olga—Neurodata Lab LLC; Kazimirova, Evdokia—Neurodata Lab LLC; Lyusin, Dmitry—National Research University Higher School of Economics

Descriptors: facial mimicry, emotional labeling, affective computing

The creation of Emotion AI requires a labeled dataset. However, the specificity of annotator's emotions during the labeling process has not been studied enough. Since facial mimicry is important for emotion recognition, we addressed the question of facial activity during emotional labeling process. 104 participants took part in this study. They performed tasks online and labeled short video fragments (5s) by two emotional scales "happiness-sadness" (HS) and "friendliness-hostility" (FH), also they could choose the 'none of these' option. The video fragments were taken from the Emotion Miner Data Corpus and were pre-annotated by 10 other annotators. We used two types of fragments: video with low and high inter-rater agreement (Cohen's kappa). The webcam video was recorded during the labeling process. We analyzed the facial movements using OpenFace software and calculated the Euclidean distances in 3D space for 68 facial points. We used ANOVA and t-test with Bonferroni correction. The facial activity during labeling of fragments with high inter-rater agreement was significantly higher than activity for fragments with low inter-rater agreement for FH scale (1.12 ± 0.004 vs 1.16 ± 0.004 , $t = -6.3528$, $df = 13468$, $p < 0.0001$). Suggestively, fragments with high inter-rater agreement contain more intense emotional displays and could cause higher annotator's emotion contagion that affected facial mimicry to a greater extent. Thus, this is the first study that analyzes facial activity during online emotional annotation process and could improve the datasets for the creation of Emotion AI.

POSTER B-42**THE INFLUENCE OF FEELINGS WHILE DRIVING REGULAR CARS ON THE PERCEPTION AND ACCEPTANCE OF SELF-DRIVING CARS**

Raue, Martina—Massachusetts Institute of Technology; D'Ambrosio, Lisa A—Massachusetts Institute of Technology; Ward, Carley—Massachusetts Institute of Technology; Lee, Chaiwoo—Massachusetts Institute of Technology; Coughlin, Joseph F—Massachusetts Institute of Technology

Descriptors: Self-Driving Cars, Feelings as Information, Affect Heuristic

Self-driving vehicles will affect the future of transportation, but factors that underlie their perception are yet unclear. Feelings are an important source of information, especially in situations of complexity and uncertainty. In this study ($N = 1,484$), we investigated how feelings related to traditional driving affect people's perceptions related to self-driving cars. Due to limited experiences with and knowledge of self-driving cars, we expected that feelings related to a similar experience, namely driving regular cars, would influence judgments about self-driving cars. Our results support this assumption. While positive feelings of enjoyment predicted higher benefit perception ($b = .15, p < .001$) and trust ($b = .10, p < .01$), negative affect predicted higher risk ($b = .15, p < .01$) and higher benefit perception ($b = .11, p < .05$) of self-driving cars. Feelings of control were inversely related to risk ($b = .10, p < .05$) and benefit perception ($b = -.10, p < .05$), which is in line with research on the affect heuristic. Furthermore, negative affect was an important source of information for interest in using a self-driving car ($b = .08, p < .05$) or letting a child ride in one alone ($b = .30, p < .01$). Although people's experience and knowledge were associated with their perceptions, many simply have never been exposed to the technology and know little about it. In the absence of this experience or knowledge, all that is left is the knowledge, experience and feelings they have related to regular driving.

Funding: United States Department of Transportation's Region One University Transportation Center at MIT

POSTER B-43**IDEAL AFFECT SHAPES LEADERSHIP CHOICE: EUROPEAN AMERICANS CHOOSE EXCITED LEADERS WHILE HONG KONG CHINESE CHOOSE CALM LEADERS WHEN ORGANIZATIONS ARE IN GROWTH**

Bencharit, Lucy Zhang—Stanford University; Ko, Michael—Stanford University; Qu, Yang—Northwestern University; Blevins, Elizabeth—Stanford University; Tsai, Jeanne—Stanford University

Descriptors: Culture, Emotion, Organizational Behavior

Do cultural differences in ideal affect—the emotions we value and want to feel—influence leadership choice, and does this depend on an organization's performance (growth, stability, crisis) or sector (business, government, research)? In Study 1, 196 European Americans, 128 Asian Americans, and 123 Hong Kong Chinese read descriptions of organizations varying in performance and sector, then chose a leader from 3 candidates with different emotional expressions (excited, calm, neutral). As predicted, European Americans and Asian Americans, who valued excitement states more, chose excited leaders more than Hong Kong Chinese when organizations were in growth and stability, but not crisis, $b = .08, SE = .04, Z = 2.33, p = .02$. Effects held across sectors. In Study 2, we manipulated ideal affect for 122 European Americans, 83 Asian Americans, and 83 Hong Kong Chinese. Across cultural groups, those who were instructed to value excitement states (vs. calm) chose excited leaders more, $b = .28, Z = 1.98, SE = .14, p = .048$, when organizations were in growth. Findings suggest that culturally shaped ideal affect and organizational performance influence who ascends to leadership.

Funding: NSF

POSTER B-44**THE EFFECT OF INDUCED STRESS ON AFFECTIVE FLEXIBILITY**

Grol, Maud—Ghent University; Nedergaard, Johanne K—University of Oxford; Fox, Elaine—University of Oxford

Descriptors: affective flexibility, stress

Cognitive flexibility is the ability to shift thoughts according to changing situational demands and is considered important in the context of challenging events. When considering the role of cognitive flexibility in mental health it is relevant to investigate flexibility in the context of emotional material: affective flexibility. Previous research has shown a relationship between affective flexibility and reappraisal effectiveness, depressive and anxiety symptoms, and rumination, supporting the role of affective flexibility in emotion and stress-related disorders. However, it remains unclear if experienced stress itself influences affective flexibility. We investigated if induced stress influenced affective flexibility ($n = 37$). Participants completed two study sessions, in counterbalanced order, one with a stress induction and one without. Stress was induced using a multicomponent stress task. We measured affective flexibility with a switching task which requires sorting emotional stimuli according to an affective rule (valence) or a non-affective rule (number of humans depicted). The stress induction decreased self-reported positive feelings and increased negative feelings, but no effect of stress was found on affective flexibility. There was only a significant main effect of switch type, $F(1, 36) = 5.06$, probability = .031, showing that switching from the affective towards the non-affective rule was easier. These findings show that induced stress did not impair affective flexibility, nor did acute stress enhance cognitive performance in this healthy sample.

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POSTER B-45**EVIDENCE THAT MICROINTERACTION ECOLOGICAL MOMENTARY ASSESSMENT (UEMA) IS A NON-REACTIVE IN-SITU AFFECT ASSESSMENT METHOD**

Kos, Maciej—Northeastern University; Ponnada, Aditya—Northeastern University; Pavel, Misha—Northeastern University; Intille, Stephen—Northeastern University

Descriptors: ecological momentary assessment, methods, experience sampling

Microinteraction Ecological Momentary Assessment (uEMA) is a method for assessing affect *in-situ* using brief interactions. uEMA self-reports can be completed with a glance and a tap on an easily accessible wearable device, such as a smartwatch. In prior work, despite an eight-times-higher sampling rate, uEMA, was shown to have higher response rates, and lower perceived burden than conventional EMA. Resultant temporally-dense data may have high ecological validity but could lead to reactivity. Answering the same question many times a day may increase participants' introspective sensitivity, altering how subjective experiences are mapped to answers. For example, when self-reporting affect, participants may initially only distinguish between no and high anxiety. However, they may learn to identify the intermediate states (medium anxiety) over time. In this pilot study, we tested if uEMA alters the number of identified states over time. For three weeks, 17 volunteers answered four different randomly scheduled Positive and Negative Affect Schedule questions daily using a smartwatch, each as a separate uEMA question. Subjects assessed how excited, nervous, upset, and stressed they were on a five-point scale. We compared the means of the number of distinct answers at the start and the end of the study using an asymptotic general symmetry test with by-subject stratification. We detected no changes for any of the questions (all p -values $> .05$). Our results support the notion that despite a sampling rate as high as 30 times a day, uEMA may not promote reactivity when assessing affect.

Funding: This work was funded, in part, by a Google Glass Research Award and the NIH (R21 HL108018-01).

POSTER B-46

PSYCHOPHYSICAL ESTIMATION OF EMOTION LABELING THRESHOLDS

Thieu, Monica K—Columbia University; Ochsner, Kevin N—Columbia University

Descriptors: emotion, perception, psychophysics

People vary in their emotional responses to the same event. How do differences in emotion sensitivity relate to individual differences in everyday behavior and experience? We investigated this by showing 282 participants a series of short video clips designed to elicit varying levels of positive and/or negative emotion. From their reported emotional responses, we used a multilevel probit regression to estimate each participant's emotion threshold, or how much "affective information" a video must contain for a participant to experience an emotional response. We found that participants with high day-to-day negative affect (I-PANAS-SF negative affect) were more sensitive to negative emotion (threshold difference = 0.4 video emotion units). Additionally, preliminary analyses indicate that older participants (aged 50-78, $N = 107$) were more sensitive to negative emotion than younger participants (aged 18-35, $N = 175$) (threshold difference = 0.5 video emotion units). These results suggest that emotion thresholds meaningfully predict everyday emotional experience. Future work will explore the neural bases of these emotion thresholds, and how the brain represents experimentally-induced changes in emotion labeling and experience.

Funding: National Institute of Aging #1R56AG057202

POSTER B-47

TO FEEL OR NOT TO FEEL: PRACTICING EMPATHY AND PERSPECTIVE SHIFTS WITH SHAKESPEARE

Pizzato, Mark—University of North Carolina at Charlotte

Descriptors: theatre, catharsis, cognitive reappraisal

How do plays and videos evoke a greater awareness of positive and negative emotions? This talk summarizes "rasa-catharsis" theory and a related experiment. The theory draws on ancient to modern theatre ideas of rasa (emotional flavor) and catharsis, plus current research from Bernard Baars and Stanislas Dehaene (Global Workspace Theory), Matthew Lieberman (social neuroscience), Iain McGilchrist (left/right cortical functions), Jaak Panksepp (circuits of primal emotions), Lisa Feldman Barrett (core affects), and Mario Beauregard (cognitive reappraisal of sad, erotic, and aversive film clips). Their work is synthesized in an "inner theatre" model, with metaphors for neural networks and their potential involvement in rasa-catharsis (tasting resonant feelings, thus clarified during a show). The SAS talk reports survey results from theatre history students (25-30 in each of 3 trials in January 2017, 2018, and 2019) who read the "To be or not to be" speech in Hamlet and then watched 8 videos from stage and screen productions. Findings in the first 2 years showed that students became aware of left-cortical, right-cortical, and limbic/subcortical functions—with perspective shifts between them—through staging and filmmaking choices in each of the videos. The survey results do not prove the presenter's theory, but they verify a method for increasing student awareness of theatre and video affects, countering the danger of "cathartic backfire" with melodramatic identifications of good versus evil stereotypes (and polarized political figures) in current mass and social media.

Funding: North Carolina

POSTER B-48

SINGLE-ITEM CRAVING MEASURES ARE BETTER PREDICTORS OF DRUG USE COMPARED TO MULTI-ITEM QUESTIONNAIRES: A META-ANALYSIS

Vafay, Nilofar—Yale University; Kober, Hedy—Yale University

Descriptors: Meta-analysis, craving measures, drug use

Craving – a strong desire – is studied as a new DSM5 diagnostic criterion for Substance Use Disorders: the most prevalent, costly, and deadly form of Psychopathology. Despite its importance, craving is not well-defined and has been assessed using variable methods. For example, in drug craving or cue-induced craving studies, craving has been measured using a myriad of tools including multi-item self-report questionnaires as well as single-item Likert-type or visual analogue scales (VAS). We first conducted a quantitative meta-analysis to assess whether drug craving and drug cue reactivity predict drug use and relapse. Across data from >45,100 drug users representing >620 statistics in >200 studies, we found that they reliably do. In another analysis assessing the effects of the type of craving measure on drug use – across >420 statistics, from >160 studies, representing >35,800 drug users – we found that single-item craving measures provided the strongest predictive power, significantly more than multi-item measures ($Q(1) = 17.46, p < .001$). That is, craving measured with a single item Likert or VAS scale was most predictive of future drug use and relapse. Methodologically, the findings highlight the important role of meta-analyses to assess consistency and address issues of replicability across entire fields of study. Theoretically, this work highlights the motivational significance of craving, and underscores the complexities involved in its measurement. It also provides a blueprint for selecting the best assessment methods in order to increase predictive accuracy.

POSTER B-49

APPRAISAL GUIDES AFFECT AND RISK TAKING IN THE BALLOON ANALOGUE RISK TASK

Young, Nathaniel A—DePaul University; Mikels, Joseph A—DePaul University

Descriptors: Appraisal, Affect, Risk Taking

Appraisal theory posits that situational evaluations (i.e. appraisal) direct change in components of emotion (e.g. feelings, action tendencies). From this view, emotion is reflected in patterns of these components. To explore the role of appraisal in the influence of emotion on risk taking, this study used the Balloon Analogue Risk Task (BART) to examine appraisal of different situations as a predictor of feelings and action tendencies (i.e. risk taking). 60 subjects completed one of two BART conditions (regular(R), loss(L)). On each trial, subjects earned money for each pump of a balloon, but if the balloon popped, no money was earned. Subjects determined when to stop pumping and collect. In the L BART, when a balloon popped, money was deducted from the bank, but in the R BART, no money was deducted. When finished, subjects appraised the task on 4 dimensions (goal obstruction, control, responsibility, certainty). Subjects rated their state affect before and after the BART. Results show that the L condition was appraised significantly more goal obstructing than the R condition ($F(1,58)=8.5, p < .01$), suggesting that the loss manipulation lead to divergent evaluations of the task. In addition, the L condition increased negative affect and reduced risk taking, whereas the R condition increased positive affect and risk taking. Overall, goal obstruction predicted changes in affect (Std.Beta=-.434, $p < .001$) and risk taking (Std.Beta=-.275, $p = .033$) in both conditions. The results support the idea that appraisal of the situation guides actions and feelings during risk taking.

POSTER B-50

THE ROLE OF PERCEPTUAL AND CONCEPTUAL PROPERTIES IN HUMAN AFFECTIVE HABITUATION

Itkes, Oksana—University of Haifa; Kron, Assaf—University of Haifa

Descriptors: Affective habituation, Affective learning, EMG

Habituation is perhaps the most pervasive and evolutionary ancient form of learning, defined as attenuation of response following repeated exposure to a stimulus. The ability to habituate to affective information is especially important, as constant activation of a strong emotional response can be maladaptive in most everyday situations. Surprisingly, very little is known about the mechanism that underlies affective habituation. In a set of two experiments (N = 60), we investigated the level of stimulus abstraction at which habituation of emotional response occurs. Specifically, we asked whether in the process of repeated exposure, affective habituation occurs for perceptual, conceptual and/or affective properties of the stimulus. To investigate this question, participants were repeatedly presented with an affective image, followed by a set of test images that shared perceptual, conceptual, or affective properties with the repeated stimulus, allowing us to compare the degree to which habituation can be generalized across different levels of stimulus abstraction. Results demonstrated that habituation across different components of the emotional response (self-reported feelings, facial expressions) not only occurred for the repeated stimulus ($p < .01$), but also generalized up to the conceptual level of the repeated stimulus ($p < .05$). These findings suggest that the conceptual system plays a role in affective learning.

