Undergraduate Honors Projects – 2020-21

Youri Benadjaoud
Disentangling Neural Activation to Self and Other Using Structural Connectivity
Advisors: Taylor Guthie, M.S., and Rob Chavez, Ph.D.

The medial prefrontal cortex (MPFC) is prevalent in self-referential and social cognition tasks, often found to be split between the ventral MPFC and dorsal MPFC, with the former engaging in self-reference and the latter engaging in responses when thinking of others. Yet, the split has limited neuroanatomical definition as there is frequent and significant overlap of activation between the two regions. In this study, we investigated the role that structural connectivity, measured by probabilistic tractography, played to differentiate the overlap in the MPFC to distinguish self-other related activity. In a sample of 114 subjects, brain activation to self and others was measured using a trait-judgement fMRI task paradigm. Using diffusion magnetic resonance imaging (dMRI), a regularized regression model was used to predict activation values within the MPFC for both self and other based on the underlying structural connectivity patterns. By comparing the structural connectivity pattern weights, the model aimed to differentiate activity for self vs. other within overlapping areas within the MPFC. Results tested the utility of using predictive models based on structural connectivity for differentiating these processes, which aided in understanding how different mental processes share overlapping cortical real estate.

Anastasia Browning
Leveraging Evidence-Based Messaging to Prevent the Spread of COVID-19
Advisors: Elliot Berkman, Ph.D.

With cases of COVID-19 still spreading in America, and vaccines still inaccessible or undesired by many, one of our primary defenses against this deadly virus remains to mitigate its spread on a behavioral level. Official messaging targeting behavioral mitigation procedures is therefore critical for reducing virus transmission. This study assessed whether approach-versus-avoidance message framing and goal-orientation affect people's intentions to follow COVID-19 preventative procedures. To test this, 832 subjects were randomly assigned to view mitigation messaging with either approach or avoidance framing, and either self-protective or altruistic goal-orientation. Kruskal-Wallis tests revealed a significant effect of goal-orientation, suggesting that altruistic (over self-protective) goal-orientations in COVID-19 health messaging lead to stronger intentions to follow mitigation procedures. No significant effect of approach or avoidance framing was found on individual intentions to follow mitigation procedures. These results suggest an immediate need to address the wording of our public health messages. By adjusting the framing within our COVID-19 preventative procedures to reflect more altruistic goals, we can leverage our official communications as a prevention tool to protect at-risk populations from further contracting COVID-19.

Reed Colgrove
Measuring the Usefulness of Virtual Reality for Evoking Directed Balance Responses
Advisors: Dr. Jeffrey Peterson and Paul Dassonville, Ph.D.

For most of us, simply standing in place without falling over is no great feat. It requires no appreciable effort or attention, even for young children. While it seems obvious that our ability to balance is a fairly simple mechanism in the brain, this assumption is false. Human balance is a complicated process which requires the integration of information from the visual, vestibular, and proprioceptive sensory systems (Lee & Aronson, 1974; Peterka, 2002). For example, since the vestibular organs are located in the ears, the orientation of the head must modify how vestibular information is interpreted. If the head is turned to one side, the sensations received from the vestibular organs will be processed differently than if it is facing forward (Lund & Broberg, 1983). In order to study how this sensory integration occurs, it is useful to examine illusions which affect these senses. Illusions are often used in sensory research because they cause disruptions to normal processing. These disruptions can be used in a similar manner to how programmers use edge cases to discover the limitations of their programs: by observing how a particular input (or stimulus) creates an atypical result, you can infer something about how the underlying mechanism works. The head return illusion is the result of one such atypical stimulus, and has proven useful for understanding how head orientation impacts balance.

Josh Coughlin
Measuring Intellectual Humility through Cognitive Task Responses
Advisors: Paul Dassonville, Ph.D.

Intellectual humility is the degree to which someone understands the strengths and limitations of their ideas. Research into intellectual humility is still new and uses self-report measures for all results. This study attempts to add a behavioral component to the analysis of intellectual humility. 173 participants answered intellectual humility related items, as well as cognitive ability tasks within the SAPA Project, a free online personality test. The number of times participants answered "I don't know" to cognitive tasks, as well as their results on humility items were collected. The study found that between two existing measures for intellectual humility – the Comprehensive Intellectual Humility Scale and the General Intellectual Humility Scale – the General Intellectual Humility Scale significantly predicted participant's likelihood of responding with what is believed to be an intellectually humble behavior. Analysis supports the notion that intellectual humility and general humility are two distinct constructs. Further research can improve on this study by requiring participants to answer all questions.

Shifa Hamid
Interpersonal Perceptions of Political Ideology
Advisors: Sanjay Srivastava, Ph.D., and Bradley Hughes, M.S.

Conservative and liberal identities are becoming increasingly polarized in daily interactions within the United States. This partisanship is important in making judgments of the political ideology of others. The present work seeks to understand interpersonal perceptions of political ideology, concerning consensus, accuracy, and stereotypes formed between persons at zero-acquaintance. The hypotheses tested if perceptions of political ideology reach consensus, the accuracy of perceptions of political ideology, and the stereotype content of political ideology in the two dimensions of the Stereotype Content Model (SCM) and in the Big Five. Undergraduate participants (N= 225) completed a self-report survey, participated in a round-robin design of an adapted Leaderless Group Decision task, and subsequently provided ratings of their group members. The results found perceivers reach some consensus about who is liberal and who is conservative. Perceivers are moderately and significantly accurate in perceptions of political ideology. Perceptions of political ideology are associated with stereotypes of warmth to inform interpersonal perceptions of political ideology, however there was no significant stereotype effect for competence. The results also showed perceptions of political ideology were significantly associated with stereotype content. People who tended to be perceived as conservative were seen as lower in warmth, and all five factors of the Big Five.

Aaron MacArthur
Referential Communication Task in a Naturalistic Setting
Advisors: Dare Baldwin, Ph.D.

Reaching shared understanding in conversation is an important part of daily life. Various mechanisms facilitate this achievement including: the ability to engage in perspective taking, sensitivity to gaze, sharing attention, and making pragmatic inferences about an interlocutor's intent. We wanted to know how different participants use these different modalities of perspective taking to reach a shared understanding. Prior research on this topic has prioritized experimental control over ecological validity by placing participants in highly constrained situations. We addressed these limitations in the present study by facilitating naturalistic communication and let discussions of ambiguity arise naturally. Specifically, pairs of participants were placed on either side of a shelf with a series of cells and prepared a cake from a given recipe card. Some of the cells on the shelf were visible to only one participant or the other, while some cells were visible to both. We measured participant's use of various disambiguation strategies which included gaze checking, making a clarification request, perspective taking, and spontaneous perspective sharing. This research helped shed light on the nature of real-life social interaction when challenged with ambiguity and the effort to achieve shared understanding therein.

Alexis Sinclair
"I'm Sorry!": The Relationship of the proclivity to Apologize and Parenting Quality
Advisors: Alexis Adams-Clark, M.S., and Maureen Zalewski, Ph.D.

The basis of long-lasting relationships is the ability to resolve conflicts. Apology is one way to establish trust and connection after a conflict occurs. It is used in relationships where conflict occurs naturally and often. However, little is known about what constitutes an effective parental apology, or when and how often parental apologies occur. Inadequate apologies after conflict may lead to unresolved negative feelings by either parent or child. Too much apology could diminish the significance of the act of apology and be perceived as less effective. Despite these possibilities, apology still plays an important role in the maintenance of the parent-child relationship. We are interested in the effect specifically of a parent's apology to their child. We will examine how parental apology behavior and parenting constructs are correlated, focusing on parent proclivity to apologize and parenting quality.

Shyla Yu
Does Affect make Meaning or Does Meaning Make Affect? A Multisession Multilevel Analysis in Older Adults
Advisors: Melissa Moss, M.S., and Ulrich Mayr, Ph.D.

An individual's perceived purpose, or meaning in life, has been identified as an important component of their mental health and general well-being. There is also substantial evidence that positive affect and meaning in life are related. Here we test the hypothesis of positive feedback dynamics between affect and meaning in life. Positive affect (PA) and the presence of meaning in life (MIL) were assessed across 12 weeks on a weekly basis in a group of 50 to 90-year-olds (N=259) within the context of a larger study examining psychological responses to the COVID-19 pandemic. Multi-level cross-lagged panel analyses revealed that experiencing greater positive affect resulted in greater meaning in life in the following week. In addition, we found an interaction between meaning and age in which previous meaning did predict positive affect, but only for the older adults in our sample. This result suggests the possibility of positive feedback dynamics where meaning and positive affect build on each other over time in older adults. Ongoing analyses are examining the effects of PA and MIL on mental health indicators such as stress. We discuss the implications of our results for potential interventions targeting positive feedback cycles between mental-health-related variables and the need for replicating our results in a more diverse sample.

Undergraduate Honors Projects – 2019-2020

Alexandra Boxberger

The Effect of Maternal Borderline Personality Disorder Symptoms on Child Externalizing Problems, as Mediated by Parenting Stress and Maternal Warmth

Advisors: Jacqueline R. O'Brien, MS and Maureen Zalewski, PhD

Borderline personality disorder (BPD) is a psychological disorder characterized by impulsivity, negative affect, and emotional and interpersonal dysregulation, both of which can directly impact the experience of being a parent. The purpose of this study was to further understand the pathway through which elevated symptoms of maternal BPD are associated with higher levels of externalizing problems in their children. Specifically, we investigated whether maternal warmth and parenting stress mediated this relationship to transfer risk of mental health difficulties. The participants in this study included 68 mothers and their 3-4 year old children (M= 48, SD= 7.6 months). Maternal BPD symptoms, parenting stress, and child externalizing problems were assessed through maternal report, while maternal warmth was assessed using observational measures during a dyadic stressor task. Results support that elevated maternal BPD symptoms are associated with higher levels of child externalizing problems, as well as with higher levels of parenting stress. However, elevated maternal BPD symptoms were not associated with lower levels of maternal warmth. Additionally, higher levels of parenting stress did not explain the association between maternal BPD symptoms and child externalizing problems. These findings suggest that maternal BPD symptoms confer risk of mental health difficulties in children, and that interventions targeting maternal BPD symptoms may be more effective in mitigating this risk than parenting interventions designed to improve warmth.

Clare Brinkman

Perspective Taking Taken to the Streets: Themes Found in Naturalistic Accounts

Advisor: Sara Hodges, PhD

The current body of psychology literature on perspective taking is largely made up of studies which instruct participants to take the perspective of another person. In order to better understand the circumstances under which unprompted perspective taking occurs, an online study (n = 238) was conducted to explore naturalistic accounts of everyday perspective taking. In this study, university student research participants were asked to write about a time, preferably in recent days, when they took the perspective of another person. Narratives were coded using a reliable coding scheme developed to capture the prevalence of and variation in the following elements: whose perspective was taken; what triggered the perspective taking; strategies mentioned (if any) for perspective taking; interpersonal or other outcomes of

perspective taking; and use of perspective-taking metaphors (e.g., use of visual or place metaphors). Results will help shed light on when people think they engage in perspective taking, and may address whether these contexts are related to prosocial and interpersonal understanding outcomes associated with perspective taking.

Matthew Dawson

Identifying Neurons Necessary for Social Behavior

Advisor: Philip Washbourne, PhD

Humans have a long history of working in social groups with a plethora of research supporting the benefits of positive human interaction. While these behaviors may seem intuitive, they can be argued as the most intricate behaviors displayed by animals. To generate a situationally relevant response to social others, an animal must be able to track dynamic systems. Given the inherent complexity of social behaviors, it is expected that this system can be perturbed by a multitude of neurological disorders. Using animal models, we can begin to construct the neuronal circuitry necessary for social behaviors. This circuitry can be used to understand social behavior deficits and may reveal possible interventions for disorders. Zebrafish, Danio rerio, perform stereotyped social behaviors, such as shoaling, which can be used to explore neuronal changes associated with deficits in performing the behavior. Through chemo-genetic ablations, we were able to cause cell death to select neurons due to variations in gene expression. Chemically treated fish were put into a virtual social assay that untreated zebrafish respond to. Zebrafish exhibiting decreased social response would indicate that the ablated neurons are necessary for social behavior. Our results indicate a population of neurons in the forebrain that are necessary for correct social behavior. This insight will help us construct the circuitry underlying social interactions.

Lilly Elston

Child Gender as a Moderator Between Maternal Difficulties with Impulse Control and Preschoolers' Externalizing Behavior Problems in a High-Risk Population

Advisors: Ana C. Hernandez, MS and Maureen Zalewski, PhD

Children of mothers who have difficulties with emotion regulation have been shown to exhibit higher levels of behavior problems, which is a risk factor for future psychopathology. This study examined whether child gender moderated the association between maternal difficulties with impulse control and preschooler externalizing behavior problems using a sample of 68 dyads that oversampled mothers with elevated levels of emotion dysregulation and their 3- to 4-year-old children (46% girls). We hypothesized that higher levels of maternal difficulties with impulse control would be associated with higher levels of child externalizing behaviors. Further, we

hypothesized that the association between maternal impulse control and child externalizing problems would be significantly stronger for boys compared to girls.. Maternal impulse control difficulties were assessed via self-report on the Impulse subscale of the Difficulties in Emotion Regulation Scale (DERS) and child externalizing behaviors were assessed via maternal report on the Child Behavior Checklist (CBCL). The results show that as maternal difficulties with impulse control increased, child behavior problems also increased. As expected, we found that the association between maternal impulse control problems and children's externalizing problems was pronounced for boys. Early recognition of externalizing behavior problems of children of mothers with elevated difficulties with impulse control may have clinical implications for prevention and intervention for child psychopathology.

Theemeshni Govender

Interactive Effects of Social Support and Self-Complexity on Depressive Symptoms in Adolescent Girls

Advisors: Marjolein Barendse, PhD and Jennifer Pfeifer, PhD

Development of the self-concept is a fundamental aspect of adolescence. However, it is unknown how variation in self-concept development interacts with other risk factors, such as lack of social support to predict depressive symptoms during adolescence. To address this, we used data from an ongoing longitudinal project, TAG (Transitions in Adolescent Girls) to examine the effects of perceived support from friends and family and self-complexity on depressive symptoms in a sample of adolescent girls (N = 174) aged 10 to 13. Exploratory analyses were used to examine whether positive and negative self-complexity have differential effects on depressive symptoms and the effect ethnicity/race as well as socioeconomic status may have on these interactions. We expected a larger decrease in family support (and to a lesser extent friend support) and a large change in self-complexity between waves 1 and 2 to predict a greater increase in depressive symptoms. We additionally predicted significant interactions would be observed, such that decreasing social support (especially from family but also from friends) would predict increased risk for depressive symptoms, most strongly when combined with a large change in self-complexity. Results suggest that only change in perceived family support predicts depressive symptoms. Changes in perceived friend support and self-complexity, as well as the resulting interactions did not significantly predict depressive symptoms. Lastly, race/ethnicity and SES did not impact any of the relationships examined. Exploring these frameworks can provide a better understanding of risk and protective factors for specifically adolescent girls and contribute to better serving them.

Ania Grudzien

Color Memory Differentiation as an Adaptive Remedy for Highly Similar Object Memories

Advisors: Yufei Zhao, MS and Brice Kuhl, PhD

Potential for memory confusion occurs when memory relates to highly similar objects encountered within the same context. Memory differentiation, an adaptive mechanism by which the brain distinguishes memories that share a high degree of representational overlap, emerges as a potential brain remedy. Differentiation can be understood as the ability to manipulate highly similar memories by exaggerating the differences between them in order to keep them distinct in mind. In this experiment, we examined differentiation of color memory in a visual spatial context. We employed a behavioral memory experiment, with computer generated colored object stimuli, operationalized as a color and location memory task. 40 students from the University of Oregon Human Subjects Pool were asked to memorize the spatial locations of colored object pairs. The colored objects were partitioned into two groups, a paired group (identical objects, highly similar in color), analogous to memories with a high degree of representational overlap, and a control group (different objects, highly similar in color), analogous to unique memories. A two-way ANOVA comparing color differentiation for object group and object location yielded a marginally significant effect of object group, such that subjects exhibited a greater degree of differentiation for highly similar paired objects. In addition, we found a significant, negative linear relationship between errors in location memory and degree of color differentiation. The results lend support to previous research suggesting a high degree of representational overlap leads to memory differentiation in order to prevent errors and confusion in human memory.

Lisa Guerricabeitia

Associations Among Trait Anxiety, Behavioral Inhibition and Total Energy Intake in Preadolescent Children

Advisors: Claire Guidinger, MS and Nichole Kelly, PhD

Overeating, or eating in excess of the body's caloric need, is associated with long-term weight gain and the onset of obesity. Extant research links negative affect, and specifically anxiety, to increases in overeating and disordered eating more generally. Difficulties with behavioral inhibition, a facet of executive functioning, are also associated with poorer eating habits in children. Whether these variables interact with one another to influence energy intake is unknown. In a sample of 76 children (8-10 years old) living in rural Oregon, this study will examine whether trait anxiety is associated with children's total energy intake and whether this association is moderated by child behavioral inhibition. Energy intake (total kcal) will be calculated from nutritional information following a standardized, buffet-style lunch. Behavioral

inhibition and trait anxiety will be assessed using the Stop Signal Task paradigm and self-reported questionnaire (STAIC), respectively. Based on current theories of emotional eating, we hypothesize that higher levels of anxiety will be associated with increased caloric intake. Based on extant findings that link decreased behavioral inhibition to overeating, we hypothesize that decreases in behavioral inhibition will strengthen this relationship.

Shifa Hamid

Interpersonal Perceptions of Political Ideology

Advisors: Bradley Hughes, MS and Sanjay Srivastava, PhD

Conservative versus liberal opinion is becoming increasingly inserted in our daily interactions. The partisanship in political ideology is dividing the United Sates, based on what we assume other people think, which then informs who we choose to surround ourselves with. With the relevance this holds as political knowledge is becoming more accessible, it is important to be aware of our impressions in judging other people's political identities. This work seeks to understand how perceptions of political ideology are formed between strangers. The relationships investigated are: the extent perceivers agree about who is conservative or liberal, how accurate perceptions are of who is conservative or liberal, and how stereotypes are used to make these perceptions. These hypotheses were tested with groups of 4 to 6 students (N=216) participating in a self-report survey, a Leaderless Group Discussion task, and a survey rating the personalities of the other members in the group. Preregistered analyses will look at questions regarding varying degrees of affiliation between group members, in future work.

Rachel Jackson

Augmented Reality Feedback and Effects on Measures of Stress, Mood, and Memory Encoding

Advisors: Lea Frank, MS and Dasa Zeithamova-Demircan, PhD

Research with Virtual Reality has shown that a brief meditation experience is effective in reducing feelings of stress and anxiety (Keller, Bunnell, Kim & Rothbaum 2017). When combined with interactive biometric feedback (for example: one's heart rate) these same interventions have a stronger effect on both subjective feeling states as well as physiological changes associated with a relaxation response (Jester, Rozek, & McKelley 2019). While it has been previously shown that reductions in stress can facilitate improved performance on cognitive tasks (Wu & Yan 2019), no research to date has specifically examined the ability of a brief Augmented Reality based meditation experience to boost cognitive performance. Our aim was to investigate if an AR-based meditation experience can stimulate a temporary boost in

cognition by way of lowering stress, and to examine any additional effects of an addition of biometric feedback.

Olivia Kim

Sleep, Depression, and Motivation in Young Women

Advisor: Melynda Casement, PhD

Insufficient sleep is prevalent amongst young adults and has a range of consequences for health and wellbeing, including depression. There is some evidence to suggest that the motivation to pursue reward may be a promising factor in the established relationship between sleep and depression. This study aims to explore 'rewarding wanting' or motivation as a possible mechanism in this relationship. Twenty-two women (M=20.16, SD=1.27) who regularly had less than 8 hours of sleep per night, higher than average daytime sleepiness, and moderate to high depressive symptoms participated in the study. For one week, participants kept a consistent sleep schedule of their typical sleep duration. For the second week, participants were randomly assigned to maintain their typical sleep opportunity (TSO) or extend their sleep opportunity (ESO) by 90 minutes. The results show that higher levels of sleep duration predicted decreases in depressive symptoms after controlling for depressive symptoms at baseline, motivation for reward did not predict depressive symptoms after controlling for depressive symptoms at baseline, and there was no effect of sleep duration on motivation for reward. Findings from the exploratory analysis indicate that higher reward magnitudes and lower reward probabilities may be detrimental for depressive symptoms, while low reward magnitudes may be helpful. These findings provide support on targeting sleep extension and motivation for reward in interventions and treatments in depression for young adult women.

Clare McCann

Examining Self-Perceived Scholastic Competence, Mindfulness and School Transitions in Adolescent Girls

Advisors: Theresa Cheng, MS; Samantha Chavez, MS; Jennifer Pfeifer, PhD; and Kate Mills, PhD

The dropout rate after the first year of high school is 25% in the United States, meaning 1.2 million freshmen do not make it to graduation every year (U.S. Department of Education's National Center, 2019). Understanding factors that impact scholastic motivation is essential to combat this attrition in educational attendance. Self-perception of scholastic competence is one likely factor, as previous studies have found that negative self-perception is related to less academic achievement and increased emotional problems. Further, experiences such as the transition into middle school and high school have been proposed as points of change in self-perceived scholastic competence, and mindfulness has been proposed as a potential protective

factor. This pre-registered analysis used existing data to examine three hypotheses: 1. Self perceived scholastic competence will increase with age across early adolescence 2. Higher prior levels of mindfulness will relate to higher levels of self-perceived scholastic competence 3. Transitioning into middle school or high school will relate to self-perceived scholastic competence. A sample of 174 adolescent girls spanning the ages of 10 to 16 years contributed up to three time points of data. We used a multilevel modeling approach, with time points nested within individuals. Our results found no relationship between age and change in self-perceived scholastic competence across early adolescence, and transitions into middle school and high school did not relate to increased or decreased self-perceived scholastic competence. However, prior levels of self-reported mindfulness was positively related to self-perceived scholastic competence. From these findings, we suggest that mindfulness could be used as an intervention to increase self-perceived scholastic competence in girls in early adolescence.

Angela O'Neil

Representational Models of Personality in Social Brain Networks

Advisor: Robert Chavez, PhD

There is broad consensus that regions of the default mode network, including the medial prefrontal cortex (MPFC) and temporal parietal junction (TPJ), and the posterior cingulate cortex (PCC) are implicated in social cognition. Previous research has also investigated how factors such as similarity and trait-knowledge influence the representation of self and others within these regions. However, few studies to date have directly compared models between self and other representations to test which Big-Five personality similarity model best explains the social cognitive processes within tight-knit groups. In this current study, we investigated three models of Big-Five personality similarity in four regions of the brain. We tested whether subject's ratings of others' personality (intrapersonal), the similarity between a subject's self and others' personality (self-anchor), or between others' self-reported personality (interpersonal) predicted neural similarity patterns of others in the default network regions during a round-robin fMRI trait judgement task. Using multilevel modeling representational similarity analysis approach, we found that the intrapersonal model significantly predicted neural representations of others in the rTPJ ($p = 0.027$), such that greater similarity in the rTPJ reflected greater similarity in trait judgments. However, the self-anchor, interpersonal, or intrapersonal models were not significant predictors of others' representations in the dMPFC, vMPFC, or PCC ($p > 0.05$) in this sample. Thus, although one significant finding was shown, these results suggest that Big-Five personality may not drive neural similarity patterns of others during a trait judgement task, whereby other metrics may be more effective than Big-Five personality to capture individual differences when thinking of people in our social network.

Joshua Pearman

What Types of Status Matter? Consensus, Accuracy, and Personality Antecedents of a Two-Component Model of Status

Advisors: Bradley T. Hughes, MS and Sanjay Srivastava, PhD

In social hierarchies, people are organized based on their relative status compared to others. A person's status is determined by the judgments of others and has two components: respect/admiration and social influence. The focus of this work was to understand the relationship and effects of these components in interpersonal perceptions. We tested three hypotheses: 1) The components of status, respect/admiration and social influence, will be associated such that individuals who are perceived as having greater respect/admiration will also have higher levels of social influence; 2) Others will agree about who has status in a group (consensus), and will also agree about their own relative status in the group (self-other agreement); 3) Personality traits will predict who attains status. To test these hypotheses, we had groups of n = 4 – 6 (N = 218) complete a leaderless group decision making task and then provide ratings about the status and personality of each of the other members of the group and make decisions about who they would prefer to work with on future tasks. The preregistered analysis will use a Social Relations Model approach to account for dependencies in the data and linear regression models to test the hypotheses. We will present the results from this analysis and discuss implications of a two-component approach to status for future work.

Meghan Ramirez

Effects of Sound on Heart Rate Variability: A Meta-Analysis

Advisor: Christina Karns, PhD

Exposure to sounds such as rain or wind through trees is known to evoke feelings of relaxation while sounds such as alarms or screams may cause heightened arousal, but the neurophysiological mechanisms involved in this process have not been heavily researched. An overarching aim of this analysis is to understand the promise and potential limitations of simultaneous neural and cardiovascular physiological recordings to elucidate the mechanisms of environmental influences of stress and emotions. Specifically, it aims to determine the extent to which sounds modulate the autonomic stress response and ongoing neural oscillations.

Matthew Reifsnyder

The Intergenerational Transmission of Oxidative Stress

Advisors: Sarah Horn, MS and Phillip Fisher, PhD

Oxidative stress acts as a recently uncovered physiological force that contributes towards negative physical and mental health outcomes varying from increased susceptibility of contracting diseases to a variety of psychological disorders. While oxidative stress has been discovered to occur in relation to lifestyle determinants such as low socioeconomic status, increased body mass index (BMI), and exposure to tobacco smoke, there is little knowledge towards the influence that oxidative stress plays towards a child's health. In order to address this gap in knowledge, urinary isoprostane (IsoP) samples were assessed from 48 of 105 mother-child dyads and compared to lifestyle determinants including annual income, maternal smoking status, and BMI of each dyad. A paired samples t-test, as well as a univariate general linear model was conducted co-varying for age, BMI, maternal smoking behavior, and annual income. Results indicate that while there were no significant predictors for maternal nor child IsoP levels, potential associations were discovered between maternal smoking status and increased IsoP levels for both mother and child. Additionally, mean child IsoP values were found to be significantly higher than their mother counterparts, offering insight towards the age of onset for oxidative stress. Further studies are needed to clarify the potential associations reflected in this study by selectively sampling mothers who actively use tobacco products, as well as gathering larger and more diverse sample populations.

Audrey Sherman

Investigating Age and Expertise in Children's Processing and Execution of Complex Activity Sequences, A Proposal

Advisor: Dare Baldwin, PhD

This paper proposes a study to examine the role of children's age and expertise in their ability to efficiently process, and competently execute, complex new activities. We will harness the dwell-time paradigm, a method introduced by Hard, Recchia, and Tversky (2011) to track participants' attention during the unfolding of dynamically streaming events. In particular, children between 5 and 8 years of age will advance at their own pace through two activity sequences: one depicting a familiar method of shoe-lace tying they are learning to execute, and the other depicting a novel method of shoe-lace tying. As well, children will attempt to tie shoe laces via both the familiar and the novel method. Lastly, children will participate in a range of tasks assessing their general motor and executive function skills, and their caregiver will also provide survey responses regarding those same skills. Of interest is the extent to which relationships emerge across these tasks and skills, and the extent to which children's age, versus their expertise at shoe-lace tying, predict these relationships. Findings from this research

will help to validate the dwell-time method as a measure of event processing in children. Moreover, our findings will provide altogether new information about developments in event processing and motor skill, as well as informing theoretical accounts of mechanisms that underlie event processing and learning more generally.

Avery Turner

How Does Sleep Develop?

Advisor: Don Tucker, PhD

Electroencephalographic (EEG) recordings of infant sleep reveal a unique pattern called Trace Alternant (TA) which consists of large bursts of electrical activity across channels followed by relative silent periods. We predicted that this activity would appear on the scalp as a negative discharge in the frontal electrodes because adult deep sleep features slow oscillations which appear on the scalp as negative frontal discharges. We used EEG recordings from five infants with gestational ages ranging from 33 weeks to 36 weeks to locate segments of TA activity and mark the bursts of activity within them. We found that these bursts actually followed the opposite pattern on the scalp as the adult slow oscillations, with the frontal channels showing a positive discharge with corresponding negativity in the posterior channels. This may imply that TA activity in infants serves a different function than slow wave sleep in adults and that the transition from TA activity to slow wave sleep is an important feature of brain development early in life.

Undergraduate Honors Projects – 2018-2019

Konrad Bailey

Neural and Behavioral Assays for Studying Predictive Coding in the Mouse Brain

Advisors: Santiago Jaramillo, PhD and Nicole Dudukovic, PhD

'Controlled hallucination' is a term that has been used to describe the process of interpreting sensory information according to the theory of predictive coding. This theory posits that the brain's mechanisms for interpreting sensory information function by generating predictions about the external world and comparing these predictions to sensory signals. To assist in identifying neuronal mechanisms for how the brain generates predictions about patterns of sounds we trained mice in a head-fixed, reward-driven, behavioral task that required the animals to make predictions about incoming sounds. We then recorded sound responses and assessed frequency tuning in auditory cortical neurons in awake, head-fixed, non-behaving mice in preparation for upcoming electrophysiological experiments that will be used to evaluate the neural basis for generating predictions about sounds. In these experiments, using the classical oddball sequence and the many-standards control sequence, we plan to isolate measures of deviance detection into repetition suppression and prediction error. After investigating neuronal mechanisms for generating predictions about sounds in non-behaving mice we plan to refine our experimental paradigm and conduct recordings in behaving mice.

Morgan Bunch

How the Use of Simulations Effects the Understandability and Memory for Expert Testimony

Advisor: Robert Mauro, PhD

Experts are relying increasingly on the use of computer-generated simulations, or recreations of an incident that are constructed by entering data into a computer program, to effectively communicate complex information. However, the validity of a simulation is often based on key assumptions that are obscure and hidden while the imagery is vivid and compelling. This raises the question of whether simulations can be effective ways to enhance the ability of the courts to deal with arcane information, explain complex issues in ways that judges and jurors can understand, or allow judges and jurors to be swayed by presentations that are only loosely grounded in the facts and science. In the effort to enhance the clarity and persuasiveness of expert testimony, we seek to investigate the effect of simulations on individuals' perceptions of the validity of expert testimony. The questions guiding our inquiry are as follows: How effective are simulations relative to traditional visualizations in persuading individuals? How can simulations be effectively cross-examined? In what ways are simulations persuasive and/or being potentially mistaken for fact? To answer these questions, participants will be recruited through the University of Oregon Psychology Department human subjects pool and randomly assigned to one of three conditions based on the use of a simulation and the use of cross-examination (1. No simulation, no cross, 2. With simulation, with cross, 3. With simulation, no cross), used to measure the extent of the simulation's persuasiveness and its effect on juror decision making.

Aastha Dhingra

Examining Parental Reflective Functioning and Breastfeeding Patterns

Advisor: Dare Baldwin, PhD

Motherhood is an inimitable experience in one's life. It is viewed as a significant moment and is often considered to be the entry into adulthood. But, many women across the globe don't feel prepared. They often experience fatigue, tiredness, depression, loneliness, powerlessness, anger and a sense of uncertainty. For many, incorporating breastfeeding as well as a myriad of other life changes (e.g., sleep patterns, work schedule, relationship changes,

etc.) present serious challenges to coping and adjustment. Parental reflective functioning denotes one's ability to perceive self and child in terms of mental states, such as feelings, desires and goals. It helps with the successful navigation of parent-child interaction. In this research, we investigate the extent to which parental reflective functioning is related to mothers' adjustment to their breastfeeding experiences and success, in conjunction with other factors, such as depression/stress/anxiety and level of social support. Our findings will offer altogether new insight into the struggles and achievements of motherhood.

Andrew Dizon

Juror Perceptions of Asian American Attorneys

Advisor: Robert Mauro, PhD

In the American judicial system, jurors are tasked with determining outcome of trials based on information presented as admissible evidence. One way in which attorneys sway jurors to decide in favor of their clients is through the telling stories that explain the facts in evidence (Findley & Sales, 2012). However, jurors may interpret these stories differently depending on the preexisting biases that they hold. The present study investigates the way in which jurors' biases about gender and race interact with attorneys' speech style to affect trial outcomes. We asked 119 participants (to act as mock jurors while reading a report of a hypothetical criminal trial. The participants were randomly assigned to one of eight conditions created by varying the race (Caucasian/Asian) and gender (Male/Female) of the defense attorney and the way that the defense attorneys presented their closing argument (story/legal issues). Dependent measures include verdict, culpability ratings, and attorney trait assessment. Data analyses will test for the main effects and interactions between the independent variables on the dependent measures. Implications, limitations, and future directions will be discussed.

Karlie Donaca

Story Model of Juror Decision Making

Advisor: Robert Mauro, PhD

In the United States criminal justice system, juries are tasked with the most important, complex job in a criminal trial – determining the guilt or innocence of the accused. Previous research has indicated jurors' decisions are greatly influenced by composition of attorneys' closing statements, with preferences toward clear, understandable stories. Pennington and Hastie's (1981) Story Model of Juror Decision Making argues that jurors reorganize trial evidence into a narrative-based sequence of events, with verdicts favoring the most easily-organized evidence. The present study seeks to expand on Pennington and Hastie's Story Model (1981) by comparing the effectiveness of narrative-style defense closing statements and traditional, legal fact-based closing statements. In line with Pennington and Hastie's (1981) Story Model, we hypothesized that narrative-based defense closing statements would be more likely to produce a verdict of "not-guilty" than fact-based closing statements. Additionally, we hypothesized that attorneys, regardless of race and gender, who utilized a narrative-based closing statement would receive higher ratings on measures of personal traits such as likeability, intelligence, and aggression.

Emily Dunning

Adverse Childhood Experiences and Self-Regulation in At-Risk Children: An Intergenerational

Advisors: Elizabeth Skowron, PhD; Nicole Dudukovic, PhD; and Emma Lyons, MA

Exposure to early adversity creates lasting negative effects in biological and behavioral functioning across the lifespan (Anda et al., 2006; Shonkoff & Garner, 2012; Felitti et al., 1998; Gunnar & Quevedo, 2007; Obradovic et al., 2010), such as deficits in self-regulatory abilities (Skowron, Cipriano-Essel, Gatzke-Kopp, Teti, & Ammerman, 2014). The parasympathetic nervous system (PNS), a branch of the autonomic nervous system, is key in

physiological regulation and is often used to measure self-regulatory capacity. The current study examined the intergenerational impact of early adversity on self-regulatory functioning by clarifying the relationship between parents' early adversity (ACES) and their child's self-regulation, as measured by respiratory sinus arrhythmia (RSA). Participants (N=203) were parent-child dyads in which children were 3 to 7-years-old; families were recruited from the Department of Human Services (DHS) and the Eugene, Oregon community. RSA was measured while children were at rest and the Adverse Childhood Experience Scale (ACES) scores were used to assess the extent of adversity that children and their parents had experienced. A simple correlation analysis was run to test the relationship between parent ACES and child ACES, finding a significant positive relationship, indicating that parents who experienced childhood adversity were more likely to have children who experienced childhood adversity. A regression analysis was run to compare child ACES with child RSA, controlling for child age and gender, and no significant relationship was found. A second regression analysis was conducted to compare parent ACES with child RSA, controlling for child age, child gender, and child ACES, and no significant relationship was found. Future research should recruit a sample with a more representative distribution of ACES and should control for other potentially important variables, such as race and socioeconomic status.

Madison Edgar

Caregiver Singing and Infant Vocalizations in Everyday Life

Advisor: Caitlin Fausey, PhD

The auditory environments infants encounter impact their vocal development, especially during interactions between a caregiver and their infant (e.g., Franklin et al., 2014; Cartmill et al., 2013). We know that caregivers not only talk but also sing to their infants; however, we don't yet know how singing might matter for many infant behaviors in everyday life (Custodero, Britto, & Brooks-Gunn, 2003). In this study, I ask: Does singing impact infant vocalizations in everyday life? We audio recorded one full day at home from 35 infants (ages 6-12 months old). Trained coders identified moments of live vocal music by listening to these recordings. Speech modeling software automatically identified infant vocalizations (Ford et al., 2008). Overall, infants encountered 6.5 minutes of live vocal music each day and vocalized 1165 times over the course of each day. Interestingly, infants who encountered more live vocal music also vocalized more. These results raise the possibility that caregiver singing promotes vocalization practice for infants.

Kate Haynes

Parsing Out Perspective Taking: Patterns in Narrative Strategies and their Impact on Social Relations

Advisor: Sara Hodges, PhD

Perspective taking is often regarded as a tool to improve social relations, but it can sometimes "backfire," leading to negative outcomes (e.g., increased stereotyping). Past research has examined the effect of instructing people to perspective take (or not) on various outcomes but has focused less on the strategies people employ when taking another person's perspective. To better understand what causes this "backfiring," we asked participants to write about the typical day of an out-group target (i.e., someone who supported the opposing candidate in the 2016 U.S. Presidential Election) and then answer questions about social outcomes in relation to the target (e.g., how much they liked the target, willingness to engage in conversation with the target, and validity of the target's position). Participants' narratives were coded for the point of view they were written in (i.e., first-person, embedded/marked, third-person, and no point of view), the concentration of stereotypes for each political group (i.e., liberal and conservative), and average valence (i.e., negative to positive) of content. Third-person point of view was hypothesized to be the most commonly chosen point of view, but first-person was hypothesized to have the most positivity and the least stereotyping. Separate multiple regressions conducted found that smaller concentrations of stereotypes and more positive valence generally predicted better social outcomes. Liberal participants generally exhibiting greater negative perceptions of out-group relations, which could be potentially explained by bitterness over their loss in the 2016 U.S. Presidential Election. Altogether, the findings show the need for deeper

understanding of the natural strategies people employ when perspective taking before perspective taking can be used to foster a more consistently effective intergroup intervention.