POSTER B-52

INTRODUCING THE CARAT-DPA: A TEST TO ASSESS SENSITIVITY TO DISCRETE PRIMARY EMOTIONS EXPRESSED OBJECTIVELY IN DYNAMIC AND SPONTANEOUS FACIAL DISPLAYS

Buck, Ross W—University of Connecticut; Battaglia, Jacqueline—University of Connecticut; Dana, Elizabeth—University of Connecticut

Descriptors: Emotion receiving ability, Discrete primary emotions, Empathy

Most behavioral measures of nonverbal receiving ability employ posed or enacted facial displays, and have demonstrated a lack of construct validity: different measures assessing similar concepts correlate poorly. The Communication of Affect Receiving Ability Test (CARAT) uniquely employs film clips of dynamic and spontaneous facial expressions to assess nonverbal sensitivity objectively. We developed CARAT-SPR to assess abilities accurately to pick up emotions (emotional empathy) and to detect use of display rules (cognitive empathy). This study employed a corpus of 108 digital video clips used to construct CARAT-SPR to create a new measure of sensitivity to discrete primary emotion displays. The goal was to demonstrate construct and discriminant validity to extend the CARAT nomological net. We scored clips by the iMotions FACET system choosing those that prominently displayed a single discrete emotion. We organized these into the 24-clip CARAT-DPA (Discrete Primary Affects), which asked participants to choose the discrete emotion prominently displayed. Alternates included the correct emotion (e.g., Disgust); an emotion similar in valence (e.g., Sadness, Fear, Anger, or Contempt); Surprise; or Neutral. In an online study, 331 Ss took CARAT-DPA, CARAT-SPR to assess emotional and cognitive empathy, and the Toronto Empathy Scale (TES). Results revealed CARAT-DPA scores correlated strongly with emotional empathy (Pearson $r = .541$, $p < .001$), and modestly with cognitive empathy (.134, $p = .015$), and TES negative items ($r = -.115$, $p = .038$). Emotional empathy correlated positively with cogn

Funding: Supported by a major equipment grant from the University of Connecticut College of Liberal Arts and Sciences

POSTER B-53

EXAMINING SPEECH IN THE DAILY LIVES OF PEOPLE WITH AND WITHOUT SCHIZOPHRENIA: DIFFERENCES IN WORD USE AND ASSOCIATIONS WITH SYMPTOMS AND FUNCTIONING

Abplanalp, Samuel J—Boston University; Gold, Alisa—Boston University; Gard, David E—San Francisco State University; Fulford, Daniel—Boston University

Descriptors: schizophrenia, speech, lexical analysis

Compared to the general population, people with schizophrenia (SZ) use more negative affect words, fewer social words, and fewer overall words in lab-based speech tasks. Higher use of negative affect words and less social words is associated with more symptoms and worse functioning. It remains unclear if findings from lab-based settings translate to speech in daily life. The goal of this study was to examine associations between word use during daily social interactions and symptoms and functioning in people with and without SZ. Twenty people with, and 15 people without, SZ were administered symptom and functioning measures. They were then provided a smartphone equipped with an app that captured ambient audio from the surrounding environment in 5-minute recordings, every 30 minutes, for 7 days. We then used the Linguistic Inquiry and Word Count to categorize words from speech in daily life. Preliminary results (N = 23) do not support previous findings regarding group differences in word use or associations with symptoms/functioning. In a secondary analysis, we found that people with SZ used more positive affect words than those without SZ, $t(19.68) = -2.07$, $p = 0.05$. Anger words—a subcategory of negative words—was positively associated with delusions ($p = 0.58$, $p = 0.042$). We will present data on the remaining 12 participants at the conference. Our preliminary results indicate that findings from lab-based speech tasks may not translate to real-world social interactions. Additionally, the use of anger words may provide a behavioral-based marker of positive symptoms.

POSTER B-54

SUPERAGERS AND VISUAL CONSCIOUSNESS FOR AFFECTIVE INFORMATION USING A CONTINUOUS FLASH SUPPRESSION TASK

Savoca, Paul W—Northeastern University; Katsumi, Yuta—Northeastern University; Westlin, Christiana—Northeastern University; Touroutoglou, Alexandra—Massachusetts General Hospital/Harvard Medical School; Andreano, Joseph—Massachusetts General Hospital/Harvard Medical School; Quigley, Karen—Northeastern University; Feldman Barrett, Lisa—Northeastern University/Massachusetts General Hospital/Harvard Medical School

Descriptors: Valence Incongruence, Affect Induction, Affective Salience

Aging is typically associated with declines in cognitive functioning. A subgroup of older adults -- referred to as "superagers" -- have preserved cognitive functioning compared to young adults, as well as preserved cortical thickness and connectivity in a suite of brain regions within the default mode, salience and frontoparietal control networks that correlate with cognitive performance. Many studies have demonstrated the importance of these networks for detecting and processing affective information. We hypothesized that superagers would find affective information more salient when compared to typical older adults. Participants (young adults $n = 40$, typical older adults $n = 16$, superagers $n = 11$) were presented with smiling, scowling, and neutral faces under continuous flash suppression with visual noise, and pressed a computer key when they experienced each face emerge from suppression. They performed this task twice, under neutral and negative affect inductions. We found a significant age group x affect induction x face interaction, $F(2, 67) = 4.38$, $p < .002$. The face x induction interaction was driven by and only significant in superagers, $F(2, 16) = 6.11$, $p < .01$. Planned comparisons revealed that superagers took significantly longer to detect the emergence of smiling faces under negative vs. neutral affect induction, $t(10) = -4.64$, $p < .001$; this was not observed in typical older adults or in young adults. This suggests that, in superagers, the salience of novel information may be more influenced by their concurrent affective state than is true for typically aging adults.

POSTER B-55

EXPLORING AGE-RELATED DIFFERENCES IN TEMPORAL DISCOUNTING IN A SAMPLE OF OBESE AND OVERWEIGHT ADULTS

Paschall, Sarah C—University of North Carolina at Charlotte; Levens, Sara M—University of North Carolina at Charlotte

Descriptors: temporal discounting, age, obesity

Future oriented thinking and planning are important for making decisions across the lifespan. Temporal discounting (TD), the ability to delay current rewards in order to receive larger rewards in the future, has been explored a great deal in the context of financial and health planning, and quality of life. Moreover, higher TD has been linked with increased unhealthy food consumption and weight. Yet, no research, to our knowledge, has examined age related differences in TD with obese and overweight adults while also examining qualifiers such as depression symptoms and household income. In the current study we attempt to address this gap. As part of a larger health-related study, 105 overweight and obese participants completed a temporal discounting task, anthropometric measurements, and a battery of questionnaires that included demographic variable and psychological health. Analyses were conducted comparing younger (age 18-25 (mean = 21; SD= 2)) and older (age 40-70 (mean = 51; SD= 9)) participants. In addition, age was used as a continuous variable to explore the intersection of age, obesity (measured via BMI) and TD. With the exception of a trend association between increased depression symptoms and discounting ($p < .1$) no significant associations were found. This pattern of findings suggests that trait related individual differences in TD that are associated with health habits and obesity may overshadow age related differences in TD.

POSTER B-56

EMOTION EXPRESSIONS IN TWITTER AND ITS CORRELATES: A CROSS-NATIONAL STUDY

Ho, Yuen Wan—The Chinese University of Hong Kong; Yeung, June Chun—The Chinese University of Hong Kong

Descriptors: online emotion, social media, well-being

With the technology advancement of machine learning, we investigate the online facial emotion expressions and its relation to national happiness. We collected worldwide Twitter data in early 2018 and extracted users' profile picture, machine-learned attributes of facial basic emotions (anger, disgust, fear, happiness, sadness, surprise, plus neutral), and their basic demographic information. Descriptive statistics of our national online dataset from 41 countries (sample size = 173,684) were reported. Using our dataset and World Happiness Report 2018, we found that the online emotion expressions were associated with happiness indicators, including national subjective well-being, positive and negative affect, social support, log GDP per capita, healthy life expectancy, perceptions of corruption, and GINI index. Specifically, the facial expression of happiness had a significant positive association with national subjective well-being, positive affect, social support, log GDP per capita, and healthy life expectancy (Pearson's r correlations ranged from .464 to .617) and the facial expression of sadness had a significant positive association with negative affect, perceptions of corruption, and GINI index (r ranged from .325 to .409). We demonstrate an application of current advancement of machine-learned emotion recognition to the field of affective science. Those findings also suggest a potential usage of online emotion expression as one of the predictors of well-being.

Funding: This research was supported by the Interdisciplinary Research Seed Funding of the Chinese University of Hong Kong to the authors.

POSTER B-57

HOW DO PEOPLE CHOOSE HOW TO REGULATE OTHERS' EMOTIONS? IT DEPENDS ON THE INTENSITY OF THE EMOTION

Webb, Thomas L—The University of Sheffield; Matthews, Meghann—The University of Sheffield; Sheppes, Gal—Tel Aviv University

Descriptors: Emotion regulation, interpersonal emotion regulation

The intensity of emotions is an important determinant of how people choose to regulate their emotions, with evidence that people prefer distraction over reappraisal when confronted with distressing images (Sheppes et al., 2011, Psychological Science). However, people also try to help others to regulate their emotions – termed interpersonal emotion regulation. In an effort to understand whether intensity also influences how people choose to regulate others emotions, $N = 35$ female participants were asked to select between the strategies of distraction and reappraisal to regulate both their own (intrapersonal regulation) and another participants' (interpersonal regulation) emotions, in response to images of varying intensities. Consistent with previous research, participants preferred distraction over reappraisal when regulating their emotional responses to images of high intensity (distraction was chosen on 74% of trials), relative to images of low intensity (distraction was chosen on 29% of trials), $F(1, 34) = 86.30, p < .001, \eta^2 = .72$. There was a similar effect of intensity when participants were choosing how to help somebody else to regulate their emotions (participants chose distraction to help the other person on 62% of trials with images of high intensity and 31% of trials with images of low intensity), $F(1, 34) = 77.22, p < .001, \eta^2 = .69$. However, participants were more likely to choose to help others to reappraise their emotions in response to high-intensity images (38%) than they were to regulate their own emotions (26%), $F(1, 34) = 13.05, p = .001, \eta^2 = .28$.

POSTER B-58

PHYSICAL PRESENCE OF THE HARM-DOER MODULATES ANGER EXPRESSION AND PHYSIOLOGICAL AROUSAL: THE ROLE OF INTERDEPENDENT SELF-CONSTRUAL

Beyens, Urielle—Peking University; Yu, Hongbo—Yale University; Zhou, Xiaolin—Peking University

Descriptors: Interdependent Self-construal, Physical presence, Anger

How does the physical presence of the offender during interpersonal harm influence the victim's emotions? This question becomes greatly relevant in a world where physical presence is no longer a prerequisite for social interactions. This study explores the effect of mere physical presence (without visibility) of the harm-doer on anger expression and physiological arousal. We predict that the impact of physical presence would be modulated by interdependent self-construal. Sixty-five participants rated their trial-by-trial level of anger while they were passively harmed (aversive noise and money deduction) by a confederate sitting in the same room (present condition) or in another room (absent condition). Results revealed a significant interaction between interdependent self-construal and physical presence ($p < .05$). Specifically, physical presence of the offender, relative to absence, led to lower anger ratings ($p < .01$) and lower skin conductance ($p < .05$) responses only in participants with high interdependent self-construal. The low interdependent self-construal group showed the opposite trends for both measures. Drawing on the concepts of psychological distance and embodied cognition, we suggest that physical presence (vs. absence) of the harm-doer induces greater concreteness of the social context, motivating those with the disposition to value social bonds to reduce their angry response. Our findings highlight the essential regulatory function of physical presence on human emotions during interpersonal harm.

POSTER B-59

COMPARING COGNITIVE AND PHYSIOLOGICAL MEASUREMENTS OF REDUCED EMOTIONAL RESONANCE IN L2

Toivo, Wilhelmiina—University of Glasgow; Scheepers, Christoph—University of Glasgow

Descriptors: bilingualism, eye-tracking, cognitive psychology

Reduced emotional resonance of second language (L2) is often studied using cognitive behavioural paradigms such as lexical decision task (LDT). These findings are inconclusive, while physiological measurements seem to detect reduced emotional resonance consistently (Caldwell-Harris et al., 2010; Iacozza et al., 2017). The aim of our experiment was to compare physiological measurement (pupillometry) and an LDT using a well-controlled stimuli set to see which method is more reliable. 30 German-English bilinguals completed a pupillometry task and an LDT in English (L2) and in German (L1). 30 English monolinguals completed the tasks in English. We selected 40 neutral valence/low arousal, 40 positive valence/high arousal, and 40 negative valence/high arousal words, matched on length, lexical frequency and concreteness across conditions and languages. In the pupillometry task, participants' pupillary response to the words were measured. In the LDT, reaction times (RTs) were measured as participants decided whether each stimulus was a word or not. LDT data, analysed with Mixed Effect Models, showed no change of cross-condition effects (difference between neutral vs. the other two conditions) dependent on test language (model comparison with language: condition interaction included and excluded: $X^2(2)=0.88, p=0.64$). Thus, the LDT failed to detect reduced emotional resonance in L2. The pupil data are being analysed; based on previous findings we expect reduced effects of arousal in L2. If found, this would suggest that detectability of reduced emotional resonance is task-dependent.

Funding: First author's PhD is funded by the Economic and Social Research Council (ESRC)

POSTER B-60

DIFFERENTIATING MULTIPLE APPRAISAL PATTERNS ASSOCIATED WITH INDIVIDUAL NEGATIVE EMOTIONS

Qian, Weiqiang—Vanderbilt University; Smith, Craig A—Vanderbilt University; Kirby, Leslie D—Vanderbilt University

Descriptors: Appraisal theory, Latent profile analysis, Multiple emotions

Appraisal theory maps the relations between appraisals and the experience of particular emotions. A key question concerns whether there are multiple appraisal patterns associated with the experience of a given emotion. We report analyses designed to address this issue for five emotions: anxiety, guilt, fear, sadness, and resignation. From an aggregated dataset ($N=3761$) containing appraisal and emotion ratings across a broad range of emotion-eliciting situations, we formed a sample for each of the target emotions, comprised of individuals who reported very high levels of that emotion. We then used latent profile analysis to identify the patterns of appraisal associated with each emotion. Multiple appraisal profiles were observed for all five emotions. In each case, one of these profiles corresponded well to the appraisal pattern theoretically predicted for that emotion. In addition, appraisal profiles emphasizing high levels of self-accountability, not typically associated with the emotion, were observed for anxiety, resignation, and sadness. Finally, for all five emotions, an additional profile was observed that was relatively undifferentiated, reflecting medium levels of congruence, future expectancy, and coping potential. We also compared the patterns of the other emotions accompanying the target emotion for each profile, and found that these patterns were quite different across profiles. This suggests that the different patterns of appraisal associated with a particular emotion reflect, in part, the full pattern of emotions being experienced.

POSTER B-61

STRUCTURAL ABNORMALITIES IN THE ORBITOFRONTAL CORTEX AND ITS ASSOCIATION WITH PSYCHOPATHIC TRAITS IN ADOLESCENTS

Huang, Yong Lin—City University of New York, The Graduate Center; Lam, Bess Yin-Hung—The Hong Kong Polytechnic University; Gao, Yu—Brooklyn College, City University of New York

Descriptors: adolescence, psychopathy, brain imaging

The presence of externalizing behavior and psychopathic traits during youth are considered precursors to later criminal offending in adulthood. Individuals that exhibit these severe and chronic behavioral and personality characteristics account for over half the crime occurring in the United States by the time they are adults. Structural abnormalities in the brain, particularly in the frontal lobe, of incarcerated psychopaths have been well documented. However, the neural correlates underlying antisocial behavior and psychopathy in younger and nonclinical samples remain poorly understood. In this longitudinal study, preliminary structural brain imaging data from a small group of 12- to 14- year old healthy adolescents ($n = 29$) will be examined. Childhood psychopathic traits were reported by caregivers when the youth were 8- to 10- years old and at the MRI follow-up. Our results showed that the psychopathic traits significantly predicted later reduced (narcissism) and increased (impulsivity) gray matter volumes in the left IOFC, while the callous, uncaring and unemotional traits significantly predicted increased gray matter volumes in the right mOFC. These findings help us better understand the relationship between abnormalities in the brain (particularly in the OFC) and psychopathy in adolescence, which is essential to the designing and development of intervention measures in order to mitigate the occurrence of crime in adulthood.

POSTER B-62

EMOTIONAL EXPERIENCE AND NEURO-PHYSIOLOGICAL RESPONSE DURING EMOTION REGULATION: THE IMPACT OF REPEATED EXPERIENTIAL EMOTION REGULATION AND COGNITIVE REAPPRAISAL

Wang, Yulin—Vrije Universiteit Brussel; University of Ghent; Van Diest, Ilse—University of Leuven; Van Schuerbeek, Peter—Vrije Universiteit Brussel; De Mey, Johan—Vrije Universiteit Brussel; Marinazzo, Daniele—University of Ghent; Vandekerckhove, Marie—Vrije Universiteit Brussel

Descriptors: Experiential awareness, Reinterpretation, Repeated effects

As emotion regulation (ER) is crucial for mental health and well-being, the present study aims to validate a bottom-up experiential ER in comparison with top-down cognitive reappraisal. Despite abundant research on ER, little is known about experiential ER, as well as the fact most everyday ER challenges involve repeated confrontations with the same or similar emotional events happening or popping up in memories and thoughts, such as a painful conflict. In the present physiological study (69 female subjects) and fMRI study (40 subjects), a common ER paradigm was used to address the adaptiveness of repeated experiential ER and reappraisal in the processing of negative emotional events. On the level of emotional experience, experiential ER initially increased self-reported negative emotional experience, while reappraisal resulted in an immediate decrease of it and an increase of positive facial expressivity ($p = 0.02$). Repeated experiential ER relative to reappraisal on the other hand resulted in a bigger decrease of negative emotion and sympathetic arousal by the skin conductance response ($p = 0.05$), while increasing positive facial expressivity ($p = 0.03$). On the neuroimaging level, both repeated experiential ER and cognitive reappraisal resulted in a decreased activation of the occipital cortex while experiential ER leads also to increased activation of the angular gyrus. Relative to watch condition, repeated experiential ER leads to increased activation of insula cortex. These results mean a step further in the validation of experiential ER and cognitive reappraisal.

Poster Session C

Saturday, March 23, 2019

3:00 p.m.-4:15 p.m.

POSTER C-1

GOING WITH YOUR GUT: HOW DOES BELIEVING EMOTIONS ARE HELPFUL VS. HARMFUL SHAPE THE DECISION-MAKING PROCESS?

Gatchpazian, Arasteh—University of Toronto; Ford, Brett—University of Toronto

Descriptors: emotion, beliefs, decision-making

Emotion and reason have been pitted against each other in a long-standing debate. Although philosophers and psychologists have often been at the forefront of this debate, each individual holds his or her own belief about whether emotion is helpful versus harmful for reason. In turn, these emotion beliefs should have a powerful influence on whether individuals will 'listen' to their emotions when reasoning through life's decisions. The present studies sought to first validate a new scale to assess these emotion beliefs and then test whether these beliefs predict how people make decisions. First, in a large sample of undergraduates (Study 1, $N=778$) and longitudinal sample of community members (Study 2, $N=160$), we found the scale was internally consistent (Study 1 $\alpha=.75$; Study 2 $\alpha=.80$) and stable within people across time (Study 2 test-retest correlation across 6 months, $r=.66$, $p<.001$). Next, using this scale, we found that believing emotions are more helpful (vs. harmful) for decision-making was linked with engaging in more intuitive decision-making (i.e., listening to one's emotions when making decisions; Study 1 $r=.23$, $p<.001$; Study 2, $r=.39$, $p<.001$). However, these beliefs were not linked with rational decision making, suggesting that beliefs may shape the role of emotion in decision-making without coming at a cost to thoughtful processing. These data suggest that people's emotion beliefs may be an important driver of how they make decisions. This work is a first step towards learning how to leverage emotion beliefs to help people make more successful decisions.

POSTER C-2

TO PUNISH OR TO FORGIVE FREE RIDERS: HAPPY PEOPLE'S DILEMMA IN A PUBLIC GOODS DILEMMA

Son, Eun Ju—Queen's University; Choi, Incheol—Seoul National University

Descriptors: Happiness, Public goods game, Altruistic punishment

The present study examines how happy people, well-known for being good citizens, react upon witnessing free riders in a public goods dilemma. Previous literature suggests two competing hypotheses: Happy people will punish free riders or forgive them. In order to delineate happy people's reactions to free riding, we conducted two experiments using the public goods dilemma. A priori, we conducted a power analysis using G*Power software, with an estimated effect size of $d=.15$. Results revealed a total sample of 90 was needed to have power of .95 to detect an effect size. In Study 1, 256 participants played public goods game. We found that the happier people were, the less likely they were to punish transgressors in their group ($\beta=-.133$, $p<.01$). This pattern was also observed in two components of subjective well-being: life satisfaction and emotional balance. People who were satisfied with their lives were less likely to punish offenders ($\beta=-.161$, $p=.056$), as were those who were feeling good in general ($\beta=-.196$, $p=.005$). In Study 2, 95 participants read hypothetical public goods dilemma scenario. Study 2's results once again indicated happy people spent less money inflicting punishment on free riders ($\beta=-2.64$, $p<.05$). Together, Study 1 and 2 supported forgiving hypothesis. This expands past findings by revealing that happy people even forgive free riding, a behavior that goes against to the social values that they uphold.

POSTER C-3

RELATIONSHIPS BETWEEN TRAIT EMOTION DYSREGULATION AND EMOTIONAL EXPERIENCES IN DAILY LIFE: A SMARTPHONE EXPERIENCE SAMPLING STUDY

Daros, Alexander R—University of Virginia; Boukhechba, Mehdi—University of Virginia; Daniel, Katharine E—University of Virginia; Barnes, Laura E—University of Virginia; Teachman, Bethany A—University of Virginia

Descriptors: emotion regulation, experience sampling, mental health

Emotion dysregulation (ED) has emerged as a prominent risk factor for many mental disorders. However, researchers often use only retrospectively-reported questionnaires to study ED and few studies have examined how ED relates to emotional experiences and emotion regulation (ER) strategy use in daily life. In the current study, 112 college students completed a trait ED measure and then received smartphone-delivered experience sampling surveys over a two-week period as they went about their daily routines. Participants answered 33.91 ($SD=20.01$) sampling surveys on average, and 3798 surveys in total, which contained questions about their momentary emotional experiences and ER strategy use. We preregistered our hypotheses (osf.io/5rfnw) and expected that trait ED would be positively associated with negative mood, desire to change emotional experiences, endorsements of any ER strategy versus no strategy, and endorsements of an emotionally-avoidant (e.g., thought suppression) versus emotionally-engaging (e.g., acceptance) ER strategy. We also expected that trait ED would be negatively associated with positive mood, ability to identify emotions, and perceived effectiveness in changing emotions following ER. After standardizing affect scores within persons, multilevel modeling regressions confirmed all hypotheses, all $ps < .031$. This study demonstrates how real-world monitoring of the dynamic ER process can help uncover more specific difficulties (e.g., negative urgency, distress tolerance, context-insensitive ER selection) that are experienced by individuals with high trait ED.

POSTER C-4

AFFECTIVE CHANGES IN OLDER ADULTS DURING AN 8-WEEK FITNESS PROGRAM

Chen, Alicia—DePaul University; Young, Nathan—DePaul University; Mikels, Joseph—DePaul University

Descriptors: emotion, aging, exercise

Traditionally, group exercise programs created to improve the lives of older adults have focused on physical health and cognitive outcomes. However, group fitness programs may also improve the emotional well-being of older adults. The present study explored the possibility that an 8-week, tri-weekly group fitness program called Fit & Strong! might improve the emotional well-being of older adults. 42 older adults completed the Fit and Strong! program and four calls that assessed positive and negative affect during the course of the program. Participants rated their current positive affect (excited, elated, enthusiastic, happy, satisfied, content, calm, relaxed, peaceful), and negative affect (fearful, nervous, hostile, sad, lonely, unhappy, dull, sluggish, sleepy) on a 5-point Likert scale at four time points each two weeks apart. Results showed that participants experienced significant decreases in negative affect between time 1 and 4 ($t(84) = 3.340$, $p=0.001$), and time 3 and 4 ($t(84)=2.084$, $p=0.040$), and increases in positive affect between time 3 and 4 ($t(84) = -2.129$, $p=0.036$), $F(3,39) = 3.684$, $p = 0.013$. When controlling for adherence to the program, as measured by percentage of attended classes, the changes in affect were eliminated ($F(3,39) = 1.628$, $p=0.183$). These findings indicate that participating in a group exercise program can improve the emotional well-being of older adults.

POSTER C-5**MOTIVATIONAL INTEGRATION AND COGNITIVE CONTROL: DISSOCIABLE EFFECTS OF MONETARY, LIQUID, AND SOCIAL INCENTIVES**

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Descriptors: motivation, cognitive control, incentives

Motivational incentives play a central role in modulating goal-directed behavior. Prior work has shown humans combine the motivational value of primary (e.g., liquid) and secondary (e.g., monetary) incentives in an additive manner to jointly influence cognitive control—the ability to actively maintain and flexibly update task representations to attain task goals. We examined whether motivational integration generalizes to other ecologically relevant incentive types (e.g., social) by testing if the valence (i.e., appetitive, neutral, aversive) of social and liquid incentives is integrated with monetary reward to modulate cognitive control. Participants ($n=74, 18-40$ yrs) performed a novel incentive integration task involving cued task-switching. Critically, in separate blocks, they received either social (e.g., happy faces) or liquid (e.g., juice) incentives for successful attainment of monetary rewards, based on fast and accurate responses (i.e., reward rate). Reward rate was reliably modulated by monetary value (liquid: $b=.222, p<.001$, social: $b=0.113, p<.001$) and motivational valence (liquid: $b=.230, p<.001$, social: $b=0.058, p=.013$) in both liquid and social blocks. Strikingly, overall reward rates were higher with social relative to liquid feedback ($b=-.348, p<.001$), but also exhibited distinct valence effects (valence \times incentive type, $b=.029, p<.001$). These data suggest dissociable mechanisms by which social and liquid incentives are integrated into motivational value estimates. Future work will examine whether such effects generalize to other forms of social feedback.

Funding: Support for this research came from: R21 AG058206

POSTER C-6**ORDER MATTERS: EXAMINING THE EFFECT OF STRATEGY SEQUENCE ON REAPPRAISAL ABILITY**

Aleshire, Bradley—University of North Carolina at Charlotte; Sagui-Henson, Sara—Osher Center for Integrative Medicine—University of California, San Francisco; Levens, Sara—University of North Carolina at Charlotte

Descriptors: multiple strategy use, reappraisal

Previous research on emotion regulation (ER) has primarily focused on the use of singular strategies in response to emotion-eliciting stimuli. However, more emerging research demonstrates that individuals tend to use multiple strategies in response to real-world emotional events. However, it is unclear, how strategy sequence effects regulatory ability. The aim of the present study was to experimentally explore whether two ER sequences, consisting of the same strategies in different order, have different regulatory outcomes. Participants ($n=106$) completed a cognitive reappraisal ability task by watching three emotional video clips and providing a variety of positive and negative emotion ratings after each clip. These emotion ratings were used to calculate composite positive and negative scores, which were used to calculate reappraisal ability scores. During clip one, participants passively watched the video (baseline), and during clips two and three they were instructed to use reappraisal to either upregulate positive (URP) or up-regulate negative (URN) emotions to the videos. Strategy sequence was counterbalanced; half of participants ($n=50$) performed URP followed by URN, while the other half ($n=56$) did the opposite. A repeated measures ANOVA revealed differences in reappraisal ability scores as a function of strategy sequence (URP-URN vs URN-URP), and valence (positive vs negative composite scores) $F(1,104) = 55.86, p<.001$. Results suggest that that sequence use increases regulatory capacity and that strategy order effects valence specific regulatory ability.

POSTER C-7**NEGATIVE EMOTION NETWORKS AND REAL-TIME SUICIDE RISK**

Coppersmith, Daniel D.L.—Harvard University; Kleiman, Evan M—Harvard University; Millner, Alexander J—Harvard University; Franz, Peter J—Harvard University; Nock, Matthew K—Harvard University

Descriptors: Negative Emotion, Network Analysis, Suicide

The goal of the current study was to explore whether negative emotion networks change with the presence of suicidal thoughts. We hypothesized that negative emotion networks would have stronger connections in the presence of suicidal thoughts. 54 adults who had recently attempted suicide completed ecological momentary assessments on emotions and suicidal thoughts 4 times a day for 28 days. Multi-level vector autoregression was used to construct a network consisting of 5 negative emotions nodes. Two contemporaneous networks (i.e. correlations between emotions measured at the same time) were constructed: when suicidal thoughts were present (1,820 observations) and absent (1,071 observations). To compare density (i.e., the absolute value of all edges in the network), we conducted a permutation test, which showed that density was not significantly different when suicidal ideation was present (2.74) than when it was absent (2.38, $p>.05$). To compare the connections between emotions and the influence of different emotions in the networks, we calculated coefficients of similarity for edge values and node strength with Spearman correlations, which both showed relatively low similarity ($\rho = 0.53, 0.5$). These findings suggest that while negative emotion networks may not differ in global density when a person is suicidal, the influence and connections of specific emotions (e.g. anger) may be distinct. This work demonstrates how capturing and quantifying affective processes in-situ can improve our understanding of the complex relationships between negative emotions and suicide risk.

Funding: Pershing Square Venture Fund for Research on the Foundations of Human Behavior

POSTER C-8**TOLERANCE OF INTERPERSONAL DISTRESS VERSUS COGNITIVE DISTRESS IN INDIVIDUALS WITH SUICIDE IDEATION: A SHIFT TOWARD BEHAVIORAL MEASURES**

Barzilai, Eran—New School for Social Research; Miron, Noga—New School for Social Research; D'Andrea, Wendy—New School for Social Research

Descriptors: Interpersonal schema, Distress tolerance, Suicide Ideation

Aims: Extant research is inconclusive on whether suicide ideation (SI) is related to low or high distress tolerance. However, previous research has measured distress using cognitive tasks. In light of the Interpersonal-Psychological Theory of Suicide (IPST), which posits that unmet interpersonal needs are related to increased SI, the current study aimed to test tolerance of interpersonal distress in individuals with current SI. Method: 199 participants completed self-report measures of SI and two behavioral tasks—Nock & Berry-Mendes' (2008) Distress Tolerance Task (DTT) induced cognitive distress, and the CyberBall Game induced interpersonal distress by creating social isolation in a virtual ball-tossing game. Distress tolerance was calculated as the number of trials completed before withdrawing from the task. Results: Increased SI was correlated with more trials completed on each task, $b=5.32, t(300.3)=2.20, 95\%CI[0.58, 10.05], p=.005$. A negative approaching-significance association was found between SI and number of trials completed on the CyberBall, $b=-4.15, t(160.5)=-1.843, 95\%CI[-8.55, 0.26], p=.067$. This indicates that while individuals with SI demonstrated higher distress-tolerance capacities overall, their tolerance of interpersonal distress was significantly higher than that of controls. Conclusion: Our results suggest that interpersonal distress tolerance is different from cognitive distress tolerance in individuals with current SI. This emphasizes the importance of further investigating interpersonal needs as a key factor in suicidal thoughts.