Hannah Henderson

Olfaction and Oxytocin: Understanding Attraction/Aversion Behaviors in Mice

Advisors: Matt Smear, PhD and Marike Reimer, MS

In humans as well as mice, oxytocin is a neurotransmitter that creates social connections and bonds between members. In mice, it is involved in enhancing social recognition by modulating olfactory neural functions, while in people it is theorized that dysfunction in the oxytocin system early on in development could lead to the development of autism. Because of its link to the social and emotional brain, oxytocin is a likely candidate to moderate social behaviors. In this study, we hypothesized that oxytocin is vital for social memory and connections in mice. Using machine vision techniques, we will determine memory preferences in female mice. We will then inject a dose of oxytocin receptor antagonist, allowing us to knock out the oxytocin receptors in the granule cells of adult female mice, revealing the role of attraction and social recognition. The potential findings between oxytocin signaling and social disorders in mice explain how studying these specific underlying behavioral mechanisms may lead to new information about the nature and biological basis of certain social disorders.

Takako Iwashita

Effects of Acculturation on Normative Dissociative Experiences in an East Asian Sample

Advisors: Gordon Nagayama Hall, PhD and Jennifer Lewis, MS

It has been suggested that culture influences individual differences in dissociative experiences. Previous work has indicated that people with East Asian backgrounds tend to report higher tendencies of trait dissociation than their Caucasian peers. The present study investigated normative dissociative experiences in Asian cultures and explored the roles that language and acculturation might have on these experiences. Thirty-seven international and American students with Chinese or Japanese background were recruited to complete the Dissociation Experiences Scale, as well as two measure of acculturation. Mean dissociation values of our sample were tested against a sample of Caucasian students collected from a previous study. Results did not find a significant difference in mean dissociation scores between the Caucasian sample and our Asian sample. Furthermore, behavioral acculturation and English proficiency significantly predicted dissociative levels of our sample while value acculturation did not. The present study shed light on the possible relationship between inherent behaviors in a given culture and dissociative tendencies.

Jack Kapustka

Negative Valence and Associative Memory

Advisor: Dasa Zeithamova-Demircan, PhD

Our ability to create and remember associations is an essential aspect to our day-to-day lives. Previous research suggests that the ability to remember associations is impaired by negative emotions, though these findings remain inconclusive. In this study, we examined whether this impairment from exposure to a negative stimulus could be transferred to subsequent associations. Sixty-five students were recruited from the University of Oregon Psychology Department through the Human Subjects Pool. Subjects completed a paired-associates paradigm, in which they learned to link neutral object pairs (AB & BC) that shared a common associate (B). Subjects were randomly assigned to a condition in which they were exposed to either negative or neutral distractor images prior to learning each AB pair association. After being tested on AB learning, subjects then learned BC pairs, as well as unrelated pairs (XY) that did not share any AB associations. Results showed that subjects had worse memory performance for

BC compared to both AB and XY pairs. However, there were no differences in learning for any of the pairs as a function of emotional distractor condition. Overall, our results suggest that irrespective of distracting emotional experiences, learning of overlapping associations is more difficult than learning of non-overlapping associations.

Madison Kelm

The Relationship between Child Baseline RSA and Critical Parenting Practices

Advisors: Elizabeth Skowron, PhD; Dare Baldwin, PhD; and Carrie Scholtes, MS

Parenting behavior has been shown to be a predictor of child self-regulation. Previous studies have demonstrated an association between supportive parenting behavior and positive child outcomes as well as an association between harsh parenting behavior and difficulties with child emotion regulation (Binion & Zalewski, 2017). Despite extensive research on emotional and behavioral self-regulation, less is known about physiological processes of self-regulation. It is important to examine self-regulation at a biological level because this measure is uninfluenced by the thoughts and emotions of the individual. The current study sought to examine pathways through which harsh and controlling parenting practices, assessed via the Conflict Tactic Scale-Parent Child (CTSPC) and three five-minute parent-child interaction tasks, impact children's ability to physiologically self-regulate. Child physiological self-regulation was assessed using baseline resting respiratory sinus arrhythmia (RSA). An analysis of the relevant literature revealed that children whose mothers utilized more negative control during dyadic interactions exhibited deficits in their ability to self-regulate physiologically (Calkins, Smith, Gill, & Johnson, 1998; Hastings et al., 2008). Thus, we hypothesized that parents who use critical parenting practices will have children who exhibit deficits in physiological self-regulation. Contrary to our predictions, a hierarchal linear regression revealed no significant relationship between either harsh or controlling parenting and child physiological self-regulation.

Ellyn Kennelly

The Role of Infant Attachment and Self-Efficacy in Predicting Later Academic and Social Competence

Advisors: Jennifer Ablow, PhD and Jeff Measelle, PhD

Child self-efficacy has been shown to predict better social and academic problem solving skills, both of which are foundational to school success. Additionally, attachment security has been linked to school achievement via its effect on socioemotional adjustment. Presently, few studies have addressed the interaction of self-efficacy and attachment early in life to determine whether they have a joint role in shaping readiness for school. We hypothesize that self-efficacy during infancy will predict school readiness outcomes at age 5. However, we also anticipate that this association will be moderated by infant attachment security. In particular, we expect that infants with disorganized attachment histories will fail to develop the self-efficacy capacities needed to begin school on an adaptive trajectory. Our high-risk sample comprises 72 low SES mother-infant dyads who were followed longitudinally from pregnancy through 60 months postnatally. When infants were 17-months-old they completed the Strange Situation Procedure as well as a task designed to probe early self-efficacy, which together we used to predict mother's reports of their child's social and academic competence at age 5, before entry to kindergarten. Contrary to our predictions attachment style and self-efficacy did not predict later academic and social competence, and there was no interaction between self-efficacy and attachment style. These findings suggest that self-efficacy is still changing and has yet to consolidate at 17 months of age. Other factors of our high risk sample, such as poverty, could have made a larger impact than attachment style on academic and social competence at 5 years, thus overshadowing the affects attachment style may have had.

Jena Kunimune

Is Inhibition Dependent on Working Memory Capacity?

Advisors: Ulrich Mayr, PhD and Melissa Moss, MS

The ability to stop initiated actions is a critical component of effective self-regulation, such as resisting the urge for 'sex, drugs, and rock and roll.' The current dominant theory in cognitive control assumes that maintaining task-relevant information in working memory is necessary for the effective implementation of inhibitory control. In this study, we addressed the interplay of inhibitory control and working memory maintenance processes using a dual-task paradigm in which both inhibitory control demands and working memory load were manipulated. Because the standard theory predicts mutual interference between the two processes, we hypothesized that if inhibition interferes with working memory maintenance, working memory performance will be lower when participants successfully employ inhibitory control in response to a stop signal, versus when they fail to inhibit their action. Further, this interference in performance should be greatest when working memory load is high. Participants completed a combined working memory and stopping task in which stopping behavior occurred during the working memory maintenance interval. Our results showed no evidence of mutual interference between working memory load and stopping behavior on working memory performance. This result is inconsistent with the dominant view of working memory capacity as the primary constraining factor in inhibitory control. Rather, distinct processing resources may underlie these two different aspects of self-regulation.

Aaron MacArthur

Referential Communication Task in a Naturalistic Setting

Advisors: Dare Baldwin, PhD and Netanel Weinstein, MS

Reaching shared understanding in conversation is an important part of daily life. Various mechanisms facilitate this achievement including: the ability to engage in perspective taking, sensitivity to gaze, sharing attention, and making pragmatic inferences about an interlocutor's intent. Prior research on this topic has prioritized experimental control over ecological validity by placing participants in highly constrained situations. We addressed these limitations in the present study by correlating performance in a modified referential communication task with participants' performance on several standard personality and socio-cognitive measures. Specifically, pairs of participants were placed on either side of a shelf with a series of cells and prepared a cake from a given recipe card. Some of the cells on the shelf were visible to only one participant or the other, while some cells were visible to both. We measured participants use of various disambiguation strategies (e.g. gaze checking or making a clarification request) and examine whether performance on standard socio-cognitive measures predict these behaviors. This research helped shed light on the relationship between standard decontextualized socio-cognitive measures and real-life social interaction as well as the extent to which these measures predict individual differences in the way people achieve shared understanding in conversation.

Dillon Murphy

The Effect of Memory Self-Efficacy on the Dynamics of Delayed Free Recall, Encoding Strategies, and Performance

Advisors: Nash Unsworth, PhD and Ashley L. Miller, MS

Memory self-efficacy (MSE), a self-assessment of one's memory abilities, has been found to positively relate to memory performance, however, the reasons for this relationship remain unclear, particularly in the context of free recall. The current study (n = 169) examined the relationship between individual differences in MSE, the use of effective encoding strategies, and the dynamics of free recall (e.g., serial position curves, probability of first recall, conditional response probabilities, recall latencies, and inter-response times). While we found that MSE was related to encoding strategy use and overall recall performance, converging evidence from the dynamics of delayed free recall did not reveal any MSE-related differences in how individuals retrieve items from long-term memory. The results suggest that variation in performance is partially due to differences in encoding strategies but differences in MSE are also important in that they uniquely predicted recall even when taking effective encoding strategies into account.

Xinran Niu

Repetitive Negative Thinking Changes the Effect of Sleep Extension on Stress Response

Advisors: Melynda Casement, PhD and Xi Yang, MS

Insufficient sleep duration can disrupt physiological stress response systems, but the relationship between sleep and stress may depend, in part, on how stressors are perceived or interpreted. The present study investigated whether repetitive negative thinking (RNT) affects the strength of the relationship between sleep duration and parasympathetic nervous system response during rest and stress. Young adult women with symptoms of depression and insufficient sleep (n=18) were assigned to a week of extended sleep opportunity or typical sleep opportunity. Following sleep manipulation, parasympathetic activity was evaluated using high-frequently heart rate variability (HRV) during rest and exposure to a social stressor. Extended sleep opportunity increased resting HRV, but only in participants with low RNT. However, neither sleep extension nor its interaction with RNT affected reactivity to the social stressor. Future research should examine this sleep by RNT interaction with larger sample size and more statistical power.

Camy Sibley

Can Parent Harshness Predict Child Inhibitory When Familial Economic & Subjective Standing are Controlled For?

Advisors: Elizabeth Skowron, PhD; Phil Fisher, PhD; and Akhila Nekkanti, MS

Inhibitory control is a rapidly developing skill during early childhood, which predicts school readiness and social competence (Ponitz et al. 2009). Familial socioeconomic status, social standing, and parenting behaviors have all been shown to influence childrens' development of this skill (Dilworth-Bart 2012; Ursache, Noble, & Blair 2015; Blair & Raver 2012). The current study examined whether harsh parenting was still a significant predictor when socioeconomic status and social standing were controlled for. Interestingly, within our high-risk welfare involved sample, none of these were significant predictors of child inhibitory control performance on a child version of a Go-No Go task.

Josephine Swift

The Relationship between Self-Reported Mindfulness and the P300

Advisors: Don Tucker, PhD and Jennifer Lewis, MS

Mindfulness is a state of awareness that allows an individual to more effectively monitor their cognition and emotions. The ways in which mindfulness impacts aspects of cognition, including attention and attentional control, are still being researched. The current study examines how dispositional mindfulness is related to individuals' attention and attentional control as measured through dense-array EEG (dEEG). We examined participant's (n=72) scores on the Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006) and their event-related potentials (ERPs) generated from completing the color-word Stroop task modified for dEEG recording. Response times were also recorded. ERP waveform amplitude differences for the P300, an ERP associated with attentional processes, did not significantly differ by category (i.e., Incongruent, Congruent). However, preliminary analyses showed a relationship between self-reported mindfulness and the amplitude of the P300 (across both categories), whereas higher scores on the FFMQ were associated with attenuated P300 amplitudes. Decreased P300 amplitudes may indicate the deployment of less attentional resources. It's possible that individuals who are more mindful, have naturally increased attention and therefore require less attentional resources in a cognitively demanding task. Mindfulness has been found to be an effective intervention for mood disorders, particularly anxiety disorders (Blanck et al. 2018). Understanding the particular ways that mindfulness impacts cognition may lead to a further understanding of the mechanisms by which mindfulness improves anxiety symptoms and thus improve treatment.

Vy Tran

Is Forgetting Good for Learning? Examining the Emergence of Abstract Rule Representations

Advisors: Ulrich Mayr, PhD and Atsushi Kikumoto, MS
Most actions are driven by abstract action rules that need to be applied to specific environmental conditions. The abstract goal to make coffee is implemented differently in your own than in your office kitchen. We examine here the degree to which improvements through practice result from (1) strengthened representations of abstract rules, from (2) better adaptation to specific environmental conditions, or from (3) representations that integrate abstract rules and specific conditions into conjunctive representations. We used a task that required the application of up to four different abstract spatial translation rules in order to respond to a given spatial stimulus. Subjects (N=46) performed an initial, 45-minute session applying two of the four rules to one of two possible stimulus configurations. During the second, 45-minute session, the two withheld abstract rules and the second stimulus configuration were introduced. To test the possibility that abstract, generalizable knowledge is fostered through consolidation or forgetting of specific conjunctive representations the second session occurred either right after the first session, or one week apart.

Results showed that it was harder to apply new rules to practice than to new stimulus configurations -- a clear indication conjunctive representations between abstract rules and stimulus settings.
Importantly, this effect was substantially weakened when the new rules/stimulus settings were tested after one week. This suggests that during the 1-week delay, specific conjunctive representations were weakened (i.e., forgetting), thereby increasing the contributions of abstract rule representations. In other words, forgetting can benefit the emergence of generalizable skills.

Fan Yang

Time Frequency Dynamics of Theta Rhythm During Self-Evaluation

Advisor: Don Tucker, PhD

In this study, we discussed some commonly used EEG preprocessing method with their pros and cons, and we used a fairly new method—joint time frequency analysis—to study the clinical significance of depression, particularly, self-evaluation. We created a subset from a larger EEG dataset including mildly depressed males and females, and more severely depressed males and females. All participants participated in a self-evaluation task where personality trait words were presented, and then behavioral responses were required based off whether the trait word is self-descriptive. Theta power was extracted for statistical analysis. From the statistical result, we found interesting electrode by task condition by sex by depression interactions from stimulus onset to 300 ms post-stimulus, and all main effects and interaction effects after 300 ms failed to exceed significance threshold.

Shijing Zhou

The Effect of Absolute Value vs. Relative Value of Reward on Associative Memory

Advisors: Dasa Zeithamova-Demircan, PhD and Lea Frank, MS

People tend to remember information associated with high reward values better than low reward values. However, what is perceived as "high" reward may be relative to other potential rewards. Here, we hypothesized that the memory advantage for a given reward value (e.g., penny over no reward) diminishes as higher possible rewards are offered. In the task, participants studied pairs of common objects, preceded by a cue indicating how much money they could earn (no reward, penny, dime, or dollar) for remembering the pair at a later test. Study block 1 included only no reward and penny cues, dime cues were added in block 2, and dollar cues were added in block 3. At test, participants saw one object from each pair and named the object that was paired with it at study. Contrary to our

hypothesis, reward effects on memory were independent of other offered rewards. Together, these findings indicate that the absolute values of reward, rather than the relative values, dictate the effect of reward on memory performance.

Undergraduate Honors Projects – 2017-2018

Jared F. Acosta-King

Neural Mechanisms for Stereo Olfaction in Mice

Advisor: Matt Smear, PhD

The abilities to seek out and spatially locate sources of food, find a mate, and identify potential predators are essential skills for survival. Many of the senses that are utilized by mammals for such tasks use stereo as a means for localization, such as stereo vision for perception of depth, or stereo audition for perception of azimuth and elevation. For many mammals, olfaction is necessary for foraging and threat detection, and although they can locate odor sources based on stereo, how olfactory systems process and compare stereo input remains enigmatic. We hypothesize that animals compare timing across two sides to judge azimuth, similarly to audition. Due to the difficulty of stimulus control, to test this hypothesis using odors is infeasible. To circumvent this difficulty, we use transgenic mice in which olfactory sensory neurons (OSNs) express channelrhodopsin, so that we can initiate olfactory input with light. Using a simple go no-go behavioral assay, we will examine the ability of mice to sense timing differences between the stimuli delivered to OSNs on both sides of the olfactory bulb. These experiments will illuminate the neural code with which the early olfactory system represents stereo differences. Further, this project is a first step toward our longer-term goal: to understand the brain circuits that perform stereo computations.

Sam Adcock

The Influence of Women's Self-Perceptions of Ability and Effort Expenditure on Science, Technology, Engineering, and Math Field Persistence

Advisors: Sara D. Hodges, PhD and Kathryn Denning, MS

Women in the United States consistently drop out of Science, Technology, Engineering, and Math (STEM) fields at various points along the career pathway. While discrimination is a factor, women's perceptions of themselves and their field may influence the decision to leave STEM at the undergraduate level. The current study paired 121 male and female STEM undergraduates interested in pursuing advanced degrees with graduate students in their field for a discussion about graduate school preparedness. Afterward, we used questionnaires to measure the undergraduates' self-perceived levels of natural ability, effort exertion relative to others in their field, domain motivation, beliefs about the relationship between effort and ability, and beliefs about the importance of natural ability to success in their field. We predicted that these variables would influence likelihood of persistence in STEM fields and found that domain motivation and self-reported ability were significant predictors. However, contrary to our prediction, self-reported ability had a negative relation with likelihood of persistence. Interestingly, we found no gender differences for likelihood of persistence, indicating that women may be more likely to remain in STEM fields than previously thought. These findings could represent positive news for the representation of women in STEM and suggest that motivational factors and self-perceptions of ability should be examined in future research.

Courtney Daum

The Origins of Empathy During Infancy: Links to Theory of Mind and Empathic Prosocial Behavior at Age 5

Advisors: Jennifer Ablow, PhD and Jeffrey Measelle, PhD

Researchers examining the developmental origins of empathy report that infants as young as 17 months show early evidence of empathic behavior in the form of concern for others, positive affect, and emotional distress (Zahn-Waxler, & Robinson, 2005). In turn, a vast amount of research demonstrates the long-term outcomes of empathic children, such as prosocial development, high self-esteem, few externalizing problems and a positive disposition (Eisenberg, Fabes & Spinard, 2015). In addition, early empathic tendencies predict earlier onset of Theory of Mind (ToM), which is the ability to attribute beliefs and desires to self and others (Laranjo et al., 2010). Evidence suggests that ToM develops within the context of the parenting relationship during infancy (Laranjo et al., 2010), through parenting mechanisms such as Maternal Mind-mindedness, which is the ability to treat children as their own entities' with their own minds through the usage of appropriate mind related language. Though there is vast literature on the outcomes of early empathy, there is little research on the development of empathy prior to 17 months. Given links between Maternal Mind-mindedness in infancy and early onset of ToM, and links between early indices of empathy and ToM, this study examined Maternal Mind Mindedness at 5 months and its associations with infant empathy at 17 months. These, in turn, were used to predict children's ToM and empathic prosocial behaviors at 5 years. Although our results did not find an association between Maternal Mind-Mindedness and ToM, we did find a significant longitudinal associations between Maternal Mind-mindedness and Global Empathy, Attachment Security, Empathic Prosocial behaviors.

Isabella Dickerson

Is Efficient Coding a Cognitive Primitive of Working-Memory Capacity?

Advisors: Atsushi Kikumoto, MS and Ulrich Mayr, PhD

Working memory capacity (WMC) is usually regarded as a cognitive primitive that explains intelligent behavior, including the ability to recognize and utilize patterns in the environment. The efficient-coding hypothesis (Botvinick, Weinstein, Sloway, & Brato, 2015) posits that our neural system has evolved to code sensory information by utilizing redundancies and patterns in the sensory input in order to minimize storage demands. This suggests that variability in working memory capacity may be a consequence of variability in "intelligent" utilization of environmental structure. In other words, efficient coding may be the cognitive primitive that is responsible for variability in working-memory capacity. As an initial test of this hypothesis, we assessed in a group of subjects (a) working-memory capacity through a simple change-detection task, (b) the ability to detect patterns of varying structural complexity and (c) as a control task, the ability to make simple perceptual discriminations of varying difficulty. On the basis of the efficient-coding hypothesis we predicted that pattern-detection ability would be more highly correlated with working-memory capacity than perceptual-discrimination ability.

Mary Donaldson

Alcohol Use and Mental Health across the Transition into College: A Longitudinal Perspective

Advisors: Nicholas B. Allen, Ph.D. and Melissa Latham, MS

On college campuses, problematic drinking behavior has become normalized. Students drink heavily, vomit, attend class hungover, and they often discuss this behavior with levity. While several studies show that alcohol consumption increases significantly during the first year of college, few shed light on contributing influences (Capone, Wood, Borsari, & Laird, 2007; Fromme, Corbin, & Kruse, 2008; Sher & Rutledge, 2007; White et al., 2006; Read, Wood, & Capone., 2005). This study examined patterns of change in alcohol use across the transition into college and asked whether pre-college depression or anxiety moderate these patterns. Data was collected through AlcoholEdu, a substance abuse program required of all incoming students of the 2016-17 academic year (n = 4,681). The longitudinal design included two surveys. Students completed the first survey prior to the start of fall quarter and the second approximately 1 to 4 months into their first year. Our first two hypotheses were supported,

while our second two were not. Alcohol problems significantly increased across the transition into college, with male students experiencing greater increases in first-term alcohol problems than female students. However, pre-college depression did not predict greater increases in first-term alcohol problems, and neither did pre-college anxiety. Results suggest that the transition into college negatively impacts drinking behavior, specifically for male students. These findings may also point to future research regarding collegiate mental health, Greek involvement, and drinking motives.

Ashley Dresen

Enhancing Low Frequency Rhythms in the Motor Cortex of Humans.

Advisors: Pascale Voelker, PhD and Mike Posner, PhD

In previous work it was found that 2-4 weeks training of mindfulness meditation increased white matter connectivity in pathways surrounding the anterior cingulate. It was hypothesized that this change might be mediated by theta rhythms (4-8Hz) found to increase after meditation training (Posner et al,2014). Theta rhythms are associated with internalized attention and positive emotional states. In our laboratory, mice receiving laser stimulation of the anterior cingulate cortex (ACC) at theta frequency (4-8 Hz) showed evidence of improved connectivity as measured by g-ratio (axon diameter/axon diameter + myelin). To extend these results to humans, we stimulated the ACC by applying electrical stimulation at theta frequency (6Hz) to a set of scalp electrodes overlying that area. Following stimulation, we found enhanced low frequency power in ACC sites compared to baseline, and this power increased when a task known to stimulate the ACC was performed. Our current work tests whether this method could be applied to other brain areas. We chose a task activating the hand region of the primary motor cortex and electrodes stimulating the motor area. We tested 12 undergraduates using a generic set of electrodes known to stimulate the motor area, and compared this with electrodes selected for each person based on structural brain images. We found an increase in baseline theta activity over the course of the experiment. We saw enhanced theta activity while performing the task and with electrical stimulation while performing the task. There was no significant change in theta activity with electrical stimulation alone and the configuration of electrodes did not seem to show substantial differences. We found that baseline theta levels could be enhanced in the motor system by an appropriate task.

Cassandra Dukes

Title: Dissociative Traits vs. Symptoms: Associations with Parasympathetic Responding During Trauma Recollection

Advisors: Jeffrey Measelle, PhD; Jennifer Ablow, PhD; and Jenn Lewis, MS

Abstract: Trauma experiences are known to be associated with higher levels of dissociation when triggered by recollection. Dissociation can be measured on a continuum, as both a trait and clinical symptoms of psychopathology, although little research has explored physiology relating to both sides of this continuum. The Polyvagal Theory suggests that dissociation, a form of immobilization, can be a defense mechanism to cope with an inescapable fear or danger. In keeping with this, research has shown through investigations of psychophysiology that dissociation activates the parasympathetic nervous system (PNS), or the branch of the autonomic nervous system that attempts to regulates stress. This study recorded continuously measured respiratory sinus arrhythmia (RSA), an index of PNS functioning, in 64 primiparous women discussing trauma during the Adult Attachment Interview (AAI). There were significant physiological differences between talking baseline and the trauma questions as demonstrated by increased RSA during personal trauma recall. When regarding trait versus symptomatic dissociation, symptomatic showed a significant association with sympathetic nervous system activity, showing decreased RSA. These results suggest that in those with symptoms of dissociation, there may be a period of arousal preceding the increase in RSA that has been found to be linked to dissociation.

Giang Le

Puberty and Valence of Word Use in a Novel Self-description Task in Adolescent Girls

Advisors: Jennifer Pfeifer, PhD and Monika Lind, MS

Frequently defined by the onset of puberty, adolescence is a time of significant development of the self and is often associated with the variability of experienced affect. Past research has examined the neural bases of self-concept and self-knowledge, as well as used the Ecological Momentary Assessment to measure affect in adolescences. However, few studies have considered if pubertal development is associated with valence of expressed language when describing the self. A sample of 116 female participants, ages 10.06 to 13.17 years old, completed a video task and answered the Pubertal Development Scale questionnaire during Session 2 of the Transition in Adolescent Girls (TAG) study. The video task, This Is Me, allowed participants to introduce and describe themselves for sixty seconds in front of a computer web-camera. The current study utilized the data from TAG and investigated whether or not two associations existed: between puberty and positive affect, and between puberty and negative affect. The results revealed non-significant associations. For future studies involving data from This Is Me, researchers can take two approaches: 1) examine within-subject changes in valence of expressed language and 2) measure affect using a facial recognition program, instead of sentiment analysis.

Madison Morocco

The Effect of Sleep on False Memories

Advisors: Nash Unsworth, PhD and Melynda Casement, PhD

A false memory is recalling incorrect information, or recalling an event that did not happen. Everyone is susceptible to false memories. There is no known cure or defense, and relatively little is known about how they occur. Though there is relatively little known, much research shows sleep, consolidation specifically, is crucial to solidifying memories (Payne, Chambers, and Kensinger, 2012). Consolidation is a process where new, labile memories are integrated into the vast network of pre-existing long-term memories. A key component of this process is the active re-processing of these memories, because this is the version of the memory that will be recalled (Diekelmann and Born, 2010). Memory is malleable, so it is important to understand how it is affected. This study seeks to find a connection between the number of hours of sleep a subject gets and how many times they experience a false memory. Using the Deese-Roediger-McDermott paradigm, subjects were asked to memorize four lists of 10 words all related to a single theme word. Then, subjects were asked to recall words from each list. A false memory was counted each time a subject mistakenly reported the theme word. We hypothesized that subjects sleeping a "normal" eight hours per night would experience fewer false memories compared to subjects who slept greater than 10 or less than five hours per night. We seek to answer the question: is someone more or less susceptible to false memories based on the number of hours they sleep?

Michael Morrison

The Effectiveness of Value Based Self-Affirmations via Text Messaging on Feelings About Healthy Eating

Advisor: Elliot Berkman, PhD

More than a third of adults and 17% of youth between 2011-2014 were obese, and obesity has seen a steady increase from 1999 to 2014 (Ogden et al., 2015). Given that public health messaging is prevalent and yet obesity continues to rise, reducing obesity at the population level apparently requires more than simply increasing the availability of healthy eating information. It is possible that motivational messages (as opposed to informational ones) will be effective in changing diets. This study measures the effectiveness of value-based self-affirmations on feelings about healthy eating (termed healthy eating affect). Adult overweight and obese participants (N = 91, ages 34-46) were randomly assigned to receive either self-generated text-messages grounded in personal core values related to healthy eating or generic healthy eating information provided by government funded. We tested the hypothesis that those who received value based self-affirmations via text-messaging would show significantly greater positive affect towards healthy eating than those who received generic or otherwise less personally relevant text-messages (e.g.,

messages only weakly connected with self-affirmations). Participants underwent a standard self-affirmation induction (value ranking and writing exercise) then self-generated messages describing how healthy eating was connected to their personal values. All messages were qualified by blind coders from high to low on how well they represented the participants' core values. A factorial ANOVA will test the effect of self-affirmation quality on healthy eating affect. Implications of these data on healthy eating affect are to be determined upon the completion of this study.

Nathaniel Lee Sichter

Nutrition and Anemia in Lao Children: Determining Contextual Correlates

Advisors: Jeffrey Measelle, PhD and Dorianne Wright, MS

The present study investigated the associations among diet, hemoglobin concentration, and the presence of anemia in young Lao children, hypothesizing that children's dietary profile would be correlated with hemoglobin concentration, that children with poorer dietary profile would be more likely to have anemia, and that social factors such as ethnicity might moderate these association. Data were collected in 2014 from 572 children under five years of age in 90 villages across three districts in northern Laos to measure a wide range of health indicators, including infant health status, families' nutritional practices, composition of food basket, and issues of food security. Due to missing data, the sample was reduced to 534 in models predicting dietary score and 508 for hemoglobin concentration/anemia. Our cutoff for determining anemia was hemoglobin concentrations under 11g/dL. When holding all other variables constant, no association between dietary score and hemoglobin concentration was found ($F(1, 498) = 0.001$, $p = 0.972$). However, significant main effects of child age ($F(1, 498) = 14.672$, $p <0.001$), breastfeeding ($F(1, 498) = 14.27$, $p <0.001$), and ethnicity ($F(1, 498) = 4.92$, $p = 0.03$, $F(1, 498) = 12.31$, $p <0.001$) predicted hemoglobin concentrations. When predictors of diet were examined, only child age was a significant predictor ($F(1, 521) = 6.35$, $p = 0.012$). A logistic regression model predicting anemia found that children's age and breastfeeding were the only significant predictors. Specifically, the odds of developing anemia were 0.972 times less for older children (95% CI[0.956, 0.989]) and 0.518 less for children whose mothers reported that they were still breastfeeding their child (95% CI[0.315, 0.851]). Ethnicity did not moderate any of the associations.

Contrary to prediction, children's diet did not predict hemoglobin concentrations or the likelihood of clinically significant anemia. However, older children had higher hemoglobin concentrations, better diets, and a decreased likelihood of developing anemia. Importantly, breastfeeding was also found to predict higher hemoglobin concentrations and a decreased likelihood of anemia, pointing to the protective effects of breastfeeding in a nutritionally challenged region of the world.

Brianna Soumokil

The Interaction of Stress and Sleep in Reward Motivation

Advisor: Melynda Casement, PhD

Existing literature indicates that stress and sleep contribute to the onset and severity of depression, but there is limited research on the interaction between stress and sleep in their relationship to depression and depressive symptoms. The present study evaluates a model in which stress and sleep interactively contribute to reward motivation in depression. Participants were 51 young women (M= 19.7, SD= 0.47) from the Pittsburgh Girls Study (PGS; Keenan et al., 2010). Perceived stress and sleep duration were measured daily for a week prior to a behavioral measure of reward motivation. Perceived stress and depressive symptom severity were assessed via self-report, and sleep was assessed using self-report and behavior. I hypothesized that higher perceived stress and lower sleep duration would both predict lower reward motivation (i.e., fewer decisions to perform difficult tasks when the probability of success was 50%). Additionally, I expected an interaction between stress and sleep such that as sleep duration decreased, the effect of stress on reward motivation would increase. ANOVA results indicated that neither sleep duration nor perceived stress were associated with reward decisions. In addition, neither sleep, nor stress, nor reward motivation were associated with depressive symptom severity. The absence of significant bivariate

relationships between sleep and depression, stress and depression, and depression and reward motivation is surprising in light of the reliability of these associations in prior research. The failure to replicate prior studies may be related to the demographic characteristics of the sample, which is predominantly African American women with low socioeconomic status, or the presence of research fatigue after nine waves of PGS data collection and a week of daily measures of stress and sleep. Future research may need to devise methods of data collection that promote the integrity of participants' responses in high-demand studies.

Larissa Williams

Associations in Adverse Childhood Experiences and Parasympathetic Response during Social Engagement in At-Risk Children

Advisors: Emma Lyons, MA; Elizabeth Skowron, PhD; and Caitlin Fausey, PhD

The development of physiological self-regulatory abilities is crucial in the early years of human life (Porges, 2011) and is negatively affected by experiences of childhood adversity (McLaughlin et al., 2015). The parasympathetic nervous system (PNS), a branch of the autonomic nervous system, is extremely important in regulating physiology when a person is under stress and at rest. The present study examined the development of the PNS and how experiences of adversity during childhood development affect the PNS. Specifically, the study examined the relationships between adverse childhood experiences (ACEs) and the parasympathetic stress response in children during a social engagement task. Participants ($N = 97$) were 3 to 7-year-old children whose mothers were involved in DHS. Respiratory sinus arrhythmia (RSA) was measured while children were at rest and during a social engagement task with an unfamiliar adult. Change scores were calculated to demonstrate task-level parasympathetic response. Adverse Childhood Experience Scale (ACES) scores were used as a measure of how much adversity the child had experienced. RSA change scores and ACES were compared utilizing regression analysis while controlling for age, and no significant relationship was found between the variables. Future research with a larger sample size in conjunction with measuring and controlling for other potentially important variables is suggested.

Arianna Zarosinski

Thin-Slice Socioeconomic Status: Comparing Thin-Slice and Longer Judgements of SES and the Cues that Inform Them

Advisors: Sanjay Srivastava, PhD and Bradley Hughes, MS

Thin-slice perceptions, those made of others after a brief observation, have been shown to be similar in accuracy to those made after longer observations across many individual difference measures. Recent work has shown thin-slice observations of socioeconomic status (SES) may also be accurate. The purpose of this research was to test if thin-slice judgements of SES are as accurate as those made after longer observations and to examine the expression and utilization of a number of hypothesized cues of SES. We compared 60-second thin-slice ratings of SES to those made after observing the target for 20-minutes. Further, we employed a Brunswik lens model to examine whether perceivers utilized expressed cues. One-hundred and forty-two targets were rated by 115 participants. Inconsistent with previous research, neither thin-slice ratings of socioeconomic status nor ratings made after a 20-minute observation were accurate predictors of self-reported SES. Additionally, there was no relationship between thin-slice ratings of SES and those made after longer observations. Despite the lack of accuracy in ratings of SES, perceivers appear to rely on similar ques to make their ratings.
This study is preregistered through the Open Science Framework.

Min Zhang

The Effect of Abstract Chunk Patterns on Sequential Performance

Advisors: Ulrich Mayr and Melissa Moss

Complex sequential performance is typically thought to be based on hierarchically organized control structures, which break larger sequences into small sub-sequences ("chunks"). However, such models of sequential behavior do not specify the nature of chunks and how different chunks within a sequence relate to each other. The efficient coding hypothesis (Botvinick, Weinstein, Solway, Andrew, & Barto, 2015) suggests that our neural system optimizes information storage by exploiting structure in the to-be-coded information. Applied to the problem of serial-order control, this general hypothesis suggests that different chunks are not coded in terms of arbitrary labels, but instead in relation to each other. Specifically, this implies that sequences that consist of "relatable" chunks can be coded in a more efficient manner than less-relatable chunks. To test this novel prediction, we assessed the effect of 'matching' chunk patterns on performance in a complex sequencing task. Participants completed a spatial rules task (see Mayr, 2002), in which they were asked to execute a number of complex sequences with either similar, or dissimilar, abstract chunk patterns (e.g., an ABA pattern for both chunks 1 and 2 vs. an ABA pattern for chunk 1 and an ABB pattern for chunk 2). Within-subjects analyses revealed better performance (shorter response times) in sequences containing matching chunk patterns than in sequences containing non-matching patterns. Additionally, this effect was strongest at chunk transitions. These findings indicate that chunks within complex sequential representations are coded in relation to each other, as the efficient-coding hypothesis would suggest.

Undergraduate Honors Projects – 2016-2017

Tanainan Chuanchaiyakul

Preference Reversals in Donation

Advisors: Paul Slovic, PhD and Marcus Mayorga, MS

Generally, people make decisions based on available information. We tend to think that our decisions are originally from our own deliberation. However, these decisions can be influenced by choices presented to us. A previous study by Hsee (1998) suggests that these evaluations can be inconsistent when people are presented either with one choice or with many choices at once. We test whether this hypothesis applies in a donation scenario. Using an online survey, participants will see the picture of or the level of money of either one donation box (with low or high existing amounts of money) or two donation boxes (with low and high amounts of money in each). In the Single condition, they will choose an amount of money to donate to the box. In the Joint condition, they will choose both the box and the amount. We hypothesize that in the Single condition, people tend to donate more in the high money box. In contrast, for the Joint condition, more people will choose the low money box with a higher amount of money than people who donate to the high money box. Yet, when comparing two conditions, people will donate more in the Joint condition. This is because they have reversed their preferences in the presence of an alternative. This would also apply when they are provided only the amount of money in the box without the picture of the box(es). The findings will provide us with a better understanding of preference reversals that involve money and altruistic behavior. Ultimately, we may be able to apply this result to increase donation in the real-world practices.

Tanainan Chuanchaiyakul

The Similarity Effect and Altruism

Advisors: Paul Slovic, PhD and Marcus Mayorga, MS

Many models try to explain people's decisions in multi-alternative scenarios but these models have not yet tested for the effect of interpersonal relationship that might affect people's choices. For example, Tversky (1972) introduced the Similarity Hypothesis: people tend to choose a dissimilar item over two similar items in the same set. To expand this finding and have a better understanding of what the impact of interpersonal relationships might have, we use an

online survey of the Giving and the Taking conditions with a set of two similar items and one dissimilar item. In the Giving condition, subjects will choose to give away one M&Ms® jar from the set, with the only distinction being the colors of the M&Ms®. Further, recipient types are various (i.e. lover, acquaintance, unknown, child in need) to test for effects of interpersonal relationship with altruism regarding the type of recipient. The hypothesis for this Giving condition is that regardless of the recipient types, people still choose to give away the similar item to the recipient and keep the dissimilar item to the self. In the Taking condition, subjects will choose to keep a toothpaste; however, the only available clue is the quantity of each choice. We hypothesize in this Taking condition that people will use this clue and choose the dissimilar one. The findings will expand the knowledge of this effect by examining the interaction between similarity and altruism, and the interaction between similarity and categorical information (that is, color and quantity).