POSTER C-9

INTERPERSONAL EMOTION REGULATION IN DAILY LIFE: ASSOCIATIONS WITH PERCEIVED EFFECTIVENESS, PSYCHOLOGICAL WELLBEING, LONELINESS, AND FUTURE SUPPORT-SEEKING

Swerdlow, Benjamin A—University of California, Berkeley; Johnson, Sheri L—University of California, Berkeley

Descriptors: Interpersonal Emotion Regulation, Daily Diary

Although interpersonal emotion regulation (IER) is receiving increasing attention, the empirical literature in this domain remains sparse. The goal of the present study was to examine psychological and interpersonal consequences of IER in daily life beyond immediate emotion regulatory effects. We obtained three weeks of daily diary data from 77 undergraduates. We examined the influence of specific IER provider responses (being physically present, empathic responding, expressing confidence, practical responding, providing distraction, and harsh responding) on an array of same-day and next-day outcomes, including IER recipients' perceptions of the effectiveness of IER interactions, daily experiences of wellbeing and loneliness, and likelihood of seeking IER the following day. Parallel random-intercept mixed effects models indicated that provider responses were significantly and differentially associated with the outcomes of interest, such that empathic responding most strongly covaried with perceived effectiveness ($b = .44, p < .001$) and predicted increased likelihood of seeking IER on the following day ($OR = 1.68, p = .03$), practical responding most closely covaried with same-day wellbeing ($b = .10, p = .04$), and harsh responding was most strongly associated with ($b = .38, p = .04$) and predicted ($b = .55, p = .005$) feelings of loneliness. These findings support the notion that IER, like intrapersonal emotion regulation, has diverse psychological and social consequences such that single interactions can significantly predict next-day psychosocial functioning and behavior.

POSTER C-10

A NOVEL PLATFORM FOR EMOTION RESEARCH BY MEASURING FACIAL EMG DURING VIRTUAL REALITY INTERACTIONS

Nduka, Charles—Emteq Ltd; Mavridou, Ifigeneia—Bournemouth University; Seiss, Ellen—Bournemouth University; Hamed, Mahyar—Emteq Ltd; Balaguer-Ballester, Emili—Bournemouth University

Descriptors: Affect detection, Virtual reality, Electromyography

Introduction: Virtual reality (VR) offers an ecologically valid environment for affective research, but excludes traditional methods of assessing user facial responses using cameras. We propose a method of facial muscle activation monitoring in VR. The technology is designed to work as an extra intermediate layer between the HMD and the face of the wearer, consisting of a foam-embedded array of 8 electromyography (EMG) sensors (on Zygomaticus major, Frontalis, Orbitocularis oculi and Corrugator muscles) and two photoplethysmogram sensors (PPG). **Methods:** 34 participants (20 female), from 18 to 40 years old ($M: 22.8, SD: 5.2$) watched a sequence of 40 video stimuli from an Affective library of clips, while self-rating their emotional state (arousal and valence). EMG recordings from 8 channels were recorded sampling rate: 1000Hz). Next, the recorded raw data were filtered, motion artefacts rejected, and the root mean square value per 512 sample windows calculated for each video epoch. The data and labels were sent into an C-SVM (RBF kernel) for 3-level valence classification (negative, neutral, positive), using 10-fold cross validation for each participant separately. **Results:** Each model, trained with data from each of 34 participants achieved an accuracy ranging from 62.4% to 96.4%, with an average accuracy across the group of 82.5% ($Std: 8.2$). The results of this initial study confirmed the feasibility of our approach. **Conclusion:** The Emteq VR platform offers a means of affective research using ecologically valid environments created in VR.

Funding: This study as funded by Emteq Ltd.

POSTER C-13

REAPPRAISAL DATABASE: COMPILING TRIALS ACROSS STUDIES OF EMOTION REGULATION

Abraham, Damon—University of Denver; Andrews, Eric—University of Arizona; Pan, Chelsey—University of Denver; McRae, Kateri—University of Denver

Descriptors: emotion regulation, cognitive reappraisal, database

Cognitive reappraisal is a method of emotion regulation involving changing the way one feels by changing the way they think. Research on reappraisal frequently employs image-based paradigms in which participants attempt to downregulate their experience of negative affect after viewing emotionally evocative pictures. However, much of this research has primarily focused on variations of reappraisal tactics and individual differences that predict regulatory success. Aside from normative ratings of valence, arousal, and basic emotion categories, little research has examined the stimulus-level properties that determine how amenable the experience is to change. To address this gap, we created a reappraisal database consisting of trial-level rating data from 334 affective images commonly utilized in emotion research. Across 20 image-based reappraisal studies (behavioral, physiological, fMRI, & online), we aggregated data from 1137 participants and over 96600 unique trials. On every trial, participants viewed negative or neutrally-valenced images and rated their affect when either allowing their emotions to unfold naturally ("Look") or actively attempting to improve their experience ("Reappraise"). We used this trial-level data to calculate a reappraisability score as the mean difference between the Look and Reappraise ratings for each image in the database. This database affords a deeper examination of the predictors of reappraisability at the stimulus level beyond the emotional intensity and an exploration of trial-level effects that are not possible within a single study.

POSTER C-14

CULTURAL DIFFERENCES IN ATTENTIONAL BIAS TO THREAT STIMULI UNDER STRESS

Choi, Steph J H—University of Wisconsin, Madison; Miyamoto, Yuri—University of Wisconsin, Madison

Descriptors: Nervousness, Attentional Bias, Culture

Previous studies conducted in Western cultures showed that anxious individuals automatically attend to threatening stimuli but selectively avoid such stimuli when they have control over their attention. However, whether the findings generalize to other cultural contexts is unclear. Because East Asians tend to perceive the utility of negative emotions more than European Americans, anxious East Asians may selectively attend to threatening stimuli. This study thus aimed to test cultural differences in attentional bias to threat depending on the duration of stimuli presentation. European Americans ($N = 83$) and East Asians ($N = 51$) participants were instructed of the Trier Social Stress Task (TSST) to induce anticipatory stress, followed by a dot-probe task, and then completed the TSST. Results showed a significant three-way interaction of Culture x change in anxiety level from the baseline x exposure duration (300 ms vs 1000 ms), $F(1,125) = 5.62, p = 0.02$. Specifically, at long exposure durations, there was a Culture x change in anxiety level interaction ($b = 1.48, F(1,125) = 10.14, p = 0.002$); with a greater increase in anxiety, European Americans were significantly avoidant of threat, while East Asians were relatively vigilant of threat. At short exposure durations, both groups did not show any bias regardless of anxiety change. These findings suggest that there are cultural differences in selective attention under stress. The present study provides preliminary evidence of cultural differences in how individuals direct their visual attention under stressful situations.

POSTER C-15

DEBIASING THE INFLUENCE OF INCIDENTAL AFFECT ON DECISIONS ABOUT CHARITABLE DONATIONS

Västfjäll, Daniel—Linköping University; Decision Research; Slovic, Paul—Decision Research

Descriptors: Decision making, Charitable donations, Debiasing

Charitable decisions are strongly motivated by perceived efficacy. It is especially troubling that sometimes vital aid that could be provided is withheld due to an illusion of ineffectiveness that we have named pseudoinefficacy. In this paper we test various procedures for eliminating, or at least mitigating, Pseudoinefficacy (i.e. less positive feelings and donations when reminded about the scope of the problem). Three different debiasing conditions (each with 200 participants) was compared to a control condition in an experiment; 1) an Affect Awareness manipulation that enabled blocking the intrusion of irrelevant feelings in judgments by simply reminding participants about the true source of their negative feelings, 2) the Child in the pond condition we used a version of Peter Singer's famous thought experiment to drive home the irrationality of pseudoinefficacy, 3) In the Teach condition, we simply gave participants information about pseudoinefficacy. All three conditions reduced pseudoinefficacy compared to the control condition. The average drop in positive feelings in all three debiasing conditions were from 7 to 5 instead of 7 to 3 on a 10-point scale. Similarly, the reduction of donations was significantly smaller in the debiasing conditions (4% across all 3 conditions compared to 15% for the control). Further, both positive and negative feelings were less predictive of donation amounts in all debiasing conditions. Together these findings show that pseudoinefficacy can be reduced both through affect-based as well as reasoning-based interventions.

POSTER C-17

PRIDE AND ITS PERSONALITY CORRELATES: A META-ANALYTIC PROJECT

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Descriptors: pride, personality, meta-analysis

Pride is a complicated concept, at times defined positively (as a positive emotional reaction to a personal success, or a tendency to experience such emotion) and at other times defined negatively (as coming across as arrogant or conceited). Based on this dichotomy, Tracy and Robins (2007) proposed that pride consists of two facets: authentic pride (AP) and hubristic pride (HP). For about a decade, researchers have often measured both facets and investigated their similarities and differences. The current work presents the findings of a large meta-analytic project, aiming to synthesize this research area and clarify the correlations between pride and other personality variables, including status variables and attributional tendencies. Comprised of 94 independent samples ($N = 52,314$) of predominantly American and Canadian adults, meta-analyses (both unweighted/weighted random effects models) were conducted for the relationship between AP and HP, and for each outcome variable separately, resulting in 109 total analyses ($ks = 2-92$). A significant but small correlation was found to exist between AP and HP ($r = .12$). In addition, there were many noticeable differences between AP and HP, with AP associated (for example) with high self-esteem ($r = .61$), low trait anxiety ($r = -.48$), and high prestige ($r = .52$), and HP correlating in an opposing pattern with the same variables ($rs = -.12, .23, -.13$, respectively). This project provides strong evidence that these types of pride are quite different constructs, and often appear to align in opposite ways with personality variables.

POSTER C-18

AGE DIFFERENCES IN SAD FACIAL EXPRESSIONS AND ASSOCIATIONS WITH COMPENSATORY CONTROL STRATEGIES

Wu, Deborah J—University of Massachusetts, Amherst; Lwi, Sandy J—San Francisco VA Medical Center; Haase, Claudia M—Northwestern University

Descriptors: sadness, aging

While research suggests that older adults show greater sadness reactivity than younger adults, little is known regarding the motivational or compensatory functions that sad facial expressions serve across the lifespan. The current study examined age differences and compensatory functions of sadness reactivity across adulthood. In a laboratory-based study of 103 younger and older adults (51 females), participants watched a sad and (for specificity) a happy film clip. Sad (e.g., mouth turning down) and happy (e.g., smiling) facial expressions in response to the film clips were coded using the Emotion Expressive Behavior system on a second-by-second basis ($kappa=.73$). Compensatory control strategies (e.g., activation of social support) were measured by the Optimization in Primary and Secondary Control Scale (6 items; $alpha=.63$). Results showed that (1) older age was associated with greater sad and happy facial expressions in response to the sad and happy film clips, respectively (sad: $r=.24, p=.024$; happy: $r=.28, p=.008$) and that (2) greater sad (but not happy) facial expressions predicted greater use of compensatory control strategies (sad: $r=.22, p=.037$; happy: $r=.09, p=.425$). Finally, (3) a mediational model revealed an indirect effect for sad facial expressions (95% CI [.0001, .011]) such that older age predicted greater sad facial expressions, which in turn predicted greater compensation. These findings support accounts that sadness promotes compensatory control strategies to help individuals deal with loss and shed light on why sadness reactivity might increase with age.

POSTER C-19

THE EFFECTS OF AFFECTIVE LABILITY ON EMOTIONAL AWARENESS, DEPRESSION, AND URGENCY: A LATENT VARIABLE ANALYSIS

Eckland, Nathaniel S—University of Illinois at Urbana-Champaign; Sperry, Sarah H—University of Illinois at Urbana-Champaign

Descriptors: Affective Lability, Emotional Awareness, Psychopathology

Theoretical models of the development of emotional disorders suggest affective lability (AL) may cause deficits in emotional awareness (i.e., clarity of and attention to emotions) leading to the manifestation of psychopathology. Supporting this theory, prior research shows AL, emotional clarity, and attention to emotions are related to several forms of psychopathology. We were interested in testing this theoretical model in relation to depression and urgency (i.e., mood-based impulsivity). We hypothesized that AL would be negatively associated with clarity and attention and positively associated with depression and urgency, as well as indirect effects of AL on psychopathology. Participants ($n=255$) completed trait measures of each variable. We constructed latent variables and tested direct paths from AL to each variable, awareness to depression and urgency, and indirect paths from AL to depression and urgency through awareness. The overall model showed adequate fit and there were significant direct effects for all paths except for those involving attention to emotions. The strongest associations were for AL predicting decreased clarity ($Beta=-.60$) and increased urgency ($Beta=.52$). There were also significant indirect effects for AL predicting depression ($Beta=.10$) and urgency ($Beta=.15$) through decreased clarity. Our results suggest that AL is strongly related to depression and urgency and may exert its distressing effects through impaired emotional clarity. Future directions include testing these models using the experience of emotion and psychopathology in daily life.

POSTER C-20

POSITIVE AFFECT PREDICTS LESS MEMORY DECLINE: EVIDENCE FROM A 9-YEAR LONGITUDINAL STUDY OF MID- AND LATE LIFE

Hittner, Emily F—Northwestern University; Stephens, Jacquelyn E—Northwestern University; Turiano, Nicholas A—West Virginia University; Lachman, Margie E—Brandeis University; Haase, Claudia M—Northwestern University

Descriptors: positive affect, memory, cognitive aging

Memory decline in mid- and late life is a public health concern for aging populations across the globe. Although positive affect plays an important role in healthy aging, its role in memory decline has rarely been studied. The present study examined associations between positive affect (i.e., experiences of enthusiasm, pride, attention, and activity) and memory (i.e., immediate and delayed recall performance), drawing from a 9-year longitudinal study of a US national sample of middle-aged and older adults ($N = 991$). Results revealed that positive affect predicted less memory decline across 9 years controlling for age, gender, education, depression, negative affect, and extraversion ($B = .09$, $SE[B] = .03$, $p = .004$, 95% CI [.031, .157]). Findings generalized across facets of positive affect and memory; were specific to positive affect (and did not emerge for negative affect); and did not differ by age, gender, or education. Reverse longitudinal associations between memory and positive affect were not significant. These findings extend the literature on the many benefits of positive affect to include, for the first time, benefits for memory functioning; possible pathways linking positive affect and memory functioning are discussed.