Natalie Crawford

Influence of Act-Based Birthing Classes on Parenting Stress and Depressive Symptoms

Advisors: Jennifer Ablow, PhD and April Lightcap, MS

The present study will examine the relationship between participation in the prenatal Acceptance and Commitment Therapy (ACT)-based birthing classes titled Birth Your Way, and future parenting stress. This thesis asks the question does participation in ACT-based birthing classes, Birth Your Way, effect maternal (1) parenting stress and (2) depressive symptoms at 1 month postpartum. Participants (41 low-income mothers) were randomly assigned to either the treatment (those who received the Birth Your Way class) or control (those who did not receive the Birth Your Way class) conditions. Maternal reports of stress/anxiety as well as depression were collected prenatally and 1-month postpartum. Additionally, levels of maternal experiential avoidance were collected prenatally and 1-month postpartum. A regression analysis found that when controlling for demographic and labor/delivery risk factors, participation in Birth Your Way did has a marginally significant effect on parenting stress or depressive symptoms 1-month postpartum. Post-hoc analysis found that when controlling for demographic and labor/delivery risk factors, the effect that participation in the birth class had on maternal levels of experiential avoidance is marginally significance. This thesis discusses the limitations of a behavior intervention such as Birth Your Way, the reasons why an insignificant result may have been found, as well as further directions for Birth Your Way based on the results of the study. The results of the current work have important implications for future prenatal interventions and the role that ACT-based interventions can play in improving maternal and child health.

Bryce Dirks

The Effectiveness of a Value Based Text Message Intervention on Unhealthy Food Craving and Consumption

Advisors: Nicole Giuliani, PhD and Elliot Berkman, PhD

The most recent report from the National Center for Health Statistics estimates that, among adults in the United States over the age of 20, 32.7% are overweight, 37.9% are obese, and 7.7% are extremely obese. Separately, research has shown that a rise in BMI is associated with an increase in health risks, including certain types of cancers (e.g., colorectal-cancer, breast cancer, renal cell). In contrast to many existing interventions, which focus on effortful down-regulation of food craving to reduce unhealthy food intake, this study tests the effectiveness of a personal values-based intervention. Middle-aged obese and overweight participants (N=105) were randomly assigned to receive healthy eating text messages that align with their core values or generic healthy eating text messages derived from public health campaigns (e.g., by the American Heart Association). We hypothesized that participants who received the core value text messages (vs. generic text messages) would show a decrease in craving and consumption of unhealthy foods. Craving and consumption measures were collected using standard self-report questionnaire measures (Block FFQ and FCI) and analysis is undergoing using repeated measures ANOVAs. Anticipated results will indicate a significant decrease in the craving and consumption of unhealthy foods in the value based text messages condition than the generic text messages condition. The implications of these results on healthy eating and obesity will be discussed.

Sydney Gilbert

The Double-Drift Illusion Affects Both the Perception of Where the Target *Is* and the Memory of Where It *Was*

Advisor: Paul Dassonville, PhD

To successfully hit a curveball, how does your conscious perception of the curving ball effect where your bat actually swings? From evading car accidents to using basic hand-eye coordination, we often rely on our perceptions of the world to help guide our actions. Successfully perceiving and interacting with a moving object requires the brain to encode how the object's edges (global motion) and the object's internal texture (local motion) are moving through space. In order to quickly process moving objects, the brain typically assumes that these motions are in agreement. However, this assumption is a simple shortcut that does not always reflect the true physical world, often leading to a visual illusion. Previous research has shown that the perceived trajectory of an object with contrasting global and local motion is a combination of the two motion directions.
The purpose of this thesis was therefore to investigate the relative influence of the local and global motions over time and how the memory of the stimulus' previous locations are affected by the perceived trajectory. We assessed the change in the observer's memory of the trajectory's starting location by asking the observer to compare the onset location with a probe that could be presented before or after motion onset (-250, 0, 250, 500 or 1000ms). Participants maintained fixation in the center of the screen while an object containing leftward, rightward, or no internal motion traveled upward for 500ms in the periphery. The global motion of the stimulus was adjusted for each observer so that the perceived double-drift trajectory appeared purely vertical. For probes presented 250ms before motion onset, the local motion induced a small but significant distortion of the perceived starting location. This bias grew significantly with later probe presentations, reaching a plateau for delays of 250ms or longer. Given that a delay period enhances the effect of the illusion, these results suggest that at least a portion of the distortion in the perceived trajectory of a double-drift stimulus is caused by a bias in the memory of its earlier locations, which are pushed in a direction opposite the local motion.

Maxwell Good

Effect of Identity Manipulation on Aggressive Behavior

Advisor: Elliot Berkman, PhD

The identity-value model (IVM) of self-regulation proposes that self-regulation is the result of a value-based calculation between a variety of goal inputs, and that identity relevant choices are more likely to be enacted given their high subjective value (Berkman et al., 2015). The current project tests this model by investigating the link between identity and aggression, a behavior that has been demonstrated to result from self-control failure (DeWall et al., 2005). Participants (N=128) were randomly assigned to recall either a small (easy recall) or large (difficult recall) number of autobiographical instances of aggressive behaviors, leading participants to believe they either did or did not have an aggressive disposition (Schwarz et al., 1991), and measured aggressive inclinations on a subsequent aggression task. We predicted that participants who had to report more instances of aggressive behavior would experience greater difficulty in recalling these examples, implying they could not be typical or frequent. Thus, subjects in the difficult recall condition will conclude they are less aggressive compared to participants in the easy recall condition. Preliminary results indicate that ease of recall had no effect on aggressive behavior, as scores on the aggression task were not dependent on whether participants recalled a small or large number of aggressive behaviors. These results run contrary to the IVM's main prediction, suggesting that the relationship between identity and successful self-control may not be robust, though further testing using different methodology will be needed to confirm this.

Tonya Hansberry

The Sequela of Maternal Trauma: Attachment Relationships and the Development of Empathy in the Next Generation

Advisors: Jennifer Ablow, PhD and Jeff Measelle, PhD

Surprisingly few studies have examined how child empathy develops within the context of the primary attachment relationship, or how maternal trauma and contextual factors contribute to individual differences in infant's empathy. This study originated with two central aims: (1) determine whether infant displays of empathy differ according to their quality of attachment; and (2) explore the extent to which maternal trauma and contextual factors contribute to these differences. Thus, this study sought to advance our understanding of how maternal characteristics are related to 17-month-old's empathy within the attachment context, and to identify mechanism(s) by which the capacity for empathy is transmitted across generations. As predicted, considering child characteristics such as temperament and contextual factors such as family socioeconomic status (SES), restricted maternal empathic responsiveness resulting from a history of trauma further was associated with empathic dysregulation in infants. Infants who were securely attached were significantly more empathically reactive to their mother's distress in comparison to insecure infants, in particular, infants classified as disorganized. Further, a regression model predicting empathy revealed a significant effect of effortful control (EC) on infant's global empathy score such that infants with higher EC expressed significantly higher levels of empathy. Family SES was non-significantly related to empathy and none of the interactions with attachment were significant. These results suggest that multiple conditions of risk negatively impact infant empathy development; however, characteristics of the baby such as their ability to regulate attention and emotion—EC—may protect them against the negative effects of familial processes.

Ailin Jin

Understanding Cross-modal Spatial Processing during Visual and Tactile Tasks Using fMRI

Advisors: Alexander J. Bies, PhD and Margaret E. Sereno, PhD

Real-world spatial navigation is a relatively complex process that recruits multisensory modalities to integrate spatial information over time and space (Wolbers, & Hegarty, 2010). Previous studies have revealed cross-modal plasticity of cortices in congenially blind and sighted people during tactile navigation (Gagnon et al., 2012; Kuper, Chebat, Madsen, Paulson, & Ptito, 2010), but little is known about the neural basis underlying tactile navigation, especially without previous learning. To understand cross-modal spatial processing in normal humans, this study examined the brain areas activated by spatial tasks with visual images and tactile substitutions in sighted participants (N=8) using functional magnetic resonance imaging (fMRI). In experimental conditions, the tasks required different spatial abilities – a map rotation task tested mental rotation ability, and path and orientation tasks tested spatial orientation ability. In corresponding controls, participants performed shape judgment tasks on the same or similar stimuli instead. Brain activation patterns were similar among the three types of tasks. In the visual experiment, experimental tasks were associated with higher levels of activation in the precuneus, superior parietal lobule, postcentral gyrus and frontal gyrus, whereas activation in occipital, parahippocampal, and insular cortices was not significantly different between experimental and control conditions. In the tactile experiment, we observed similar superior parietal lobule, precentral, postcentral and frontal gyri activation in all tasks. Our results indicate engagement of navigation-related areas (including parietal, precuneus and parahippocamplal cortex) during completion of a variety of visual-spatial tasks, and recruitment of a subset of these regions, including regions important for egocentric spatial processing, during tactile spatial tasks. Remarkably, shared activation in intraparietal and precuneus cortex during visual and tactile spatial tasks demonstrates cross-modal spatial processing between haptic and visual modalities during these navigation-related tasks.

Ha Eun Kim

Cortical Thickness: An Introduction and Comprehensive Review of the Current Literature

Advisors: Don Tucker, PhD and Ariel Wightman, BS

Cortical thickness of the cerebral cortex provides valuable information about normal and abnormal brain anatomy. For the past 30 years, lots of research and studies have revealed the association of cortical thickness and various neurodevelopmental disorders as well as regional differences in normal brain function. Thus, it is crucial to

understand and summarize what has been discovered so far. The aim of this review was to examine all available published cortical thickness research on Google Scholars and to provide a comprehensive summary of current studies. The literature search encompassed all relevant cortical thickness studies published until January 2017 on Google Scholars. The articles were found through using the key term cortical thickness. With 134 papers initially found, duplicates were removed and several papers were individually found and included to provide more specific information in this paper, which eventually lead to total of 119 papers. The papers were inspected twice and were categorized into five different groups according to the paper's relevant topics in terms of cortical thickness as follows. I, brief summary of the different cortical thickness extraction mechanisms; II, studies in healthy normal participants; III, studies in neurodevelopmental disorders; IV, studies in neuropathological disorders and V, studies in all other disorders. Summaries of research on more specific disorders were addressed in each subcategory. These outcomes indicate the importance of cortical thickness research and need for further analysis in the future.

Kara Martin

Maternal Emotional Dysregulation and Parenting Behaviors

Advisors: Leslie Roos, MS and Phil Fisher, PhD

Positive parenting behavior is essential to predicting numerous positive child outcomes such as school success, appropriate child behavior, and mental health. We have investigated pathways through which maternal emotional dysregulation, assessed via DERs (Difficulties in Emotion Regulation Scale), impacts the familial relationship between mother and child. Observing parenting behaviors and maternal responsiveness to children's distress by the PICCOLO (Parenting Interactions with Children: Checklist of Observations Linked to Outcomes) scale allows direct intervention for the poor parenting behaviors. Previous research suggests that maternal emotional dysregulation in particular can have negative impacts including reduced emotional support for the child or an increase in child's physical aggression (Skowron, Kozlowski, & Pincus, 2010; Tzoumakis, Lussier, & Corrado, 2015; Hughes & Gullone, 2010). However, the mechanisms through which emotional dysregulation impact parenting behaviors are less understood. Maternal parenting stress (assessed via the Parental Stress Index (PSI)) may serve as a key mediator in the maternal emotional dysregulation and parent-child relationship due to difficulties of managing distress and effective parenting, such as providing emotional support or appropriate discipline practices in the presence of one's own mental health symptoms or emotion dysregulation. This research can further the knowledge of parental mental health and parenting techniques by using video coding (PICCOLO) of mother-child interaction in tandem with caregiver reports of parenting practices, such as responsiveness to child distress. It is expected that mothers with a difficulty in regulating their own emotions will be affected in their ability to engage in positive parenting practices (e.g. responsiveness, teaching, affection, encouragement). Focusing on maternal emotion dysregulation may provide valuable information for interventions that seek to disrupt intergenerational transmission of emotional dysregulation and negative caregiving experiences.

Chelsea Queen

The Effects of an Educational Intervention on the Willingness to Fund Mental Health Prison Programs for Mentally Ill Offenders

Advisors: Robert Mauro, PhD and Robert Rocklin, JD

Social and political stigmas follow criminality and mental illness within the general population. For mentally ill criminals, these two characteristics are combined causing the effects of the stigmas to be heightened. Previous research has shown that the general negative stigma towards mental illness has negative effects on the allocation of funding for mental health programs (Skitka and Tetlock, 1993; Corrigan, Watson, & Gracia, 2004). The lack of funding for mental health programs is exacerbated in prisons. Mentally ill inmates frequently do not receive the treatment that they need. Failing to treat mental illness in the prison systems exacerbates the disorders, creating additional problems post-release within the community. In the present study, participants were asked to complete a questionnaire that assesses varying characteristics about themselves (i.e. demographics, political affiliations, thoughts on current government spending, etc.). Through random selection, approximately half of the participants

were asked to read a fact sheet about the benefits that funding has on mentally ill prisoners in correctional mental health facilities. Each participant was then asked to allocate hypothetical funds to different mental health populations. If lack of knowledge about the societal costs and benefits of mental health treatment for criminal populations was a major factor in limiting individuals' willingness to fund treatment for this population, then those participants who received the educational intervention should demonstrate a greater willingness to fund mental health prison programs relative to alternative mental health programs. The data collection is still underway and the results are pending.

Helen Rawlins

The Role of Recall in Self-Enhancing Social Comparisons of Academic Performance

Advisors: Colton Christian, MS and Sara Hodges, PhD

Comparing oneself to others is a regular part of human existence. Yet, when making these comparisons, people are notoriously biased, reporting that they are better than others on an array of positive dimensions. One explanation that has been provided for self-enhancement on positive dimensions is recall (Chambers & Windschitl, 2004). When asked to compare themselves to others, people may be more likely to recall positive information about the self than for another person. This difference in recall may lead to self-enhancement. The present study seeks to explore self-enhancing social comparisons in relation to feedback and recall in classroom settings by examining how accurately students predict their own grade and the class average before taking an exam, and how well they incorporate feedback into their comparative judgments (i.e. their relative standing) when recalling their own performance after the exam. Participants were more accurate at predicting and recalling the class average than their own scores, and consistently predicted their own performance to be above average, though this difference was only significant for males. Contrary to our predictions, the degree to which participants self-enhanced in recalling their exam score did not significantly correlate with their overall comparative judgments. We also explored whether sex, future persistence in the field, or theories of intelligence were related the accuracy of recalling or predicting test scores.

Tesufuai Sameshima

The Modulation of Perceptual Weights Facilitated by the Expectations of Forthcoming Evidence

Advisors: Ulrich Mayr, PhD and Atsushi Kikumoto, MS

The process of decision making consists of the integration of multiple sensory inputs leading to a perceptually congruent output. However decisions may not always accurately reflect the information presented due to various noise being incorporated as evidence to form a decision. Some of this noise can be influenced by expectations, modulating imminent decisions and precipitate biases. An example of this can be observed when stimuli that are viewed more recently bias our perception of it occurring more frequently (Summerfield & Lange, 2014). The present study inquires into the effects of expectations in modulating decisions in the presence of inconsistent evidence and how this impacts the perceptual weight of the presented evidence. Participants were instructed to view a Stream of randomly oriented Gabor patterns followed by a binary decision to categorize the summation of the stream as cardinal or diagonal. The stream was preceded by a neutral, diagonal, or cardinal cue with the latter two indicating a 70% probability the summation of the stream to be congruent with the cue. A logistic regression analysis of the Gabor patterns and the corresponding decisions revealed an underweighting of the evidence when the cueing is incompatible. The analysis also reveals a dampening of this underweighting as evidence accumulates, which may reflect an update of prior expectations.

Sierra Stewart

Effects of Cognitive Frames and Emotion on Personal Risk Perception

Advisor: Robert Mauro, PhD

Substantial research has explored why individuals take risks in their everyday lives. For example, previous research has investigated the "Framing Effect." Individuals tend to avoid taking risks when decisions are framed in terms of gains, but tend to take risks when the same decision is framed in terms of losses. Affect has an impact on the framing effect. Positive affect is associated with greater risk taking when a decision is framed in terms of a loss, but positive affect is not associated with greater risk taking when the decision is framed in terms of a gain (Cheung 2011). Although substantial research has examined how individuals make decisions, there is little research that focuses on how specific emotions impact risk-taking decisions.

This study examines the effect of specific emotions (happiness, anger, fear and sadness) on risk taking decisions of the sort that individuals make in everyday life. Participants were asked to imagine being in four scenarios. These scenarios varied on whether the risk was physical or social and whether it was framed in terms of a loss or a gain. Furthermore, the participants were asked to imagine having a specific emotion while in the described situations. They are then asked to make a choice and record and rank possible consequences to their decision. It is hypothesized that: 1) Decisions that are framed in terms of a loss will result in higher rates of risk taking. 2) Decisions that are framed in terms of a loss will result in higher rates of risk taking when they are paired with negative emotions (anger, fear, sadness) than when they are paired with positive emotions (happiness). 3) Decisions that are framed in terms of a gain will produce higher rates of risk taking when paired with positive emotions than when paired with negative emotions. Understanding the impact of affect on risk-taking is important for the development of interventions designed to address risk-taking in adolescents and young adults.

Dylan M.N. Vas

The Effect of Motivation on Mind-wandering and Sustained Attention

Advisors: Matthew K. Robison, MS and Nash Unsworth, PhD

Cognitive psychology has recently developed a heightened interest in the common experience of mind-wandering (Callard et al., 2013). People mind-wander frequently, which is associated with decreased cognitive performance (e.g. Stawarczyk et al., 2011; Unsworth & McMillan, 2013; Seli et al., 2015). Previous work has shown that mind-wandering rates relate to cognitive abilities, such as working memory capacity, reading comprehension, and attention control. In addition, previous research has also found that contextual variables, like motivation, can influence mind-wandering and task performance. The present study seeks to expand on these findings by examining attention control via reaction time in the psychomotor vigilance task (PVT), probing for thought content (on task, task-related interference, external distractions, mind-wandering, mind-blanking), and requesting self-reported levels of motivation. Results showed that reports of being on task decreased over time, while mind-blanking and spontaneous mind-wandering rates increased. Higher motivation ratings were associated with faster reaction times, more on task reports, and lower rates of mind-wandering and mind-blanking. The results provide evidence that sustained attention worsens over time, and this was accompanied by thought content changes over time. Additionally, motivation was found to be a valid predictor of both task performance and fewer instances of off-task thought.

Chenle Xu

What Did You Say She was Like? Features of Gossip Associated with Hearsay Accuracy and Consensus

Advisors: Cory Costello, MS and Sanjay Srivastava, PhD

When gossiping about a person, how does one's verbal responses affect the impression formed by the gossipers? The current project explores the impacts of nine types of verbal responses on the accuracy and consensus. We coded one-hundred and fourteen gossip conversations from a previous study for nine specific responses and eight global features of the conversations. After using profile correlation and focusing on the effect sizes, our results suggest that

certain types of responses may be associated with accuracy and consensus. This project should help shed light on the conversational features associated with accuracy and consensus of impressions formed through gossip.

Alexandra Zakin

Real World Object Naming from Infant Perspective

Advisor: Caitlin Fausey, PhD

Babies learn what words mean through experience – but what is the relevant experience? Here, we begin to answer this question by capturing infant-perspective experiences in their everyday lives at home. Infants ages 9 to 24 months (N = 7) wore a head-camera at home (M = 4.09 hours). We identified moments in which someone held an object in view and then transcribed the speech surrounding these moments (+/- 30 seconds). We hypothesized that the rate at which caregivers name objects-in view is not constant, but rather changes over this developmental period. Caregivers are especially likely to name visually large, centered, objects-in-view just as infants are learning to say those names (e.g., 11-13 months). Caregiver sensitivity to naming moments that are optimal for learning would be consistent with a growing body of evidence that social partners helpfully tune how they interact with infants (Brand et al., 2002; Fernald, 1985; Roy et al., 2009). Developmentally changing synchrony between seen objects and heard names is likely to be a key feature of relevant input to early word learning. Our hypothesis was supported in that there was in increase in object in-hand naming over the first year of life, with a peak at 13 months. A drop in object in-hand naming at 26 months followed this peak.

Undergraduate Honors Projects – 2015-2016

David Adams

An Underadditivity of the Cellular Mechanisms Responsible for the Orientation Contrast Effects of the Rod-and-Frame Illusion

Advisors: Paul Dassonville, Ph.D. and Cris Niell, Ph.D.

If a vertical line is surrounded by a tilted frame, it is typically perceived as being tilted in the opposite direction. This rod-and-frame illusion is thought to be driven by two distinct mechanisms. Large frames cause a distortion of the egocentric reference frame, with perceived vertical biased in the direction of the frame's tilt (i.e., a visuovestibular effect). Small frames are thought to drive the illusion through local contrast effects within early visual processing. Wenderoth and Beh (1977) found that the visuovestibular effect could be induced by a stimulus consisting of only two lines, indicating that an intact frame was not necessary to achieve the illusion. Furthermore, Li and Matin (2005) demonstrated that the Gestalt of an intact frame provided no additional impact to the illusion, as the visuovestibular effect of an intact frame was less than the sum of its parts. It is unclear whether the same is true for the local contrast effects caused by small frames. Participants performed a perceptual task in which they reported the orientation of a target line (12' in length) presented in the context of either an intact frame (32' on a side, tilted ± 15°) or partial frame (that is, flankers consisting of either the top and bottom of the frame in collinear locations with respect to the target line, or the left and right sides in lateral locations). Significant contrast effects occurred for all stimulus conditions, with the top and bottom flankers causing an effect substantially larger than that of the left and right flankers. Indeed, the effect of the top and bottom flankers even surpassed that of the intact frame, indicating that the overall effect of the frame was a weighted average of the two flanker conditions. These findings suggest an underadditivity of the cellular mechanisms responsible for the contextual effects of lateral and collinear flankers.

Courtney Adler

Parental Cognitive Stimulation and its Relation to Child Brain Function for Selective Attention in Low Socioeconomic Status Families

Advisors: Philip Fisher, PhD, Erik Pakulak, PhD and Jimena Santillan, MS

Selective attention is important for academic readiness and success. Past research indicates that children from lower socioeconomic status (SES) families exhibit deficits in a neural index of selective attention relative to their higher SES peers, which is consistent with the academic achievement gap seen between lower and higher SES children. Selective attention exhibits neuroplasticity, which means it can be influenced by the environment in which children develop. One of the most prominent factors children are exposed to early on is the quality of parenting they receive. Previous research has shown that parenting quality predicts behavioral measures of many cognitive abilities related to academic success. In particular, cognitive stimulation elicited by parenting behaviors may promote early development by enhancing language and vocabulary. The present study examined whether the quality of parental cognitive stimulation can shape neural indices of selective attention in children from lower SES families. We coded mother-child interactions during a free play task for parenting behaviors related to cognitive stimulation. To assess brain function for selective attention, event-related potentials (ERPs) were recorded during an auditory task in which children were simultaneously presented with two different stories and were instructed to attend to one story while ignoring the other. We hypothesized that greater cognitive stimulation would be associated with a greater attention effect, operationalized as the amplitude difference between the neural response to the attended vs. the unattended stories. We found a negative correlation between cognitive stimulation scores and the size of the attention effect – as cognitive stimulation on the part of the parent increased, the size of the attention effect decreased. One interpretation of these correlational results is that children with poorer selective attention may elicit more frequent and stronger cognitive stimulation behaviors from their parents. Another interpretation is that lower SES children may benefit more from less parent-guided cognitive stimulation for the development of selective attention. Both of these alternatives should be examined further by future studies.

Brigitte Amidon

Does a Preschool Boy's Ability to Self-Regulate during a Stressful Task Predict Externalizing Problem Behavior?

Advisors: Philip Fisher, PhD and Leslie Roos, MS

In the present study, we examined preschool aged boys' minute-to-minute parasympathetic nervous system (PNS) activity and emotional behaviors elicited in response to a stressful task, as predictive measures of child externalizing behavior problems. A sample of (N=27) preschool aged boys, varying in levels of externalizing behavior problems, participated in a matching task, while PNS activity and expression of emotions were observed and recorded as measures of self-regulation. Externalizing behavior problems were assessed using the Child Behavior Checklist (CBCL) (Achenbach, 1991). In addition, regulation of PNS activity was assessed using constructed measures of respiratory sinus arrhythmia (RSA) during a resting baseline and during the stressful task, while emotion regulation was examined using observer-coded measures of child emotions (shame, embarrassment, anger, frustration, withdrawal, anxiety, self-determination, and pride). It was hypothesized that children reported as having greater externalizing behavior problems would have difficulty self-regulating while performing the stressful task. Results indicated that more approach behaviors were related to higher levels of externalizing behavior problems. A detailed examination of preschool age boys' moment-to-moment display of emotions and adjustments in PNS activity elicited under a validated stressor can contribute to understanding the relation of immediate behavioral responses and RSA that may underlie externalizing problems and actual symptomatic behavior.

Colton Bowden

The Association between Competitive Motives and Pronoun Usage

Advisors: Sara Hodges, PhD and Colton Christian, MS

When individuals consider out-group members, they are more likely to project their attributes onto cooperative out-groups than competitive groups (Toma, Yzerbyt, & Corneille, 2010). However, unpublished data from the University of Oregon found significantly greater projection during face-to-face competitive interaction than during non-competitive interaction. The present study examined whether linguistic differences which might explain this finding emerged between groups of competitive and non-competitive conversation pairs. 162 students at the University of Oregon were randomly assigned into conversation pairs. Some groups were asked to simply discuss their study habits, while others were asked to determine who had the worst study habits between the two participants. Conversations were then analyzed using Linguistic Inquiry and Word Count (LIWC). Our results demonstrated that participants in the competitive condition asked more questions, spoke with a greater degree of clout, and used more second-person pronouns than participants in the non-competitive condition. These findings suggest that face-to-face interpersonal competition directs conversational focus onto the other to a greater extent than the self. Focus on the other rather than the self, in line with previous research (Mussweiler, 2001), elicits perceived similarity and heightened projection.

Caitlin Corona

Musical Boundaries and Task Switching

Advisors: Ulrich Mayr, PhD and Atsushi Kikumoto, MS

Event structure describes how we separate "ongoing, continuous experience into events" through a process known as "event segmentation" (Reimer, Radvansky, Lorsbach, & Armendarez, 2015).
Listening to music is an event that is segmented by different musical factors, such as "pitch range, dynamics, and timbre; lengthening of durations; changes of melodic contour; and metrical, tonal, and harmonic stress" (Jusczyk & Krumhansl, 1993). In the present study, we sought to investigate the role that musical boundaries had on performance in a task switching paradigm. We hypothesized that there would be a reduction in switch costs during tasks that were performed at a musical boundary.
We conducted two experiments (Experiment 1, n = 31; Experiment 2, n = 28) and found that there is a decrease in switch costs during tasks that occur at the first musical boundary, which is driven by the increase in response time on no-switch trials. Future research should investigate how specific musical elements (e.g. rhythm, melody, tempo) contribute to this effect.

Ruth Grenke

The Academic Climate of Science, Technology, Engineering, and Math Fields: How Stereotypes Influence Perceptions

Advisors: Sara Hodges, PhD and Colton Christian, MS

Despite recent progress toward gender equality, women continue to be systematically underrepresented in STEM (science, technology, engineering, and math) fields. One reason for this disparity is found in the academic culture surrounding STEM fields. Within this culture, pervasive beliefs exist that men, more frequently than women, are born with the innate ability required to succeed in STEM fields. In the face of these stereotypes, women in STEM fields are not only told that their gender is at a disadvantage, but also that the incremental improvement that may come with experience will not help, because STEM ability is innate. In the current study, female and male undergraduate and graduate students in the same STEM field were paired (98 pairs) and instructed to have a conversation about the undergraduate's interest in pursuing graduate school. We hypothesized that participants who endorse a belief in innate models of intelligence would give lower ratings to female undergraduates' qualification for graduate school across three variables: undergraduates' self-assessments of their qualification, graduates' assessments of undergraduates' qualification, and "meta-assessments" in which undergraduates guess how graduates rated their qualification. We found that endorsing a belief in innate theory of intelligence was associated with lower self- and meta-assessments of female undergraduates' qualification for graduate school, but this effect was not found for graduates' assessments of female undergraduates' qualification.

Rebecca Howard

Reducing Stigmatizing Attitudes toward Veterans with PTSD: The Impact of Empathic Engagement with Fictional Literature

Advisors: Sara Hodges, PhD and Brianna Delker, MS

Combat-related post-traumatic stress disorder (PTSD) diagnoses are becoming more prevalent, yet fewer than half of veterans diagnosed with PTSD seek treatment. Stigmatizing attitudes toward military veterans with combat-related PTSD prevents veterans from seeking treatment. Fictional literature may serve as an efficient, accessible way to increase personal experience with, and empathy toward, individuals diagnosed with a mental health disorder. In prior research, increased levels of empathic engagement with fictional literature (i.e., "transportation" into the text) has been associated with increased reports of empathy. In this study, undergraduate participants (N=344) were randomly assigned to read one of three passages: a fiction passage about PTSD, a nonfiction passage about PTSD, or a non-PTSD fiction passage. Afterwards, self-report surveys assessed stigmatizing attitudes toward people with PTSD, empathic concern for the character in the vignette, and transportation into the text. We hypothesized that the fictional PTSD (vs. nonfiction PTSD) passage would decrease stigmatizing attitudes toward people with PTSD. We also hypothesized that the fictional PTSD (vs. fiction control) passage would increase empathic concern toward the character in the vignette and that this effect would be mediated by increased transportation into the text. Analysis of covariance revealed that the fictional PTSD passage was associated with more pity toward people with PTSD than the nonfiction PTSD passage, $F(1, 243) = 5.16$, $p = .024$. Empathic concern for the character was greater with the fictional PTSD passage than the fictional control passage, $F(1,211) = 77.45$, $p < .001$. Transportation into the text partially mediated the effect of the fictional passages on empathic concern, $B = .15$, $SE = .03$, 95% CI [.10, .22].

Kellan Kadooka

Investigating the Role of Action Experience on the Reorganization of Action Segmentation

Advisors: Dare Baldwin, PhD and Jason Wallin, MS

Human actions are dynamic and complex, yet children exhibit knowledge of the hierarchical organization of action in ways that parallel adults' knowledge (Meyer, Baldwin, & Sage, 2011). Preschoolers segment action by modulating attention to privilege boundaries of events that coincide with the hierarchical structure. Motor engagement in self action facilitates children's ability to discover details about action such as goal construal and intentionality of actions (Sommerville, Woodward & Needham, 2005; Cannon, et al., 2012), yet little research exists identifying the role of action production on action segmentation. The current investigation explores the role of self action on the reorganization of perceived structure using the dwell-time paradigm (Hard, Recchia, & Tversky, 2011). Dwell-time presentation consists of a self-paced sideshow depicting an actor using a syringe to extract liquid from one container and depositing it into another. Preschoolers engaged in sequenced dwell-time and action performance tasks imitating the observed action, in a framework modified from Sommerville and colleagues (2005). After a baseline dwell-time presentation, children performed self action prior to (perform-first) or after (perform-second) a secondary dwell-time presentation. Exploratory analyses identify differences and changes in dwell-time patterns. Specific attention is given towards isolating portions that exhibit the most change which provide insights to the ways that self action may reorganize one's action segmentation.

Katia Krane

The Effects of Colored Word Stimuli on Neural Processing and Behavior during an Emotional Stroop Task: An Event-Related Potential Investigation

Advisors: Don Tucker, PhD, Anita Christie, PhD and Jenn Lewis MS

Western associations of colors, especially of red and green, influence how individuals consciously perceive the

meanings of these colors. However, very little research has investigated the underlying neural processes of localized colors presented as meaningful stimuli, like words, and the possible effects these colors have on behavior. The aim of this study was to investigate early neural responses to red and green colored word stimuli during an emotional Stroop task and the effects of these colors on behavior, including working memory and response time. Using dense-array EEG, event-related potentials (ERPs) were recorded following presentation of an emotional word stimuli presented in red and green ink. Additionally, total word recall and average response times for each color category were recorded. Participants recalled more red colored words than green, however, did not show significant differences in average response times while naming the color of the presented word, indicating that color may impact working memory but not response performance during the Stroop task. ERP waveform amplitude differences between color categories in components known to be involved in visual processing and discrimination, such as the C1, P1 and N1, suggest that differences in color perception occur quickly post stimulus presentation. These results suggest a bottom-up cognitive mechanism of color perception that may influence behaviors, such as working memory. Associations of the colors red and green may not simply be arbitrary, but linked to underlying differences in early neural processing which may imply biases in previous research in which an emotional Stroop task was used to investigate behavioral and neural responses.

Kristina Lowney

The Role of Self Doubt and Empathic Accuracy in STEM Fields

Advisors: Sara Hodges, PhD and Colton Christian, MS

In their daily interactions, people demonstrate varying levels of empathic accuracy, a construct that refers to people's ability to accurately infer the thoughts and feelings of others. This study examines whether feelings of self-doubt impact empathic accuracy, particularly in women, when they are interpreting feedback in STEM fields (science, technology, engineering, and mathematics). Women are underrepresented in the STEM fields as they choose not to continue their studies or not even pursue STEM fields at all. One reason for this trend might be attributed to how they interpret feedback in the domain. Seventy-two dyads composed of graduate and undergraduate students in STEM fields were recruited and held recorded conversations to discuss graduate school. Graduate students provided feedback to undergraduates interested in attending graduate school in a related field. Undergraduate students were asked about their feelings of self-doubt, and they were also asked to infer the graduate student's thoughts regarding the undergraduate's future prospects in graduate school. Results indicated that there was no significant difference between male and female undergraduates for self-doubt or empathic accuracy. These findings are considered in terms of other possible underlying factors contributing to women's underrepresentation in STEM.

Kathryn McMahon

Back in the Good Old Days: Do Beliefs about Societal Decline Contribute to Political Conservatism?

Advisors: Azim Shariff Ph.D. and Brett Mercier, MS

Previous researchers have linked conservative attitudes to the belief in the regression of morals and other human dynamics in relation to the world, but the research is limited. The possible link between conservative and traditional beliefs to a person's view on the state of the world could partially explain the enduring divide between political attitudes. We hypothesized that people who perceive the world as declining will become more conservative and more supportive of traditional ideals. Using Amazon's Mechanical-Turk, an online survey-based format, 592 participants were assigned one of four conditions to read an article describing the state of the world as improving, declining, remaining the same or did not receive an article at all. Dependent variables were measured by a three-item conservatism scale and eight-item traditionalist scale. While there were no significant differences for the conservatism scale, the results from the traditional scale supported our hypothesis suggesting that those exposed to the declining of the world article significantly displayed the most support, and those exposed to the improvement of the world article significantly displayed the least. Further research should focus on developing a stronger manipulation as well as revise the conservatism scale to avoid any predispositions people have regarding their political beliefs.

Adam Norris

Investigating Public Perceptions of Mass Shootings

Advisors: Azim Shariff, PhD and Stephanie Kramer, MS

Recent mass shootings have captivated public attention worldwide. With this has come the journalistic narrative that explains actions carried out by white perpetrators as the product of individual aberrations, such as mental illness or being 'disturbed', whereas actions carried out by people of color are explained in terms of group caricatures where the individuals are labeled terrorists or 'thugs'. This study provided experimental evidence for the validity of this narrative within a US sample. Participants were exposed to one of four purportedly real news articles which reported a mass shooting. Manipulations included the perpetrator's ethnicity (black vs. white) and religiosity (Christian vs. Muslim). Using past research rooted in social identity theory, we hypothesize that our sample would significantly perceive Christian and white perpetrators as less violent and punishable, and more mentally unstable than compared to their Muslim and black counterparts. We predicted that these differences would relate to explicit and implicit attitudes towards Muslims and blacks. Our results showed significant differences between groups, where Muslims and blacks were perceived to possess less mental illness than their Christian and white counterparts. Methodology, limitations, and implications are discussed.

Anna Stenkamp

Perceived Bias in Judicial Selection Methods

Advisors: Robert Mauro, PhD and Robert Rocklin, JD, MS

Judges play a crucial role in the creation and interpretation of law. The perceived procedural fairness of the judicial system directly affects system legitimacy, and, by extension, its success. A concern has been raised that certain judicial selection methods inject political pressures into the judiciary, potentially diminishing citizens' perception of the justice system's legitimacy.

To test whether judicial selection method affected the perceived legitimacy of the courts, we used an undergraduate sample (n=193) to examine perceptions of four common selection methods (partisan election, non-partisan election, gubernatorial appointment and merit based selection). Participants were presented with a fictional newspaper vignette that described a wrongful termination suit brought by a union against a corporation. Vignettes varied by selection method, political leanings of the judge, and the outcome of the case. We predicted that: (1) Participants presented with the unbiased merit based selection committee would perceive this selection method as most just, independent of political leanings (self-report: liberal/conservative) and (2) Participants presented with vignettes opposing their political leanings would perceive these scenarios as the least just. Results suggested that independent of political affiliation and trial outcome, participants viewed judges who were selected to be significantly more just $(F(1,154)=2.484, p = .046)$ than those who were elected. This suggests that without additional information, citizens would perceive judicial systems that relied on an elected judiciary as less fair than systems that rely on an unelected judiciary. These results must be replicated in a representative population to determine if these conclusions can be generalized to the larger population.

Taylor Wilson

Socioeconomic Status and its Relationship to Children's Executive Function

Advisors: Philip Fisher, PhD and Leslie Roos, MS

Executive function (EF) cognitive processes begin to develop in preschool age children and are related to important developmental outcomes, including psychopathology and school readiness (Skowron et al., 2014). Children from

low socioeconomic status background have been documented to exhibit lower EF (Li Grining, 2007; Sheridan 2012; Ardila, 2005), but research to date has not considered the specific aspects of low SES environments that may impact risk. Notably, stress-related characteristics of families in low SES environments are often overlapping (e.g. low maternal education, low income, single-parent status, parental exposure to ACES) so it is unclear how such experiences may differentially affect EF function in children. The present study examined maternal socioeconomic status and its association with child's executive function performance using an inhibitory control (IC) task. We hypothesized that children whose mothers had higher maternal risk (maternal education, income, marital status, ACES), will have poor executive function performance. IC was assessed with a computerized game that elicited 'go' and 'no-go' actions. Maternal education, marital status, and income were collected via self-report. The adverse childhood experiences (ACES; Edwards, 1998) questionnaire was used to measure mother's negative life events experienced under the age of 18. Results showed maternal ACES was associated with children's inhibitory control performance, such that children with poorer EF performance had mothers with higher ACES scores compared to children who had mothers with low ACES score. There was a significant relationship between marital status and EF; however, mothers who weren't married had children with higher EF performance, than mothers who were married. Lastly, income and marital education was not significantly related to children's EF performance. There results suggest that future research should explore more proximal factors that may account for the link between children's EF development and maternal ACES.

Undergraduate Honors Projects – 2014-2015

Dagger Anderson

Is There a Spatial Code in Abstract Sequences?

Advisors: Ulrich Mayr, PhD and Atsushi Kikumoto

Holding representations of a range of elements (i.e., numbers, dates, and arbitrary sequences) is known to produce response interference effects, where response execution is influenced by the spatial layout of these representations. One illustration of this is the ordinal position effect, where items at the beginning of a sequence held in working memory facilitate faster left-sided responses, whereas items towards the end of the sequence facilitate faster right-sided responses. The question of investigation is whether the ordinal position effect can be seen in hierarchically organized sequences. As their basic task, participants had to localize via a key press a given color target among three, horizontally arranged color stimuli. Sequences of color targets were organized in terms of two ordered chunks (e.g., red-green-blue—green-blue-red). We hypothesized that when the within-chunk position matched with the position of the color target, responses would be faster and more accurate than in the case of a mismatch. We also predicted that congruent responses would be faster and more accurate in the first chunk compared to the second. However, we obtained no evidence for a congruency effect between the sequential and spatial position even though subjects clearly used a hierarchically organized sequential representation. A possible explanation for this null-result is that different from previous research, our paradigm allowed participants to prepare for the upcoming serial position, before having to respond to the spatial stimulus. We speculate that this may have eliminated a critical condition for the expected congruency effect, namely the temporal overlap between the sequential representation and the stimulus-driven location representation.

Madison Bray

Effects of Parent/Child Relationship Quality on Risky Decision Making

Advisors: Jennifer Pfeifer, PhD, Arian Mobasser, MS, Shannon Peake, MS, and Sarah Alberti, BS

The effects of the relationship between a parent and child is one of the biggest indicators of behavior in adolescence, though limited research has been done looking at behavior in undergraduate aged people in relation to parent/child relationship quality. This correlational study looks to examine the possible effects that parent/child relationship quality has on late adolescent aged people, specifically in regards to resiliency to risky decision making post social exclusion by peers. University of Oregon undergraduates (N=50) participated in a series of online tasks assessing risky decision making (the Stoplight task), both before and after an episode of social exclusion (assessed using Cyberball). Following the online games, subjects filled out various questionnaires assessing current and past perceived relationship quality with both parents, including EMBU and QRI. Additionally, they completed surveys such as RPI and CARE_R assessing for past risky decision making and resiliency to peer influence. We hypothesized that the stronger perceived relationship quality with parents, the more resilient subjects would be to peer influence, and risky decision making post peer exclusion. This hypothesis was not supported by significant results. The inconclusive results provide insight on the affects that parent/child relationship has on age, and suggest that adolescents are more susceptible to parent relationship quality in regards to risky decision making.

Megan P. Bruun

The Effects of Gender and Status When Talking About STEM

Advisor: Sara Hodges, PhD

Who talks more in conversations is influenced by gender and status. Within STEM (science, technology, engineering, and math) fields, the effects of gender and status may be exacerbated by women's underrepresentation. In this study, dyads (n = 77) made up of undergraduate and graduate students in the same STEM discipline talked about the undergraduates' prospects for graduate school. It was predicted that females in mixed gender dyads would talk less because of their minority status in STEM fields. However, in same gender dyads, it was predicted that graduate students, because of their higher status, would talk more than undergraduates. Contrary to predictions, it was found that undergraduate males and females did not significantly differ in the amount of talking time. Status was found to have a main effect, such that graduate students talked significantly more than 50% of the time. The interaction of graduate gender and undergraduate gender also had a significant effect on talking time. Conversations between undergraduate males and graduate females had the closest to an even 50-50 exchange out of all of the dyad combinations.

Jason David

Association between Early Life Adversity and Stress

Advisors: Jeffery Measelle, PhD and Jennifer Ablow, PhD

Early life adversity is associated with adult elevations of inflammatory markers like circulating levels of C-reactive protein (CRP). Few studies have examined whether exposure to adversity prenatally is associated with inflammation during childhood. Exposure to adversity before birth may engender disease vulnerability via alterations in inflammatory biomarkers (i.e. fetal programming of disease hypothesis). This study examines the association between exposure to prenatal vs. postnatal adversity and CRP concentrations when infants were 18 months old. We followed 105 low-SES infant-mother dyads across the perinatal transition. Our measures of psychosocial and contextual measured prenatally and at 5- and 18-months postnatally. When infants were 18 months old, resting state saliva samples were collected to assess CRP (mg/L) levels via enzyme immunoassay. Hierarchical regression analyses reveals a composite measure of prenatal maternal adversity, that uniquely predicts variability in infants' log transformed CRP levels, B = 1.15 (SE = .05), p < .05. Maternal adversity at 5 months is not predictive of infant CRP, but maternal adversity at 18 months is marginally associated. These results raise questions about timing of exposure to adverse events as well as the potentially lasting effects on inflammatory processes when such exposure occurs very early in development.

Benjamin Davies

Court Appointed Experts, Procedural Justice and Legitimacy in the Anglo-American Legal System

Advisors: Robert Mauro, PhD and Robert Rocklin, JD, MS

Justice systems cannot operate unless participants in the system perceive them as legitimate. Legitimacy, in turn, depends on whether the system is seen as procedurally just, that is, whether the processes that are used to resolve disputes are believed to be fair. Some have suggested that any departure from the Anglo-American adversarial system would call the legitimacy of the system into question. The use of court-appointed experts – rather than the traditional method of having each party call their own experts – is one such departure. In this study, we examined whether using court-appointed experts would reduce perceptions of procedural justice. We also investigated the effect of perceived defendant power on perceptions of procedural justice.

Participants were presented with four vignette scenarios describing a civil negligence trail in which the plaintiff always lost. The subjective power of the defendant (individual, corporation, or government agency), and whether the third testifying expert was court-appointed or adversarial (that is, called by one of the parties) was varied. We had two predictions: (1) Across conditions, trials involving court-appointed experts would be perceived as less procedurally just than trials involving adversarial experts, and (2) There will be an interaction between whether the expert was court-appointed or called by a party and defendant power, such that if there is a high status plaintiff and a court-appointed expert, perceptions of procedural justice will be lowest. Despite our predictions, we found that the subjective power of the defendant and the testimony of the third expert were the only significant predictors of procedural justice.

Macey Davis

Future Planning in Relation to Impulsivity, Mindfulness, and Alcohol Use in Students

Advisors: Heidemarie Laurent, PhD and Christina Karns, PhD

Student success can potentially be predicted by the skill set an individual enters undergraduate study with. It is important to be able to plan a multiple year path through school, as well as have goals in mind motivating one's decisions and actions. Mindfulness has been connected to student self and emotional awareness, leading to more success in school, while impulsivity has been connected to risky behaviors and less success for students. This study aimed to examine the relations between four constructs important in student lives: Future Planning, Mindfulness, Impulsivity, and Alcohol Use. Main effect of trait variables on both Future Planning and Alcohol Use were found. Using survey questionnaires within a population of 231 undergraduate students, we found that aspects of Impulsivity (Lack of Premeditation, Lack of Perseverance, and Sensation Seeking), Mindfulness (Acting with Awareness, Non-Reactivity of Inner Experience, Observing, Describing, and Non-Judgment of Inner Experience) predicted both Future Planning and Alcohol Use. This study aims to inform future studies and therapeutic techniques that could help increase student success and focus academic counseling for students who lack future orientation and/or have problematic drinking behaviors.

Kelsie Faraday

Impacts of Early Adversity on Physiological and Performance Indices during a Social Stressor

Advisors: Philip Fisher, PhD and Leslie Roos, MS

Children who have experienced early life stress (ELS) experience later life deregulation of stress response systems and associated problems such as anxiety (Edge et al., 2009). The present study examined how early childhood adversity is related to multiple indices of young adults trait level and acute-induced anxiety. We hypothesized that elevated childhood adversity would be associated with reporting higher levels of trait and acute-induced distress. Subjects (N=64) completed a self-report Risky Families Questionnaire (RFQ; Taylor et al., 2004), State Trait Anxiety Inventory (STAI-T; Speilberger at al., 1983) and three in-lab visual analog scales (VAS). VAS measured

stress, anxiety and insecurity prior, immediately after, and 20 minutes post social stressor. Heart rate was assessed as indices of arousal. To induce acute distress, subjects participated in the Trier Social Stress Test (TSST; Kirschbaum et al., 1993). A positive correlation was found between RFQ and trait anxiety (r (66) = .26, p< .05). Although RFQ was not related to elevated levels of self-reported distress to a social stressor, ANOVA analyses showed a significant interaction between RFQ and active condition in relation to heart rate during the TSST (F (3,64)= 4.20, p< .05). Higher RFQ predicted higher arousal when a social stressor was present.

Katey Gath

Mind Wandering and the Neurotic

Advisors: Nash Unsworth, PhD and Matt Robison, MS

Utilizing the mind wandering probe technique and a battery of fluid intelligence, working memory capacity and attention control tasks, we looked to replicate that higher frequency of mind wandering relates to poor cognitive functioning. We sought to find if personality also relates to increased rates of mind wandering. We used the 44-item five-factor personality inventory (John, Donahue, & Kentle, 1991). Correlations indicated that those higher in neurotic traits mind wandered more frequently and exhibited lower working memory capacity. However, multiple regression analysis revealed that attention control fully mediated these relationships. Attention control maintained a significant relationship with neuroticism holding constant mind wandering and working memory capacity. This suggests that neuroticism relates to higher rates of mind wandering under conditions where attention control needs to be maintained.

Yiding Han

Association between Maternal Stress and Child Socio-Emotional Behaviors -- A Bio-Ecological Perspective

Advisors: Jeffrey R. Measelle, Ph.D. and Jennifer C. Ablow, Ph.D.

In the present study, guided by the bio-ecological perspective, we first examined how different levels of concurrent maternal stress associate with children's socio-emotional behaviors at five years of age. In addition, we examined the predictive role that prenatal maternal stress factors have on young children's behavior problems trajectory. A high-risk sample of 105 primiparous mothers, by virtue of their low socioeconomic status and history of depression, participated in the present investigation. Mothers' stress factors were measured regarding their: 1) maternal mental health; 2) maternal experiential stress; 3) socio-economic status; and 4) maternal relationship quality both during prenatal period (T1) and five-year postnatal (T4). Child internalizing and externalizing behavioral problem were measured using MacArthur Health and Behavior Questionnaire. Two sets of multivariate regressions suggested that for concurrent associations, there was a significant independent association between maternal mental health stress and children's internalizing behaviors at age of five controlling for the effect of child gender and negative affectivity, whereas there wasn't any significant concurrent associations between stress factors and externalizing behaviors. For investigation of prenatal stress factors, we detected a marginalized independent association of maternal experiential stress controlling for all stress factors at 5 years of age and our theoretical controls. Similarly, there weren't any significant associations between prenatal stress factors and externalizing behavior at the age of five. Our results provide a potential discussion of genetic connection between mother and her child's internalizing symptoms along with an intervention implication on programs that focus on reducing maternal experiential stress during prenatal period.

Alexandra Henry

Responding to Disclosure of Mistreatment: The Long-Term Impact of Listening Skills Education

Advisors: Jennifer Freyd, PhD and Kristen Reinhardt, MS

Negative reactions to a disclosure of mistreatment can be more emotionally detrimental to the discloser than not disclosing the event at all, while positive reactions to disclosures can yield significant benefits, such as desensitization towards negative feelings and thoughts (Radcliffe, Lumley, Kendall, Stevenson, & Beltran, 2010). Previous research from Foynes and Freyd (2011) has shown that providing educational material on supportive listening significantly lowered the unsupportive behavior of listeners. This present study extends the work of Foynes and Freyd (2011) by examining the impact that a supportive listening skills tip-sheet has on a sample of 64 participants after the disclosure of a mistreatment and at a 6-month follow-up time period. We hypothesized that the listening tips would have a long term, positive impact on the listeners' and disclosers' self-rated ability to listen to disclosures of mistreatment, improve both participants' satisfaction in the relationship, and enhance participants' self-reported listening skills through the listening tips learned during the study. Results indicate that participants who receive the listening tips have lower ratings of unsupportive behaviors after the intervention in comparison to the control group who did not receive the listening tips at this time point.

Lauren Hval

The Effects of Loss on Children's Perceptions of their own Internalizing and Externalizing Symptomatology

Advisors: Jeffrey Measelle, PhD, Jennifer Ablow, PhD, and Ariel Carter-Rodriguez

Experiencing loss, due to figurative and/or literal death, during early development may increase children's likelihood for developing certain negative health outcomes later in life. Currently, there is limited research on the extent to which loss impacts the physical and psychological health of children within the field of psychology. The present study explored childhood loss and the influence this might have on youth's development. We hypothesized that loss as reported on the Life Events Questionnaire (LEQ) would predict child's self reported symptomatology (internalizing and externalizing) on the Berkeley Puppet Interview (BPI) and mothers' reports of child behavior problems on the Child Behavior Checklist (CBC). We also hypothesized that children's BPI reports would be associated with mother reports (CBC).

Katherine Hyslop

The Relationship between Emotional Eating and Heart Rate Following Acute Stress

Advisors: Philip Fisher, PhD and Leslie Roos, MS

The United States is at the forefront of an obesity epidemic with two-thirds of the population classified as overweight or obese (Flegal, 2010). Activity within the autonomic nervous system indicative of a biological stress response may be present in individuals that report emotional eating behaviors (Dallman, 2010). Prior research supports that heart rate analysis accurately evaluates activity within the autonomic nervous system (Pomeranz et al., 1985). However, there is a gap in understanding if increased heart rate induced by acute stress exposure may leave an individual more susceptible to emotional eating behaviors. Using the Three-Factoring Eating Questionnaire (TFEQ; Stunkard, 1985), The Trier Social Stress Test (TSST; Kirschbaum, 1993), a RS800CX training computer and polar wearlink+ transmitter heart rate sensor, we measured the relationship between emotional eating, acute stress and heart rate in (N=75) undergraduates. Results indicated that after controlling for BMI and overall perceived stress for the duration of the experiment, emotional eating was associated with a significant increase in heart rate from baseline during the acute stressor ($F(1, 36) = 2.829$, p <.05). These results suggest that interventions that target stressful psychosocial experiences may buffer an individual's stress response and the associated emotional eating behaviors that lead to weight gain and obesity.

Emily Jacobs

Self-Evaluations and Divergent Graduate-Level Participation in STEM"

Advisor: Sara Hodges, PhD

This study serves as an attempt to pinpoint factors contributing to women's underrepresentation in STEM (Science, Technology, Engineering, and Mathematics) fields. In particular, this study examines factors that may increase this underrepresentation as students transition from the undergraduate to graduate level. Previous research suggests it may be important to study female undergraduates' self-assessments of their STEM abilities, assessments that may be formed in part after receiving feedback from graduate students. In the current study, undergraduate and graduate students in the same STEM field were paired into 73 dyads to discuss the undergraduate's preparation for graduate school. We hypothesized that female undergraduates' STEM self-assessments via their inferences of graduate students' will be more negative than 1) male undergraduates' STEM self-assessments and 2) the graduate students' assessments of the undergraduates. Neither hypothesis was supported by significant results, although both univariate ANOVAs showed trends towards more negative self-assessments made by females. We discuss how these results may affect undergraduate women's decisions about continuing to graduate school in a STEM field.

Camille Moniz

Impacts of Depression and Trauma on Predictors of Future Infant-Caregiver Attachment

Advisors: Heidemarie K. Laurent, PhD and Rosemary E. Bernstein, MS

Mother-infant attachment has been linked to important social-emotional outcomes later in life. Disorganized attachment, a style where the caregiver is a source of fear, is particularly detrimental. The current study attempts to determine whether or not depression, trauma or the interaction of the two are predictive of two scales that in turn predict future attachment. We hypothesized that mothers who have experienced trauma and/or depression would identify more angry faces and fewer sad faces in the IFEEL picture task (IFP) and would also score higher on maternal helplessness and fear on the Caregiver Helplessness Questionnaire (CHQ). A sample of 44 new mothers was tested when their infants were 12 and 24 weeks as a part of a longitudinal study. Linear regression analyses revealed that the interaction of postnatal depression and physical abuse was predictive of the number of angry faces seen. Mothers with higher postnatal depression and experiences of physical abuse saw more angry faces while mothers low in postnatal depression and high on experiences of physical abuse saw fewer. All other analyses were nonsignificant. Implications for early identification and prevention of attachment disorganization are discussed.

Alia Mowery

Examining Motherhood as a Force for Cognitive Plasticity

Advisor: Dare Baldwin, PhD

New mothers face significant learning requirements and must develop skills necessary for their infant's survival. Perhaps the hormonal changes that presage birth, and are maintained by breastfeeding, enhance mothers' cognitive preparation to cope with the learning challenges of motherhood. We propose a study with several aims: to examine the extent to which motherhood facilitates women's ability to learn across a variety of tasks; to investigate whether breastfeeding might extend a potential period of heightened cognitive plasticity in new mothers; and to see if greater learning ability predicts better acquisition of skills central to motherhood, such as breastfeeding. We anticipate that mothers will outperform non-mothers on learning tasks, that breastfeeding mothers will show a slower decline in learning performance after giving birth than non-breastfeeding mothers, and that those showing strong learning performance will display higher levels of breastfeeding success. Should our findings confirm these predictions, this information will broaden perceptions about what motherhood potentiates and may provide a frame to study learning enhancement in adults.

Vivian Nila

Disclosure of Substance Addiction during Pregnancy: A First Step in Accessing Services

Advisors: Phil Fisher, PhD and Amanda Van Scoyoc, MS

Maternal addiction is predictive of negative child outcomes. Children whose mothers struggle with addiction during pregnancy are more likely to have poor perinatal outcomes, developmental delays, and mental health struggles later in childhood. Beyond the impact of prenatal exposure, maternal substance addiction is a contributing factor to child abuse and neglect. Pregnancy is the optimal time for women to access treatment services. Early access to services decreases prenatal exposure and enables women to begin parenting unimpeded by substance use. Semi-structured interviews were conducted with 15 women (Mean age 27.3) who accessed substance abuse treatment services either during pregnancy or immediately following the birth of their child. Interviews elicited information about women's decisions to disclose or not disclose their addiction to healthcare professionals as well as women's overall pathways to accessing treatment. All interviews were transcribed and then iteratively coded to identify themes in women's beliefs regarding disclosure of substance use. Findings identify the importance of women's beliefs about child welfare involvement due to addiction to pregnancy. These beliefs can both act as a barrier to accessing care and a motivator to becoming clean. Pregnancy is a pivotal moment in women's lives that provides a crucial opportunity for them to get help, not just for themselves, but also for their children. Out research suggests that treatments and interventions that allow women to access care and disclose their use without fear of consequence are necessary for women to have a healthy and drug-free pregnancy.

Dylan Seitz

The Role of Rhythmic Brain Activity in Long Term Memory Retrieval

Advisor: Ed Awh, PhD

This study aims to elucidate the relationship between Working Memory (WM) and Long Term Memory (LTM) on a neurological basis. In WM tasks, it has been well documented that the alpha frequency signal (8-12 Hz) occurs at the onset of the stimulus. This study seeks to answer whether or not a similar neural pattern exists during a LTM task when the subject retrieves spatial information and holds it in mind.
Additionally, when does this signal occur? I predicted that the alpha signal would reoccur upon retrieval of the spatial stimuli thus revealing a re-representation into working memory. To get at these hypotheses, participants (N=27) participated in a LTM task over the course of two days. Day 1 involved the studying of various objects' spatial location on a circular array. On day 2, participants were tested on the items and their brain activity recorded. Results revealed that the alpha signal (8-12 hz) indeed did occur upon retrieval of the spatial representation from LTM. The signal occurred at approximately 600 ms and was sustained through the remainder of the trial. These findings suggest that Spatial Working Memory and holding spatial info in mind retrieved from Long Term Memory rely on the same neural mechanism.

Sami Tayeh

Mindfulness and Behavior: Examining Effects of Mindfulness on the Behavior of Romantic Couples Engaged in a Conflict Discussion

Advisors: Heidemarie Laurent, PhD, and Robin Hertz, MS

Previous research has suggested that mindfulness is associated with higher relationship satisfaction and suggests several possible mechanisms that explain this association. The present study investigated potential connections between mindfulness (trait mindfulness and a brief mindfulness induction) and conflict behavior in romantic couples. We hypothesized that greater levels of trait mindfulness and participation in a brief mindfulness induction would predict fewer occurrences of negative communication behaviors and increased occurrences of positive communication behaviors during a conflict discussion. Romantic couples (n=114 dyads) completed a self-report trait mindfulness questionnaire and a week later participated in a lab session that involved the couple in a conflict discussion. Research assistants coded conflict discussion videos for positive and negative communication behaviors. There were no significant associations between self-reported trait mindfulness and conflict behavior. Similarly, the mindfulness group, which participated in a brief mindfulness induction, did not differ significantly in conflict

behavior compared to the other groups. Future research could examine this topic using a prolonged mindfulness intervention.

Naomi Wright

Experience of a Lifetime: Study Abroad, Trauma, and Institutional Betrayal

Advisors: Jennifer Freyd, PhD and Carly Smith, MS

Although the number of U.S. undergraduates studying abroad during college continues to increase, emerging research suggests these students are at risk for experiencing trauma (Kimble, Flack, & Burbridge, 2013; Flack et. al., 2014). The current study is the first to expand the investigation of study abroad risks to include a range of possible traumas and to examine the unique effects of institutional betrayal (i.e., an institution's failure to adequately prevent trauma or support victims) in the study-abroad setting. In a sample of university students who had studied abroad, many respondents (45.44%, $n = 79$) reported personally experiencing or witnessing at least one traumatic experience while abroad. Of these students, more than a third (35.44%, $n = 28$) also reported experiencing at least one form of related institutional betrayal. When controlling for trauma history, the experience of institutional betrayal uniquely predicted posttraumatic outcomes for witnessing and experiencing several types of study abroad trauma. This study revealed that students experience a broader range of traumatic events during study abroad than previous research has documented. Additionally, this study extends prior research by underscoring the importance of understanding institutional impact before, during, and after a student studies abroad.

Undergraduate Honors Projects – 2013-2014

Cassandra Brandes

Mind-Body Dualism and Mental Illness Stigma

Advisors: Azim Shariff, PhD and Zhen Cheng, MS

Implicit theories and biases continue to be large obstacles in the attainment of adequate mental health services for those with mental illness. Mind-body dualism is a theoretical construct which claims the independence of the mind from the body and which may influence some of these biases. We hypothesized that dualistic views may lead people to hold greater stigma toward those with mental illness, as well as greater internalized stigma and differential treatment behaviors for those with mental illness, themselves. Study 1 measured the relationship between mind-body dualism and stigma variables and found that dualism was positively associated with blame. A second study primed participants with either dualistic or physicalistic theories but found no effect on stigma. The correlational findings from Study 1 were also not replicated. Study 3 targeted participants with a reported diagnosis of mental illness, and found no consistent relationship between mind-body theories and self-stigma or treatment behaviors. Interpreting from null findings must be done with caution; nevertheless these results show no reliable or homogenous relationship between this theory of mind-body dualism and mental health service selection or stigma.

Brynna Cooper

Electrophysiological Correlates of Mood-Cognition Interaction in Self-Evaluative Decisions

Advisors: Don Tucker, PhD and Allison Waters, MS

We investigated the neural correlates of self-referential cognition. Previous research in this area has been largely accomplished using metabolic measures of brain activity. Building on this literature, we explored brain activity using dense array electroencephalography (dEEG) to achieve a temporal resolution more apt to capture the time scale of cognitive events. Forty undergraduates read desirable and undesirable trait-descriptive words and evaluated whether each word was self-descriptive. In a separate condition, participants evaluated the president of the United States using the same trait-descriptive words. Consistent with previous research, we observed a positivity-bias in self-appraisal behavior. This positivity bias was not contained to self-appraisal; instead it was equally present in the other-referential condition. Additionally, the amplitude of the P300 event-related potential was enhanced during self-reference in contrast to the amplitude of the P300 during other-reference; it was also enhanced following desirable words relative to undesirable words. We then conducted an exploratory, correlation analysis to better understand the relationship between appraisal bias and individual differences in trait affect. Findings are consistent with a two-dimensional model of mood constraint on evaluative decisions.

Jackie Cowell

More Than Just Words: EMOTAIX-Tropes Examines Linguistic Predictors of Mental Health

Advisor: Jennifer Ablow, PhD

Given the fundamental role that language plays in our lives, it is apparent that the words people use reveal information about the ways in which they experience and interact with those around them. Examining the language use of at-risk first-time mothers is especially pertinent, as risk factors such as maternal depression and anxiety lead to adverse child outcomes including delayed emotional development, behavioral problems and lower IQ. To broaden our understanding of how language is used in emotion processing with regards to mental health, we used EMOTAIX-Tropes, a text-analysis software program aimed at assessing the emotional lexicon, to examine 105 first-time mothers' use of emotion language (i.e. words denoting worry, happiness, anger). The women were interviewed using the Adult Attachment Interview (AAI) and were recorded and transcribed verbatim, then analyzed via EMOTAIX-Tropes, which divides and classifies emotion terms into semantic categories according to valence (positive or negative). Additionally, participants filled out questionnaires to assess levels of depression (CESD; Radloff, 1977), anxiety (BAI; Beck, Brown, Epstein & Steer, 1998), trauma history (TSC; Elliot & Briere, 1992), alexithymia (TAS; Bagby, Parker & Taylor, 1994), and verbal intelligence (Shipley, 1940). We hypothesized that participants' emotion language would correlate with self-reported measures of distress, such that those with greater symptomatology would use more negative affect terms. Preliminary results revealed that self-reported distress levels are positively correlated with the use of words expressing hatred and aggression. Further analyses will examine the relationship between measures of distress and the remaining emotion word categories.

Lucas Cylke

To Use or Not to Use: Stereotypes and their Effect on Empathic Accuracy

Advisors: Sara Hodges, PhD and Karyn Lewis, MS

Stereotypes have long been seen as something that people need to overcome and transcend. This study explores the ideas that stereotypes may be useful heuristics that help people make sense of the world; especially in social perception and empathic inference. We hypothesized that the act of not using one's stereotypes when making empathic inferences would greatly compromise one's empathic accuracy. In this study, perceivers (N = 79) were told to use or not use their currently held stereotypes when inferring the thoughts and feelings of targets talking about having divorced parents. The participants that were told to not use their stereotypes when making inferences had significantly lower empathic accuracy scores than those who were told to use them and a control. Though stereotypes may been seen as something that needs to be rid of, this study suggests otherwise. Stereotypes, when accurate, should not be ignored as they may lead to better empathic accuracy and more broadly better social perceptions.

Tad Falk

Personality Impressions on Twitter

Advisors: Sanjay Srivastava, PhD and Nicole Lawless

This study examined the extent to which participants agreed about Twitter users' personalities based only on the Twitter user's profile or their social network. Participants (*N*=630) evaluated a random selection of Twitter users' profiles, a set of the user's followers, or a set of the user's friends. Multilevel modeling techniques were used to separate perceiver and target variance in order to estimate trait level agreement. When viewing a Twitter user's profile, participants agreed most about the degree to which users' were thorough and agreed least about the degree to which users' were assertive. When viewing a Twitter user's set of followers, participants agreed most about the users' socioeconomic status and least about the degree to which users were relaxed. When viewing a Twitter user's set of friends, participants agreed most about the degree to which users' needed to be the center of attention and least about having artistic interests. The findings of this study support existing literature regarding the ability of perceivers to make consistent judgments of strangers based on limited amounts of information present on social media websites. Not only did observers agree on a Twitter user's personality characteristics when they saw the same type of information (either the user's profile, followers, or friends), they also agreed when they saw different types of information about the user. This study extends previous literature to Twitter, a microblogging social media platform and one of the most popular social media websites in the world.

Marina P. Gross

Accessing Long-Term Memory – What Pupil Dilation Can Tell Us About Learning And Memory

Advisor: Nash Unsworth, PhD

This study investigates the role of pupil dilation in memory formation and retrieval through a delayed free recall task. Previous studies have shown the validity of pupil dilation as a proxy for attention and effort. For the first time, our study used pupillometry to investigate encoding and search processes in long-term memory as well as the *primacy effect* – a phenomenon that describes superior recall of the first item on a list. Participants (*N* = 66) learned 7 lists of 10 words each for later recall. Using eye tracking, we analyzed pupil size during list learning as well as item retrieval. Results reveal a close relationship between pupil dilation and both encoding and search processes. During encoding, attention, as indicated by pupil size, peaked at the first item only to decrease over the course of each trial. These findings are consistent with primacy-gradient models. Additionally, we provide new evidence on the *primacy effect*. During encoding, pupil dilation during the first item was not only much larger but also followed a different pattern than that of any other item. Our data suggest that besides rehearsal, increased attention to the first item on the list might play a role in its superior recall. Lastly, our data reveal that intense search processes at recall onset are mirrored in peak pupil dilations. At the beginning of the recall period, the pupil dilates

sharply before participants begin recalling items. Additionally, when pupil was large, participants recalled words rapidly and to a higher degree. Overall, this study demonstrates how encoding and long-term memory search processes are reflected in pupil dilation. We propose future research into attention levels during encoding to understand subsequent recall performance.

Amanda R. Hammons

You LANG them!: Re-evaluating Recasts as Negative Evidence

Advisors: Dare Baldwin, PhD and Rose Maier, MS

Marcus (1993) argues that recasts (feedback on children's speech errors provided via a corrected version of the utterance) are of little value for language acquisition: although parents recast children's errors, they also recast well-formed utterances. Perhaps, however, parents provide pedagogical cues that distinguish recasts with corrective versus non-corrective intent. If so, children might be especially receptive to recasts accompanied by corrective intent, and update their linguistic constructions accordingly. To test this, 5- and 6-year-old children are introduced to two novel verbs in present tense forms. Both verbs take irregular past tense forms, modeled after real irregular verbs in English (e.g. *ling/lang* modeled after *ring/rang*), so children's initial attempts to use the past tense are typically overgeneralizations (e.g. *linged*). The experimenter recasts these errors in two conditions: In the informative condition, pedagogical cues signaling corrective intent accompany recasts. In the uninformative condition, recasts are linguistically identical but lack pedagogical cues to corrective intent. It was predicted that if these cues help children disambiguate corrective versus non-corrective recasts, children in the informative condition should show greater preference for the correct (irregular) past tense form over the incorrect (overgeneralized) form. In this preliminary sample there was no significant effect of condition, t(16) = -.89, p < .05. This work contributes to our growing understanding of the role social information in the analysis of linguistic input.

Rebecca Kenny

Perceptual Bias: Contextual Effects and the Systemizing Factors of Autism

Advisors: Paul Dassonville, PhD and Scott Reed, MA

Autistic tendencies in the general population have previously been found to predict a global-to-local shift in perceptual processing. Specifically, a two-factor structure to the systemizing trait of autism has been recently found to predict this shift, with an *analytical-tendencies* factor associated with weakened use of global contextual cues, and an *insistence-on-sameness* factor associated with heightened use of local information. In the current study, we measured autistic tendencies in the general population and examined the extent to which the two systemizing factors were also predictive of low-level contextual interactions in early visual processing. Specifically, we used a flanker task to measure attractive and repulsive contextual effects on orientation perception, which are thought to be driven by contextual interactions at the single-unit level in primary visual cortex. It was found that higher autistic tendencies related to insistence-on-sameness were associated with greater contextual interactions with lateral flankers, while higher autistic tendencies associated with analytical-tendencies were associated with reduced contextual interactions with collinear flankers. These relationships were found only with these specific subcomponents of systemizing and were not related to overall autistic or systemizing tendencies. These findings suggest that distinct forms of systemizing differentially predict the magnitude of low-level contextual interactions, though future research should examine the extent to which the relationships also reflect differences in neurophysiological functioning.

Heidi Martinez

Beyond Depression: Mothers with Comorbidity Differ in Neural Response to Infants' Cry

Advisors: Heidemarie Laurent, PhD and Rosemary Bernstein, MS

Past research has illuminated how the functioning of the subcortical and prefrontal regions of the brain is affected by a major depressive disorder and in turn affects the maternal response to infant stimuli. The current study explores how comorbid anxiety disorders impact specific patterns of maternal response. We hypothesized a difference in neural response to infant cries in mothers who are comorbidly diagnosed in comparison with mothers who suffer from depression without anxiety and in comparison to mothers with no diagnosis. This hypothesis was tested in a group of 22 high risk mothers exposed to their own infant's cry sound during functional neuroimaging. Group comparisons of neural response to own infant cry (vs. a control sound) were examined. Fixed effects analysis revealed greater activation in several areas, including those associated with speech-related auditory processing and empathy, for those mothers with depression and anxiety as compared to mothers with depression and no anxiety disorder. Areas of emotion regulation and motivation showed greater activation for mothers in the control group. Implications of these neural responses for associated behavioral responses are discussed.

Jessica Montgomery

Moralization of Smoking in Germany and the US

Advisors: Sara Hodges, PhD and Brian Clark, MA

Cigarette smoking has become more moralized over the last half century.

Moralization is the process by which moral value is attached to objects and activities that were previously morally irrelevant. Moralization of behaviors such as smoking is an individual-level (e.g., reflected in an individual's attitudes towards smoking) as well as a cultural-level (e.g., reflected in anti-smoking policies) phenomenon. We studied moralization of smoking in two cultural contexts (Eugene, OR, USA and Tübingen, Germany). Participants were asked by research assistants on and around university campuses to complete a questionnaire in their native language while the research assistant waited. The questionnaire included questions about moralization of cigarette smoking and related constructs, beliefs about smokers' volitional control over smoking, prejudice against smokers, and support for antismoking policy. These constructs were used in order to measure the attitudes that lead to relevant real-world outcomes such as differential treatment of cigarette smokers. We found that American non-smokers' attitudes about smoking were marginally more moralistic than were those of German non-smokers and that American smokers' attitudes about smoking and smokers were significantly more moralistic than were those of German smokers.

Beth Ngan

It's Too Loud in Here: Effects of White Noise on Attention

Advisor: Nash Unsworth

Stochastic resonance refers to the effect of how noise strengthens a signal that enhances the potential of a subject to increase cognitive performance. Stochastic resonance works whereby external noise, specifically white auditory noise enhances internal neural signals often too weak to be detected by a sensor. This study examines this model and its effect on attentional abilities. The experiment was run on university students, paying particular attention to the variance in results, in response to a range of decibel levels in white noise. Results showed that variance in response

times were significantly lower, and accuracy was significantly higher at a 60-80db range, hence displaying that perhaps white noise at that level does enhance attention.

Katelyn Occhipinti

Motivation and Executive Control: Using Eye Movements to Investigate Reward-Related Modulation during Task-Switching

Advisors: Ulrich Mayr, PhD and Jason Hubbard, MS

Recent studies have demonstrated the positive effect of motivation on executive functioning (Locke & Braver, 2008; Savine & Braver, 2010). However, the cognitive mechanisms responsible for observed improvements in performance are not fully understood. The current study investigated the effect of performance-contingent rewards (monetary incentives) on response time and attention by tracking participants' eye movements during a cued task-switching experiment. Twenty-nine participants (16 female, 14 male) aged 18-31 (M=20.4, SD=3.14) performed two different tasks in which three objects (one target, one distractor, and one neutral object) were presented on a computer screen. Subjects were instructed to respond using corresponding keys that changed depending on the currently relevant task. Results of behavioral measures indicate that reward significantly reduced switch-costs and error rates. Preliminary results of eye-movement trajectories reveal improved performance on rewarded trials. Notably, improvements are exclusively observed during response selection, rather than the attentional selection phase. These results suggest that executive control improvements associated with reward are due to processes specifically involved with response selection.

Matt Pepitone

Self-Evaluation of Trait Adjectives: An EEG and Behavioral Analysis

Advisors: Don Tucker, PhD and Allison Waters, MS

While previous studies looking at neural substrates of self-evaluative cognition have focused on fMRI and PET experimental procedures, EEG experiments in this realm are newer and less understood. This study looks to investigate event-related potentials related to self-evaluation and semantic processing while attempting to replicate previous findings regarding how positive and negative affect differentially predict endorsement patterns of good and bad words, respectively. EEG was recorded from 43 nonclinical participants as they rated whether trait adjectives were like them or not, in addition to a semantic-processing control condition where they evaluated the word's meaning. Preliminary ERP results show differences in responses to good and bad words around the P300, while responses to good words in the self-evaluative condition show a larger late positivity potential. Behavioral results indicate that only positive affect predicts endorsement patterns for responses to good and bad words, an interesting finding that will need replication in order to be verified.