POSTER C-21

SEEK CONTEXT OR CONFIRM YOUR BIAS: THE IMPORTANCE OF EMOTION REGULATION IN AVOIDING CONFIRMATION BIAS BEHAVIOR IN POLITICAL DISCOURSE

Brunswick, Michael A—University of North Carolina at Charlotte; Maestas, Cherie D—University of North Carolina at Charlotte; Cawvey, Matthew—University of North Carolina at Charlotte; Levens, Sara M—University of North Carolina at Charlotte

Descriptors: confirmation bias, emotion regulation, politics

Given today's contentious socio-political climate, the factors that moderate confirmation bias, the tendency to seek information to reinforce one's beliefs, are especially important to identify. Cognitive characteristics such as need for affect (NA; the extent an individual enjoys and seeks out emotion) and need for cognition (NC; the extent to which an individual engages in effortful thinking) are postulated to drive confirmation bias behaviors, particularly in circumstances of heightened emotional arousal, which suggests that emotion regulation may moderate the association between NA and NC, and confirmation bias behavior. We test this hypothesis using a nationally representative sample ($N = 4000$) of survey data from a 2017 multi time-point study. A series of moderated regressions examined the direct relationship of NC, NA, and emotion regulation behaviors on confirmation bias behavior (discussions with those dissimilar to oneself), and the moderating role of emotion regulation behavior on confirmation bias behavior. Results revealed that NC ($\beta = .15$), NA ($\beta = .07$) and the emotion regulation behaviors of emotion contextualization ($\beta = .22$), disengagement ($\beta = -.09$), suppression ($\beta = -.1$), and emotion expression ($\beta = .19$), were significantly associated with confirmation bias behavior, yet only emotion contextualization moderated the association between NC and confirmation bias behavior ($\beta = -.17$, $p = .055$). These findings suggest that contextualizing one's emotions can reduce confirmation bias behaviors and potentially facilitate cross-aisle discussions.

Funding: National Science Foundation (Award 1743847): RAPID: Emotion Regulation, Attitudes, and the Consequences for Political Behavior in a Polarized Political Environment

POSTER C-22

NAVIGATING COMMON EMOTIONAL CHALLENGES: THE ROLES OF MINDFULNESS AND EMOTIONAL ENGAGEMENT

Petrova, Kate—Bryn Mawr College; Nevarez, Michael D—Harvard Medical School; Waldinger, Robert J—Harvard Medical School; Preacher, Kristopher J—Vanderbilt University; Schulz, Marc S—Bryn Mawr College

Descriptors: Mindfulness, Self-distancing

Research from a number of perspectives indicates that engaging with rather than avoiding negative emotions has adaptational advantages (Hayes et al., 2004), but less is known about the specific types of engagement that are most advantageous. This study examined links among trait mindfulness, self-distanced engagement, and emotional reactions to common stressors. 305 adults from the Harvard Study of Adult Development responded to two laboratory-based challenges – public speaking (TSST, Kirschbaum et al., 1993) and writing about a memory of a difficult moment. State emotions were assessed immediately before and after the two stressors. To capture different ways of engaging, measures of self-distancing, avoidance, and thought intrusion were collected during the lab session. Linguistic analyses (LIWC) were used to capture engagement (“verbal immediacy”) during the writing task. Participants completed a mindfulness questionnaire (FFMQ-SF, Bohlmeijer et al., 2011) prior to the lab visit. More highly mindful individuals reported less anxiety, $r = -.28$ (all p 's $< .05$) and sadness $r = -.30$ after the writing task and less anxiety after the TSST $r = -.27$. More mindful individuals were also more likely to report that they spontaneously self-distanced during the writing task, $r = .27$. The links between mindfulness and negative emotions were significantly mediated by self-distancing. Additional analyses and discussion focus on the links among mindfulness, engagement, avoidance, and intrusive thinking, as well as the implications for clinical practice and the study of emotional engagement.

POSTER C-23

FLUCTUATIONS OF AFFECT REPRESENT INTEGRATION OF INFORMATION BASED ON STIMULUS RELEVANCE AND PRIOR AFFECTIVE EXPERIENCE

Asutay, Erkin—Linköping University, Sweden; Väsfall, Daniel—Linköping University, Sweden

Descriptors: Affective fluctuations, information integration

Understanding how affect fluctuates in the face of ongoing sensory input is critical in understanding the role of affect in human behavior. Here, using a novel paradigm, we show that experienced affect at a given time reflects affective integration of sensory input and previously experienced affect, and this integration is influenced by stimulus relevance. Participants ($N = 89$) sequentially viewed four images in each trial (at a 4sec/image rate) and subsequently reported their momentary affective experiences on valence and arousal features. We then formulated predictive models of valence and arousal as a function of the normative image ratings in each trial and prior affective experience (reported in the previous trial). To manipulate stimulus relevance, we incorporated an attentional task (identifying a visual shape presented on top of the images) into this basic paradigm, which rendered a subset of the images as task-irrelevant. Critically, the results revealed a weighted-averaging mechanism for affective integration that assigns significantly higher weights to task-relevant ($B = .21 \pm .015$) compared to task-irrelevant images ($B = .17 \pm .014$). Importantly, affective averaging of stimuli and prior affect accounted for distinct contributions to currently experienced affect. The results provide support for the formulation that currently experienced affect carries information about both recent sensory information and prior affect. In addition, during this dynamical process goal-relevant information receives higher weights compared to irrelevant information.

POSTER C-24

ANHEDONIA PARTIALLY MEDIATES THE RELATIONSHIP BETWEEN NEGATIVE SCHIZOTYPY AND MOTIVATIONAL DEFICITS IN HEALTHY PEOPLE

Gandhi, Arti—Boston University; Abplanalp, Samuel—Boston University; Mote, Jasmine—Boston University; Fulford, Daniel—Boston University

Descriptors: schizotypy, anhedonia, negative symptoms

Negative schizotypy (NS) is conceptualized as deficits in emotional expressivity, social relationships, and experiencing pleasure. In previous studies, the cognitive symptoms of depression (e.g., negative thoughts about the self) have mediated the relationship between schizotypy and motivation and pleasure (Campellone et al., 2015). It is unclear whether affective symptoms of depression (i.e., anhedonia) are also related to NS and motivation. In this study, undergraduate students ($n = 58$) completed self-reports of schizotypy (SPQ-B; Cohen et al., 2010), anhedonic depression (MASQ subscale; Watson et al., 1995), and motivation and pleasure (MAP-SR; Llerena et al., 2013). NS was associated with less motivation and pleasure ($r = -.39$), while anhedonic depression was related to higher NS ($r = .57$) and less motivation and pleasure ($r = -.45$). However, when accounting for anhedonic depression, the relationship between motivation and pleasure and NS was no longer significant ($B = -.15$, $p = .24$). Thus, although negative schizotypy is associated with diminished motivation and pleasure, our findings suggest the association may be partially mediated by anhedonic depression. Targeting both the cognitive and affective features of depression may help address motivation and pleasure deficits in those high in negative schizotypy.

POSTER C-25

A BROAD EXAMINATION OF THE FACTORS UNDERLYING EMOTION REGULATION CHOICE

Young, Gerald, R.—University of California, Berkeley; Suri, Gaurav—San Francisco State University

Descriptors: emotion regulation choice, reappraisal, affordances

Emotion regulation choices are known to be profoundly consequential across affective, cognitive, and social domains. Prior studies have identified two important external drivers of emotion regulation choice: stimulus intensity and reappraisal affordances (defined as the opportunities for semantic re-interpretation inherent in a stimulus). However, the relative contributions of these drivers in determining choice and whether there are other external drivers is not yet known. The current study addressed these gaps by having participants provide ratings of stimulus intensity, reappraisal affordances, distraction affordances, and several discrete emotions while viewing negative images. One week before (Study 1 ($N = 57$) & 2 ($N = 59$)) or after (Study 3 ($N = 51$)) providing these ratings, participants viewed the same negative images and indicated whether distraction or reappraisal would best help them to regulate their emotions while viewing each image. In each of our studies, using different image databases to enhance generalizability, we replicated past findings by showing that stimulus intensity was associated with higher use of distraction (all $ps < .075$) and reappraisal affordances were associated with higher use of reappraisal (all $ps < .023$). We also found that the discrete emotion of disgust (but not other discrete emotions) is a previously unidentified driver of emotion regulation choice because it was associated with greater use of distraction (all $ps < .008$). These results suggest that there are likely myriad other important external drivers of emotion regulation choice.

POSTER C-26

LOW SELF-COMPASSION AND EMOTIONAL CLARITY REDUCE MINDFULNESS INDUCED AFFECTIVE ADAPTATION

Uusberg, Helen—University of Tartu; Paaver, Marika—University of Tartu; Uusberg, Andero—University of Tartu; Talpsep, Teri—University of Tallinn; Luuk, Kersti—University of Tartu; Aluoja, Anu—University of Tartu

Descriptors: mindfulness, difficulties in emotion regulation, the Late Positive Potential

Mindfulness state has been shown to reduce emotional attention over time, which is indicative of affective adaptation (e.g., Uusberg et al., 2016). In this study, we asked whether the extent of mindfulness-induced affective adaptation is related to self-reported difficulties in emotion regulation (DERS; Gratz & Roemer, 2004) and self-compassion (SCS; Neff, 2003). The sample consisted of 27 healthy participants as well as 16 psychiatric patients presenting chronic emotion dysregulation symptoms. Participants' EEG was recorded while they viewed neutral and negative IAPS images repeatedly during open monitoring induced mindfulness state and two control conditions (i.e., watch and distract). All stimuli were presented three times with the same viewing instruction to assess condition-related adaptation dynamics. The difference between the Late Positive Potential (LPP) amplitude in response to negative compared to neutral images (i.e., affective LPP amplification), served as an index of emotional attention. The difference between affective LPP amplification during the first and the third repetition of stimuli served as an index of affective adaptation. Results showed that mindfulness-induced affective adaptation was attenuated for participants reporting lower emotional clarity (DERS subscale; $r = -.38$, $p < .05$) and, on trend level, lower self-compassion (SCS; $r = .31$, $p = .06$). These findings suggest that the effectiveness of mindfulness techniques may depend on pre-existing levels of self-compassion and emotion regulation difficulties, particularly lack of emotional clarity.

POSTER C-27

MINDFULNESS-BASED STRESS REDUCTION ATTENUATES ANHEDONIA, INCREASES REWARD RESPONSIVITY, AND IS ASSOCIATED WITH REDUCED INFLAMMATORY RESPONSE IN THE SKIN

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Descriptors: reward, stress, inflammation

Stress triggers the onset of depression and anhedonia (lack of pleasure) and elevates systemic inflammation, which is itself linked to medical and psychiatric disorders. We conducted a randomized controlled trial to assess the effects of a mindfulness-based stress reduction (MBSR) intervention on stress, anhedonia, and markers of inflammation within a sample of stressed adults. Compared to waitlisted controls ($n=21$), the MBSR group ($n=20$) reported baseline to post-treatment improvements in stress ($t(39)=2.11$, $p=.041$, $d=.66$), depression symptoms ($t(38)=2.78$, $p=.008$, $d=.89$) and social anhedonia ($t(39)=2.13$, $p=.04$, $d=.66$), with effect sizes in the medium-large range. We also tested changes in 'reward bias', a measure of reward responsivity (from signal detection theory) previously shown to protect against increased severity of anhedonic and depressive symptoms. The groups had significantly different changes in reward bias ($t(33)=2.12$, $p=.041$, $d=.72$), with the MBSR group showing an increase across the study and waitlisted controls showing a decrease. Across groups, studywise increase in reward bias was associated with improvements in anhedonia (marginally significant). Also, across groups, improvements in social anhedonia ($r(25)=-.454$, $p<.001$) and clinical anhedonia ($r(25)=-.625$, $p<.018$) were associated with reduced inflammation, as measured by erythema response to ultraviolet light exposure. Together, results suggest MBSR ameliorates psychological symptoms and promotes adaptive reward response, which may buffer against negative effects of stress including chronic inflammation.

POSTER C-28

CROWDSOURCING PUNISHMENT: INDIVIDUALS REFERENCE GROUP PREFERENCES TO INFORM THEIR OWN PUNITIVE DECISIONS

Son, Jae-Young—Brown University; Bhandari, Apoorva—Brown University; FeldmanHall, Oriol—Brown University

Descriptors: conformity, punishment, decision-making

Justice systems often delegate punishment decisions to groups in the belief that aggregating individuals' punitive preferences facilitates judicious verdicts. However, group dynamics may also lead to individuals changing their punishment behaviors to conform to the majority's preference. In Experiments 1-4 (N=174), we used an Asch-style conformity paradigm in conjunction with an economic game to examine how groups' punitive preferences influence individuals' willingness to punish fairness violations. Results show that individuals become more punitive as a greater proportion of the group expresses desire to punish a perpetrator, both when acting as a victim, $F(1.31, 50.96)=32.75$, $p<0.001$, $\eta^2=0.46$, and as a juror, $F(1.13, 41.62)=17.46$, $p<0.001$, $\eta^2=0.29$. Indeed, group influence is so potent that individuals continue to integrate past groups' preferences into their decisions even when those groups cannot affect present outcomes, $F(2.67, 125.46)=3.24$, $p=0.029$, $\eta^2=0.07$. A computational model of decision-making further reveals that groups exercise influence by shifting punishment's value and reducing the stakes of an individual's choice (Bayesian posterior $P_s<0.001$). In Experiment 5 (N=300), we find that this conformity effect extends beyond fairness violations to encompass a variety of moral violations, $F(1.52, 452.60)=80.92$, $p<0.001$, $\eta^2=0.21$. Together, this suggests conforming to others' moral values is commonplace, and may help explain how groups make punishment decisions contrary to individuals' initial preferences for justice restoration.

POSTER C-29

AGE DIFFERENCES IN SPATIAL ATTENTION TO AROUSING EMOTIONAL STIMULI

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Descriptors: Aging, Attention, Emotion Regulation

Although there is a large body of work demonstrating an age-related preference for positive over negative content in attention, very little of this work has systematically examined how attention to emotional stimuli varies by both valence and arousal. Evidence from studies with younger adults has shown that stimulus arousal can influence attention regardless of stimulus valence in early attentional processes. Additionally, age-related changes in attention and emotion regulation abilities suggest that older adults may show a preference for low over high arousal stimuli. To examine potential age differences in emotional attention related to arousal, 50 younger adult and 50 older adult participants completed spatial cueing task evaluating attentional orienting and disengagement from positive and negative stimuli that varied by arousal. Participants were tasked with responding to the location of a spatial target after seeing an emotional image that either appeared on the same side (orienting) or opposite side (disengagement) of the screen. Younger adults took longer to disengage from high arousal stimuli regardless of valence, but this was not the case for older adults. Older adults oriented their attention more quickly to high arousal stimuli regardless of valence, but this pattern did not emerge for younger adults. These results suggest that stimulus arousal influences attention differently depending on age, as well as the attentional process being evaluated. This has implications for how we understand changes in attention to emotional information across the lifespan.

POSTER C-30

PROTECTIVE FACTORS OF THE NEED FOR COGNITION MITIGATED IN MAJOR DEPRESSION RELATIVE TO ANXIETY DISORDERS AND HEALTHY CONTROLS

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Descriptors: affective reactivity, need for cognition, depression

The need for cognition (NFC) is a motivational tendency to engage in and enjoy thinking. High NFC is associated with positive, adaptive dispositional traits such as openness, intrinsic motivation, self-esteem, and effective coping. Low NFC is predictive of loneliness, neuroticism, low motivation, and high negative affect. However, most research of NFC has been in non-clinical populations, and the relationship between NFC and mental health has yet to be explored. To investigate NFC and psychopathology, we examined psychophysiological data, subjective arousal ratings, diagnosis, NFC scores, symptom severity, and associations among mental health status and diagnosis. Unmedicated participants were recruited and assigned to one of four groups (depressed: $n=32$, anxious: $n=43$, comorbid: $n=34$, healthy: $n=28$). Skin conductance and arousal ratings were recorded during an emotional imagery task. NFC scores as well as depressive and anxiety symptom scores were also collected. A main effect of diagnosis ($F(3, 133)=4.16$, $p<0.01$) was found in that depressed participants possessed significantly lower NFC scores ($M=58.3$) than healthy participants ($M=70.4$). There were also negative correlations between depressive symptoms and NFC scores in the healthy ($r=-0.39$, $p<0.05$) and anxious groups ($r=-0.31$, $p<0.05$). Because depressed participants exhibited significantly lower NFC scores, this may reveal a disruption of the protective factors associated with high levels of NFC, which is further supported by the negative associations between NFC and depressive symptoms even in non-depressed groups.