Lisa Shimomaeda

Words in Action: An Exploratory Study of the VGT Paradigm in dEEG

Advisors: Don Tucker, PhD and Catherine Poulsen, PhD

Past research has provided evidence to support the use of non-invasive imaging and brain activity measurement techniques such as functional magnetic resonance imaging (fMRI), positron emission tomography (PET), and magnetoencephalography (MEG) in pre-surgical planning for epileptic patients. The current study explores the possibility of using dense-array electroencephalography (dEEG) for the pre-surgical mapping of brain areas necessary for language functioning in epileptics. We hypothesize that we will find differences in P300 component across the visual VGT task and naming task and that we will find left lateralized effects for language. Thirteen participants took part in auditory and visual versions of the verb generation task (VGT) and a naming task. During both VGT tasks, participants made overt responses of action words in response to concrete nouns. During the naming task they overtly stated the name of the object they had seen. Data is still being collected and analysis is ongoing.

Ally Simone

Creative Coping

Advisors: Marjorie Taylor, PhD & Candice Mottweiler, MS

Creative ability is most frequently measured with divergent thinking tasks based on the manipulation of physical objects. While useful, this type of method does not capture the complexity or range of creative behavior. The purpose of this study was to develop new tasks that measure creative ability in the social domain and that involve the creation of a product rather than divergent thinking. We were also interested in testing the extent that creativity on our tasks was related to children's ability to cope in real world situations. Seventy-seven children between the ages of 8 and 12 completed divergent thinking and product creation tasks focused on social or non-social content. Performance on the tasks with social content was not related to performance on the tasks with non-social content, indicating that social creativity is a distinct domain. However, creativity was not related to our measure of coping strategies.

Nikkie Snow

The Effects of Causal Explanations and Attributions on Reactions to Children with Mental Health Problems

Advisors: Phil Fisher, PhD and Zhen Cheng, MS

Along with the various challenges that can accompany mental illness, stigma towards mental illness further decreases one's quality of life. Stigma directed towards children with mental health problems may have especially adverse consequences due to the importance of positive relationships in healthy development. Research has demonstrated that our beliefs about the cause of an individual's psychopathology are important because they can often predict the amount of stigma one will project towards adults with mental illness, however little research has examined the stigmatization of childhood psychopathology. This study investigated the relationship between stigma and mental illness in children through administering a task that required participants to read pseudo articles that provided different causal explanations for psychopathology in children, a vignette of a child diagnosed with a mental health problem, and then complete a questionnaire that measured their emotional and behavioral reactions to the child.

Adam Tratner

Count to ten, and then? – Psychophysiological Effects of Time on Aggression in Web Video Social Interactions

Advisors: Pranjal Mehta, PhD and Erik Knight, MS

Thomas Paine, the late 18th century English-American political theorist was quoted as saying that "the greatest remedy to anger is delay." Similar to this adage, strategies such as waiting or "counting to ten" before reacting to a negative situation is a common solution prescribed by our culture to aid in reducing further aggression. However, few scientific models have set out to test the veracity of such folk wisdom and examine the effect that time has on aggression in subsequent social interactions. To address the question of how the passage of time alters our aggressive responses to negative social situations, the present study will investigate the relationship between time and aggression, and further explore whether social, affective, and physiological processes mediate one's aggressive output. While their heart rate physiology was being measured with biopac sensors, participants filled out online questionnaires, partook in a pre-recorded, fictitious online web-video social interaction with another student, and then were instructed to participate in a decision-making paradigm (the ultimatum game) with the same student after either a short or prolonged period of time following the initial interaction. We hypothesize that if there is less time between the first and second interactions, participants will be more likely to display aggression towards the fictitious student during the decision making paradigm. Results and findings are forthcoming.

Lauren Williams

Plasticity-Based Brain Training and Aging: A Meta-Analytic Review

Advisor: Ulrich Mayr, PhD

Cognitive decline is an unfortunate hallmark of aging. Deficits can interfere with daily activities and often come at the cost of living independently. In recent years, "brain training" programs and games have become a popular option for older adults who are looking to sharpen their cognitive skills. However, despite their commercial success, it is not clear to what degree these programs produce generalized effects beyond improvement on the trained skills. To determine the size of generalized training effects, we conducted a meta-analysis of existing training studies that used plasticity-focused practice regimes. Studies were included if they sampled adults aged 50 and older, participants had no cognitive impairment, and they had a control group. This led to a final sample of 32 studies. Preliminary results suggest a small-to-moderate overall effect size. In addition, we found that the effect size declined along the near-to-far transfer continuum as assessments become more dissimilar to training type, and with the sample size of the study. Particularly surprising is the fact that the effect size is negatively correlated with duration of the practice regimen. For far-transfer outcome measures with large sample sizes and long durations of practice, the effect size approaches zero. These results raise doubts about the promise that plasticity-related training regimes effectively counter the broad effects of cognitive aging.

Undergraduate Honors Projects – 2012-2013

Chiarra Arpaia

The Effect of Learning to Sew on Self-Esteem, Self-Efficacy, and Optimism in Adolescent Girls

Advisors: Marjorie Taylor, PhD and Sara Hodges, PhD

This study explores the extent that teaching adolescent girls to sew their own clothes works as an intervention to improve self-esteem, optimism, and self-efficacy. Twenty-six adolescent girls between the ages of 11 and 16 participated in a sewing class, held once per week for three hours over five weeks. Participants completed questionnaires on self-esteem, optimism, and self-efficacy. Self-esteem and optimism did not show a significant change. However, self-efficacy significantly increased over the five weeks of the sewing course (the Intervention Period) compared with the five weeks before the course (the Control Period). The intervention was run in the same manner as a community sewing class, and the sample consisted of a variety of ethnicities, family situations, and economic levels. Overall, the significant increase in self-efficacy, the high external validity of the study, the diversity of the sample, and the positive feedback on the course indicate that teaching adolescent girls how to sew in an intervention could potentially increase self-efficacy and, thereby, improve positive development.

Madeline Barry

Infant Attachment and Temperament and the Prediction of Childhood Emotion Regulation

Advisors: Jennifer Ablow, PhD and Jeff Measelle, PhD

Previous research has shown that an infant's attachment and temperament will predict childhood emotion regulatory behaviors, particularly in The Disappointing Gift Paradigm. The current study investigated the association between infants' temperament and attachment at 18 months and emotion regulation at 5 years of age. As part of a larger longitudinal study, this sample of mother-infant dyads were recruited through the Women, Infants, and Children program (WIC) and represented a high-risk and low socioeconomic status sample. When the infants were 18 months old they visited the lab, and infants' attachment levels were coded through the Strange Situation, and temperament was assessed by The Infant Behavior Questionnaire-Revised (IBQ-R). When the infants reached 5 years of age, they visited the lab and were coded on their ability to regulate emotions during the Disappointing Gift Paradigm. Emotion regulation was coded when the child was by themselves with the gift. Based on previous literature it is proposed that infants with negativity affectivity and/or high temperamental surgency and disorganized attachment levels are more likely to display less emotion regulatory behaviors such as physical and vocal venting during the Disappointing Gift Paradigm. It was also hypothesized that infants with negativity affectivity and/or high temperamental surgency, but a secure attachment level are capable of displaying higher emotion regulatory behaviors.

Natalie G. Brezack

Motionese: Subject to Preference?

Advisors: Dare Baldwin, PhD and Jennifer Mendoza, MS

Research by Kuhl, Coffey-Corina, Padden, and Dawson, 2005, demonstrated that typically developing infants prefer to listen to "motherese" speech than a non-speech analog. In contrast, children with autism spectrum disorder show the reverse preference, and the degree to which this is true predicts their progress in phonological development. The current research investigates possible parallels to these findings in children's processing of human action; specifically, whether developmental skills relevant to autism symptomatology (e.g., executive function and theory of mind) predict the degree to which children a) prefer "motionese" versus a non-action analog (or the reverse), and b) their sophistication in extracting structure within intentional action. Preliminary regression results based on participation from 46 preschoolers revealed both executive function (EF) and theory of mind (ToM) skills independently predicted degree of preference for motionese versus a non-action analog. Motionese preference was

also a significant predictor of action segmentation skills. Should these findings be borne out in the full sample, they would point to important links between the development of language and intentional action processing, and they may have implications for designing interventions for children developing atypically.

James Brissenden

Discrete Storage of Associative Chunks in Visual Working Memory

Advisors: Ed Awh, PhD and David Anderson, MS

The amount of information that can be maintained online in visual working memory (WM) is limited. Discrete resource models argue that WM capacity is constrained by a fixed item limit, such that no additional information is encoded once item limits are exceeded. However, recent work has demonstrated that the presence of strong inter-item associations within a display allows observers to store more elements in WM. A possible explanation for this apparent violation of fixed item limits in WM storage is that observers are able to chunk associated items together as a single unit. Thus, chunking effectively reduces the number of "items" in a display. To test this hypothesis, we measured contralateral delay activity (CDA), an event-related potential waveform that is sensitive to the number of items maintained during the delay period. If multi-element chunks are stored as discrete units in WM, CDA will be lower for displays containing associated items than for random displays. In line with this hypothesis, CDA amplitude was significantly reduced when regularities were present in a display. These results suggest that associated elements can be compressed into smaller units. Therefore, chunking allows observers to store more items in WM without violating fixed item limits.

Cord Chen

The Impact of Betrayal Trauma on Feelings of Anxiety and Shame

Advisors: Melissa Platt, MS and Jennifer Freyd, PhD

Previous literature has shown a strong link between anxiety and traumas that involve a high degree of betrayal. However, little research has examined different types of anxiety in relation to betrayal trauma theory and betrayal blindness. The present study sought to differentiate between two types of anxiety, internal anxiety and external anxiety and to determine if high betrayal trauma (HBT) or low betrayal trauma (LBT) would predict either type of anxiety. Additionally, the current study examined whether shame would be predicted by HBT and whether shame would be associated with internal anxiety. 415 participants from the UO human subjects pool took an online version of the Sources of Anxiety Scale, the Brief Betrayal Trauma Survey, and the Shame Posture Measure. Results show that internal anxiety was differentiated from external anxiety, that HBT but not LBT predicted both internal anxiety and external anxiety, and that shame was predicted by HBT and associated with both types of anxiety. Implications and future directions for research are discussed.

Alex Crane

Relationships Between Neural Activations Across Multiple Inhibitory Control Domains

Advisors: Elliot Berkman, PhD and Ryan Johnson, BS

Using functional Magnetic Resonance Imaging (fMRI) and a real world simulation, we examined multiple domains of inhibitory control and whether real world inhibitory control can be predicted based on lab task results. Subjects were imaged while alternately performing tasks to measure four domains of inhibitory control: affect, memory, motor, and attention. The scanner task was followed by a battery of control-related surveys outside the scanner. In a second session several days after the first, participants completed a difficult word search puzzle in the presence of several real-world distracters (e.g. a bowl of candy, a computer screen, their cell phone, Facebook). Analysis of the fMRI data is ongoing, but preliminary results suggest a partial overlap between simple laboratory tasks assessing inhibitory control performance and real world outcomes such as impulse behavior, use of affect reappraisal, and the experience of rumination. This study will build upon previous research that suggests domain-general brain basis for simple and complex inhibitory control by studying multiple domains of inhibitory control instead of the typical 1 or 2 domains. It will also measure two levels of data involving laboratory tests and a real world simulation using the same subjects to examine whether the laboratory tasks are predictive of the more complex real world situations.

Sarah Cunningham

Sexual Assault, Institutional Betrayal, and Psychological Outcomes in the LGBT

Advisors: Jennifer Freyd, PhD and Carly Smith, MS

Several studies have demonstrated that LGBT-identified individuals are at an elevated risk of experiencing trauma (Brown & Pantalone, 2011). Notably, research suggests that LGBT individuals experience higher rates of sexual trauma (Rothman, Exner, & Baughman, 2011). In general, research has shown that institutional failure to prevent or respond appropriately to sexual assault may exacerbate negative outcomes for assault survivors, a phenomenon termed institutional betrayal (Smith & Freyd, 2013). In terms of psychological outcomes, LGBT people typically report more mental health problems than heterosexual people (Hecht, 1998). The aim of this study was to examine the relationships between sexual identity, institutional betrayal, and psychological outcomes. In a self-report survey study of 299 undergraduates (90.3% heterosexual, 9.7% LGBT-identified), LGBT participants reported significantly higher rates of sexual harassment and sexual assault than heterosexual participants. LGBT respondents also reported significantly higher rates of institutional betrayal, even when controlling for incidences of sexual harassment and assault. Finally, LGBT participants exhibited significantly more negative psychological outcomes including post-traumatic stress symptoms, depression, risky sexual behaviors, and low public and private collective self-esteem. These results support prior research suggesting that LGBT individuals experience more traumas and show the importance of sexual identity as a risk factor for institutional betrayal and negative mental health outcomes.

Mariya Dubrovina

Using Eye Movements to Assess Task Switching Dynamics Within and Between Perceptual Dimensions

Advisors: Jason Hubbard, MS and Ulrich Mayr, PhD

Task switching research often uses tasks from different perceptual dimensions. However, it is not clear in which way task-switch costs are affected by this design choice. In this study we use eye movements to analyze in which way task selection affects switching the allocation of attention when competing task-relevant objects come from either the same or a different perceptual dimension than the current target objects. Participants (N = 54) were cued to attend either to the object with the gap or the object with the unique color, then presented with three objects: one target, one distractor, and one neutral object. The objects presented on the screen came from either the same dimension (gap-gap or color-color) or a different dimension (color-gap or gap-color) than the current target object. The results show that the response times in the Between-Dimension tasks are smaller, suggesting that Between-Dimension tasks generally involve more effective attentional selection. Consistent with this, eye movement trajectories to the target versus the distractor object show more effective target-directed fixating and greater benefits

from task repetitions in the between-dimension case. Combined, these results suggest that task selection is much more efficient when competing tasks are associated with distinct perceptual dimensions.

Anastasia Gilmartin

The Decision Making Process of Law School Applicants

Advisor: Robert Mauro, PhD

This study was conducted in order to understand how people make the decision to attend law school, which schools to apply to, and finally which school to attend. Sixty participants completed an online questionnaire. Results found that the top reasons for attending law school were: to help people (57.8%), good income (53.2%), and like to solve analytical problems (53.1%). The most important factors to applicants in deciding where to apply to law schools were: location, cost, likelihood of being admitted, and bar passage rate. In selecting schools to which to apply, 61% of subjects started with an empty list and added schools that met some criterion such as location or ranking. The most important factors in selecting a school to attend were: location, availability of merit-based scholarships, likelihood of being admitted, bar passage rate, and cost. These findings suggest that most applicants focus on certain criteria (e.g., location) during all phases of the decision making process.

Jessica Glaser

Hierarchy of Values for Eight Countries

Advisor: Gerard Saucier, PhD

Is there a rank-order of values that leads to the healthiest outcome for individuals? Four rank-ordered values theories were tested in a correlation study with the United States, Kenya, Morocco, the Philippines, Taiwan, Singapore, India, and Turkey. The theories were tested for their prevalence across countries, as well as an indication of which theory led to the healthiest outcomes across individuals. The Short Schwartz Values Survey (SSVS) was used to measure values responses. Scales from the 36QB6 (a Big Six Personality measure) were used as an outcome criterion for healthy values rank-ordering. In a sample of 2,393 individuals from the *Survey of World Views* (Saucier, et. al, 2013), individual responses concerning the SSVS were correlated with Cicero (44 B.C.), Rollo May (1967), Dugald Stewart (1852), and Hastings Rashdall's (1907) rank-ordered values theories. The theory related r values were correlated with their personality outcomes. The results indicated that May's theory most resembled the typical value rank-ordering in the United States while Cicero's theory most resembled the typical rank-ordering in the pancultural analyses. The results also indicated that Cicero's rank-ordering of values lead to the healthiest outcome in personality. The implications suggest that, in a globalizing world, it is important to understand the variance of value-priorities across countries and the differing outcomes that a specific rank-orderings of values can produce.

Mitchell Gooch

The Impact of Relationship Closeness and Relationship Type on Secondary Trauma: Results from a Non-High-Risk Sample

Advisors: William Schumacher, MS and Holly Arrow, PhD

Secondary Trauma (ST) posits that individuals may become traumatized through close social contact with another person who has suffered a primary trauma. Previous research has focused almost exclusively on samples of high-risk relationships, in which one individual is at high-risk for suffering a primary trauma, therefore increasing the other person's chance of suffering from secondary trauma. The purpose of this study was to assess ST in a non-high-risk sample (n = 551). This is the first study to address the closeness of the relationship and the relationship type as variables. Methods consisted of participants completing the Secondary Trauma Questionnaire (STQ) and PTSD Symptom Scale-Interview (PSSI) in an online questionnaire. Results showed that 14.3% of participants had scores that signify mild to severe ST. These findings supported the prediction that ST was lower in a non-high-risk sample versus a high-risk sample. In addition, a statistically significant relationship was found between STQ scores and relationship type as well as a statistically significant correlation between STQ and PSSI scores. However, contrary to expectations, the closeness of the relationship was not a significant predictor of STQ scores.

Elizabeth J. Ivie

Do Adolescents Know Themselves? State versus Trait Measures of Emotion Regulation

Advisors: Nicole Giuliani, PhD and Jennifer Pfeifer, PhD

The ability to control one's emotions improves with age; particular advances are made during adolescence (Silvers et al., 2012). Adolescence is often marked by more extreme variation in mood states (Larson, Moneta, Richards, & Wilson, 2002) and increased prevalence of internalizing disorders, such as anxiety or depression, particularly for females (McGuinness, Dyer, & Wade, 2012). Additionally, a deficit in emotion regulation is also correlated with an increase in internalizing symptoms (Lougheed & Hollenstein, 2012). This underscores the importance of successful emotion regulation (ER) during this stage of development. In the current study, we assessed ER in 46 adolescent females between the ages of 10-17. Stable (trait) ER was assessed using empirically validated self-report questionnaires including the ERQ-CA and ERICA, and fluctuating (state) ER was assessed using an empirically validated behavioral task (Giuliani et al., 2013). Trait questionnaire measures of ER and age were not significantly related, but state task performance measures of ER were positively correlated with age. Additionally, age was positively correlated with self-reported frequency of positive and negative emotional experience, both of which were significantly correlated with trait and state measures of ER, and self-reported depressive symptoms. Additional analyses will explore the potential interactions among age, trait and state ER, positive and negative affect, and depressive symptoms. Overall, this study describes adolescent female development of ER in two domains (state versus trait) and the ways in which these two measurement domains account for overlapping, yet different, aspects of adolescent emotional health.

Clare Knievel

Trial-to-Trial Fluctuations in Attentional State and their Influence on Goal Neglect in the Antisaccade

Advisor: Nash Unsworth, PhD

Throughout the duration of a task attention fluctuates, potentially lapsing and leading to goal neglect. Attention was recorded from trial-to-trial by subject's self reporting. Subjects recorded their attentional state prior to each trial, immediately followed by a saccade task; either an anti- or prosaccade. Results support that pre-trial attentional state can be used to predict accuracy on the saccade task. High attentional ratings yielded high accuracy and subsequently little goal neglect, while low attentional ratings produced the opposite. Additionally, pre-trial attentional ratings showed a larger effect during the antisaccade trials compared to prosaccade trials. Collectively, these results suggest that trial-to-trial fluctuations in attention are a powerful predictor of trial-level performance on attention demanding tasks.

Irina Kuzmina

Belonging and Perceived Similarity as Moderators of Social Projection

Advisors: Sara Hodges, PhD and Karyn Lewis, MS

People frequently engage in social projection when making judgments about others. Past research has shown that projection can lead to more accurate perceptions of others, but there may also be a motivational account for projection. In the current study we explore if perceived similarity and belonging needs moderate social projection. Previously unacquainted participants (84 undergraduate students) rated their own personality traits, then had a discussion with a partner, and after that rated their partner's personality traits. In addition, participants completed a measure of belongingness and rated their perceived similarity to their partner. As hypothesized, when participants perceived their partner as more similar, they showed greater projection. Projection was also greater for participants who rated themselves higher in belonging. These results suggest that people might engage in projection with a goal to achieve a sense of connectedness to people.

Kathryn Landis

Pass Me the Ball: Examining the Effects of Culture on Rejection, Coping, and Factors of Well-Being

Advisors: Nicole Lawless, MS and Sanjay Srivastava, PhD

Differences between two main cultural worldviews, collectivism and individualism, have been linked to various social and psychological phenomena, such as emotion expression (Kitayana, Markus, & Kurokawa, 2000), self-esteem (Heine, Lehman, Markus, & Kitayama, 1999), and subjective well-being (Diener, Diener, & Diener, 1995). This study investigates how cultural perspective influences coping strategies and responses to interpersonal rejection. Fifty-nine domestic undergraduate students completed a questionnaire that measured individual differences including cultural identification, personality, coping strategies, self-esteem, and perceived ethnic discrimination. The same students then played the online ball-tossing game, Cyberball, which simulated social rejection. During the game participants were rejected by players with either American (individualist) or Chinese (collectivist) names. After the game, participants answered questions that measured emotional response. Data analysis will examine possible relationships between individual differences and coping styles, as well as which names participants saw and emotional response. The results of this type of study may serve to better prepare universities for a student's transition to college, or help healthcare professionals improve quality of care by guiding patients to culturally appropriate coping resources.

Stefanos Lazarides

Perceiving and Reconstructing Shapes in Three Dimensions

Advisor: Margaret Sereno, PhD

Human beings perceive shapes in multiple dimensions (e.g. 2 or 3). To do this we make objective judgments, judgments about the 3-dimensional characteristics of objects, or projective judgments, judgments about the 2-dimensional characteristics of objects. Our research examines the role of a 3-dimensional context on both projective and objective judgments. We predicted that 3-dimensional context helps with objective judgments and hurts projective judgments, while a lack of a 3-dimensional context has the opposite effect. Analysis remains ongoing but

initial findings trend with our expectations. Following this we intend to examine the affect of artistic ability and experience (specifically, drawing skill) on both objective and projective judgments. We predict that artists, compared to non-artists, will be better at making projective judgments of shape as this ability may be necessary to produce accurate drawings of the 3-dimensional world. Our research on this potential relationship also remains ongoing.

Molly Martini

Recurring Goal Monitoring Display Design: Effects on Completion Rates, Motivation, and Emotional Affect

Advisor: Sara Hodges, PhD

Recurring goals, such as exercising every other day, are important for health and work-life balance, yet are often disregarded when other deadlines and daily stressors enter our lives. Given that information presentation affects how one processes and acts upon information, could a visual object display reminder of goals lead to increased motivation and more goal completions compared to a text-based display? Three different goal monitoring tools were created to answer this question: an Android app that shows goals as squares that visually stretch out as goal deadlines approach; another Android app that lists the goals and their deadlines by text; and a paper planner consisting of two calendar weeks. Participants ($N = 35$) were randomly assigned one of these three tools and asked to monitor their own recurring goals for two weeks, completing nightly questionnaires asking about motivation level, goal completion, and emotional affect. No differences were found between conditions. Although the visual app provided an easily-processed display, it appeared to provide no advantage in terms of goal completion or positive attitudes towards goals, suggesting further research is needed to see if balancing one's goals relies on a different task focus then completing one's goals.

Danaan O'Donnell-Davidson

Are You Certain You Belong? Self-Evaluations and Responses to Ambiguous Feedback

Advisors: Sara Hodges, PhD and Karyn Lewis, MS

Participants consisted of psychology and linguistic students recruited from the University of Oregon. There were 508 participants total (69.9% female and 29.9% male). Ages ranged from 18 to 43 (M=19.73 with 95% under 22). Most participants were white (72.9%) and native English speakers (92.9%). Participants were either assigned to the experimental condition or the control condition. Those assigned to the experimental condition learned about a "new dimension of human cognitive performance" called Integrational Complexity. Within the experimental condition participants were assigned to one of two cognitive profiles: Group C, who perform well on IC tasks, and Group X, whose performance "on IC tasks is more uncertain and variable". Participants continued to the "Integrational Complexity Skills Assessment," which consisted of 21 questions. In the control condition participants learned nothing about the make believe IC cognitive profiles. All participants, including those in the control condition, were then informed that their IC skills were in the average range. They continued to another survey that consisted of 11 questions created to gauge their feelings towards IC. Data has not been analyzed yet, but we predict that subjects placed within the "uncertainty" condition (Group X) will have more negative feelings towards IC, including less motivation to increase their skills within this "new" domain, when compared to those of the "positive" condition (Group C) and the control group.

Brendan Ostlund

The Role of Mother-Infant Affect Synchrony in the Relation between Maternal Depression and Infant Vagal Functioning

Advisor: Jeff Measelle, PhD

Research has shown that maternal psychopathology, in particular, depression, is associated with infants' vagal functioning, a biomarker of infant emotion regulation. This study examined the role of dyadic synchrony as one possible social mechanism by which maternal depression and infant vagal functioning might be related. A high-risk sample of mothers, by virtue of their low socioeconomic status and history of depression, participated in the present investigation. When babies were five-months-old, they and their mothers participated in an unstructured free-play session designed to illicit typical interaction patterns. Of the overall sample, two subgroups were evaluated, specifically, a high-depression group ($n=20$; CESD $M=24.0$, $SD=6.70$) and a low-depression group ($n=20$; CESD $M=1.95$, $SD=1.19$). Synchrony and matched behavioral states between the mother-infant dyad were computed, and baseline Respiratory Sinus Arrhythmia (RSA) was collected as an index of vagal functioning. Analyses reveal a complex set of results such that the association between higher levels of maternal depressive symptoms at five months postpartum and higher infant baseline RSA was partially mediated by different aspects of mother-infant synchrony. These findings may further our understanding of the social mechanisms of an infants' earliest relationships help to shape the biological bases of emotion regulation.

Nicole Rios

Effects of Early Life Stress on Cognitive and Socio-Emotional Development

Advisors: Helen Neville, PhD and Elif Isbell, MS

Decades of research on poverty provide overwhelming evidence for the detrimental effects of low-SES on child development. While several factors could be mediating this relationship, the current study highlights the effects of household stress on cognitive and socio-emotional development using the Life Stress Index (LSI), a subcomponent of the Parent Stress Index (PSI), to provide a measure of household stress for each family that participated in the study. A sample of 152 typically developing three-to-five year olds from low-SES backgrounds were tested on measures of nonverbal IQ and display of problem behaviors to assess the effects of experiencing household stress on their development. The data used in this study is a subset of data from a larger efficacy trial of an intervention designed by the University of Oregon Brain Development Laboratory targeting low-SES families enrolled in Head Start preschool programs. Overall, life stress significantly predicted negative socio-emotional outcomes or increased display of problem behaviors in low-SES children. The effects of life stress on cognitive development, or IQ, were non-significant.

Fushu Tan

Bullying, Victim, and Aggressor: Past Experience versus Current Behavior

Advisor: Holly Arrow, PhD; Second reader: Jordan Pennefather, PhD

Bullying is the most common type of violence in American schools (Swearer & Doll, 2001), and the consequences can persist into adulthood, affecting school achievement, prosocial skills, and psychological well-being for both victims and bullies. The current study examined whether past experience with bullying affects how likely college students are to intervene when someone they know is bullied. 120 college students (50 males, 70 females) completed a questionnaire that assessed their past experience with physical and relational aggression. They then read a scenario that asked them to imagine someone was spreading vicious rumors about a member of their current campus group.

Next, they decided whether they would intervene by contacting the aggressor, the victim, or both. Over 95% of participants reported some past experience as both aggressor and victim. Unexpectedly, males reported significantly more past experience as relational aggressors than females. Over half the participants said they would intervene by contacting both victim and bully. However, contrary to the hypothesis, past victimization experience did not increase the likelihood of intervening. In fact, past experience scores tended to be somewhat lower for those who intervened. The only significant past experience predictor was that those who chose not to intervene at all tended to have more experience as a bully and less as a victim. The findings provide additional evidence that exposure to bullying often includes experience as both aggressor and victim and that this can complicate an understanding of how this experience affects future decisions to intervene.

Chris Valentine

Self-Projection: Comparing Real and Imagined Interactions

Advisors: Sara Hodges, PhD and Karyn Lewis, MS

The current studies examine whether the degree of social projection (attributing characteristics of the self to other people) among people who imagine interacting with another person differs from that found among people who have actual face-to-face interactions. The main goal was to determine whether or not perception formed in imagined interactions can be generalized to real interactions. There may be social influences in real interactions that are important to consider because they cause people to form opinions differently. As hypothesized, the results indicate significant differences between these two types of interactions in the way people form perceptions in competitive and cooperative states. More specifically, people demonstrated social projection under cooperative conditions whether the interaction was imagined or real. However, under competitive conditions, participants showed social projection when they actually interacted with a partner, but not when merely imagining an interaction with the other person.

Hannah White

Neural Mechanisms of Working Memory: An N-back Task

Advisors: Phan Luu, PhD, Don Tucker, PhD, and Jennifer Lewis, BS

Working memory is the complex cognitive process of encoding, maintaining, manipulating, and storing information. fMRI literature identifies many areas of the brain associated with working memory processes, including prefrontal and parietal regions, but gives little information about how activity in these areas change over time. The present study uses dense-array EEG, advanced head-modeling techniques, and Principal Component Analysis (PCA) to identify independent temporal and spatial components that reveal networks of working memory. Results show that during inter-trial interval (i.e., when stimuli are not present but their information have to be maintained) a network composed of orbitofrontal cortex (OFC), temporal poles, and visual cortices is activated. As presentation time of the stimulus to be compared approaches, OFC and temporal poles disappear from this network, leaving only visual-related cortices active. This temporal progression of cortical network engagement suggests that immediately after stimulus onset OFC and temporal pole regions support coordination of memory functions with visual cortex, and as an impending stimulus approaches, a network, comprising of only visual cortices, are primed in anticipation of the to be compared stimulus.

Undergraduate Honors Projects – 2011-2012

Leah Child

Naive Viewers' Implicit and Explicit Segmentation Judgments of American Sign Language

Advisors: Dare Baldwin, PhD and Jessica Kosie, BS

One of the most daunting challenges of learning a new language is often accessibility of the segmental structure, since most languages do not contain pauses or signals at word boundaries. American sign language is unique in that it allows the learner to process it in a visual form opening the way for them to use their action processing abilities to segment the language they see as they would action. Sixty college students were asked to segment ASL monologues using explicit segmentation and dwell time methodologies, and their segmentation decisions were compared to a native ASL user's segmentation decisions. This research could have interesting potential impact on the way we approach language learning, as well as indicating possible useful applications for those with communicative barriers. This knowledge also has the potential to be of benefit to those working on software for translating ASL.

Camille Cioffi

Infant Orienting Predicts Executive Control at 5 Years of Age: A Moderating Role for Early Forms of Adversity

Advisors: Jeff Measelle, PhD and Jennifer Ablow, PhD

Self-regulation develops across the first years of life through repeated social interaction. One crucial aspect of early regulation is seen in how the infant deploys or orients her attention when distressed. Infants as young as five months of age engage in a variety of attention related behaviors that serve to regulate distress, including distracting themselves (object engagement), orienting toward the parent (social monitor), or avoidance behaviors (look away) when a parent is non-responsive. The overarching aim of the current study was to examine how individual differences in infants' attentional deployment when challenged interpersonally would predict more advanced forms of executive functioning later in childhood. Additionally, the current study examined how association between early attentional deployment and later executive functioning might vary as a function of early adversity. Infants' orienting behaviors were coded when they were five months old during the challenge phase of the Still Face Procedure (SFP). Executive control was assessed when children were five years of age using a composite measure of working memory, inhibitory control, visual attention, and planning capabilities. Indicators of early adversity included attachment classification, socioeconomic status (SES) and maternal depression. In a sample of 64 mother-infant dyads, multiple regression analyses indicated that infants who attended more to their mothers when distressed (social monitoring) exhibited significantly higher levels of executive functioning when they were five years old. However, the relation between infants' orienting behavior and later executive control was moderated by SES such that infants from lower socioeconomic backgrounds who looked away from their mothers scored low on executive control.

Melissa Dollar

Autistic Tendencies and Visual Processing: A Local Bias versus a Global Deficit

Advisors: Paul Dassonville, PhD and Sara Hodges, PhD

Past research suggests that individuals with autism spectrum disorders (ASD) exhibit an enhanced local-oriented processing bias, but have an attenuated tendency to use global contextual cues. In addition, the autistic trait of systemizing has recently been found to predict sensitivity to global contextual cues, where high systemizing tendencies are associated with a decreased tendency to process misleading global context (e.g., visual illusions). It is currently unclear, however, whether individuals with heightened systemizing drives, such as those with autism, display the same decreased tendency to process context when it provides information beneficial to performance. The current study examined the extent to which systemzing tendencies were predictive of whether individuals could use beneficial global-contextual information in two perceptual tasks. In one task, we found a significant benefit from the presence of an upright frame (compared to no frame) when participants judged the orientation of a central rod. However, there was no correlation between systemizing or autism quotient scores and the extent to which participants benefited from the global context of the frame. The presence of an upright frame provided similar performance benefits when participants were asked to make saccades as close to vertical as possible, but again the size of the benefit was uncorrelated with systemizing quotient scores. These results suggest that individuals with heightened systemizing drives, such as those with autism, can still make use of global context when it is beneficial to performance.

Alex Fortune

Exploring Associations Among Homophobic Attitudes, Trauma Exposure, Gender, and Sexual Orientation

Advisors: Laura Kaehler, MS and Jennifer Freyd, PhD

The associations among gender, sexual orientation, homophobia, and trauma history were explored in this study. A total of 537 undergraduate students (63.7% female, 76.7% Caucasian, $M_{age} = 19.5$) completed an online survey that included versions of the Homophobia Scale (Wright, Adams, Bernat, 1999), which assessed parental, self, and friend homophobia, and the Brief Betrayal Trauma Survey (BBTS; Goldberg & Freyd, 2004), a self-report measure of trauma history. Results indicated that both personal homophobic attitudes and those of participants' friends were higher for men, but that only personal homophobic attitudes were higher for heterosexuals. A linear relationship between trauma history and homophobic attitudes was found, showing that people who experienced traumas high in betrayal were less homophobic. Non-heterosexual people (n=35) were more likely to experience medium or high betrayal traumas (interpersonal traumas), whereas heterosexual people (n=502) were more likely to experience low betrayal traumas (non-interpersonal traumas) or no trauma at all. Implications of the increased negative effects for traumas high in betrayal and manifestations of homophobia in society are discussed.

Sarah J. Harsey

It Happens, Just Not to Me: Self-Reports of Trauma versus Reporting Trauma of Others

Advisors: Melissa Platt, MS and Jennifer Freyd, PhD

Prevalence rates of trauma within the general population are high, and incidences of trauma, especially childhood abuse and adult sexual abuse, are underreported. Betrayal Trauma Theory (BTT) asserts that certain traumas with high social betrayal can remain outside of the victim's conscious awareness due to a need to maintain a vital relationship with the perpetrator. The current study examined this phenomenon of "betrayal blindness" by comparing self-disclosure and friend or sibling disclosure rates for both high and low-betrayal traumas. Using data from a sample of 394 university undergraduates, we discovered that participants were more likely to report a sibling's or friend's trauma than their own. However, contrary to what we predicted, we did not find a discrepancy

in reporting rates for high and low-betrayal traumas; this may be partially explained by wording ambiguity in the way we presented BBTS items for reporting on a friend or sibling. Overall our findings indicate that individuals are more hesitant to disclose their own traumas than the traumatic experiences of a sibling or friend, thereby providing further evidence that a "culture of silence" continues to surround discussion of one's own traumas.

Chihoko Hayashi

Competition, Inhibition, and Voluntary Task Control

Advisors: Atsushi Kikumoto, BS and Ulrich Mayr, PhD

In competitive situations, it usually pays off to be unpredictable because it helps outwit opponents. However, people tend to be predictable. Using the voluntary task-switching paradigm where participants are asked to randomize task choices, Arrington and Logan (2004) showed that people often repeat the same task. In contrast, those participants who manage to resist the so-called perseveration may do so by inhibiting the just-executed task, resulting in slowing response times when they do not switch task (Mayr & Bell, 2006). Given that randomness is beneficial in competition we examined participants' use of inhibition in a voluntary switching experiment framed as a competitive situation in which the presence of an opponent and the competition could make people more random. In the present study, participants competed against a real opponent, where participants played the part of a 'Fox' who was rewarded for each trial on which they chose the same task as their opponent, the 'Rabbit', while participants who played the 'Rabbit' were rewarded whenever they chose a different task from the 'Fox'. We also included a control condition with random feedback after each trial to eliminate confounds between task choice and feedback. Competition increased switch rate close to 50%, which indicated more random performance. Moreover, response times also increased, which could imply that participants used inhibition to overcome perseveration. This study suggests that competitive situations affect executive control and alter predictability.

Daniel Klee

Does Spatial Attention Influence the Severity of Visual Crowding?

Advisors: Ed Awh, PhD and Edward Ester, PhD

The identification of a target in peripheral vision is severely impaired in the presence of nearby distracting information. This phenomenon is referred to as visual crowding, and it constrains important visual processes, such as object recognition and reading. Although a popular model of crowding attributes perceptual degradation to the compulsory averaging of target and distractor feature values, recent work by Ester, Klee, & Awh (in prep.) suggests that crowding is the result of feature mislocalization and a subsequent "swapping" of target and distractor feature information. Decades of research have shown that when an observer directs attention to the location of a stimulus, perceptual processing of that item is enhanced. Here, we examined the consequences of spatial attention on visual crowding. Our findings show that spatial attention attenuates crowding effects by reducing confusions between target and distractor values. The critical spacing distance for crowding — defined by the largest distance between targets and distractors where crowding is observed — was unaffected by spatial attention. These findings shed light on the basic mechanisms by which visual attention can ameliorate the harmful effects of nearby distractor stimuli.

Bethany Lassetter

Judging the Credibility of Others in Light of Lies and Forgetfulness

Advisors: Sara Hodges, PhD and Elliot Berkman, PhD

The present investigation employs two studies to examine how individuals assess the credibility of providers of false information. We hypothesized in both studies that strategic liars who provided false information would receive significantly higher credibility scores than mixed-up individuals who also provided false information. A total of 332 university students (63% female) participated in Study 1 by reading a brief vignette and answering questions about the credibility of a reference provider. Contrary to our hypothesis, results demonstrated that strategic liars were actually rated as significantly less credible than mixed-up individuals. Study 2 utilized 897 student participants (68% female) who again read a brief vignette and answered questions about four target individuals' credibility, either in a courtroom or non-courtroom setting. Once again, results showed that strategic liars were rated as significantly less credible than mixed-up individuals; however, the strength of this pattern varied depending on target and context. Results thus deviated considerably from projected hypotheses and previous research, but supported the idea that credibility assessments depend on the type of misinformation and the setting in which this information is provided.

Jennifer Lewis

Mapping the Human Visual Cortex: Exploring Early Components of the Visual Evoked Potential with Dense-Array EEG

Advisors: Phan Luu, PhD, Don Tucker, PhD, and Allen Malony, PhD

With the advancement in technology of dense-array EEG (dEEG), improving the spatial resolution on noninvasive electrophysiology is becoming more realistic. This study aims to replicate the current evoked related potential (ERP) literature and characterize the early components of the visual evoked potential (VEP), while also comparing the cortical surface activity generated in source space with the spatial resolution of the hemodynamic response in similar studies in the functional magnetic resonance imaging (fMRI) literature. EEG was collected from 10 participants as they viewed a series of checkerboard stimuli presented in 5 quadrants. Locations and characterization of the early C1, P1, and N1 components were examined through multichannel scalp recordings, retinotopic mapping, and linear inverse solution techniques. Individual subject data shows the C1 is generated in the primary visual cortex; early P1 is generated in extrastriate cortex areas of V2; and the N1 is generated in more lateralized areas of visual cortex.

Sara Loitz

Implicit and Explicit Attitudes in Self-Other Hypocrisy Judgments

Advisors: Sara Hodges, PhD and Brian Clark, MA

How do people react to evidence that they harbor inconsistent attitudes or beliefs? University student participants (n-82) filled out a series of questionnaires designed to meaure explicit attitudes and took a reaction-time implicit associations test to determine their implicit attitudes toward homosexuality. Afterward, participants were presented with fabricated results of the implicit and explicit measures. Half of the participants were shown evidence that they harbored morally inconsistent attitudes toward homosexuality ("self" condition), whereas the other half were shown evidence that another (fictitious) student harbored hypocritical attitudes ("other" condition). At the end, participants were solicited to sign a petition in support of gay marriage. As predicted, people in the self condition reported more negative affect than did those in the other condition, suggesting possible feelings of cognitive dissonance. However, people in the self condition were not more likely than those in the other condition to sign a petition in support of gay

marriage as a means of reducing those feelings of dissonance. In addition, we found that those in the self condition were 7.6 times more likely to describe the attitude results as inconsistent than those in the other condition.

Rianna Lowrance

The Effects of Religious Primes on Political Voting

Advisor: Azim Shariff, PhD

This study looks at the significance of religion in politics; specifically investigating whether religious primes affect an individual's support for a democratic or republican political speech. The participants were given a political speech that was either democratic or republican and religious or non-religious. They were then asked to rate their support for the hypothetical political candidate. Although the religious primes did not produce a significant effect in terms of political preference, it was found that there was significant interaction between the religious and control passages and the religious and non-religious participants, such that those individuals who were religious tended to support the religious passages more, and those participants who were not religious supported the religious passages less. In addition, it appears that republicans may have a more diverse circle of friends than democrats. Discussion focuses on implications for these findings and questions for future research.

Christabelle Moore

Thinking about Best Friends: Neural Correlates of Trait Evaluations Across Development

Advisors: Junaid Merchant, BA and Jennifer H. Pfeifer, PhD

This study aimed to investigate the developmental trajectory of neural correlates underlying trait evaluations of a close other (i.e., same-gendered best friend). Twenty-four Chinese participants (12 adults, 12 children) underwent functional magnetic resonance imaging (fMRI) while making trait evaluations in the social and academic domains. Participants reported whether these traits described their best friends or not, and as a control condition also evaluated the valence of these traits. The results demonstrated a three-way interaction between age group, evaluation type (best friend or valence), and domain (social or academic). Post-hoc analyses demonstrated that, in children compared to adults, activation was great in right posterior superior temporal sulcus (pSTS), such that children utilized this area significantly more when thinking about their best friend in the social domain compared to the academic domain. Meanwhile, in adults compared to children, activation was greater in right inferior frontal gyrus (IFG), such that adults utilized this area significantly more when thinking about the valence of a phrase in the social domain compared to the academic domain. In previous studies, the pSTS is associated with person perception and social information processing, while the IFG is reliably involved in inhibition. These results help to identify the trajectory and underlying neural correlates of social cognitive development using neuroscience methods. Undoubtedly the emerging field of developmental social neuroscience is shedding light on the underlying neural mechanisms of social behavior as they change over time.

Trevor Moore

Perceived Judicial Fairness of Court Appointed Expert Witness Testimony vs. Exclusively Adversarial Expert Witness Testimony

Advisor: Robert Mauro, PhD

Studies conducted in the field of psychology and law research have shown varying and inconsistent results of the public's overall perceived judicial fairness in the differing realms of the justice system. This study aimed to address the question: *What is the public's opinion on the judicial fairness of judges' decisions when there is use of court appointed expert witness testimony in addition to adversarial expert witness testimony vs. exclusively adversarial expert witness testimony?* Based on previous research, the expectation is that there will be no change in the public's perceived judicial fairness when there is court appointed expert witness testimony in addition to adversarial expert witness testimony, when compared with exclusively adversarial expert witness testimony. Early research suggests that judges' decisions have great influences on juries, mainly the acceptance of evidential materials to be factual, and do so without question because it legitimately made it past a judge, leading to what is known as the "Gatekeeper" effect. Participants will be University of Oregon human subject pool candidates. The aim is to have 150 participants, 75 male and 75 female. Questionnaires will be used to indicate pre-existing biases and attitudes toward the justice system, then following each of the four sample stories, participants will fill out another questionnaire per story, and finally, a post attitude questionnaire (6 questionnaires total). Following data collection, the data will be analyzed.

Kyle Morgan

Mapping the Human Primary Somatosensory Cortex Using Dense-Array EEG: An Analysis of the Somatosensory Evoked Potential

Advisors: Phan Luu, PhD, Don Tucker, PhD, and Allen Malony, PhD

In principle, dense-array EEG (dEEG) technology has the ability to localize cortical brain activity with adequate spatial resolution such that anatomically and functionally distinct regions can be studied. The present study employs dEEG to map activity of the primary somatosensory cortex (SI), which is functionally and anatomically defined. EEG recordings were acquired from 10 participants as their thumbs were stimulated by a custom-made piezoelectric stimulator. Early components of the somatosensory evoked potential (SEP), which reflect activity from SI, were evaluated in individual participants to assess topographic distribution at the scalp. In a subset of participants, we build high-resolution electric head models that describe how current propagates from the cortex to the scalp surface, where the SEP is measured, and we use this model to localize the early SEP components. We report on the localization accuracy relative to the expected location (SI).

Michael Naylor

Tell Me What You See: Effects of Captured Attention and Ability to Encode Information

Advisors: Edward Ester, PhD and Ed Awh, PhD

What can capture one's attention in the visual field is an important field of research due to the negative implications when one does not pay attention to certain cues. Past investigations have yet to answer whether or not your attention can be captured by multiple things at the same time. What are the limits? Does this change whether or not the individual is actively attending to a cued location or not? In our study, participants were gauged on their ability to encode stimuli presented in an array of distractors while their attention was captured by visual cues. There was no significant difference in the subjects' ability to encode when the stimuli was presented within a cued location, suggesting that attention was captured regardless of whether or not the participant was actively attending to the cued location or not. However, there was a significant decrease in encoding when the stimulus was presented outside of a cued location. This suggests there is a discrete limit in number of objects attention can be captured by, which is the same regardless of whether or not the participant was actively attending to the cued location or not.

Lucas Ott

The Impact of Physiology, Emotion, and Individual Differences on Social Judgment

Advisors: Arielle Morganstern, MS and Robert, Mauro, PhD

The current research investigates trait personality and state experiences of authentic pride and hubristic pride (Tracy & Robins, 2007) and anger with physiological measures, subjective feeling states, and social judgments. The physiological measure used was respiratory sinus arrhythmia (RSA), which is an index of emotion regulation (Butler et al., 2006; Oveis et al., 2009). Employing an experimental between subjects design, hubristic pride, authentic pride, and anger were successfully induced and participants subsequently completed measures of social dominance orientation (SDO; Malle, Stallworth, Sidanious & Pratto, 1994) and empathy. Results indicated an interaction in which increasing levels of trait anger and trait hubristic pride coincided with decreasing RSA levels as measured during a baseline paced breathing task, which postulates less emotion regulation among those high in trait anger and hubristic pride. In addition, individuals who were high in trait anger had significantly lower levels of RSA across conditions than those low in trait anger. The anger condition was the only condition where trait anger significantly predicted RSA in the aforementioned pattern. Futhermore, subjects high in trait anger randomized to the anger condition endorsed social inequality considerably more than those low in trait anger. Individuals with high trait anger levels randomized to the hubristic pride condition reported lower levels of empathy relative to their low trait anger counterparts. These findings suggest that individual differences impact physiology and subsequent judgments induced from incidental emotions.

Matthew Parker

Differential Effects of Stress on Working Memory

Advisors: Nash Unsworth, PhD and Brittany McMillan, BS

This study examined the relationships between stress, working memory capacity (WMC), fluid intelligence, and attention control. Research participants completed a number of tasks designed to measure WMC, general fluid intelligence, attention control, and stress. Stress was measured and three factors of stress (engagement, distress, and worry) were analyzed in relation to the other factors. Correlations were run and distress was significantly correlated with an improvement in performance on task designed to test WMC, fluid intelligence, and attention control. Worry decreased performance on measures of fluid intelligence, and engagement improved performance on WMC and attention based tasks. Additionally, all three factors of stress engagement, distress, and worry were correlated with changes in task performance differentially suggesting that different types of stress differentially effect memory and attention, sometimes positively and sometimes negatively.

Jennifer Paternostro

A Look at the Development of Action Segmentation in Children and Adults

Advisors: Dare Baldwin, PhD and Kara Sage, MEd, MS

In order to process and understand events as they unfold, adults break down events into smaller parts. For example, the process of making a sandwich would include big, medium, and small events. A big event would be completing making the sandwich, a medium event would be finishing putting the condiments onto the sandwich, and a small

event would be placing one slice of turkey onto the bread. Adults are readily able to predict the next step in a sequence of actions, such as predicting that the cheese will go on top of the meat in the sandwich example. The present research investigates developmental differences in how humans predict action. We hypothesize that when adults are processing an action sequence, they tend to look longer at the end of that sequence as they actively make predictions about the next step. Children, however, may be slower to predict what will happen next and therefore will have longer looking times at the beginning of each additonal sequence. Specifically, this study explores the differences in action segmentation between 3-year old children, 5-year old children, and adults. Participants advanced through a self-paced slideshow of an actor making an ice cream sundae while the computer recorded their looking times to each individual slide. Our findings point to the differences in how children and adults segment and predict action.

Justin Pomerenke

Expression of Emotion During Recall of Military Service

Advisors: William Schumacher, MS and Holly Arrow, PhD

To investigate emotional resilience in war, 250 interviews were chosen from the Veterans' History Project, 50 each from World War II Pacific and European theaters, Korea, Vietnam, and the Iraq/Afghanistan wars. Each interview was divided into sections that discussed experiences before, during, and after deployment to a combat zone, and analyzed by the Linguistic Inquiry and Word Count software (LIWC; Pennebaker, Francis, & Booth, 2001) to measure levels of positive and negative emotion. Previous literature suggests that soldiers with higher levels of negative post-deployment emotion tend to be more susceptible to poor psychological outcomes, such as post-traumatic stress disorder. As hypothesized, Vietnam and Iraq/Afghanistan veterans scored significantly higher for post-deployment negative emotion scores than veterans of the earlier wars. As expected, negative emotion increased over the pre-deployment baseline when recounting experiences during deployment for all wars. For WWII and Korean War veterans, negative emotion dropped again for post-deployment experience, to levels comparable to the baseline. For veterans of Vietnam and Iraq/Afghanistan, however, post-deployment experiences had the same high level of negative emotion as combat experience, with no evidence of recovery.

Mora Reinka

Stereotypes as an Attentional Deficit: Examining the P1 in the IAT

Advisors: Jennifer Pfeifer, PhD and Kristina Hiatt Racer, PhD

The Implicit Association Test (IAT) uses reaction times as a test of an individual's implicit biases in a multitude of fields such as gender, race, and age. More recently, researchers have proposed a number of different reasons why reaction times tend to be slower when participants categorize words that are at odds with currenty societal stereotypes than when the words are in line with these views. To test these theories, event related potentials (ERPs) have been useful in examining the underlying components of stereotype processing. In an exploratory analysis of ERPs within the IAT, we found a difference in early attention processes (indexed by the P1 ERP component) when female participants (N=55) are categorizing sterotypically congruent and stereotypically incongruent stimuli during a gender and career IAT. Participants also completed a numeric Stroop task, allowing us to compare ERP congruency effects across tasks with more (IAT) versus less (Stroop) relevance to gender stereotypes. This study extends the limited body of research on the effects of stereotypes on brain functioning using electrophysiological measures.

Mirjam Staeb

The Angry Cookie: Adults' and Children's Attribution of Human-like Facial and Emotional Characteristics to Inanimate Objects

Advisors: Marjorie Taylor, PhD and Deniz Tahiroglu, MS

Anthropomorphism is the tendency to describe inanimate objects with human-like characteristics. In this study, we investigated individual differences in the perception of faces and emotional expressions in inanimate objects (e.g., a piece of toast with a pattern in the placement of raisins that made it look like a crying face). First, we investigated adults' tendency to recognize faces in inanimate objects (N=32). The participants were shown pictures of human faces expressing different emotions, objects with features that could be interpreted as resembling human faces, and objects without such features and were asked to describe what they saw in each picture. We hypothesized that the degree to which adults characterized the pictures with human-like attributes would correlate with their scores on the Individual Differences in Anthropomorphism Questionnaire. The results of the adults' study were used to develop a study with children in which they are shown a subset of the pictures and asked, "What do you see in this picture?" We were interested whether the ability to see faces in objects could be related to the children's theory of mind, pretend play abilities, and individual differences in other aspects of anthropomorphism. There were individual differences in the extent that adults described the pictures in anthropomorphic terms, but there was not a strong correlation found between the description of the anthropomorphic items and the questionnaire. The children's data are currently being collected.

David Williamson

Surround Suppression is Modulated by a "Need for Sameness" Factor Within the Systemizing Trait of Autism

Advisors: Paul Dassonville, PhD and Scott Reed, MS

The systemizing trait of autism is currently regarded as a uni-dimensional measure of the tendency to analyze the world in a systematic manner (Wheelwright et al, 2006). Recent work has shown that individuals high on the systemizing quotient are less susceptible to a class of visual illusions known to affect an observer's egocentric reference frames (Walter et al, 2009). However, follow-up work (Reed & Dassonville, VSS 2012) using a principal components analysis has uncovered a two-factor structure to the Systemizing Quotient-Revised (SQ-R), with one factor (i.e., 'analytical tendencies') associated with decreased reliance on global-level visual context and the second (i.e., 'insistence on sameness') associated with an increased reliance on local-level visual information. We examined contextual processing using surround suppression, in which the perceived contrast of a central sine-wave grating is reduced when surrounded by a high contrast surround. Because the 'insistence on sameness' factor is associated with a local perceptual bias, we predicted that surround suppression performance would be significantly correlated with scores on this factor and unrelated to scores on the 'analytical tendencies' factor. Indeed, scores on the 'insistence on sameness' factor significantly correlated with surround suppression susceptibility performance, indicating that individuals high on this factor showed *increased* surround suppression. Scores on the 'analytical tendencies' factor were unrelated to surround suppression. These results further support the hypothesis that high scores on the 'insistence on sameness' factor subcomponent of the systemizing trait of autism is associated with a local visual processing bias.

Undergraduate Honors Projects – 2010-2011

Brent Belford

Relational Health as a Mediator Between Betrayal Trauma and Borderline Personality Disorder

Advisors: Dr. Pamela Birrell and Laura Kaehler

Trauma is a frequently studied potential cause of borderline personality disorder (BPD). A recent study by Kaehler and Freyd (2009) found a connection between betrayal trauma and BPD. This study seeks to expand upon the Kaehler and Freyd study by investigating relational health as a potential explanation for the connection between betrayal trauma and BPD. A sample of 165 University of Oregon undergraduate students (mean age = 20) completed measures of betrayal trauma, relational health, and BPD traits. Mediation analyses found significant partial mediation for relational health (bootstrap coefficient = .0168), and its community subscore (bootstrap coefficient = .0204), but not mentor or friend subscores. The author discusses the results in relation to the importance of social support in reducing the negative effects of betrayal trauma.

Janae Chavez

Exploring the Adaptiveness of Moderate Dissociation in Response to Betrayal Trauma

Advisors: Melissa Platt and Dr. Jennifer Freyd

Freyd (1996) developed the betrayal trauma theory which posits that the importance of an attachment bond makes a person more likely to forget or dissociate from a traumatic event when that person has a relationship with the perpetrator. This dissociation, despite its immediate benefits in regards to attachment, is commonly thought to have harmful consequences. However, recent studies on attachment theory, specifically disorganized attachment styles, indicate that this may not be the case (Purnell, 2010). This study therefore attempts to explore the relationship between dissociation, resiliency, betrayal trauma, and attachment using a college student sample. Results found that higher dissociation was associated with poorer resiliency scores, although very high dissociative scores were correlated with some degree of higher resiliency. Moreover, dissociation did not seem to be related to attachment; although, participants with a history of betrayal trauma were associated with more variability in attachment styles. This finding is particularly relevant because it could provide additional information on attachment theory and the effects of trauma on attachment.

Sadie Yahnke Concepcion

The Impact of Stereotypic Thoughts on Empathic Accuracy

Advisors: Dr. Sara Hodges, Karyn Lewis, and Mark Carey

One of the most notoriously difficult interpersonal skills is the ability to decipher the contents of another's mind. Despite its challenging nature, people frequently strive to understand others' thoughts and feelings; the degree to which they are able to do so is known as empathic accuracy. The present study expands upon previous findings that stereotypical thoughts by a target affect a perceiver's empathic accuracy. This study's perceivers (N = 142) inferred the thoughts of videotaped targets — college students who were discussing their parents' divorces. It

was hypothesized that perceivers' empathic accuracy would be higher for stereotypic thoughts and that these results would be moderated by the amount of individuating information disclosed by the target as well as by how similar the perceiver felt to the target. While self-disclosure did not moderate the effect of stereotypicality on empathic accuracy, perceived similarity did. Implications of these results and directions for future research are discussed.

Raoni Demnitz

The Consequences of Suppression of Emotional Expression on Social Support and Emotional Well-Being

Advisors: Dr. Sanjay Srivastava and Kimberly Angelo

Suppressing expressions of emotions has shown to lead to decreased emotional well-being and deficits in social support. However, the types of social support that are correlated with emotional suppression and well-being are still unclear as well as what type of social support mediates the relationship between suppression and well-being. In this study eighty-one undergraduate college students completed validated questionnaires. Among other goals, the main goal of this study was to assess what type of social support mediates the relationship between emotional suppression and well-being variables. The most important finding was that the amount of helping behaviors received from other people as well as the quality of relationships mediated the relationship between suppression and well-being but not the quantity of relationships.

Malaina Frazier

Increased Perceptual Interference in Adult ADHD

Advisors: Dr. Ed Awh and Edward Ester

The symptom descriptions most commonly associated with ADHD implicate impaired selective attention as the main factor in ADHD phenomenology. However, several studies that have used cognitive paradigms to measure selective attention have not found evidence for any attentional differences in adults with ADHD. As more research of adult populations is needed to explain this disconnect between clinical definition and experimental data, the current study addressed the issue by discerning the role of strength of interference due to visual crowding from the efficiency of attentional processing. Experiment 1 measured the impact of visual crowding on perceptual interference level by comparing luminance thresholds in displays with distractors (irrelevant/crowding information) either present (noise trials) or absent (clean trials). ADHD and control participant luminance thresholds were equivalent in clean trials, but the inflation of luminance thresholds in noise trials was significantly higher for ADHD subjects than for controls. The explanation for this heightened visual crowding effect in the ADHD group is a question of top-down or bottom-up processing, the top-down possibility indicating impairment in the attentional processes involved in resolving visual interference while the alternative proposes increased perceptual salience of low-level sensory interactions between target and distractor stimuli. Experiment 2 makes this distinction by measuring the visual interference resolution achieved at attended relative to unattended locations in clean and noise trials. The result of ADHD and control groups demonstrating equal interference resolution across all conditions supports the argument for increased strength of perceptual interference as the correct explanation for the enhanced crowding effect observed, rather than a deficit in selective attention. Accordingly, detailed research of sensory processing integrity could contribute much needed insight to the cognitive, clinical, and socio-cultural understanding of ADHD.

Kayla Hoskins

Eating Disorder Symptomatology, Relationship Quality, and Personality

Advisors: Dr. Jane Mendle and Joseph Ferrero

Eating disorder symptomatology has been linked to certain personality traits, self-esteem, sociosexuality, and relationship satisfaction. The objective of this study was to examine associations between eating disorder symptomatology and individuals' relationships, self-esteem, and Big Five personality traits. The first hypothesis was that self-esteem would be positively correlated with eating disorder symptomatology. The second hypothesis was that relationship quality would be negatively correlated with eating disorder symptomatology. The third hypothesis of this study was that the personality traits of neuroticism and conscientiousness would have a positive correlation with eating disorder symptomatology, but the personality traits of extraversion and agreeableness would have a negative correlation with eating disorder symptomatology. Subjects (N = 73) took an online questionnaire made up of five measures relating to eating disorder symptomatology, personality, self-esteem, sociosexuality, and relationship satisfaction. Eating disorder symptomatology was significantly related to self-esteem and relationship satisfaction. There were no significant correlations between eating disorder symptomatology and any of the personality traits or sociosexuality. These findings help to clarify what extent and in what ways eating disorders may affect various aspects of a person's life.

Atsushi Kikumoto

Passive Listening to Music Engages Executive Control

Advisor: Dr. Ulrich Mayr

Why does music act on us? This might be partially accounted by the structural similarities between the hierarchical organization of thematic changes in music and complex action patterns, because they both require the continuous updating of working memory contents. Thus, in both domains, we engage maintaining processes — in the midst of music theme or coherent actions — and reconfiguring processes — during changes in melody or switches in action sequences. To test this idea, we investigated how task-unrelated, background music pieces influences switch costs. In an alternating-runs task-switching paradigm, task sequence (A-A-B-B) was set to change task demands every 4000ms. Subjects were simultaneously exposed to irrelevant background music, which was based on continuously sequenced 6000ms music pieces consisting thematically coherent units. This successive transition of music pieces, "music switch", was temporarily synchronized with the task sequence, which produced task switch and no-switch trials in music-intermediate (MI) and music-transition conditions (MT) (A-A-B-B-A-A-B-B-A-A-B-B...). We found that switch costs were substantially reduced for MT trials — music switches coincided task switches — compared to MO trials — music switches did not coincide task switches. In a cue switch task-switching paradigm, each task set was cued in 2:1 (cue words: task set) mapping without a cue word repetition. By implementing a long (600ms) and short (100ms) cue stimulus interval, we manipulated a cue onset timing to be before or after a music transition moment. The result indicated that the magnitude of reduction of switch costs comparing MI and MT conditions was significantly larger in trials with a long cue stimulus interval compared to ones with a short cue stimulus interval. These findings overall suggest that even the appreciation of irrelevant background music requires the similar mechanism of updating working memory also used when intentionally switching action plans, which seems to operate on preparatory processes specific for switches in a proactive manner.

Jessica Kosie

Preschooler's Response to Goal-related Information Within an Unfolding Stream of Intentional Action

Advisors: Dr. Dare Baldwin and Kara Sage

Human action is extremely complex, yet children are sensitive to structure within the unfolding event stream (Meyer, Baldwin, & Sage, under review). 3- and 4-year old children increase attention at even boundaries that correspond to hierarchical organiztion of goal directed action. Like adults, preschoolers look ahead to a goal site in anticipation of action completion (Morgante, Haddad, & Keen, 2008). Even infants as young as 9-12 months are sensitive to the goal structure of at least certain kinds of events; for example, they expect an actor to take the most direct route to achieve a goal (Phillips & Wellman, 2005). The current study employs the dwell-time paradigm (Hard, Recchia, & Tversky, under review) to investigate which specific aspects within unfolding action preschoolers are sensitive to in regard to goal structure. Preschoolers tap a mouse to advance at their own pace through a slideshow depicting an actor either directly or indirectly reaching for a goal object. To complement traditional looking-time paradigms, the dwell-time paradigm can give us insight into which specific portions of the event sequence preschoolers dwell on as they process goal structure, and note violations of that structure.

Caleb Kowarsky

Empathy and Mind Reading by Major: The Relationship Among Empathic Accuracy, the Empathy Quotient, Field of Study, and Gender

Advisors: Dr. Sara Hodges and Karyn Lewis

The ability to accurately infer the thoughts and feelings of another (i.e., empathic accuracy) has been notoriously difficult to predict using individual difference measures. This study examined whether self-reported empathy assessed using the Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004) would predict empathic accuracy. In addition, college major (separated into math/physical science majors and humanities/social science majors) was also used to predict empathic accuracy given its self-selective nature and relation with the EQ in prior research. Despite the intuitive connection between empathic accuracy and empathy as a general construct, no relationship was found in this sample ($N = 88$). There was no main effect of college major on empathic accuracy scores; however, there was a significant interaction between college major and sex such that male math/science majors performed significantly worse than their female counterparts, but there were no sex differences among humanities/social science majors. Additional exploratory analyses revealed a positive correlation between the EQ and both masculinity and femininity subscales of the Personal Attributes Questionnaire (PAQ). Explanations for why self-report measures of empathy are unrelated to empathic accuracy and the differential pattern of sex differences across college majors are explored.

Zachary Land

Rank Matters: Tactics U.S. Military Personnel Use to Influence Civilians

Advisors: Dr. Holly Arrow and Jordan Pennefather

One hundred twenty six U.S. military personnel (68 enlisted, 58 officers) completed an online survey about the influence tactics they used with Iraqi and Afghani civilians (Wolfe, 2011). The influence tactics (adapted from Marwell & Schmitt, 1967) clustered into 5 factors. Overall, tactic clusters that were associated with successful influence attempts (positive feelings and resources) were used more commonly than those associated with less successful attempts (negative and power differential). Adding rank (officers versus enlisted) significantly improved model fit. The tendency to choose successful over unsuccessful tactics was stronger for officers than enlisted.

Constance Locklear

Finding Your Place: How Gender Composition Affects Emergent Group Influence Hierarchies

Advisors: Dr. Holly Arrow and Mark Reid

An existing data set of 43 growing groups was used to test whether influence hierarchies in all-female, majority-female, and majority-male groups stabilized at the same rate and in the same way. Contrary to Martin's (2009) findings, both the top (alpha) and the bottom (omega) ends of the influence hierarchies stabilized most quickly in the all-female groups. Sex composition and the pattern of group growth also interacted in predicting influence stability. Groups that grew from two to four to five members stabilized more quickly than groups that grew from two to three to five members. This was especially true of majority-male groups, whose only female member arrived last and alone. Findings suggest that membership change is more likely to disrupt the stabilization of group structure when it also changes the group's gender composition.

John-Robin McCrery

Biological Sensitivity to Context and Early Rearing Environments on the Development of Mental Health

Advisors: Dr. Jennifer Ablow and Dr. Jeff Measelle

Objective: To study how early father involvement and maternal depression interactively predict development with a child's biological sensitivity to social contexts at 17 months of age. Method: A father's involvement and levels of maternal depression in a child's life were ascertained in an at-risk sample of low-income families from a longitudinal study assessing possible risk factors for unresponsive and insensitive parenting. In a subsample of 37 children, salivary cortisol levels were used to measure autonomic reactivity to a standardized stressor as an indication of biological sensitivity to context at 17 months. Social and emotional development was evaluated at 17 months using parent reports. Results: Both early father involvement and maternal depression significantly interacted with a child's biological sensitivity to context to predict the development of social competence at 17 months of age. Among children experiencing low levels of father involvement or high levels of maternal depression in infancy, stress reactivity became a risk factor for normative development. Conclusion: Among children with an increased susceptibility to social contexts, the presence of a supportive rearing environment in infancy may be a necessary resource for the development of competence and self-regulatory processes.

Leslie Medrano

Oregon State Hospital: A Case Study of Institutional Betrayal

Advisors: Dr. Jennifer Freyd and Christina Gamache Martin

Betrayal Trauma Theory (BTT) posits that individuals who are maltreated by a caregiver or a close other on whom they depend to meet their physical or emotional needs may become blind or unaware of the trauma in order to preserve the attachment relationship (Freyd, 1996). While BTT typically focuses on interpersonal traumas, it can be extended to institutions. In this case study, we explore institutional betrayal trauma among forensic inpatients at the Oregon State Hospital (OSH) by examining its history, society's perceptions of mental illness, and the treatment of patients within OSH during the last decade. The State has assumed care of every individual living within OSH, and although there are many caring and well-intentioned individuals who work at the hospital, it often fails in providing a safe and therapeutic environment for recovery. Exposure to potentially traumatic experiences, such as violence, disregard for patient civil rights, unhealthy living environments, and improper psychological treatment within the psychiatric hospital, may disrupt the process of healing and the ultimate goal of patient recovery. Using personal experience as a research intern trained with OSH and the 2008 Department of Justice report, this case study will

analyze where and how the system has failed, potentially retraumatizing some of its most vulnerable inhabitants to increase awareness of institutional betrayal among a "voiceless" population.

Maxwell Morris

Mindfulness-Related Changes in Attentional Control in Kids

Advisors: Josh Felver-Gant and Dr. Tom Dishion

This study was designed to test the hypothesis that mindfulness training has the ability to modify attentional control. School age children were tested before and after random assignment to an 8-week modified Mindfulness-Based Stress Reduction (MBSR) course ($n = 20$) or a waitlist control group ($n = 19$). The primary behavioral measure was the Attentional Network Task (ANT). The ANT uses reaction times to measure the independence and efficiency of three attentional subsystems; *conflict monitoring, alerting,* and *orienting.* Participation in the mindfulness course was associated with significantly reduced attentional costs in conflict resolution relative to the control group. Participants in the mindfulness course did not show any significant improvements in orienting or alerting relative to the control group. Implications of these findings as they relate to the role of attention in mindfulness and suggestions for future directions are discussed.

Benson Ntiwas

The Efficacy of Inhibitory Control in Impairing Memory

Advisor: Dr. Michael Posner

The ability to forget might be viewed as an albatross bestowed upon us by Mohter Nature. This would be the case especially if what is forgotten is deemed to be useful. However, an objective evaluation of the said ability reveals that it plays a critical role in our lives by helping us leave behind superflous and/or unpleasant memory. Even so, the usefulness of forgetting is rarely acknowledged, perhaps because the process is largely unconscious. Using the think/no think (TNT) paradigm, past studies have demonstrated that we can selectively and intentionally weaken memories by suppressing them. The present study investigated whether a previously inhibited memory when prompted again shows increased or decreased strength by using the standard TNT model and priming. It involved twenty undergraduates from the University of Oregon.

Alexandra Schmidt

Relation Between Impairments in Theory of Mind and Metacognition in Older Children and Adolescents with Higher Functioning Autism

Advisors: Tasha Oswald and Dr. Lou Moses

Previous findings suggest that theory of mind facilitates the acquisition of metacognition and that individuals with Asperger's syndrome or high functioning autism (AS/HFA) will suffer from a deficit in theory of mind and metacognition. Participants consisted of older children and adolescents ranging from 10 to 17 years, including 31 participants in the typically developing (TD) group (M=14.9, SD=1.90) and 31 participants in the AS/HFA group (M=14.99, SD=1.74). Theory of mind was assessed using an updated version of Happe's strange stories adapted for children, and metacognition was mesured using the Behavior Rating Inventory of Executive Function (BRIEF)

parent questionnaire. Consistent with our prediction, a positive correlation between impairments in metacognition and theory of mind was found for the AS/HFA group. No such correlation was found for the TD group. Nonsignificant results in the TD group may be attributed to the lack of difficulty of the theory of mind task for this group.

Katherine Semple

Both Sides of the Story: The Effect of Story Narrative and Story Language in Closing Arguments in Criminal Cases

Advisors: Dr. Robert Mauro and Robert Rocklin

Due to a juror's use of narrative when understanding and deciding cases (Blume, Johnson & Paavola, 2007), alternative narratives offered by one side in a case should have an affect on the outcomes of verdicts. This specific study looks at the effect of an alternative story or narrative in the closing arguments of criminal defense cases. This study compares the use of a strictly legal closing argument, a strictly narrative closing argument, and a mixture of the first two closing argument conditions in criminal defense cases. This is accomplished through the use of a survey: there are three survey stimuli, one for each of the closing argument conditions. The study is currently in progress.

Jonathan Steinbach

Physical Science and the Subjective/Objective Asymptote: A Rewview of the Major Theories of Human Consciousness in the Twenty-First Century

Advisors: Dr. Don Tucker and Allison Waters

Neuroscientists and philosophers of mind alike have, for over a decade, been assuring their audiences that the idea of subjective experience has been snared and encompassed within the major neuroscientific theories of consciousness. Built upon the premise that, logically, consciousness need be no different than any other puzzle cogently structured by scientific inquiry, progenitors and defenders of the theories have devoted scores of pages to the dissemination of the data regarding it. How, then, it may be asked rightfully by any novice examining a theory in such light, does that theory help that person to understand what conscious existence, as inalienable a thing as epigenetic development, is? Are there any reasons, furthermore, why these major theories haven't gained acceptance among a vast majority of the populace? Are they too difficult or obscure, or perhaps fundamentally lacking in a description of the internal, subjective aspect of consciousness? What are the limits of the spread of their influence and acceptance, and might there be any other large obstacles standing in the way of their dissemination?

Katherine Viale

Controlling Control: Active Regulation or Passive Carry-Over?

Advisors: Dr. Ulrich Mayr and David Kuhns

The adaptation effect has been demonstrated in previous work as the decrease in participants' reaction times when an inconguent (conflict) trial follows a previous conflict trial as opposed to following a congruent trial (lack of conflict). Considering two divergent explanations of the conflict adaptation effect derived from prior studies, this research sought to examine whether the effect was due to active regulation of conflict or the alternative carry over

model. Participants switched back and forth between a color or a word matching task within a reverse Stroop paradigm while at the same time manipulating the presence of conflict in a trial-by-trial manner. Eye-movements were recorded in order to assess participants' susceptibility to the current irrelevant information. The results showed conflict adaptation independently of whether or not there was a switch in task, and this adaptation effect was apparent after trial for which the eyes moved to the incorrect target (i.e., indexing high conflict on that trial). This result supports the active regulation model and demonstrates how eye-movement information can be used to test models of control dynamics.

Lauren Wilhelmi

Perspective-taking in Ambiguous Situations: Behavioral Correlates From a New Advanced Theory of Mind Paradigm

Advisors: Dr. Jennifer Pfeifer and Junaid Merchant

Although children are able to pass most reflective theory of mind tasks by the age of six, recent findings suggest that adults frequently fail to use their acquired advanced theory of mind skills to interpret others' behavior in practical tasks. In the present study, 22 subjects between the ages of 18 and 29 completed a novel task designed to test normally developing individuals' functional mastery of advanced theory of mind skills. Specifically, subjects were required to take the perspective of a person whose color perceptions may have slightly differed from their own in order to perform well on a second-order perspective-taking task. Even though subjects were told that color perception is subjective, participants exhibited low accuracy scores and slow response time latencies when the task required them to consider the perspective of a person with differential color perception biases. These findings suggest that even adults struggle to inhibit personal biases that color their interpretations of ambiguous situations and furthermore, that the developmental course of this skill is quite protracted.

Tiffany Wong

Cultural Competency in Early Education

Advisor: Dr. Gordon Hall

Early education teachers' self-ratings were investigated in this study by comparing them to ratings given by parents. The sample consisted of 25 teaching faculty from two child care centers; these teachers, as well as 32 parents of children currently enrolled at either child care center, responded to the Teacher Multicultural Attitude Survey (TMAS) and an adapted version of the TMAS, respectively, both of which consisted of a 20-item anonymous questionnaire. Results indicated that teacher self-ratings were higher than parent ratings, which is consistent with previous literature. In addition to the lack of agreement between the two group ratings, results indicated that there was no significant difference between schools and that there was no interaction between school and teacher versus parent ratings.

Undergraduate Honors Projects – 2009-2010

Whitney Boyer

Maternal Brain Response to Own Infant Cry Relative to Delivery Type and Depression

Advisors: Dr. Jennifer Ablow and Dr. Heidemarie Laurent

The way a mother responds to her infant is vital for the development of a healthy child-caregiver attachment. Specific delivery types have been linked to important neurohormonal activity that can interfere with a parent's acquistion of thoughts and behaviors facilitating healthy parenting (Swain et al., 2008). James Swain and colleagues (2008) discovered mothers who deliver vaginally (VD), compared to those who deliver by cesarean section (CSD), have heightened levels of maternal brain response to own infant cry in the anterior cingulate, insula and hypothalamus — areas of the brain associated with emotional response and hormone release. Additionally, mothers with depression are more likely to experience difficulty in making these connections and responding to their own infant's needs. To further understand the effect of delivery within depressed mothers we examined patterns of maternal brain activation to their infant's cry in two case comparison depressed mothers — one with a VD and one with an unplanned CSD — collected as part of a larger longitudinal study that assessed depressed, low SES mothers and their infants. We predicted lower activity in the CSD, compared to the VD mother, in the hypothalamus, midbrain, limbic system, and paralimbic system — areas of the brain associated with maternal parenting behavior in animals (Kendrick, 2000). Data from functional magnetic resonance imaging (fMRI) was used to measure each mother's response to her own infant's cry compared to a control sound. Counter to hypotheses, the VD mother did not reveal significant activation in the brain in response to her own infant greater than control sound. The CSD mother revealed significant (p<.05) clusters of own cry greater than control sound activation in the parahippocampal gyri, posterior cingulate, and precuneous cortex, areas of the brain relevant to memory encoding, episodic memory and reflections on the self. This pattern of activation may indicate the elicitation of memories of her child and reflections on the caregiver-infant relationship.