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POSTER C-31

GENE EXPRESSION OF EMOTIONAL DYSFUNCTION RELATED TO CHRONIC RHINOSINUSITIS

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Descriptors: CTRA, Emotional well-being, Chronic Rhinosinusitis

Psychosocial adversity such as trauma and chronic loneliness have been linked to gene expression profiles in the immune system. One pattern, known as the Conserved Transcriptional Responses to Adversity (CTRA), is characterized by (1) an up-regulation of pro-inflammatory genes coupled with a down-regulation of genes engaged in (2) innate antiviral responses and (3) antibody synthesis. This pilot study targets individuals diagnosed with chronic rhinosinusitis (CRS; $N=17$), which not only impairs daily functioning but also affects emotional well-being. Emotional functioning in these patients was measured by a subscale of the Rhinosinusitis Disability Index (RSDI), which assesses disease-specific quality of life. Higher scores indicate worse emotional functioning. CTRA gene expression was assayed from circulating leukocytes using a next-generation targeted gene expression platform. The 53-gene contrast score that summarizes three pre-defined components of the CTRA profile were log transformed. The results show that greater CRS-related emotional dysfunction was correlated with up-regulated expression of proinflammatory genes $r=0.632$, $p=.006$ and down-regulated expression of antiviral genes, $r=-.588$, $p=.013$. When the emotional subscale is further divided into the three facets of social relationships, internalized negative affect and externalized negative affect, a link between externalized negative affect and antibody synthesis genes emerges as well, $r=-.491$, $p=.045$. These findings suggest CRS is another form of adversity that contours gene expression in the immune system.

POSTER C-32

SOCIALLY TRANSMITTED PLACEBO EFFECTS

Cheong, Jin Hyun—Dartmouth College; Chen, Pin-hao A—Dartmouth College; Jolly, Eshin—Dartmouth College; Elhence, Hirsh—Dartmouth College; Wager, Tor D—University of Colorado, Boulder; Chang, Luke J—Dartmouth College

Descriptors: placebo effect, interpersonal expectancy, social interactions

Medical treatments typically occur in the context of a social interaction between healthcare providers and patients. Although modern medical treatments tend to ignore these interactions, decades of research on placebos have demonstrated that patients' expectations can dramatically impact treatment outcomes. Less is known, however, about the influence of providers' expectations on patients' experiences. Here, we systematically manipulated providers' expectations in a simulated clinical interaction involving administration of thermal pain and found that patients' subjective experiences of pain were directly modulated by providers' expectations of treatment success. These effects did not appear to be simply a reporting bias, as we also observed changes in objective measurements of pain such as skin conductance responses and facial expression behaviors. The belief manipulation also impacted patients' perceptions of providers' empathy during the pain procedure and manifested as subtle changes in face expression behaviors during the clinical interaction. These findings appear to generalize beyond specific patients and providers as they replicated in an independent sample. Together, these results provide evidence of a socially transmitted placebo effect, highlighting the importance of how healthcare providers' behavior and cognitive mindsets can impact clinical interactions.

POSTER C-33

A GROWTH CURVE ANALYSIS OF EMOTION REGULATION STRATEGY USE OVER TIME: TEMPORAL STABILITY AND COUPLING WITH DEPRESSIVE SYMPTOMS

Everaert, Jonas—Ghent University; Joormann, Jutta—Yale University

Descriptors: Emotion regulation, depression, Temporal dynamics

Little is known about the temporal stability of emotion regulation strategy use and its dynamic relations with depression symptoms over time. This study examined intraindividual change trajectories of repetitive negative thinking and positive reappraisal, as well as how longitudinal changes in these processes are related to changes in depression severity. Data were collected weekly at twenty different time points over the course of five months. At each time point, participants (N=460) completed established questionnaires measuring repetitive negative thinking, positive reappraisal, and depression symptoms. The results of the univariate growth models showed that the prototypical pattern of intraindividual change for repetitive negative thinking (Coef.: -0.418, SE=0.061, $p < .001$) and positive reappraisal (Coef.: -0.021, SE=0.010, $p < .001$) showed a weak decrease over time. Interestingly, bivariate growth modeling revealed that longitudinal changes in depression severity were related to changes in repetitive negative thinking ($r = .87$, 95%-CI: 0.53; 0.97) but not in positive reappraisal ($r = -.18$, 95%-CI: -0.37; 0.02). These findings suggest that the use of repetitive negative thinking and positive reappraisal are relatively stable processes over time, but only the use of repetitive negative thinking covaries with depression and anxiety symptoms. This substantiates the theorized role of repetitive negative thinking as a transdiagnostic risk factor involved in depression.

Funding: Research Foundation Flanders (FWO Vlaanderen); Belgian American Education Foundation (BAEF)

POSTER C-34

THE INFLUENCE OF OPERATIONAL STRESS ON DELAY DISCOUNTING IN APPLIED SETTINGS

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Descriptors: delay discounting, impulsivity, anxiety

Given the choice, people tend to prefer immediate over delayed rewards, referred to as delay discounting. Previous work has demonstrated that delay discounting is reliant on executive processes that tend to deteriorate under acute stress states. For instance, in laboratory settings, anticipatory stress has been shown to increase propensity to select smaller, sooner rewards. However, the influence of operational stress experienced by law enforcement or military personnel in field settings remains to be explored. For example, soldiers often operate under uncertain or threatening conditions but must accomplish specific long-term mission goals. Thus, it is important to understand how anticipatory stress states might influence the tendency to choose immediate over longer term outcomes. The present field study examined the influence of a highly stressful 72-hour military training exercise on delay discounting. Thirty-seven active duty soldiers completed a delay discounting task prior to and following the stressful mission. Results revealed a significant difference in rates of discounting pre vs. post stress ($t(36) = -3.178$, $p = .003$). Specifically, participants had higher rates of discounting in anticipation of the stressor compared to post stress, suggesting that acute anticipatory stress may bias individuals towards immediate rewards. Findings contribute to our understanding of how stress might lead to impulsive decision making. Discounting the value of future rewards could have implications for operational performance in applied settings.

POSTER C-35

PARENTAL CONDITIONAL REGARD, MOTIVATION, AND RISK FOR PSYCHOPATHOLOGY IN YOUNG ADULTS

Gill, Kathryn A—Boston University; Mote, Jasmine—Boston University; Abplanalp, Samuel—Boston University; Fulford, Daniel—Boston University

Descriptors: Parental Conditional Regard, Psychopathology, Motivation

Parental Conditional Regard (PCR) refers to parenting behavior that involves varying attention/affection given to a child based on the child's performance in an effort to promote parentally desired behavior. Both positive (increased affection/attention) and negative (withholding of affection/attention) PCR can have negative effects on people's emotion regulation, motivation, coping skills, and close relationships – all factors related to mental health outcomes. In the current study, we examined the relationship between PCR, motivation/pleasure, and psychopathology risk in undergraduate students ($n = 58$). We included self-report assessments of PCR (PCPR/PCNR; Assor & Tal, 2012), schizotypy (SPQ-B; Raine, 1991), hypomania (HPS; Eckblad & Chapman, 1986), mood and anxiety (MASQ; Watson et al., 1995), and motivation/pleasure (MAP-SR; Llerena et al., 2013), as well as lab-based measures of motivation. We found that conditional negative regard was related to higher total schizotypy, hypomania, and depression ($r_s = .31-.68$, $p_s < .05$), and less motivation and pleasure only in the social domain ($r_s = -.37$, $p < .01$). Conditional positive regard was related to negative, but not positive, schizotypy (i.e., social difficulties and diminished emotion expressivity; $r_s = .29$, $p < .05$). Analysis of lab-based tasks is ongoing. Findings suggest that positive and negative PCR maybe differentially related to psychopathology risk, and that negative PCR may be uniquely related to the social domain of motivation and pleasure.

POSTER C-36**EMOTIONAL DYNAMICS ON SOCIAL MEDIA VARY BY Culture: THE ROLE OF IDEAL AFFECT**

Hsu, Tiffany W—Stanford University; Knutson, Brian—Stanford University; Tsai, Jeanne L—Stanford University

Descriptors: culture, social media, contagion

Despite the global popularity of social media, surprisingly little research has examined whether cultures differ in what types of content are spread online. Although previous studies suggest that content with high-arousal emotions spread more online, that work focused on Western samples. We predicted that because US culture values excitement and other high-arousal positive states (HAP) more and calm and low-arousal positive states (LAP) less than Japan, HAP would spread more than LAP in the US; HAP would spread more in the US than in Japan, and LAP would spread more in Japan than in the US. To test this prediction, we scraped a total of 130K English tweets by 2K US and Japan Twitter users and 110M tweets by their followees (2M followees) as a proxy for the content exposed to the users. We scored the tweets on valence and arousal using SentiStrength. To quantify emotion transmission, we fitted logistic regression models and used the odds ratios to capture the extent to which exposure to each emotion state predicted users' expression of that emotion state. These models revealed that as predicted, US users transmitted more HAP than did Japanese users, $z = 3.26$, $p = 0.001$; there were no differences in transmission of LAP between cultures. Also as predicted, US users also transmitted more HAP than LAP, $z = 4.62$, $p < 0.001$; HAP and LAP were transmitted similarly in Japan. This work suggests that cultural differences in emotional ideals predict which emotions are more likely to spread online.

POSTER C-37**GRATITUDE INCREASES CORRUPT COLLABORATION**

Wang, Ke—Harvard University; Moore, Molly—Harvard University; Lerner, Jennifer—Harvard University

Descriptors: gratitude, unethical behavior

Although gratitude has been shown to have many positive effects, its potential negative effects have rarely been explored. Here we examine the potential effects of gratitude when decision makers must choose between competing moral sentiments—being honest versus helping a partner by lying, despite the financial cost to a third party (i.e., the experimenter). In a large experiment ($N = 1,000$), we randomly assigned participants either to a gratitude or a neutral condition, and then asked them to play a dyadic die-rolling game, in which participants could lie to help their partner earn a bonus. Results revealed that gratitude increased lying by 13% relative to the neutral condition ($\chi^2 = 14.65$, $p < .001$), and the differences were mediated both by self-reported gratitude ($p < .01$) and by other-focus ($p < .001$). While there are many documented positive impacts of gratitude, these findings provide a nuanced view of gratitude as a moral emotion, and highlight the potentially harmful effects of gratitude in enabling exploitation and corruption.

Funding: National Science Foundation

POSTER C-38**A PSYCHOBIOLOGICAL PROFILE OF TRAUMA-EXPOSED SOUTH AFRICAN YOUTH**

Kouri, Nicole—The New School for Social Research; Beranbaum, Sarah—The New School for Social Research; Burton, Geoffrey—The New School for Social Research; Soufer, Kayla—The New School for Social Research; Khedari, Vivian—The New School for Social Research; D'Andrea, Wendy—The New School for Social Research

Descriptors: Emotion Regulation, Global Mental Health, Psychophysiological Research

This study is a psychobiological overview of trauma-exposed youth ($N=119$) participating in Waves for Change (W4C), a trauma-informed surfing therapy program focusing on developing emotion identification and regulation skills, based in Cape Town, South Africa. The majority of W4C students have faced multiple adverse childhood events. Consistent with the literature which suggests that traumatic stress affects physical, emotional and cognitive health, we measured resting heart rate variability (HRV) that provides a physiological index of neurological adaptivity to stress. HRV can be decomposed to reflect sympathetic nervous system activity, which is associated with fight-or-flight activity - high values create risk for aggression and hypervigilance - and parasympathetic nervous system, which is associated with emotion regulation and self-soothing behaviors. W4C students' ($N=93$) mean parasympathetic activity was 84.37ms^2 ($SD=37.26\text{ms}^2$) and mean sympathetic activity was 2335.65ms^2 ($SD=2728.84\text{ms}^2$). Although the parasympathetic activity was within normal range (males: $M=101.19\text{ms}^2$, $SD=37.38\text{ms}^2$; females: $M=83.07\text{ms}^2$, $SD=31.68\text{ms}^2$), the sympathetic activity was significantly elevated as compared to age-related norms ($t(291)=2.418$, $p=0.0162$). This study demonstrates the feasibility of conducting emotion-focused psychophysiological research outside of a western context.

POSTER C-39**SHAME ON...MYSELF? INTERNALIZED WEIGHT STIGMA PREDICTS SELF-REFERENT WORD USE TO HEALTH-BASED EMOTIONAL STIMULI**

Etzel, Lena—University of North Carolina at Charlotte; Sagui-Henson, Sara J.—Osher Center for Integrative Medicine; Jafari, Nadia—University of North Carolina at Charlotte; Levens, Sara, M—University of North Carolina at Charlotte

Descriptors: Weight bias, Language use, Shame

Research has demonstrated that language may allude to emotional states and cognitive processes of individuals. Specifically, use of first-person pronouns has been linked to negative emotional states and attention to the self. Weight bias internalization (WBI) has consistently been associated with negative emotional states, yet no research has examined whether individuals with WBI differ in their pronoun use compared to individuals who are low in WBI. As part of a larger health-related study, 93 individuals completed a battery of psychological questionnaires and watched weight-related video clips featuring higher-weight individuals experiencing weight-related health challenges. After the first video, participants wrote down positive and negative thoughts that emerged in response to the video and rated a range of emotions. LIWC, a text-analysis program, was used to examine participant's use of first-person (e.g., I, me), and third-person (e.g., he/she) pronouns. First-person pronoun use, but not third-person pronoun use correlated positively with WBI ($r=.324$, $p<.002$), BMI ($r=.206$, $p<.047$), and shame ($r=.204$, $p=.05$). When controlling for BMI and gender, greater WBI predicted greater first-person pronoun use ($\beta=.306$, $p<.01$, $\Delta R^2 = .069$), but not third-person pronoun use. These findings suggest that individuals with high WBI use more first-person, self-referent language even when exposed to a weight-related stimulus that is not explicitly directed at them. This uncovers a novel link between language use and negative emotions as they relate to weight bias and stigma.

POSTER C-40**WILLINGNESS TO PAIN: RISK TAKING AND PROBABILITY SENSITIVITY IN DECISIONS INVOLVING PAINFUL AND MONETARY OUTCOMES**

Koppel, Lina—Linköping University; Andersson, David—Linköping University; Morrison, India—Linköping University; Tinghög, Gustav—Linköping University; Västfjäll, Daniel—Linköping University and Decision Research

Descriptors: Pain, Decision making, Risky choice

How do people value affective experiences such as pain? In this study, participants ($n = 45$) performed a risky choice task and a willingness to pay (WTP) task, once for monetary outcomes and once for painful outcomes. In the risky choice task, participants chose between two options that each involved some probability of monetary loss or painful heat stimulation. In the WTP task, participants indicated how much they were willing to pay to avoid losing money [receiving pain] with some probability. We found no difference in risk taking between painful and monetary outcomes (paired samples $t = 0.83$, $p = .411$). When participants decided between painful (compared to monetary) outcomes, they slightly more often used an expected-value heuristic by which they took into account both the magnitude and the probability of the outcome, and less often used a minimax heuristic by which they chose the least bad outcome regardless of its probability of occurring ($t = 2.91$, $p = .006$). Finally, we found no support for the hypothesis that WTP increases more for monetary losses than for painful outcomes as probabilities increase (interaction between outcome type and probability: $p = 0.928$). Taken together, our findings suggest that when choice options are presented as numerical information in a joint-evaluation format, decision processes are similar for affect-rich and affect-poor outcomes.