Jason Dooley

Allocation of Attentional Resources When Presented With a Dual Task

Advisors: Dr. Dare Baldwin and Dr. Jeff Loucks

This study looks at two different types of action, featural and configural. To test how participants allocate attention, we used a dual-task design. This made it possible to investigate whether the detection of featural changes requires more attentional resources than the detection of configural changes. Participants watched two videos, the first of which depicted an actor doing an everyday action. The second video depicted the same basic action but with a change in the featural information of the action or a change in the configural information of the action. Half of the participants completed a subsequent task for which they paid attention to four rectangles changing around the video on the computer screen. We found that when presented with a dual-task, participants' detection of featural changes did not decrease more significantly than configural changes, F(1,38) = 4.608, p = .05. These results may suggest that adults are more practiced at perceiving featural information.

Brittany Dungan

Category Learning and Visual Working Memory Capacity

Advisors: Dr. Ed Vogel and Andrew McCullough

Category learning is an important cognitive ability, yet no extensive study exists of individual differences in category learning. Here I extended the Posner, Goldsmith, and Welton (1967) dot pattern, distorted prototype task to multiple category set sizes, and set sizes of dots, and examined the correlation between visual working memory capacity and category learning. I then examined the relationship between working memory capacity and categorization in a second experiment, where subjects were asked to classify exemplars from two categories and then to perform a category change detection task. Subjects were presented with an exemplar from one category and than a new exemplar from either the same or a different category. Change detection accuracy tested greater for learned than for new categories. Visual working memory capacity in all experiments was estimated using a color change detection task (Luck & Vogel, 1997). Working memory capacity was negatively correlated with categorization accuracy, in set size two and four, and with change detection accuracy.

Sarah Eckstein

Severe Delinquency and Late Entry into Foster Care: An Ecological Perspective

Advisors: Dr. Philip Fisher and Dr. Pamela Birrell

Previous literature identifies associations between delinquency and increased frequency and severity of maltreatment, insecure attachment, deviant peer unions, foster care placement instability, school failure, and, most pertinently, late placement in foster care. The present study hypothesizes that entering foster care at an earlier age is linked with decreased severity of delinquency in a sample of 117 preschool aged foster children due to less frequent and severe maltreatment and less frequent residential and school transitions. Variables were measured by the Parent-Reported Child Behavior Checklist for delinquency and the local child welfare records were coded to provide the children's detailed maltreatment histories. Support for our hypothesis that late placement is associated with severe delinquency emerged from an ANOVA revealing that children who scored highly on severity of delinquency in any point during the 2.5 year study entered foster care significantly later than children who never displayed such severe delinquent behaviors. Further analysis failed to support our hypothesis however, given that a correlation between age of first placement in foster care and average severity of delinquency was insignificant (r=.021). An ANOVA measuring delinquency difference between groups based on age of first placement in foster care revealed minimal differences between groups. Analysis of maltreatment incidence supports our hypothesis that maltreatment is associated with severe delinquency. We paradoxically found that children who entered foster care earlier experienced a higher average number of residential transitions. Given the limiting effects of our minimal variability of ages of first placement in foster care and the narrow age range of our subjects, we urge future researchers to select a sample with a wide range of ages of first placement in foster care so that greater insight to the full picture of the foster care experience can be assessed. Overall, findings warrant further exploration of this topic and all of the complex variables which require a closer look.

Hale Forster

Did You Bring It? The Effect of Ambiguous Stimulus Presentation on the Processing of Informational Prompts in Behavioral Interventions

Advisors: Ezra Markowitz and Dr. Sara Hodges

This study investigated the effectiveness of a two-step informational prompt strategy to increase reusable mug use in coffee shops. Based on previous work by Hansmann and Scholz (2003), it was proposed that pairing an ambiguous prompt with a disambiguating informational prompt could result in behavior change, even for behaviors where

traditional informational prompts prove ineffective. The simultaneously paired prompts resulted in a 9% increase in the likelihood of an individual bringing a mug, compared to a single informational prompt, which did not result in any significant behavior change. In the sequential condition, while the ambiguous prompt alone did not increase the probability of mug use, the probability of mug use increased by 16% when the informational prompt was added. Possible psychological mechanisms, the benefits of logistic regression for modeling person-level effects, and implications for further research are considered.

Laura Gramcko

Defining Trauma from a College Student's Perspective

Advisors: Laura Kaehler and Dr. Jennifer Freyd

The current professional definition of psychological trauma is in flux, with much debate and disagreement between professionals over how to define this construct. The current study looks at how college students define trauma, in order to build a preliminary understanding of its colloquial definition, while also examining betrayal trauma's affect of individuals definition. The 278 participants rated events for their degree of trauma and they rated what emotions were associated with each event. In addition, participants also provided betrayal trauma histories. Results indicate that betrayal trauma history effects individuals' perception of trauma. Betrayal trauma history also effects individuals' perception of betrayal in a hypothetical situation. The emotions of fear and helplessness are associated with traumatic events, in agreement with the *DSM-IV-TR*'s definition of trauma. Perception of betrayal, however, was not related to events participants considered traumatic. Trauma history's effect on individual definitions of trauma has important implications for the definition of trauma, in that perhaps a definition is so controversial because individual experience changes opinion. Future research on hypothetical events and trauma classification is needed to gain a full understanding of a colloquial definition of trauma, and this understanding can subsequently have practical effects on the professional definition of trauma.

Killian Kleffner-Canucci

The Relationship Between Speech and Action During Serial Task Control

Advisor: Dr. Ulrich Mayr

Mayr (2009) found substantial response-time (RT) costs associated with lag-2 repetitions within a repeating sequence of tasks, even when given relatively long time intervals between responses (~1000ms). To understand the lag-2 RT costs the temporal relationship between speech and action was focused on to find a) participant's natural timing of speech in relation to action and b) if changing that timing improves performance. In the first condition where participants spoke the relevant task in an unconstrained manner, the speech was completely aligned with their responses. The unconstrained speaking condition did not show a difference in RT pattern from participants who did not speak at all. In the second condition where participants had to speak the current task aloud before the stimulus appeared, the expected RT cost pattern completely disappeared. Moreover, participant's overall RT's were reduced. While other research indicated that speech is important in implementing action, this study showed that it is particularly speaking in advance of action that will enhance performance (Bryck & Mary, 2005; Kray, 2009).

Emily Walden

Betrayal Trauma Subtype Differences in Childhood Best Friendship Quality

Advisors: Dr. Lou Moses and Mary Ann Winter-Messiers

Research on betrayal trauma subtype differences and negative outcomes is necessary in developing preventions and interventions. I examined the relationship of childhood betrayal trauma history and best friendship quality and hypothesized that BT would predict lower friendship quality. I also hypothesized that there would be friendship quality differences among betrayal trauma subtypes and that friendship quality would differ for men and women. Participants consisted of 182 women, 78 men, and 5 participants who gave no response of gender (N = 265). Participants reported online on childhood experiences of BT through the Brief Betrayal Trauma Survey (Goldberg & Freyd, 2006) and childhood best friendship quality through the Friendship Quality Questionnaire (Parker & Asher, 1993). I found that as physical abuse experiences increased in frequency, best friendship quality scores decreased. I also examined subtype differences in friendship quality. In addition, I also found that women had higher friendship quality scores than men.

Adrian Yupanqui

Emotion Regulation and Interpersonal Perception: How Emotion Regulation Affects How People Are Seen By Others

Advisor: Dr. Sanjay Srivastava

Emotion regulation allows people to use strategies that alter emotional experiences and expressive behavior. Prior research has looked into the effects of emotion regulation strategies on social interactions, showing that different strategies have different consequences for closeness and social support. The present study looked at the role of interpersonal perception in explaining these effects. Specifically, it examined how emotion regulation strategies affect the way the regulator perceives the personalities of other people during a social interaction. Participants were put into small groups for a facilitated social interaction. After the interaction, we assessed the participants' perceptions of one another's personalities. Expressive suppression, an emotion regulation strategy in which people try not to show the emotions that they are feeling, predicted others' perceptions of the suppressor. Specifically, we found that people who suppress their emotions are seen as less extraverted, less agreeable, and more neurotic. These perceptions may help explain why suppressors often receive less social support from others.

Undergraduate Honors Projects – 2008-2009

Anna Bell

The Cost of Being Close: Self-Other Overlap and Domestic Violence

Advisor: Dr. Sara Hodges

The social psychological concept of self-other overlap describes how identities and cognitive representations of people tend to merge as they become closer to one another. Because greater self-other overlap tends to be associated with such positive characteristics as closeness and intimacy, it has generally been considered a desirable

trait in relationships. However, these positive characteristics of self-other overlap have yet to be explored in situations that are less than ideal, such as relationships with domestic violence. This study explores the possible negative consequencs of having self-other overlap in these relationships, including having greater difficulties removing oneself from the relationship, getting over the abusive partner, and having lower levels of self-esteem and well-being.

Heather Bell

Gaze Cues in Mother-Child Dyads for Generic Noun Phrases

Advisors: Dr. Dare Baldwin and Meredith Meyer

Parents are known to offer rich pragmatic information such as pointing and gaze that assists children's language learning. Such cues might even help children to distinguish when parents are referring to something as particular (e.g., That dog is black) versus a generic kind (e.g., Dogs have four legs), which is a basic conceptual distinction children must make across many language-learning contexts. This study investigated if parents were giving children gaze cues that indicated this language distinction. Mother-child dyads were videotaped while discussing hand drawn pictures of child recognizable things (e.g., seals, an airplane, a couch). The results showed a trend for parents to look at their children more when saying a generic utterance. These results suggest that parents may use gaze as a language "teaching" cue.

Ashley Berns

Child Behavior and Parenting

Advisors: Dr. Michael Posner and Dr. Mary Rothbart

This study examined the role of the child in hostile interactions with the parent between ages 2 and 4. Data were from a longitudinal study conducted with 61 children at ages 2 and 4. Data included a videotaped parent-child interaction (coded with the NICHD Maternal Sensitivity Scale), child temperament questionnaires (ECTQ at age2, CBQ at age 4), parenting quality questionnaire (parent self report), and genetic information. We hypothesized that between ages 2 and 4 there will be a decrease in observed parental hostility. This was confirmed by analysis of parent child interaction at the two ages. The drop in hostility was accompanied by an increase in observed child's persistence but no change in child negativity. We also examined whether children high on a risk-taking scale (combined activity level, high intensity pleasure, and impulsivity scales) will be more likely to experience hostile interactions at age 2. A correlation found that risk taking was not related to hostility at age 2. While risk taking is higher for children with the 7-repeat allele of the Dopamine 4 Receptor gene, when parenting was of lower quality, we did not find evidence that this gene influenced the reduction in hostility or the increase of child persistence between age 2 and 4. We conclude that, at least in the free play situation, increases in child persistence is related to reduced hostility on the parents' part at 4 years of age. Lastly, we found that children with the 7-repeat allele had a slight decrease in negativity between the ages of 2 and 4, whereas children without the 7-repeat allele had a slight increase in negativity between ages 2 and 4.

Elif Cakir

Parent Training Improves Parents' Executive Attention

Advisor: Dr. Helen Neville

The efficiency of executive attention is closely linked to the regulation of cognition and emotion. Recent research has demonstrated that executive attention can be improved by training self-regulation skills. The present study investigated whether different types of parent training programs designed to enhance parent's and children's self-regulation skills would also improve parents' executive attention. The same included parents of typically developing Head Start children who received parent training either in the Attention Boost for Children program (n=12) or in the Parents & Children Making Connections – Highlighting Attention program (n=9). Alerting, orienting, and executive attention were asessed with the Attention Network Test (ANT). Following training, both parent groups showed improvement in executive attention network related to self-regulation, while no significant changes were observed in either orienting or alerting attention networks. These results suggest that receiving parent training with a focus on self-regulation can enhance executive attention. Ongoing research with parents assigned to a control group will enable further investigation of how executive attention is affected by these parent-training programs.

Lisa Chinn

The Relationship Between Empathic Concern, Antisocial Traits, and Helping Behavior: Effects of Emotionality, Relationship, Time, and Gender

Advisors: Tasha Oswald and Dr. Lou Moses

Previous research has shown that antisocial traits are negatively related to empathy, empathy is positively related to helping behavior, and females help others more than males. The current study examined the relationship between antisocial traits, empathic concern, gender, and helping behavior. Participants completed questionnaires that measure empathic concern and antisocial traits. Additionally, participants read short hypothetical scenarios in which a person asked for their help, under different circumstances, and answered questions about whether they would help and the level of effort they perceived to be involved in these scenarios. Researchers assessed the hypothesis that antisocial traits are negatively related to empathic concern and willingness to help with favors, and predictions that participants are less willing to help with emotional favors than nonemotional favors, strangers than close friends, and with 30-minutes favors than with 5-minutes favors. Researchers also predicted that females would be more willing to help than males. All of these hypotheses were supported and future research could investigate these relationships more deeply.

Phillip Getty

Autistic-like Personality Traits in Neurotypical Adults: Examining Possible Differences in the Ease, Speed and Hierarachy of Social Inference

Advisors: Dr. Bertram Malle and Dr. Gerard Saucier

This study tested the hypothesis that traits associated with high-functioning autism or Asperger's syndrome exist in normally-functioning adults and that people with pronounced traits of this kind show a systematic deficit in the ease, speed and hierarchy of social inferences (i.e., of intentionality, goals, thinking, emotion, and personality). I also explored whether these traits related to other known measures of personality. A sample of fifty-nine undergraduate and graduate students at a public university participated by completing five social inference tasks, the Autism Spectrum Quotients (AQ), and the Big-Five Mini-Markers. Comparisions of these measures failed to support the proposed hypothesis, but the results raise questions about the validy of the AQ, which appears to be a measurement of known personality types.

Brandon Gibson

Autistic Traits as a Predictor of Friendship Quality, Loneliness, and Depression in Young Adults

Advisors: Dr. Lou Moses, Tasha Oswald, Mary Ann Winter-Messiers

Autism is characterized by difficulties in social interaction, communication, and dealing with change. The intention of this study was to investigate an autistic phenotype, i.e., social skill, communication, and attention switching deficits, as a predictor of friendship quality, loneliness, and depression in a typically developing college sample. Autistic traits were measured as well as loneliness, depression, and quality of best friendship. Results indicate that a stronger autistic phenotype is predictive of higher levels of loneliness and depressive symptomatology, and lower quality of best friendship. Findings support the interpersonal model of depression and suggest that even within the typically developing population, autistic traits may contribute to depression. Implications and restrictions of these findings are discussed and possible communication, social, and executive function training is explored.

Kenny Hartline

Controlling for Language to Observe Memory Reorganization of Action

Advisors: Dr. Dare Baldwin and Jeff Loucks

The current study investigated how people organize memories of action and specifically, whether organizational effects observed in previous research arose from encoding of action, rather than linguistic content into which action information may have been recoded. Participants were shown videos of an actor completing two simple action tasks in which components of each task happened to be intermingled in the actual motion stream. During video presentation, participants completed a verbal shadowing task, designed to block linguistic recoding of the motion stream. Participant's reaction times to target frames were then measured in relation to the type of prime — primes close in the actual temporal structure of the video, versus primes reflecting the underlying goal structure — that preceded the target frames. Results showed that reaction times were quicker when target frames were primed by goal-related primes in comparison to being primed by temporally-related frames. These results, along with findings from previous studies, demonstrate that goal-oriented memory organization is specific to action processing and that blocking the linguistic system does not undermine a goal priming advantage. Future investigations could look at other ways of blocking the linguistic system and greater complexities of the action being perceived.

Jennifer Knowles

Looking at Status Quo Bias: The Effects of Incidental Emotions and Numeracy on Status Quo Preference

Advisors: Dr. Ellen Peters and Dr. Paul Slovic

This paper is an examination of the effects of emotion and numeric ability on preference for the status quo. Ninety-three undergraduates participated. All participants were randomly assigned to complete a writing task that required them to describe an event that either made them happy, angry, or afraid in detail. Next, participants answered a series of three decision making problems evaluating their preference for a target item and the Lipkus 11 and CRT questionnaires to evaluate number ability. A significant three way interaction reveals that participants in the fear

condition who have low number ability prefer the target item in the status quo condition, while participants with high number ability prefer the target item when it is not in the status quo condition (B=-.266, Wald=5.758, p<.05).

Winnie Lam

Do Hypercompetitive Individuals Behave Impulsively? An Examination of Hypercompetitiveness in Interpersonal Interactions

Advisors: Dr. Sanjay Srivastava and Jessica Tipsord

Do hypercompetitive individuals behave impulsively? Social and self-perceptions of hypercompetitive attitudes and its association with hypercompetitiveness were investigated in a leaderless group discussion study. One-hundred sixteen students provided data by responding to personality and trait emotions inventories measuring hypercompetitive attitudes, positive and negative affects, and depression, and then participating in leaderless group discussion. Pearson correlations revealed that hypercompetitive individuals were high in neuroticism and low in agreeableness. They were likely to be perceived as assertive and impulsive but not hypercompetitive, whereas they perceived their own behaviors as hypercompetitive and uncooperative. The current study provided a deeper understanding to hypercompetitive attitudes and introduced some possible contributing factors to trait hypercompetitiveness. Findings are benefical for clinical and counseling therapeutic designs.

Nathen Lester

Differentiating the Effects of Social and Personal Power

Advisors: Dr. Sara Hodges and Sean Laurent

The current research attempted to differentiate the effects of social power (i.e., having control of others' outcomes) from personal power (ie., control of one's own outcomes) on variables related to perspective-taking. Using methodology adapted from Galinsky, Magee, Inesi, & Gruenfeld (2006), participants were primed with high social power, high personal power, or low power, and then completed two perspective-taking measures. While these measures did not signifcantly vary with condition, evidence was found that supports the differentiation of personal power from social power. Low power, as experienced (rather than manipulated) by participants had a strong negative correlation with personal power, and a weak negative correlation with social power. Personal power and social power were not significantly correlated.

Blake Locher

Empathic Accuracy and the Use of Stereotypes in Inferring the Thoughts and Feelings of Others

Advisors: Dr. Sara Hodges and Karyn Lewis

Past research has suggested that perceivers construct a schema of a target in order to accurately infer that person's thoughts and feelings (Myers & Hodges, 2009). The current study was designed to test whether more general schemas boost accuracy in inferring thoughts and feelings that are stereotypic of a salient target group. Participants (145 undergraduates) inferred the thoughts and feelings of a woman discussing her experiences as a new mother. We hypothesized that perceivers would have great empathic accuracy on thoughts and feelings that were more stereotypical of the salient target group (e.g., new mothers). Results supported our hypothesis: even when

controlling for inferential difficulty, thoughts that were more stereotypical were easier to infer. This effect was moderated by participants' emotional stability, as measured by the Big Five. Additional effects of participant variables are also discussed, along with directions for future research.

Brittany Lukens

Arabic Numeral Influence on Product Preference

Advisors: Dr. Ellen Peters and Dr. Paul Slovic

This study was performed to examine the effect of low and high digit presentation on product preference as predicted by previous research on spatial shifts of attention. Participants were asked in two separate choices to make a choice between two identical products in the presence of varying digits, i.e. one (1) or nine (9). It was predicted that the number one (1) would evoke preference for the product on the left and the number nine (9) would evoke preference for the product on the right. First choice results across both products and regarding one product, specifically, revealed preferences in the direction predicted though these results failed to reach conventional statistical significance. Second choice results were inconclusive.

Marcus Mayorga

Assessing the Risk of Suicide: An Investigation of Antidepressant Medication Information and Decision Making

Advisors: Dr. Ellen Peters and Dr. Anne Simons

Risk of antidepressant use for adolescents has been a topic of worthy investigation for modern psychology and psychiatry. Rates of adolescent suicide were on a steady decline until 2003 when a sharp increase occurred following the FDA issue in a health advisory and the "black box warning". Given the lowered rates of antidepressant use for adolescents and the rising rate of adolescent suicide, it is questionable whether parents are supplied adequate information to assess the risks and benefits of antidepressants for adolescents. This study is aimed towards developing more universally comprehensible materials for parents by assessing the roles of the provision of numerical information and of numeracy (number ability) as factors in comprehension and perceptions of antidepressant information. In addition, we are interested in how these factors affect the likelihood of parents with depressed adolescents to approve antidepressants as an option for treatment. Results were mixed, showing both consistent and conflicting effects compared to previous findings. The effects of these findings on consumer health are discussed.

Joshua Pritikin

Theory of Mind in Cognitive Antecedents of Prohibition, Self-Sacrifice, and Protest

Advisors: Dr. Dare Baldwin and Kimberly Angelo

Valuations in the context of joint attention are likely antecedents of prohibition, self-sacrifice, and protest (the target affective themes). Forty-seven University of Oregon undergraduates (38 female, 9 male; M_{age} = 19.5, SD = 3.5) wrote open-ended stories for each of the target themes. Prohibition, self-sacrifice, and protest vignettes were coded with 7, 11, and 10 intention probe sentences, respectively. Most of the 22 directional and 14 correlational hypotheses exhibited a significant effect in the hypothesized direction. Findings suggest that the target themes are

associated with antecedent valuations situated in a theory of mind context. Implications for empathy and downstream psychological processes contingent on empathy, such as coping and altruism, are discussed.

Adelle Pushparatnam

Special Interest Areas and Theory of Mind in Children with Asperger Syndrome

Advisors: Dr. Lou Moses and Mary Ann Winter-Messiers

The aim of this study was to examine the relationship between Special Interest Areas (SIAs) and the expression of Theory of Mind (ToM) in children with Asperger syndrome (AS). Transcripts from a previous study in which children with AS were interviewed about their SIAs (Winter-Messiers, 2007) were coded for expressions of ToM. It was found that participants whose SIAs involved mentalistic agents expressed more ToM than children whose SIAs involved non-mentalistic agents, but that there was no difference whether they interacted with or observed the mentalistic agents. More female participants had SIAs that involved mentalistic agents, and more male participants had SIAs that involved non-mentalistic agents, but there was no gender difference in the expression of ToM. Participants expressed more knowledge-related statements than belief-, desire-, and emotion-related ones, and age did not predict the participants' expression of ToM. Implications for the use of SIAs in ToM and other interventions for children with autism are discussed.

Miranda Rieter

What the Eyes Tell Us About Task Switching

Advisor: Dr. Ulrich Mayr

We used eye-tracking to test a two-stage model of task switching (e.g., Mayr & Kliegl, 2003) that proposes a first state during which external cues are used to load relevant rules into working memory, a process that can occur proactively, prior to stimulus presentation. During the second stage, these rules are used to filter out task-irrelevant information once the stimulus is presented. It has been difficult to decide between this and alternative models on the basis of behavioral data alone (e.g., Logan & Bundesen, 2003). Eye-tracking provides fine-grained temporal information and therefore potentially more direct evidence about stages of task selection. We asked subjects to select between responding to the color or the gap position of objects on the basis of visual cues. Each task feature was present in one of three equidistant objects (one object was neutral, object locations were randomized). Consistent with the working-memory stage we found the eye's trajectory to the task-relevant object was delayed by 150 ms on switch trials, but only if there was no opportunity to prepare. Consistent with the filtering stage, there was a persistent tendency of the eye to return to the irrelevant task feature on switch trials, and this tendency was resistant to effects of preparation.

Kevin Wiles

Examing the Disclosure Practices of Military Veterans

Advisors: Dr. Sara Hodges and Jocelyn Barton

Disclosure of stressful events, such as those experienced by veterans, has been linked to psychological health (Pennebaker & Susman, 1988). Although current research on veterans' disclosure emphasizes disclosure to close

others or in group settings, few studies have directly explored the relationships between veterans and the people to whom they disclose. In a non-veteran sample, Stinson and Ickes (1992) showed that greater objective understanding was demonstrated between people who had deeper specific knowledge of each other's life experiences. Another study found that while veterans rely highly upon family and partners, veterans tend to not discuss past traumatic military related events with them (Hunt & Robbins, 2001). Using a sample of 48 veterans, we explored whether veterans would be more likely to disclose specific military service related traumatic events to a fellow veteran than to a non-veteran, based on the idea that shared experiences will play a key role in disclosure. As hypothesized, results showed veterans were likely to disclose more to other veterans with similar experiences, followed closely by disclosure to close others. This study suggests the need for disclosure targets to have knowledge of the veterans' experiences, and the potential importance of therapist-client matching policies for clinicians treating veterans.

Carrie Williamson

Visual Processing Mechanisms Underlying the Rod-and-Frame Illusion

Advisor: Dr. Paul Dassonville

When a vertical rod is presented within the context of a tilted frame, observers typically perceive the rod to be tilted in the opposite direction of the frame. Two possible visual processing mechanisms have been proposed to underlie this rod-and-frame illusion (RFI): visuovestibular effects (the tilted frame causes a distortion of the observer's perceived gravitational vertical), and local interaction effects (mutual inhibition of populations of visual neurons encoding the tilt of the rod and the frame's contours). The present study examines the extent to which these mechanisms are responsible for the RFI at different frame sizes. The results indicate that as frame size increases, visuovestibular effect are most prominent, while local interaction effects drive the RFI with small frames.

Alisha Wimberly

Examining the Pursuit of Nutritional Goals: Affect, Goal type, and Future Thought-Orientation as Predictors

Advisors: Dr. Sanjay Srivastava and Kimberly Angelo

The United States is faced with an obesity epidemic, and it is becoming increasingly beneficial to understand successful dieting and preventative nutrition practices. The current study attempted to understand how goal type, affect and thought orientation predicted goal success. The 112 participants thought of personal nutritional goals they could accomplish in two weeks. The study consisted of three short online surveys composed of questions regarding diet and lifestyle, thought orientation (Zimbardo Time Perspective Inventory), negative and positive affect (Adult Temperament Questionnaire), optimism (Life Orientation Test) and psychological well-being. No significant predictor was observed during the two-week goal pursuit; however, many participants said they would continue to work on their goal after the two-week study had ended. The participants that reported less negative affect during the first and second surveys were more likely to report they would complete their goal sooner than participants that had more negative affect. Even lacking statistical significance, this resarch helps us understand a little more about the psychology of nutrition.

Undergraduate Honors Projects – 2007-2008

Rose Boyer

Literacy Markers in Adults at Lane County Drug Court

Advisors: Dr. Robert Mauro and Michael Hibbard

A lack of basic literacy may increase the likelihood that individuals will fail to complete drug and alcohol treatment programs. To explore the relation between literacy and success in drug court, we collected reading and math scores using the Comprehensive Adult Student Assessment Systems (CASAS) and tracked success through the program. In addition, we obtained information on the motivations clients had for pursuing the program. Individuals with higher literacy tended to be more likely to successfully complete the program; however, the effect was not statistically significant. Participants who either engaged in, or expressed an interest in education, graduated more often than those who did not. These results may provide justification for developing interventions designed to increase the literacy of individuals referred to Drug Court.

Wei-Ning Chang

The Bilateral Advantage in Visual Short-Term Memory

Advisors: Dr. Ed Awh, Edward Ester, Akina Umemoto

Alvarez and Cavanagh (2005) found that people performed better in a multiple objects tracking (MOT) study when the items were split into both visual fields rather than into a single visual field. They suggested that there are independent resources for tracking in each hemisphere. Although Drew and Vogel (in press) showed a positive correlation between MOT ability and capacity in visual short-term memory (VSTM), past studies have not found a bilateral advantage in VSTM. However, performance in those memory tasks was limited by the maximum number of items that could be stored. In the present study, we investigated the bilateral advantage in an orientation change detection task where the resolution was the primary limiting factor. The findings revealed a bilateral advantage in the resolution-limited change detection task but not in a number-limited task with the same stimuli.

Melissa Davis

The Psychology of Risk Perception and Product Liability

Advisor: Dr. Robert Mauro

This research explores the relations between individual differences and risk perception related to warning labels attached to common household products. Participants rated potential hazardousness, harmfulness, and intended carefulness with 8 common household products. Participants also completed a risk-taking behavior scale, 2 brief sensation-seeking scales (BSSS, SS2) and the Big 5 Mini-marker. Results comparing product ratings with the other 3 measures indicated that low and high risk-takers will rate products generally the same in perceived risk as measured by potential hazardousness and harmfulness. High risk-takers will not be as careful handling products. A significant correlation was found between higher sensation-seeking needs and lower perceptions of risk. Current research on warning labels assume the problem is attending and comprehending the warning to assure

compliance. These results indicate that variations in compliance may be due in part to individual differences in risk-seeking and/or risk tolerance. Implications for designing warning labels are discussed.

Karen Hudson

Expert Witnesses in the Courtroom: The Impact of the Role of the Defendant and Expert Witness Type on Evaluations of Procedural Justice

Advisors: Dr. Robert Mauro and Christina Sheppler

People tend to cooperate with and defer future decisions to authorities when those people perceive the authorities as fair (Tyler, 2003). In the current experiment, the effects of expert witness type (adversarial, neutral court appointed, biased court appointed) and class of defendant (individual, corporation, government agency) on perceived fairness were explored. Participants were given a pre-trial questionnaire to control for the trial experience, provided with a court transcript, and then filled out a post-trial questionnaire composed of procedural justice evaluations. Neutral observers rated cases with adversarial testimony as more procedurally fair than cases with court appointed testimony, and found cases against corporations to be more procedurally fair than cases against government entities. As hypothesized, perceived fairness judgments were lowest when the plaintiff lost to more "powerful" entities and when the loss was coupled with testimony by court appointed expert witnesses. The present research continues to highlight the concern about the use of court appointed experts in the courtroom.

Autumn Lee

The Psychology of Film: How Theory of Mind and Empathy Affect Perceived Acting Performance

Advisor: Dr. Bertram Malle

The current study was interested in how empathy and theory of mind affect film viewers' opinions of real and fake characters. The authors posited that viewers would empathize and imagine the mind of a real character better than with a fake character. Specifically, the authors hypothesized that participants would find the acting more believable and in turn, rate acting ability higher for actors portraying real characters. University psychology students participated in watching clips and filling out questionnaires regarding empathy, theory of mind and acting ability. The students were shown 4 fictional clips and 4 biographical clips, but told that 2 of each of the clips were the reverse (i.e., they were told that a ficional clip **was** biographical). The authors did not find a difference in ratings for the portrayal of the clips, but they did find that biographical films were liked more than fictional films.

Candice Mottweiler

Imaginary Companions and Narrative Creativity

Advisor: Dr. Marjorie Taylor

Although most young children engage in pretend play, there are individual differences in the form that this activity takes. Some children create imaginary companions, characters that they interact with or talk about on a regular basis. We investigated the extent that having an invisible friend (i.e., an imaginary companion not based on a toy) is associated with narrative creativity. Fifty-nine 4- and 5-year-old children and their parents were interviewed about pretend play. 30% of the children were identified as having invisible friends. To measure creativity, children heard

the beginning of a story and were asked to finish it. The results showed that although children with and without invisible friends produced stories of equal length, the stories of the children with invisible friends had a greater number of story elements as well as more unique elements. In addition, their stories were rated as more creative than those of the other children.

Mary Pisegna

I Think I Can: Prenatal Expected Parental Competency as a Predictor of Postnatal Competency and Maternal Sensitivity

Advisors: Dr. Jennifer Ablow, Dr. Jeff Measelle, Erica Musser

Observed sensitivity and self-reported parenting competency were examined in a longitudinal study of a sample of 107 first-time mothers and their infants. These mothers were all considered to be at a high risk for parenting problems. Prenatally, the mothers filled out the Becoming a Parent scale (BAP) to measure the expected competency as parents. When the infants reached 5 months of age, the mothers and infants participated in the Still Face paradigm as an assessment of maternal sensitivity. The mothers were administered the Being a Parent scale to measure the self-reported parenting competency of these mothers, as well as another measure of their current relationship with their parents. It was found that prenatal expected competence did predict postnatal self-reported competence, and that both prenatal expected competence and prenatal social support from the mother's own parents marginally predicted maternal sensitivity at 5 months.

Margaret Sels

Family History of MDD Related to Pubertal Timing

Advisors: John Seeley and Adam Kramer

This study is designed to determine levels of depression comparing adolescents with off-pubertal timing and a familial history of Major Depressive Disorder (MDD) to those adolescents without these qualities. It looked at the rates of depression, off-pubertal timing, and a familial history of MDD when comparing males to females. Adolescents were accessed at three periods of time using a KSADS interview process. 940 students from western Oregon and 1782 family members participated at assessment three of the Oregon Adolescent Depression project. Few significant results were found, but trends showed signs that late pubertal timing in both males and females were related to a family history of MDD. Future studies using this data set should weigh analyses for a larger chance of significant results.

Anna Spece

Relational Aggression in Relation to Friendship Quality in Adolescent Females

Advisor: Dr. Thomas Dishion

Understanding relation aggression within adolescent relationships can provide information about reasons why teens engage in antisocial or prosocial behavior, and may lead to better solutions for controlling deviant acts. This study investigated how relational aggression affects friendship quality in female adolescent dyads and how relational aggression determines perceptions of the quality of friendship. Data for the study consisted of videotaped

interactions of 138 female participants, ages 16 to 17, from the Project Alliance Peer Interaction Task from the Child and Family Center, as well as questionnaires completed by coders, assessors and the dyads about the friendship quality and regarding relational aggression present within the friendship. Results showed both assessor and dyad rating of low friendship quality correlated significantly with high coder ratings of relational aggression, suggesting that a high level of relational aggression contributes to negative friendship quality in the dyad.

Alex Stanton

Self Other Overlap: The Mechanisms Behind the Noun Recall Task

Advisor: Dr. Sara Hodges

Self-other-overlap is an idea that explores the idea that people who are close actually become more similar. Here we examine the mechanisms behind the concrete noun recall task, a popular measure of this phenomenon. The current study has subjects participate in the noun recall task; however, new conditions have been added to examine the question: Is the noun recall task an actual measure of self-other-overlap or just a function of better memory associated with greater depth of processing? This study found that participants using novel prompts had poorer recall than those in the replication, suggesting that the manipulation significantly affected memory but in the opposite way as predicted. Future studies of this measurement should explore using an empirically validated manipulation of depth processing.

Undergraduate Honors Projects – 2006-2007

Hannah Banagale

Neural Basis for Mothers' Responses to Infant Distress

Advisors: Dr. Jennifer Ablow and Heidemarie Laurent

A mother's responsiveness to her child's cues on a neurobiological level is an important consideration in our understanding of the effect of psychopathology on mother-infant relationships. Previous studies have suggested that maternal responsiveness to infant cries is correlated with factors associated with a secure infant-mother attachment. However, research into the neural mechanisms that precede maternal behavior in response to infant cry is limited. Limitations of previous work on this subejct prompted further research into the effects of depression on impaired maternal responsiveness. The current case-study examined two mothers' (a control participant and a depressed participant) neural activations in response to their own infant's cry compared to a control noise. Consistent with the hypothesis, the control mother produced neural activation typical of maternal response while the depressed participant showed no significant activation.

Martha Bose

The Influence of Siblings on Theory of Mind.

Advisor: Dr. Lou Moses

Heather Brule

Using Outdoor Adventure to Improve Perceived Control in People with Histories of Trauma and Oppression

Advisor: Dr. Anne Simons

Justine Calcagno

The Experience of Stigmatized identity: Variation in Trait and State Characteristics

Advisor: Jonathan Cook

This study explores how characteristics of stigmatized individuals and characteristics of their conversation partners affect the experience of stigma in social interactions. African American and gay and lesbian participants reported about their thoughts and feelings after social interactions over the course of a week. Individuals with higher levels of trait stigma consciousness tended to have higher levels of identity centrality, suggesting that expecting to be stereotpyed may be a feature of group identification. When interacting with out-group members stigmatized individuals tended to feel more stereotyped than when interacting with in-group members, suggesting that inter-group interactions elicit negative feelings in stigmatized individuals, but in-group interactions do not. This project adds to the growing body of literature documenting how the effects of stigma are variable across stigmatized individuals and their interaction partners.

Stephanie Hyde

A Study of Brain Organization for Language Using Complimentary Methodologies

Advisors: Dr. Helen Neville and Eric Pakulak

Timothy Matthews

Context Matters: Measuring Self-Other Overlap

Advisor: Dr. Sara Hodges

The current study investigated contexts of Inclusion of Other in Self (IOS) measures. The study compared Aron's original IOS paper measure to a newly developed "dynamic" IOS scale displayed on a computer screen. Both measures used overlapping circles as a way for participants to objectify perceived closeness. Furthermore, the study looked at relationship context (i.e. relationships with acquaintances versus relationships with romantic partners). It was hypothesized that if a person is asked to rate the closeness of his/her acquaintance first, then the ranking of closenss for the romantic partner will increase. The sample population consisted of sixty participants (20 male and

40 female) that were currently in a romantic relationship of six months or more. The study found that Aron's IOS measure does provide (while also limiting) possible answers for participants. In addition to finding that the "dynamic" scale is tapping the same construct as the original IOS, the "dynamic" IOS showed that participants move the 'other' circle more than the 'self' circle. The study also indicated that perceived closeness of a romantic partner significantly increases when participants are asked to complete an IOS measure for an acquaintance first.