POSTER C-41**SHE'S DANGEROUS WHEN I'M ANGRY: AFFECTIVE FEELINGS INFLUENCE SOCIAL PERCEPTION EVEN FOR NON-NEUTRAL TARGETS**

Devlin, Madeleine A—Northeastern University; Wormwood, Jolie B—University of New Hampshire; Siegel, Erika H—University of California, San Francisco; Quigley, Karen—Northeastern University; Edith Nourse Rogers Memorial (VA) Medical Center; Feldman Barrett, Lisa—Northeastern University; Massachusetts General Hospital, Athinoula A. Martinos Center for Biomedical Imaging

Descriptors: Affective Realism, Gender, Race

Affective realism refers to the phenomenon by which feelings shape our in-the-moment experience of objects and people. However, empirical work on affective realism has primarily focused on how feelings shape the experience of otherwise neutral stimuli. Here, we examined whether affective realism extends to evaluations of even affectively evocative stimuli. Across two studies, we utilized a continuous flash suppression paradigm to present consciously-seen faces paired with positive, negative, or neutral affective images that were suppressed from reportable awareness. In Study 1 ($N=48$), we examined whether affective realism occurred even for seen faces that were explicitly affective (i.e., seen faces had smiling, scowling, or neutral expressions). In Study 2 ($N=64$), we examined whether the strength of affective realism differed for faces that might have learned or stereotypic affective value (e.g., faces of different races and/or genders). As expected, we found evidence of affective realism in both studies: seen faces paired with suppressed positive images were evaluated more favorably than seen faces paired with suppressed negative images ($F_{s>2.885}$, $p_{s<.061}$). However, we saw no differences in the strength of affective realism across seen face types. Even individuals who reported greater endorsement of race and gender stereotypes in Study 2 utilized affect to the same extent when evaluating all targets. These findings demonstrate that feelings we may not be aware of can influence social perception even when we have overt positive or negative evaluations of the other person.

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POSTER C-42**BODY CHECK: THE ROLE OF PERIPHERAL PHYSIOLOGY IN AFFECTIVE REALISM**

Feldman, Mallory J—Northeastern University; Wormwood, Jolie—University of New Hampshire; Siegel, Erika—University of California, San Francisco; Quigley, Karen—Northeastern University; Feldman Barrett, Lisa—Northeastern University

Descriptors: Affective Realism, Physiology

According to the affective realism hypothesis, affective feelings (incidental or not) can be experienced in real-time as intrinsic properties of objects or people. While past research suggests that affective feelings are associated with concurrent bodily activity (e.g., facial muscle movement), it is unclear whether changes in peripheral physiology are necessary for experiences of affective realism. In the present study ($N=105$), we used continuous flash suppression to simultaneously present images of seen neutral faces and affective images (positive, negative, neutral) which were suppressed from awareness. Participants made evaluative judgments of the seen neutral faces, and peripheral physiological activity (e.g., facial muscle movement, cardiovascular activity) was recorded. A subset of participants also completed a cardiac interoceptive sensitivity task—a measure of sensitivity to changes in one's heartbeat. As expected, seen neutral faces were evaluated more positively when paired with suppressed positive images than with suppressed negative images ($\chi^2(1)=14.16$, $p<0.001$), and selective indices of peripheral physiological activity also differed across affective conditions. However, peripheral physiological activity did not mediate experiences of affective realism, even among participants higher in interoceptive sensitivity. In addition, less interoceptively sensitive individuals exhibited the strongest affective realism effects. Taken together, these data suggest that changes in bodily activity are unlikely to underlie experiences of affective realism.

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POSTER C-43**FMRI PATTERNS DO NOT NECESSARILY CORRESPOND ONE-TO-ONE TO EMOTION CATEGORY LABELS**

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Descriptors: pattern classification, emotional granularity, fMRI

Studies using multivariate methods have claimed to identify distributed patterns of brain activity that distinguish one emotion category from another, describing these patterns as neural signatures, biomarkers, or neural fingerprints for common emotion categories. No reported pattern replicates across studies, however, meaning that the brain signature for an emotion category reported in one study cannot identify instances of that category in other studies. We hypothesized that brain signatures of emotion do not replicate because people differ in the precision with which the brain constructs emotion categories (i.e., emotional granularity). Past work has shown that emotional granularity has important implications for mental and physical health, relationships, education, etc. To test our hypothesis, we used a previously collected fMRI dataset ($n=15$) which was acquired while audio narratives were presented to participants with the intent to induce folk psychology categories of emotion (fear, happiness, sadness). We utilized model order selection to learn the number of clusters (i.e., mental categories) that are justified by the BOLD data for each participant and compared the discovered categories to the intended folk psychology categories. For a given folk emotion (fear), 3 subjects had 3 discovered mental categories, 8 had 2, and 4 had 1. Our findings suggest that people differ in the granularity with which their brains construct emotion categories, such that the emotion categories supported by the brain data of individuals do not correspond to the folk categories of emotion.

POSTER C-45

THE RELATIONSHIP BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND COGNITION IN MAJOR DEPRESSIVE DISORDER

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Descriptors: adverse childhood experiences, cognition, depression

There is a compelling association between adverse childhood experiences (ACEs) and psychiatric disorder in adulthood, including treatment-resistant, repeated-episode depression. Furthermore, ACEs permanently affect brain development, such as hippocampal volume loss and pathology in connectivity. Cognitive impairment is experienced by a subset of individuals who have Major Depressive Disorder (MDD) but it is unknown whether such deficits are related to ACEs. Cognition is strongly associated with real-world functioning in MDD, and both are responsive to cognitive remediation, an intervention that aims to rebuild neuroplasticity and functional skills through drill and practice exercises. We examined how the culmination of ACEs was associated with baseline cognition and functioning, and response to cognitive remediation. Twenty-seven individuals with MDD completed treatment and a retrospective interview that reliably measures childhood trauma, as well as tests of cognition and functioning before and after intervention. The results of regression analyses indicated that greater trauma was associated with poorer baseline cognition ($B = .555, p = .003$), but also with more improvement following treatment ($B = -.448, p = .019$), respectively accounting for 31% and 20% of variance. ACEs were not related to measures of functioning. Results imply that childhood trauma explains some of the cognitive differences experienced by those with MDD. Additionally, depressed individuals who faced ACEs and are cognitively impaired may especially benefit from cognitive remediation.

POSTER C-46

US VOTERS CHOOSE EXCITED PRESIDENTIAL CANDIDATES WHEN AMERICA IS BOOMING

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Descriptors: Emotion, Culture

Previous studies find that U.S. leaders show more excitement than leaders from other nations because excitement states are valued more in the U.S. Here we tested whether presidential candidates who used more excitement words during debates received more of the popular vote in the last 12 elections, and whether this varied by socioeconomic conditions. Candidates who used more excitement words during debates received a greater percentage of the popular vote (state level) when the U.S. was experiencing growth (low unemployment: $\beta = .09, S.E. = .03, p < .001$; low crime rates: $\beta = .14, S.E. = .05, p < .01$; high GDP: $\beta = .13, S.E. = .05, p < .01$; high median household income: $\beta = .13, S.E. = .04, p < .01$). However, this relationship became non-significant or even reversed when the country was in crisis (high unemployment: $\beta = -.45, S.E. = .08, p < .001$; high crime rate: $\beta = -.06, S.E. = .04, p = .18$; low GDP: $\beta = -.002, S.E. = .04, p = .97$; low median household income: $\beta = -.86, S.E. = .10, p < .001$). Therefore, when the U.S. is booming, candidates who express excitement are more likely to be elected president. These findings suggest that candidates' emotional expressions matter but so do socioeconomic conditions.

POSTER C-47

IMPLICIT AND EXPLICIT ATTITUDES TOWARDS EMOTION EXHIBIT DIFFERENTIAL RELATIONS TO DEPRESSION

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Descriptors: Attitude, Belief, Depression

Attitudes towards emotion (ATE) refers to a person's beliefs and feelings about their emotional experiences. Negative ATE is associated with higher levels of depression. However, most work has focused solely on explicit attitudes, so it is unclear how implicit ATE is associated with depression. Thus, the current study investigated implicit and explicit measures of ATE and how these measures were associated with depression symptoms. Specifically, we examined fear of emotion (i.e., how much a person fears an emotion) and duration beliefs (i.e., how long a person believes an emotion lasts). Eighty female undergraduates were administered the Affective Control Scale to measure explicit fear of feeling depression and positive affect (PA). Single-Target Implicit Association Tests were used to measure implicit associations of fear of emotion and duration beliefs, with depression symptoms and PA, respectively. Results revealed that explicit fear of depression and PA predicted depression symptoms, even after controlling for negative emotion regulation strategies. In addition, higher levels of implicitly assessed negative duration beliefs about PA (i.e., faster association between PA words and short-living words) predicted higher levels of depression symptoms, even after controlling for explicit fear of PA ($F(2,76) = 6.59, p = .002, b = 5.52, SE = 2.51, t = 2.20, p = .031$). Our findings contribute to the literature showing that not only explicit, but also implicit ATE, are associated with depression severity, possibly through a strong attitudinal association between PA and brevity.

POSTER C-48

FEELING ALONE: IMPLICIT ATTITUDES TOWARD INTERPERSONAL STIMULI IN SUICIDE IDEATION

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Descriptors: interpersonal needs, Suicide Ideation, Implicit attitudes

Aim: The Interpersonal-Psychological Theory of Suicide (IPST) posits that unmet interpersonal needs are related to increased suicide ideation (SI). Though this suggests that interpersonal stimuli may be perceived as more negative by individuals with SI, previous studies used affiliative pictures as positive stimuli. Further, interpersonal needs have been assessed using solely self-report measures. Using behavioral methods, this study aimed to test whether interpersonal needs operate on an implicit level in SI. It was hypothesized that individuals with SI vs. controls, would implicitly process affiliative pictures more negatively, and pictures of people alone more positively. Method: 199 participants completed self-report measures of SI, and the Affect Misattribution Procedure (AMP)- they were asked to ignore a brief presentation of an affiliative/alone picture, and rate a following brief presentation of a Chinese character as pleasant or unpleasant, thus measuring their implicit evaluation of the previous picture. Results: Affiliative stimuli were overall rated more positive compared to lonely stimuli, $b = 16.70, t(376) = 6.93, 95\%CI[56.56, 63.23], p < .001$. Increased SI was correlated with overall decreased pleasant rating of pictures, $b = -6.44, t(376) = -2.78, 95\%CI[-10.97, -1.90], p = .005$. As hypothesized, higher SI levels were negatively associated with implicit rating of affiliative pictures, $b = 10.47, t(376) = 3.20, 95\%CI[4.05, 16.90], p = .001$. Conclusion: These results suggest that unmet interpersonal needs may operate on an implicit level, and play a central role in SI.

POSTER C-49

NEURAL MECHANISMS BY WHICH CONTEXTUAL LEARNING GUIDES THREAT DETECTION

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Descriptors: Threat, Context, Learning

Traditionally, it is theorized that detection of threatening stimuli is driven in a bottom-up manner their physical properties or salience. However, threatening stimuli typically occur embedded in contexts containing predictive cues regarding their identity and location. In the present study (N=26), we examined whether detection of threatening targets is driven not only by stimulus properties but also by learning of contexts in which they appear. Furthermore, we used fMRI to examine the neural mechanisms by which contextual learning facilitates detection of threatening stimuli. For this purpose, we modified the contextual cueing task in which targets that are repeatedly encountered at an invariant position within the same distractor configuration or context are detected faster than when they are presented in non-repeated, random distractor configurations. Our results showed that just like neutral targets, threatening targets are detected faster in repeated configurations than in new distractor configurations indicating that contextual learning facilitates detection of threatening targets ($F(1,25)=20.36, p<.001$). Neurally, we observed differential activation in the medial temporal lobe (MTL) and frontoparietal areas important for attending to spatial context for repeated compared to new contexts, and for threatening compared to non-threatening targets over time ($p<.05$, corrected for multiple comparisons). Whereas prior work has emphasized bottom-up factors in threat detection, our findings highlight the neural mechanisms important for contextual guidance of threat detection.

POSTER C-50

CZECH EMOTION DATABASE: SUBJECTIVE AND PHYSIOLOGICAL RESPONSES TO EMOTION ELICITING FILMS

Novák, Ondřej—Charles University, Prague

Descriptors: Elicitation, Methodology, Films

Czech Emotion Database consists from large array of film excerpts used for emotion elicitation in healthy participants. A set of studies were set to estimate the range and intensity of emotion elicited by each film. Firstly, qualitative methods were employed in order to access participants feelings during clip watching. Secondly, all film clips were validated on Czech sample using newly acquired emotion words and the emotion list used for validation purposes in similar studies. Additionally, dimensional and continual ratings were measured for selected film clips. Thirdly, physiological responses (HR, RR, SCL) were measured during the film watching. The Database provides Czech researchers with the information necessary for choosing the right stimuli. The poster will present selected data for demonstrating the purpose of the Database and its proper use.

Funding: GAUK n.830218, Charles University

POSTER C-51

DAILY STRESS RELATES TO EMOTION DYNAMICS BUT NOT CORTISOL DYNAMICS IN A NATIONAL SAMPLE OF ADULTS

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Descriptors: stress, dynamics, cortisol

Emotion dynamics characterized by higher intraindividual variability (IIV; larger fluctuations) and higher inertia (emotions that 'linger' from one moment to the next) have been associated with poorer health. Less is known about what gives rise to these dynamics, as well as how emotion and cortisol dynamics may be related, given affective and health theory suggesting their interplay. We examined the role of daily stress in individuals' day-to-day emotion and cortisol dynamics, and associations between these dynamics. Participants (N=1736, 33-84 years, 44% male) from Midlife in the US reported stressor frequency and severity and negative emotions on 8 consecutive nightly telephone interviews and provided saliva samples on 4 interview days. Individuals' negative emotion (average of 14 items) and cortisol dynamics (after detrending) were quantified with respect to IIV and inertia. Daily stressor frequency and severity were positively associated with negative emotion IIV and inertia ($ps<.0001$), but not with cortisol IIV or inertia. In models controlling for mean negative emotion, neither emotion IIV nor inertia were associated with cortisol IIV or inertia ($ps>.30$). Daily stress processes may be associated with a potentially maladaptive emotion pattern characterized by larger day-to-day fluctuations, but also stronger self-predictive lingering effects that make emotions slower to recover back to homeostatic levels. Although emotion and cortisol dynamics may respond in different ways to daily stress, it is fruitful to examine these dynamics in addition to mean-level responses.

Funding: This research was supported by the National Institute on Aging (K99-AG056635, P01-AG020166, U19-AG051426) and the John D. and Catherine T. MacArthur Foundation Research Network.

POSTER C-52

EMPATHIC FACIAL EXPRESSIONS IN SOCIAL SITUATIONS FOR POSITIVE AND NEGATIVE EMOTIONS ASSESSED BY FACIAL ELECTROMYOGRAPHY

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Descriptors: empathy, social interaction, facial electromyography

Recent studies have indicated that positive empathy has a social function such as motivating stronger relationships, which is not the case with negative empathy. We examined whether facial expressions representing empathic responses for positive and negative emotions reflected a social function. Facial electromyography (EMG) was measured as an indicator of empathic expressions, which is a vicarious expression: participants' smiles (activation of the zygomatic majors) when observing positive outcomes for another person and their frowns (activation of the corrugator supercilii) when observing adverse outcomes for another person. Participants were required to observe situations in which there was a monetary gain or a loss for another person. In order to examine whether empathic expressions for positive and negative emotions were affected by social interactions, we compared magnitudes of facial EMG between conditions in which the partner could see the participant's face through a camera and when they could not see the face. Results indicated that participants with low empathic traits expressed more positive facial expression when they saw the partner's reward when their faces were shown to the partner. Participants displayed no differences in facial expressions for another person's negative outcomes and displayed difference only in empathy for positive outcomes. These results suggest that functional differences in empathy for positive and negative emotions also corresponded with empathic expressions.

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POSTER C-53

HIGHER SELF-ESTEEM IS PROTECTIVE IN AFRICAN AMERICAN ADOLESCENTS

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Descriptors: self-esteem, behavioral health, delinquency

Problem addressed: Many studies have examined risk factors associated with poorer behavioral health among low-income African American youth, such as low school engagement, delinquency, mental health problems, drug use, and risky sex. However, fewer studies have examined protective factors for such behavioral health risk behaviors. This study sought to address this gap by examining whether high levels of self-esteem were associated with better behavioral health factors for this population. A survey was administered to a sample of 638 low-income African American adolescents in Chicago to examine the degree to which high self-esteem was associated with delinquency, anxiety/depression, cocaine/crack use, likelihood of risky sex, and school engagement. Method: Stepwise linear and logistic regression models were estimated to assess the influence of self-esteem. Critical findings: Higher self-esteem for this sample of low-income African American adolescents was associated with lower rates of delinquency ($\beta = -0.18$; 95% confidence interval = $-0.23, -0.13$), lower levels of anxiety/depression ($\beta = -0.62$; 95% CI = $-0.76, -0.48$), lower likelihood of crack/cocaine use (adjusted odds ratio = 0.86; 95% CI = 0.79, 0.93), lower likelihood of risky sex (adjusted odds ratio = 0.90; 95% confidence interval = 0.83, 0.96), and increased rates of school engagement ($B=0.20$; 95% CI = 0.12, 0.28). Contribution to Affective Science: These findings suggest that higher self-esteem may promote better behavioral health factors for African American adolescents in the United States.

POSTER C-54

THE EFFECTS OF EMOTION REGULATION ON PHYSIOLOGICAL ACTIVITY AND DECISION MAKING DURING THE ULTIMATUM GAME

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Descriptors: emotion regulation, decision-making

The Ultimatum Game (UG) is an economic task where one player offers to split a sum of money with a partner who can either accept or reject said offer. In this game, individuals often reject unfair offers due to emotional interference. Therefore, accepting an unfair offer (the rational decision) requires emotion regulation (ER; the ability to manage one's response to a salient affective experience) to control affective reactivity. Evidence shows that heart rate variability (HRV) is a reliable biomarker of ER; specifically, high levels of baseline HRV and HRV reactivity reflect adaptive ER. Prior studies using the UG found baseline HRV positively related to ER; as well, an ER manipulation increased unfair offer acceptances. However, no study has looked at how engaging ER can affect HRV reactivity and subsequent decision-making. Sixty-five students played the UG during continuous physiological recording. In blocks 1 and 2, participants played both the role of recipient and proposer, though in block 2, participants were first told to view each offer analytically. Results showed acceptance of unfair offers increased from block 1 to 2 ($t=-4.05, p<.01$), though there was no effect of block on HRV reactivity. In both blocks, increased HRV reactivity was related to reduced retaliatory unfair offers, though not unfair offer acceptances. Lastly, change in HRV reactivity from Block 1 to 2 did not directly impact unfair offer acceptances. We conclude that while cognitive engagement of an ER strategy does increase rational decision-making, it does not affect physiological indices of ER.

POSTER C-55

ALCOHOL IMAGES SELECTIVELY DISRUPT PERCEPTUAL DECISION MAKING IN ALCOHOL USE DISORDER

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Descriptors: Attention capture, Alcohol Use Disorder, Decision-making

In individuals with Alcohol Use Disorder (AUD), alcohol cues are known to draw attention at an early stage of information processing, contributing to attentional bias. However, it is yet unknown whether exposure to alcohol cues affects decision-making, whether the effect is selective to alcohol or generalizes across affective stimuli, and whether this effect is associated with impulsivity and with cue-induced craving. In this study, 20 individuals with AUD were shown four types of images: alcohol, food, negative, or neutral. On each trial, while the image remained on the screen, blue and green circles appeared on its sides (side was randomized). Participants were instructed to make a simple perceptual decision and indicate whether the blue circle was on the left or right of the image. Participants also completed measures of impulsivity and cue-induced craving. AUD participants made significantly more errors on alcohol trials compared to other trial types ($F(1,19)=6.36, p=.02$). Further, the effect of alcohol cues on decision-making was associated with trait impulsivity, and with intensity of cue-induced craving. As such, in AUD, alcohol cues preferentially capture attention and are distracting, inasmuch as they interfere with concurrent decision-making. The results are interpreted in the context of prior studies reporting that alcohol cues bias attention, induce cue reactivity, and increase craving, which in turn predicts alcohol use. The results have important implications for AUD treatment given the abundance of alcohol-related cues in the real world.

POSTER C-56

UNDERSTANDING MATERNAL MECHANISMS LINKING UNSUPPORTIVE EMOTION PARENTING TO AGGRESSION AMONG PRESCHOOLERS

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Descriptors: Emotion parenting, Maternal affect, Child aggression

Parenting styles involving negative responses to children's emotions (i.e., unsupportive emotion parenting) have been robustly linked to child behavior problems, such as aggression. Furthermore, maternal negative affect and emotion regulation difficulties are also associated with child level factors that are strong predictors of aggressive behavior (i.e., inhibitory control, emotion regulation). However, limited studies have investigated how the combination of these parenting and maternal factors influence aggressive behavior among preschoolers. The current study explores how maternal negative affect and emotion regulation mediate the association between unsupportive emotion parenting and aggressive behavior in their preschool-aged children. Mothers ($N = 86$) completed measures of negative affect, difficulties with emotion regulation, emotion parenting, and reported on the aggressive behavior of their child, as part of a larger study investigating parent-child interactions related to self-regulation. Results support a serial mediation model in which mothers' unsupportive emotion parenting is indirectly associated with their child's aggressive behavior through their own negative affect and difficulties with emotion regulation (indirect effect = 0.20, SE = 0.15, CI [.02, .66]). These findings highlight key factors linking unsupportive emotion parenting to aggression among preschoolers, suggesting that strengthening parent emotion regulation capacities may be an important consideration for intervention and prevention of behavioral difficulties in young children.

POSTER C-57

NEGATIVE EMOTION AND PERCEPTIONS OF SOCIAL CLASS

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Descriptors: social class, valence, face perception

Recent research indicates that rich people's neutral faces display more positive affect than poor people's neutral faces do, providing emotion-based cues for the accurate perception of social class (Bjornsdottir & Rule, 2017). Furthermore, perceivers categorize smiling faces as rich more often than neutral faces. But do perceivers use only differences in valence to judge social class from the face, or do they hold expectations about specific emotions? We tested this here by examining how three negatively valenced emotions affect perceptions of social class: sadness, anger, and disgust. The former two relate to both stereotypes and actual correlates of lower social class (depression, hostility; Marmot et al., 1991), whereas disgust does not. Consistent with stereotypes of poor people, targets (N = 160) displaying sad and angry facial expressions were categorized as poor more often than neutral targets (sadness: $t(159) = 19.28, p < .001$; anger: $t(159) = 16.17, p < .001$). However, targets expressing disgust (N = 80) were also perceived as poorer than neutral targets, $t(79) = 11.08, p < .001$. Together, this suggests that perceivers rely on differences in valence rather than specific emotions to form judgments of others' social class. These findings provide more nuance to our understanding of the relation between emotion and perceptions of social class, indicating that the more pervasive association of low social class as a negative state, rather than specific emotion stereotypes, may drive social class impressions.

POSTER C-58

USE OF LINGUISTIC DISTANCING AND COGNITIVE REAPPRAISAL STRATEGIES DURING EMOTION REGULATION IN CHILDREN, ADOLESCENTS, AND YOUNG ADULTS

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Descriptors: Emotion regulation, Psychological distancing, Development

Emotion regulation is a critical skill at all ages. Cognitive reappraisal is an effective emotion regulation technique that involves rethinking the meaning of a stimulus. Recent work suggests that adults reduce their use of present tense verbs and first-person singular pronouns (e.g., "I," "me," "mine") when engaging in cognitive reappraisal, and this linguistic shift is thought to track increased psychological distance. Here, we investigated whether children and adolescents also use linguistic distancing during emotion regulation. 112 subjects aged 10 to 23 spoke aloud their thoughts and feelings while responding naturally to negative and neutral images, and cognitively reappraising negative images. Results replicated prior findings in this developmental sample: Participants spontaneously distanced their language when reappraising ($p < .001$), and stronger linguistic distancing was associated with more successful emotion regulation ($b = .24, p = .01$). Interestingly, linguistic distancing and emotion regulation success did not vary by age ($p > .408$), but reappraisal strategy use did. Changing circumstances (i.e., the event is less negative than initially thought) and challenging reality (i.e., the event might not be real) were the most frequently used strategies across the sample. While changing circumstances use increased with age ($p = .040$), challenging reality use was elevated in early adolescence relative to other ages ($p = .040$). Results suggest that linguistic distancing during emotion regulation is stable from age 10 to 23 but use of cognitive reappraisal strategies differs.

POSTER C-59

CHARTING THE FULL APPRAISAL-EMOTION SPACE WITH PARALLEL PROCESS LATENT PROFILE ANALYSIS

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Descriptors: Appraisal theory, Multiple emotions, Parallel process latent profile analysis

The associations of appraisals to the experience of individual emotions have long been studied. However, individual emotions are almost never experienced in isolation, and there are few data examining the patterns of appraisals associated with the blends of emotion typically experienced in real life. Using latent profile analysis on an aggregated dataset (N=3761) containing appraisal and emotion ratings across a wide range of emotion-eliciting situations, we extracted five appraisal profiles and five emotion profiles. These profiles represent the major patterns of appraisal and emotion, respectively, that were elicited across the sampled situations. The relations between these appraisal and emotion profiles were examined by combining the two sets of latent profile analysis with a parallel process model. A chord diagram was produced to visualize the links between the appraisal and emotion profiles, and to facilitate interpretation. The appraisal and emotion profiles were found to be systematically related to one another in ways that can be meaningfully explained by appraisal theory. For example, an appraisal profile emphasizing other-accountability was strongly linked an emotion profile emphasizing other-directed negative emotions, and an appraisal profile emphasizing motivational congruence was associated with an emotion profile emphasizing positive emotions. Our analyses depict the ecologically valid relations among combinations of appraisals and emotions typically experienced during emotional encounters.

POSTER C-60

OXYTOCIN EFFECTS ON THE RESTING-STATE MENTALIZING BRAIN NETWORK

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Descriptors: Oxytocin, brain network, mentalizing

Evidence indicate that the effects of OT on human behavior are multifaceted, such as trust behavior, decrease anxiety, empathy and bonding behavior. Since the vital role of mentalizing in understanding others, here we proposed and tested that whether OT has a general effect on theory of mind brain network which is associated to the effect of related social behavioral and personality traits. Used a randomized, double-blind placebo-controlled group design, we investigated the resting-state functional magnetic resonance imaging after intranasal OT or placebo. The functional connectivity (FC) maps with seed in left temporoparietal junction (ITPJ) and right TPJ showed that OT significantly increased connectivity between rTPJ and default attention network (DAN), while decreased the FC between ITPJ and medial prefrontal network (MPN). With implementing machine learning approach, we further reported satisfactory classification accuracy that identified altered FCs of TPJ can classify OT and PL group. Moreover, individual's empathy trait can modulate the FC between left TPJ and right RECT, which was positively correlated with empathic concern in PL group whereas ITPJ-rRECT negatively correlated in OT group. These results demonstrate that OT has significant effect on FC with ITPJ and rTPJ, brain regions critical for mentalizing, and the empathy concern can modulate the FC. These findings add to our understanding of the neural mechanisms by which OT modulates social behaviors, especially in social interaction involving mentalizing.

POSTER C-61

HIGH ANATOMICAL CENTRALITY OF LIMBIC CORTICES CONTRIBUTES TO HIGH TOPOLOGICAL CENTRALITY

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Descriptors: limbic cortices, anatomical centrality, topological centrality

More densely connected brain regions exhibit higher topological centrality. Predictive processing literature posits that limbic cortices occupy a central anatomical position and sit at the top of the predictive hierarchy, integrating high-level, abstract information. We hypothesized that anatomical centrality uniquely contributes to topological centrality, over and above degree (number of connections). We sampled 487 young adults to reconstruct a group connectome of white matter pathways between 219 cortical regions. For each region, we derived degree and 4 topological centrality indices (betweenness centrality, participation coefficient, within-module z score and communicability). We estimated anatomical centrality as normalized spatial proximity to the anterior commissure. We ran hierarchical regression tests with each topological centrality as the outcome, and degree and anatomical centrality as predictors. As predicted, anatomical centrality explained unique variances in all 4 topological centrality measures, over and above degree. Higher anatomical centrality uniquely predicted higher betweenness centrality ($t(199) = 2.17, p = 0.03$), participation coefficient ($t(208) = 2.05, p = 0.04$) and communicability ($t(206) = 6.87, p < 0.001$), as well as lower within-module z score ($t(207) = -5.18, p < 0.001$). Our findings suggest that highly anatomically central areas such as the limbic cortices integrate already highly-integrated information across different modules, consistent with the proposal of a high-level, domain-general limbic workspace for unified conscious experience.

POSTER C-62

THE EFFECT OF SELF-RELEVANCE APPRAISAL ON THE AFFECTIVE RESPONSE

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Descriptors: Appraisal, Relevance

Appraisal theories assume that an emotional response is preceded by an evaluation phase that assesses the stimulus' relevance to the perceiver's well-being. Although the effect of relevance on the emotional response is supported by empirical findings, it has been proven difficult to control and manipulate. Especially difficult is ensuring that the physical properties of the stimulus remain constant while changing the appraisal itself. The current study's primary goal is to experimentally manipulate the relevance of stimuli while ensuring its physical properties remain unchanged. To this aim, we used stimuli with high ecological validity: participants (40, 26 females) were about to learn their Israeli Psychometric Entrance Test (PET) score for the first time during the experimental session. During the session, facial electromyography (EMG), heart rate (HR), electrodermal activity (EDA), and reported experiences were monitored. The Israeli PET score is equivalent to the SAT and ACT tests in the United States, thus very important for most university candidates, as it plays a major role in acceptance into university programs. We found a substantial effect for manipulated relevance on self-reports, $F(1, 471) = 137, p < .0001$; electrodermal activity, $t(573) = 3.68, p < .0003$, and heart rate $F(1, 570) = 5.7, p < .02$. The results provide evidence that information about a stimulus' relevance modulates the emotional response to it.

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