Cristen McLean

Sexual Assertiveness in Sexual Decision-Making: Predictors, Consciousness, and Outcomes

Advisors: Dr. Jennifer Freyd and Bridget Klest

Previous research has indicated that sexual assertiveness is an important factor in sexual health (Morokoff, Quina, Harlow, Whitmire, Grimley, Gibson, & Burkholder, 1997). Here we studied sexual assertiveness by evaluating the person's implicit (unconscious) and explicit (conscious) decision rules about sexual initiation and refusal of sexual behaviors. We present evidence that childhood sexual abuse is associated with dissociation, which is disintegration between normally cohesive aspects of an experience (Bernstein & Putnam, 1986). Also we found that mental processes, including self-esteem and dissociation, do not have the same impact on implicit and explicit decision rules. Likewise implicit and explicit decision rules are predictive of different adult sexual outcomes. Our results indicate that implicit sexual decision-making impacts the person's sexual experiences in general, e.g. whether, overall, his or her sexual behaviors are satisfying, whereas explicit sexual decision making impacts discrete behavioral outcomes, such as specific risk-related behaviors or incidents of adult sexual victimization. The present research project builds on and elaborates a previous investigation by Zurbriggen and Freyd (2004). This present research was examined within the framework of mental mechanisms, Consensual Sex Decision Mechanisms (Freyd, 1996), and Consensual Sex Decision Rules (Zurbriggen and Freyd, 2004). The need for future and further research is discussed.

Rose McMahon

Infant Emotion Regulation as Predicted by a Mother's Accuracy at Interpreting Infant Facial Expressions

Advisor: Dr. Jennifer Ablow

Previous research has shown that how contingently a mother responds to her infant can influence her infant's recovery after an emotional stressor. Maternal responsiveness, however, may be influenced by a mother's ability to accurately interpret her infant's expression of emotions. Depressed mothers have longer delay times before responding to their infants emotional bids, which may reflect less accurate interpretation of their infants' expressed emotions. In this paper, we proposed that women's prenatal ability to accurately interpret infant expression of emotion would predict their own babies' ability to regulate their emotions during a stressful situation 5 months post partum. It also was hypothesized that mothers who reported higher depressive symptomatology would have infants who would be less successful at regulating their emotions. One hundred and five first time expectant women of low SES were recruited prenatally to participate in an ongoing longitudinal study. Prenatal women's ability to interpret infant expressions of emotions was investigated through her responses to 30 pictures of infant facial expressions. Women's prenatal levels of depression also were assessed through administration of the CESD. When the infants were 5 months old, mother-infant dyads visited the lab to participate in the still face procedure. Infant's ability to regulate their emotions was investigated through this paradigm and coded during the reunion episodes of the still face paradigm using a global coding scheme. Correlational analysis revealed trend level associations in the expected directions between the predictor variables and the infants' reengagement behaviors.

Kim Miller

Motor Imagery with Virtual Feedback Activates Primary Sensory-Motor Hand Representation

Advisor: Dr. Scott Frey

With the assistance of mirrors in movement exercises, studies show improvements in both phantom limb pain and stroke patient limb mobility. The mirror provides the illusion of movement in the absent or immobile limb by reflecting the healthy limb. However, it is unclear how the brain interprets and responds to this sensory input. Does it engage regions of sensory-motor cortex that represent the impaired and stationary limb? Do such effects depend on whether the impaired hand is dominant or non-dominant? This study uses functional magnetic resonance imaging (fMRI) techniques to examine brain activity within primary motor and sensory areas in healthy right- and left-handed adults during unilateral hand movements performed with and without mirror feedback and motor imagery. Specifically, we address how these conditions influence activity in sensory-motor cortex contralateral to the static hand (ROI-CS). The results indicate that hand dominance does not significantly affect responses of ROI-CS under these conditions. Combining data across groups, however, reveals a significant increase of activity in ROI-CS when motor imagery is combined with mirror feedback. This condition is significantly different from movement alone and movement combined with mirror feedback. We conclude that using a mirror to provide virtual feedback for imagined movements creates an effective stimulus for sensory-motor representations and could play a role in rehabiliation.

John Myers

Early Parental Presence and Self-Other Overlap: An Empirical Examination of Chodorow's Theory of the Reproduction of Mothering

Advisor: Dr. Sara Hodges

This study was inspired by Nancy Chodorow's (1978) Theory of the Reproduction of Mothering (TRM). The study empirically scrutinized Chodorow's hypothesis that male dominant, father absent societies in which women do most of the parenting for children of both sexes reproduce themselves by creating dissimilar atmospheres in which young girls and boys develop their gender identities. According to Chodorow, these disparate atmospheres make women view themselves in relationship to others while making men view themselves as separate from others. Ninety college students completed a battery of pen and paper measures that included, among other things, measures of self-other overlap and parental egalitarianism. TRM was not supported. However, parental egalitarianism was correlated with increased perceptions of self-other overlap with both parents in males and females. Furthermore, parental egalitarianism was associated with decreased perceptions of self-other overlap with close others in males.

Melissa Olson

Emotions and Children's Theory of Mind

Advisors: Dr. Lou Moses and Seraphine Shen

Kathryn Spaventa

Why Don't Kids Tell? Gender and the Disclosure of Abuse: Rates and Reasons of Gender Differences for Nondisclosure of Child Sexual, Emotional and Physical Abuse

Advisors: Dr. Jennifer Freyd and Shin Shin Tang

Boys are assumed to be more reluctant to disclose sexual abuse than girls, but empirical evidence is lacking. In addition, reasons for not disclosing CSA may differ. Previous qualitative research by Alaggia (2005) suggests that typical nondisclosure reasons for females are related to confusion about who was responsible for the abuse and feelings that she will be blamed or not believed, whereas males have a fear of being labeled homosexual (Alaggia, 2005). We investigated potential gender differences in likelihood of disclosure and evaluated reasons why males and females decided not to disclose their child sexual, physical and emotional abuse. Gender differences as well as gender similarities in reasons for nondisclosure of child sexual, emotional and physical abuse were found in responses to a questionnaire completed by a sample of college students.

Cara Swain

Trait Anxiety and the Efficiency of Attentional Networks

Advisors: Dr. Michael Posner and Brad Sheese

This study examines how trait anxiety is related to the efficiency of attention in adults. Previous research has shown that different levels of trait anxiety are related to differences in attention when individuals are presented with affect inducing stimuli. However, there is little empirical literature on how trait anxiety differentially affects attention assessments that are affectively neutral. While high levels of anxiety may be detrimental to performance on attention tasks, moderate levels of anxiety may facilitate task performance. Research has shown that moderate levels of anxiety can produce higher performance in learning tasks (Yerkes & Dodson, 1998). The current study examines how differences among individuals in trait anxiety are related to task performance. To test this hypothesis, 19 participants completed a self-report questionnaire assessing trait anxiety. Participants scoring high, medium, or low in trait anxiety completed the Attention Networks Test (ANT) assessing the efficiency of the orienting, alerting, and executive attention networks. Overall performance on the ANT showed an influence of trait anxiety in which greater anxiety led to faster reaction times and more errors. There was also some evidence that the influence of anxiety was exerted through the alerting and orienting networks. A curvilinear relationship was found between anxiety and performance on the alerting network.

Eva Sylwester

Religious Housing Co-operatives and their Correlations with Religious Belief in Young Adults

Advisor: Dr. Robert Gordon

This study will investigate the effects of living in religious housing co-operatives on young adults. Residents of the co-operatives will be compared to a control group of University of Oregon students in other living arrangements. The hypotheses are that residents of the co-operatives will score lower than the control group on scales of religious maturity and higher than the control group on scales of general mental well-being.

Joshua Tabaldo

Kids, Verbs, and Intentions: How Children Use Intentionality in Verb Learning

Advisors: Dr. Dare Baldwin and Eric Olofson

Attempts to discern how children learn language have tended to focus on nouns, while fewer studies (Tomasello & Merriman, 1995) have examined the acquisition of verbs. While some investigators (e.g. Markman, 1989) have argued that children have assumptions about the referents of novel nouns, this approach to the study of verb learning is rare. This study hypothesizes one tool for verb acquisition uses intentionality cues, in which one assumes novel verbs refer to intentional actions. To test this hypothesis, we presented children (22- to 26-month olds) with a dual display of action videos, one being accidental and the other intentional. Children were asked to indicate which video depicted a novel verb, e.g., *blicking*. Preferential pointing toward the intentional action would suggest that children draw a link between intentional actions and novel verbs. Contrary to our predictions, however, children pointed to the intentional and accidental actions equally often.

Akina Umemoto

Implicit Knowlege about Target Location Guides Encoding into Visual Working Memory

Advisors: Dr. Edward Awh, Dr. Edward Vogel, Miranda Scolari

Explicitly cued information has been found to facilitate voluntary control over what is encoded into working memory. However, less is known about the effect of implicit knowledge about what information enters the system. The current study examined whether implicit knowledge about probable target location guides encoding into visual working memory. We used a change detection task where a sample array and a test array appeared on each trial separated by a brief delay, and subjects determined whether the two arrays were identical or different in terms of a single color change. We manipulated the probability of change trials so that a specific quadrant (dominant quadrant) contained more changes than the other remaining quadrants (nondominant quadrants). Accuracy was significantly higher in the dominant quadrant, although subjects did not have explicit knowledge about the probability manipulation. This result was not due to a reduction in the response threshold for detecting changes in the dominant quadrant or a speed-accuracy trade-off in the nondominant quadrants. We suggest that the encoding of information into working memory can be influenced by statistical regularities in the observer's past experience.

Undergraduate Honors Projects – 2005-2006

Michelle Baldwin

Positive Bias in Perception of Physical Discipline

Advisors: Dr. Jennifer Freyd and Lisa Cromer

Recent research show that the general population tends to be very accepting of physical discipline by parents; survey results range from 70-88% approval of spanking or slapping (Bower-Russa, 2005). Endorsement of violent methods of discipline is significantly correlated with both the practice and severity of physical discipline (Scholar & Stein, 1995) and the abuse rate among parents endorsing physical discipline is four times higher than among those who do not (Straus, 1992). Attitudes towards discipline are significantly influenced by personal experience (Bower-Russa, 2005); people tend to endorse and view more positively forms of discipline that they have experienced. This can be partly explained by the Pollyanna Principle (Matlin & Stang, 1978) which predicts that people are more likely to interpret and remember experiences as more positive than they actually are. The current study examines positive bias specifically in memory for physical discipline situations. Participants were shown sets of images depicting scenarios in which parent figures disciplined child figures using either physical or verbal methods. Participants' memory for the images was tested by showing participants a video comprised of the previously viewed (target) images and of altered versions of those images that were either more positive or negative than the target images. Participants were asked to indicate if each image in the video was the same or different from those in the set they had viewed earlier. For each participant, a valence score was calculated indicating whether they reported having seen more positive or negative images, ranging from -18 (most negative) to 18 (most positive). For the verbal discipline scenario, the mean score was .91, indicating a slight significant positive bias, $t(76)=.036$, $p<.05$. For the physical discipline scenario, the mean score was 6.67, indicating a strong significant positive bias, $t(76)=14.618$, $p<.01$. Comparison of the two mean scores showed that the positive bias was significantly stronger in the physical discipline scenario, $t(152)=-9.322$, $p<.01$. This study also examined participants' attitudes towards and experiences with various forms of parental discipline.

Tabitha Bolton

Taxonomy of Imaginary Companions

Advisor: Dr. Marjorie Taylor

Imaginary companions come in all shapes and sizes. In order to provide information about the diversity of imaginary companions, we have created a database of imaginary companions descriptions collected from various studies in the past decade. This study examines the influence of data source in relation to the types of imaginary companions that are created by children and adults alike by looking at descriptions of such friends provided by parents, children, and adults who recall their own companions from childhood. In addition to examining the diversity in types of imaginary companions, this study sought to establish a method of systematic record keeping for the collection of imaginary companion descriptions compiled in the Imagination Lab at the University Of Oregon.

Michelle Harrison

The Mediation of Executive Functioning Between Parenting Styles and ToM

Advisor: Dr. Lou Moses

This research investigated the individual differences in theory of mind (ToM) and executive functioning (EF) in preschool-age children. The relationship between parenting styles and ToM was also investigated, and specifically examined EF as a possible mediator between parenting styles and ToM. A sample of 3.5- to 5.5-year-old children (N = 23) were run through a series of EF and ToM tasks while parents filled out a Parenting Style Questionnaire. It was hypothesized that a positive relationship would be found between Authoritative parenting and EF, as well as between parenting styles and ToM. After running a correlational analysis, a significant relationship was found between ToM and Authoritative parenting styles, $r=.484$, $p<.05$. Future studies should use broader, more diverse populations to capture a more representative sample, as well as include supplementary tasks to further investigate EF skills. Limitations are also discussed.

Laura Johnson

Temperament and Strategies for Activational and Inhibitory Control

Advisors: Dr. Mary Rothbart and Jessica Kieras

Inhibitory control (the capacity to suppress inappropriate approach behavior) and Activational control (the capacity to perform an action when there is a strong tendency to avoid it) are of particular importance to the study of self regulation and temperamental differences in attention. These types of control are two areas used to measure temperamental Effortful Control. The researchers combined a measure of strategies used to engage in behaviors that require Inhibitory control or Activational control with Evans and Rothbart's Adult Temperament Questionnaire (short form). Strategies were categorized as Effortful, Mental, or Task management. The researchers also assessed participant focus on the potential punishments or rewards associated with activating or inhibiting a behavior. Through statistical analysis, the researchers found that people high in Negative Affect reported using more strategies which focused on the potential detriments of failing to control their behavior. Persons high in Extraversion/Surgency reported more strategies focusing on the potential benefits of regulating their behavior. Temperamental Effortful Control correlated with the use of Effortful type strategies and the use of strategies in general. This study adds to the body of research aimed at helping individuals more effectively regulate their behavior.

John Knorek

Narcissism and Self-Perception Biases

Advisor: Dr. Sanjay Srivastava

This study examined narcissists' self-perception biases in 117 same-sex dyads. We analyzed correlations between narcissism and self-enhancement of personality traits associated with either egoistic or moralistic biases. The egoistic bias is a tendency to overestimate one's own power, status, and agency, whereas the moralistic bias a tendency to overestimate one's own likeability and agreeableness. Narcissism was measured with the Narcissistic Personality Inventory (NPI); self-enhancement bias was operationalized as the difference between self-ratings and partner ratings on a variety of trait measures. NPI scores were significantly correlated with the egoistic self-enhancement bias (power and extraversion) but not with the moralistic self-enhancement bias (agreeableness and conscientiousness). Ways to better measure certain self-enhancement biases and the usefulness they will have in understanding narcissism are discussed.

Kelsey McAlpine

The Original and Induced Roelofs Effects: Can the Same Shift in the Apparent Midline Explain both Illusions?

Advisor: Dr. Paul Dassonville

Roelofs (1935) demonstrated that when shown a rectangular frame offset left or right from straight-ahead, observers would consistently underestimate the eccentricity of that frame. This phenomenon became known as the (original) Roelofs effect. Later work by Bridgeman, Peery, and Anand (1997) showed that observers would misperceive the location of a target dot when it was presented within an offset frame, with the target seen to be shifted in the opposite direction of the frame (the induced Roelofs effect). Various studies have demonstrated that both the original and induced Roelofs effects can be explained by a shift in the observer's apparent midline towards the

center of the offset frame (Werner, Wapner, and Bruell, 1953; Dassonville, Bridgeman, Bala, Thiem, & Sampanes, (2004); Dassonville & Bala, 2004). However, a study by de Grave, Brenner, and Smeets (2002) suggests that the same shift in the apparent midline cannot explain both illusions. In light of possible confounds found in the de Grave study, an experiment was designed to retest the hypothesis that both the original and induced Roelofs effects could be explained by the same shift in the apparent midline. Results from this initial experiment replicated the finding of an original Roelofs effect, but failed to find a significant induced effect. A second experiment, designed to be more similar to previous ones demonstrating an induced Roelofs effect, replicated the finding of an induced effect, but now failed to find the original Roelofs effect. Although it is unclear why we are unable to find both an induced and original Roelofs effect in the same paradigm, this inability does seem to indicate that both effects cannot be explained by the same shift in the apparent midline.

Jayne Mercer

Cross Cultural Differences in Attitudes and Beliefs about Intimate Partner Violence

Advisor: Jeff Todahl

The current study seeks to better understand the cross cultural differences in the attitudes and beliefs about intimate partner violence or interpersonal violence (IPV) based on ethnic identity. Research has shown that IPV does not discriminate between culture, age, socioeconomic status, gender, etc., but very little is understood about how specific ethnicities differ in their attitudes and beliefs about IPV. This study proposes to assess the attitudes and beliefs of a diverse population of students at the University of Oregon by means of an online survey consisting of three questionnaires. The first questionnaire assessed a subject's cultural identification, the second assessed the subject's attitude and beliefs about wife beating, and the third assessed a subject's attitudes and beliefs about IPV. The goal of this study is to better understand the way in which culture influences attitudes and beliefs about IPV and possibly be able to better serve its victims and perpetrators with this more in depth understanding. Data is currently being analyzed.

Kristina Mullins

When Students Discuss Diversity, What Do They Talk About?

Advisors: Dr. Holly Arrow and Jasmine Lam

Thirty groups of five students who shared the same ethnic/racial identity (15 groups) or had diverse identities (15 groups) discussed the climate for diversity at the University of Oregon (UO). Computerized text analysis of transcripts was used to examine the frequency with which twenty-eight topics related to diversity were discussed. The relative frequency of associated terms differed in common and diverse identity group conversations for 13 topics. Topics that came up more often in common than in diverse identity groups were definitions of diversity, the University's commitment to diversity, whether or not the campus is diverse, quantity of diversity, comparisons, settings on campus, regions of the United States, social categories, religion, ideologies, and identities (all p<.05). Diverse identity groups discussed language and nationality more often than common identity groups (p<.001). A post hoc division of groups into those composed mostly or entirely of students belonging to the ethnic/racial minority (Anglo/European-American/Caucasian, 15 groups) and those composed mostly or entirely of students with an ethnic/racial minority identity (15 groups) was used to check whether the common/diverse differences might be equally well explained by majority/minority status. Majority groups matched the common identity groups on all topics except for the University's commitment to diversity. These groups also used significantly more affirmative-toned terms than minority-dominated groups. Minority groups matched the diverse group pattern except that they solely discussed ability, a topic that included terms related to disabilities. Results suggest that common identity and majority groups focused more on differing categorizations of people, beliefs, and lifestyles and allocated more of the

discussion to quantifying and comparing diversity levels at UO. Diverse identity and minority groups tended to discuss a broader range of topics, including issues related to adjustment, as indicated by the focus on nationality, languages, and abilities.

Keely Muscatell

Stressful Life Events, Chronic Difficulties, and Symptoms of Clinical Depression

Advisor: Dr. Scott Monroe

Acute, major life events have found to be associated with depression onset and symptom specificity, but little is known about the relationship between chronic stress and these characteristics of depression. Employing an investigator-based measure of life stress with 100 individuals diagnosed with major depressive disorder (MDD) we assessed acute and chronic stress and determined whether or not each participant had experienced a major difficulty or a severe stressful life event prior to depression onset. Severe stressful life events were found to be associated with heightened depression severity levels, lower levels of global functioning, and increased presentation of sad mood, hopelessness, and crying. Major difficulties occurring prior to depression onset were found to be unrelated to differences in depression severity, symptom patterns, and global functioning. These findings are discussed in terms of the differential roles that acute and chronic stressors play in the presentation of MDD.

David Osborn

Individuals' Willingness to Risk Death for Their Country

Advisors: Dr. Holly Arrow and Dr. John Orbell

This paper presents a review and analysis of the relevant literature. A variety of disciplines were reviewed, including sociology, anthropology, political science, military history, and psychology. The theories are organized into those that have a cultural or biological (evolutionary) emphasis. This willingness is also explored in its pre-modern manifestations in order to better understand its development from earlier forms of social organization to that of the nation. The analysis suggests that this willingness utilizes evolved mental mechanisms that served group identification and between-group conflict in small kin based groups. Such a willingness requires a strong affective component that is provided for by kin-like identifications with the nation. A case study of the breakup of Yugoslavia highlights the application of this type of analysis.

Emily Peterson

Suppressing Visual Memories Through Executive Control

Advisor: Dr. Michael Anderson

Forgetting is often perceived as the challenge one must overcome to have a good memory, when in fact, forgetting is actually an important component in maintaining a good memory. If people remembered everything from their daily lives, they would be overloaded with unimportant thoughts, making it hard to recognize relevant information. For example, if one remembered every parking place one's car had ever occupied, it would become difficult to bring to mind only the current parking place. Irrelevant or intrusive thoughts can also be distracting and unpleasant. For these reasons the ability to push information out of mind can be a useful skill. For instance, if one's favorite restaurant

changed location, one would benefit from pushing the memory of the old location from mind, so that one can now remember the new location. Being able to forget is a useful component of memory that allows people to focus on, and therefore, remember only relevant information from their surroundings. This study, using the Think/No-Think paradigm, attempted to determine how actively avoiding thought for a visual image would affect a person's ability to later recognize that item. The stimuli used were neutral words paired with complex visual-spatial pictures of neutral faces or natural places. The results indicate that relative to a perceptual baseline, there is an overall inhibition for items that were actively not thought about when collapsed across the faces and places stimuli. These findings validate the hypothesis that actively avoiding thought of a picture leads to impaired recognition of that picture at a later time. The final recognition test showed that when subjects were later presented with the word-picture pair that they had actively avoided thinking about, they were less confident that they had even ever seen that word-picture pair before. Further support for this paradigm showed that actively thinking of a picture in some cases facilitated memory of that word-picture pair, but this was not consistent across all stimuli. These findings support the everyday use of memory inhibition by indicating that humans have executive control over what they think or don't think about, which later influences what they remember. If people choose to avoid thinking about a picture, even when presented with its cue, they can actually inhibit that memory, making it harder to recognize at a later time.

Emery Pinkert

The Geometry of Perception: Distortions of the Apparent Midline in the Induced Roelofs Effect

Advisor: Dr. Paul Dassonville

Previous research by Mergner, Nasios, Maurer & Becker (2001) has provided evidence that the apparent midline (or an observer's perception of straight ahead) plays a fundamental role in our ability to locate objects in space. Despite the apparent midline's potential fundamental importance in our ability to locate objects, our perception of straight ahead is vulnerable to errors (Dassonville & Bala 2004a, 2004b; Dassonville, Bridgeman, Bala, Thiem, & Sampanes, 2004; Werner, Wapner, & Bruell, 1953). In the present experiment, we examined the distortion of the apparent midline caused by the induced Roelofs effect (Dassonville & Bala 2004a, 2004b; Dassonville et al., 2004) using stimuli presented in three-dimensional space to determine the geometry in which the apparent midline is distorted. Previous research has suggested that the distortion may be a rotation, translation, or warping (Vallar, Guariglia, Nico, & Bisiach, 1995; Ferber and Karnath, 1999; Gogel and MacCracken, 1979). The perceptual errors for targets located at different depths from observers were compared to the errors predicted by the three potential types of distortion. Two experiments were run, the second to address potential confounds in the initial design. The data from both experiments suggests that the geometry of the midline distortion is predominately a rotation. However, the axis of rotation indicated by the data is significantly behind the eyes (and head) suggesting that the distortion could include an additional translation component. The potential for a translational component may be supported by previous work indicating eye dominance switching based on stimulus characteristics and eye position in azimuth (Khan and Crawford, 2003; Banks, Ghose & Hillis, 2004).

Leslie Sanchez

Reacting to Potential Prejudice: Implications for Interactions with Stigmatized Others

Advisor: Jonathan Cook

Because social stigmas are devalued, individuals with stigmatized identities may be more likely than others to be cautious in social interactions with new acquaintances. Such a strategy might be useful, for example, in evaluating the safety or prejudice level of a new acquaintance in order to avoid psychological or even physical danger. To test this hypothesis, we studied dyadic interactions between stigmatized and non-stigmatized participants. Participants with either a visible or concealable stigma were paired off with participants with no identifiable stigma and left

alone to interact with each other for five minutes. These interactions were videotaped and coded for subjects' comfort level, depth of personal disclosures, number of questions asked, and number of encouraging comments. We hypothesized that relative to non-stigmatized participants, stigmatized individuals would be less comfortable during the interaction, disclose less personal information, ask more questions, and encourage interaction partners to reveal more about themselves. Contrary to predictions, stigmatized participants were no less comfortable than non-stigmatized participants and did not disclose less. In fact, there was a general trend toward greater comfort and depth of disclosures among stigmatized participants. There were no significant differences between the groups with respect to questions and encouraging behavior. Results suggest that the way stigmatized individuals may be cautious in social interactions with new acquaintances may be profiled differently than hypothesized above.

Carissa Sharp

Self/Other Overlap with God: Gender and Denominational Effects

Advisor: Dr. Sara Hodges

Self/other overlap is the perception having an overarching sense of "we" rather than "you and me" with an "other." It has previously been studied in regards to the relationship between a person and a concrete "other," such as romantic partner, but not in the relationship between a person and his or her concept of the divine. This study assesses members of Christian congregations including Unitarian Universalist, Presbyterian, Catholic, Seventh-Day Adventist, and Foursquare in order to determine whether there are differences in self/other overlap with God due to gender or denomination. Questionnaires are used to measure participants' self/other overlap with God as well as factors such as religiosity, biblical foundationalism, sexism, right-wing authoritarianism, and collectivism, which may influence a person's perceived relationship with God.

Andrew Shipley

The Development of Altruistic Preference: A Cross-cultural Study

Advisor: Dr. William Harbaugh

A cross-cultural developmental study is being conducted to measure youth preference for altruistic versus selfish behavior in Eugene, Oregon and the Pastaza province of the Ecuadorian Amazon. Rational choice models of human motivation and behavior predict individual maximization in social dilemma situations. This prediction has failed, however, to receive empirical support. Instead, significant variation both within and between cultures has been demonstrated in individuals' preference for altruistic and selfish behavior. No cross-cultural developmental research exists to explain this variation in adult behavior or to map its developmental trajectory. In the current study, a mixture of decision and game theoretic tasks were used to assess the altruistic preference of children ages 6 to 15. Seeking to isolate degree of capitalist market integration, a predictor variable often implicated in between cultures variance, the study included participants in Oregon public schools and participants in remote Shuar villages of the Ecuadorian Amazon. Pending the completion of data analysis, this study seeks to map the development of altruistic preference across an important maturational period. The question of starting-state universality in human altruistic preference will be explored and key periods of socialization and cultural divergence will be identified.

Lily Shipsey

Stressful Impairment of PPI and Asymmetry Effects in Schizotypy

Advisor: Dr. Patricia M. White

Attenuated pre-pulse inhibition of the startle blink reflex has been found in schizophrenia (Braff et al., 1978) and schizotypy (Cadenhead, Geyer and Braff, 1993) and is thought to reflect impaired sensorimotor gating. Although atypical laterality has been found in dichotic listening tasks for paranoid schizophrenics (for a review, see Romney, Mosely & Addington, 2000) differences in response laterality have not been examined for PPI in schizotypy and schizophrenia. This research examines atypical response laterality in schizotypal subjects by measuring PPI independently from both eyes during a dichotic listening task during both baseline and stressor conditions in 9 controls and 9 psychometric schizotypals. In a repeated-measures ANOVA with IV of eye, ear, condition and group, a main effect of condition showed impaired PPI during stress for each of the four lead intervals measured. Across conditions, PPI at each eye was diminished for probes administered through concordant ears at all lead intervals. For 120 ms probes administered binaurally, the groups showed similar PPI response in right and left eyes during baseline, but the groups showed opposite patterns of laterality impairment in right and left eyes during stress. In a pre-planned comparison of baseline PPI, schizotypals tended to have impaired PPI at 60ms but not at other intervals relative to controls. Correlational analyses reveal relationships between symptoms of schizotypy and laterality differences in both conditions, with higher symptom scores related to decreased PPI in the left eye and when sounds are delivered through the left ear. In summary, this research suggests that stress impairs short lead PPI across groups, that some symptoms of schizotypy are related to decreased PPI, and that laterality differences between groups arise during stress at 120ms lead intervals.

Allison Sinclair

Interacting with Depressed Adolescents: Is it Aversive to Parents?

Advisor: Lisa Sheeber

The purpose of this study was to examine whether interacting with depressed adolescents has an adverse effect on parents' emotional states (examining the potential adverse effects depressed adolescents have on their parents). Methods employed during data collection involved a two gate recruitment procedure consisting of a school assessment and an in-home diagnostic interview. The CES-D and the KSAD-S questionnaire scores from the two interviews were used to place participants into one of three groups; depressed, healthy, or subclinical. Certain selected families then participated in a family interaction assessment. Pre and post interactions scores evaluating levels of hostility, depression, and positive affect in each family member was determined by a self administered questionnaire. Pre scores evaluated participants' emotions before the interaction, post scores measured participants' levels of emotions during the interaction. Participants were 246 adolescents and their parents. We hypothesized that there would be a group by time interaction, indicating that parents of depressed adolescents were more depressed, more hostile, and had less positive affect than parents of adolescents in the other two groups, post problem solving interaction. Analyses were run separately for mothers and fathers, as well as for each emotion. The results of the repeated measures analyses did not support our hypothesis or past research in this area. This indicates that more research in the field of adolescent depression must be done in order to isolate more accurately some of the main contributors in terms of family functioning in an effort to develop more effective treatments and preventions.

Andrea Stull

Observer Explanations for Stereotypic and Counterstereotypic Behaviors & the Role of Explanations in Stereotype Change

Advisor: Jonathan Cook

One theory of stereotype change suggests that thinking about convincing explanations for counterstereotypic behavior may prompt people to re-think and modify a group stereotype. Past research has had mixed success in determining the validity of this theory, perhaps in part because experimenter-derived explanations have not been particularly convincing to participants. We were interested in exploring the role of participant-generated explanations in stereotype change and the possibility of systematic differences between explanations for stereotypic versus counterstereotypic behavior. Participants were presented with identical images of either an elderly man (study 1) or an Asian woman (study 2) and asked to provide explanations for the person's behavior. Explanations were

coded using an adaptation of Malle's (2001) F.Ex coding scheme. Repeated measures ANOVA revealed that participants presented with a counterstereotypic target provided more intentional (reason and causal history) explanations and fewer unintentional (cause) explanations than participants presented with a stereotypic target. Contrary to expectations, there was no effect of generating explanations on stereotypic belief measures. Results are consistent with theories of subtyping, which suggest that counterstereotypic behavior is often seen as unrepresentative of a group, allowing perceivers to maintain stereotypic beliefs in the face of disconfirmation (Rothbart, 1981; Weber & Crocker, 1983). Thus one of the cognitive mechanisms underlying subtyping may be the generation of intentional attributions for counterstereotypic behavior.

Shawn Vallereux

Are Extraverts Happier? Situation Matters: A Day Reconstruction Method

Advisor: Dr. Sanjay Srivastava

In a recent study, R.E. Lucas and E. Diener (2001) argued that reward sensitivity comprises the core feature of Extraversion. We accept their argument, though believe that a daily-diary type method is a necessary next step in testing this theory. In the present study, a Day Reconstruction Method (Kahneman, 2003) is utilized to test the reward-sensitivity hypothesis against a potentially competing hypothesis that extraverts select more enjoyable social situations than introverts. Data from a sample of 109 respondents were used to test the 2 hypotheses with a repeated measure of happiness on multiple reconstructed episodes. The results clearly show support for the situation-selection hypothesis with no support being found for reward-sensitivity.

Kristin Williamson

The Influence of Language on Visual Selective Attention

Advisor: Dr. Edward Awh

Previous studies have indicated that sensory experience can modify attentional processing. Here we present evidence that language experience may modify target discrimination ability in the four quadrants of the visual field. Observers reported the identity of a single target digit that was presented either within a dense array of letter distractors (noise trials) or alone in the visual field (clean trials). Virtually all monolingual English speakers showed a significant deficit in discrimination ability in the upper-left quadrant, as demonstrated by low response accuracy, compared to performance in the other three quadrants. This asymmetry was found only with the noise trials, suggesting that it relates specifically to the resolution of visual interference rather than target signal enhancement. In contrast, subjects whose native language was Korean, Chinese, or Japanese showed either significantly lower discrimination ability in the bottom two quadrants of the visual field, or an overall null result, raising the hypothesis that long-term experience with English characters influenced the efficiency of interference resolution with these stimuli. In support of this claim, similar patterns were observed across both language groups when non-alphabetic distractors were presented, indicating that experience with written language modified the efficiency of interference resolution across quadrants.

Undergraduate Honors Projects – 2004-2005

Will Backner

Reciprocal Affect During Peer Interaction Tasks: Differences Between Normative and Antisocial Teens and Between Genders

Advisor: Dr. Thomas Dishion

Friendships influence both children and adult's development. This makes the study of friendships important to the way that children develop and to the way adults see the world and change as they grow older. In this study, data taken from videotapes of a teen and their same sex friend interacting will be used to examine the way that teens respond to the affect of their friends. The data is comprised of affect codes and time stamps that records a teen's affect throughout the peer interaction. Statistical analyses will be done to determine whether the teens reciprocate the affect of their friends and the way that this reciprocation may differ between genders and between antisocial and normal teens. It is hypothesized that females will reciprocate affect at a higher rate than males, and that normal teens will reciprocate more than antisocial teens. If these hypotheses are supported, it will lend insight to what makes friendships "good." It may also give us insight into why antisocial people have difficulties with relationships throughout their lives.

Sara Banks

Spatial perception and spatial working memory in schizotypy

Advisor: Dr. Patricia White

Deficits in spatial perception (Hardoy et al., 2004) and in spatial but not object working memory impairment (e.g., Tek et al., 2002) have been found in schizophrenic patients relative to controls. Recent research suggests that some cognitive deficits observed in patients with schizophrenia also can be found in individuals diagnosed with schizotypal personality disorder, although spatial perception and spatial working memory were not tested (Matsui, Sumiyoshi, Kato, Yoneyama, and Kurachi, 2004). This study used the brief form of the Benton Judgment of Line Orientation task (BJLO) to assess spatial perception and spatial working memory in nine subjects psychometrically assessed with schizotypal personality disorder versus 15 control subjects. In standard administration, BJLO assesses spatial perception while delaying response to a spatial template forces subjects to retain spatial relationships in working memory. Right and left hemifield responses were grouped separately under both standard and delayed administration to test for laterality deficits known to be present in schizophrenia, but not yet tested in schizotypy. In comparison of standard to delayed stimulus presentation, a trend for delayed response x laterality was observed in schizotypal but not control subjects. During the delayed response task, which tapped spatial working memory, deficits in the right hemifield performance were observed in schizotypal subjects, suggesting deficits in left hemisphere function for spatial working memory but not standard administration or spatial perception. This finding is consistent with research showing deficits in spatial working memory tasks in schizophrenia and suggests another possible link in neurocognitive performance between schizotypy and schizophrenia.

Kindra Carroll

Stressful Disruption of Attentional Networks in Schizotypy?

Advisor: Dr. Patricia White

Schizotypy is considered to fall within the schizophrenia spectrum, (e.g. Kendler, Gruenberg, & Strauss, 1981) and schizotypal subjects possess some attentional impairments relative to controls (for a review see Raine, 1995) although components of visual attention are not yet well studied. In normal subjects, at least 3 networks play a role in visual attention, alerting, orienting and executive control (Fossella, Posner, Fan, Swanson, & Pfaff, 2001). In this study, visual attentional networks were assessed during baseline and stressor conditions in 9 psychometric schizotypal and 15 normal comparison subjects using the Attentional Networking Task (ANT). Stress was

manipulated by instructing subjects that performance was being videotaped for review by a panel of experts. Reaction times during stress showed a significant delay across groups for the alerting network but not orienting or executive function. This finding is consistent with the relationship of noradrenalin to alerting observed in previous research and also serves as manipulation check for the efficacy of the intended stressor. When right and left-handed responses were grouped separately and compared across tasks, schizotypals tended to differ from controls in responses to the executive control network only. During baseline and stress, controls showed greater difference between congruent and incongruent targets (measure of executive control) in left than right-handed responses, while schizotypals failed to show laterality differences during baseline but not stress. While preliminary, these results may suggest altered executive control in schizotypy and possible dysfunction of the dopamine neurotransmitter which is associated with the executive control network.

Nicole Chiapella

Disorganization in the adult attachment interview: Physiological differences between the secure and unresolved classifications

Advisor: Dr. Jennifer Ablow

The unresolved classification in the Adult Attachment Interview is indicative of the worst outcomes for children including psychopathology, clinical anxiety and depression. This classification is characterized by brief periods of disorganized speech and lapses in monitoring and discourse. It was hypothesized that during the periods of disorganization present in women classified as unresolved would be heightened physiologically when compared to women classified as secure. Physiology is indicative of behavior as well as a person's ability to regulate themselves using their autonomic nervous system. The measures of heart rate and respiration sinus arrhythmia (RSA) were compared between the two groups. An independent samples t-test found that women classified as unresolved showed a significant increase in RSA during periods of disorganization when compared to when women classified as secure were discussing loss during the course of the interview. This result supported the hypothesis that physiology would be heightened for women classified as unresolved.

Barbara Cichosz

Perceptions of Diversity in the Self and Others

Advisor: Dr. Sara Hodges

The current study seeks to capture individuals' diversity, their perceptions towards identity features and the ways these perceptions interact with their knowledge of others. Participants were 70 undergraduates at the University of Oregon. A three-part questionnaire asked participants to identify themselves on a variety of social identity features within the "ADDRESSING" model (Hays, 1996, 2001) and to rate the valence and strength these features had on their lives currently. Participants also indicated their knowledge of the social identity features in three other people in their lives now. Contrary to hypotheis, there was no significant difference between modal and non-modal participants' knowledge of others. Results also suggest that participants whose identity features made them non-modal within the sample rated the features that made them non-modal as having a less positive influence on their lives than did participants who were modal for these features.

Alicia Craven

Infants' Segmentation of Dynamic Action: The Effect of Familiarization to Novel Stimuli

Advisor: Dr. Dare Baldwin

Every day, infants observe and make sense of the complex, dynamic actions of the people around them. One strategy both adults and infants use to make sense of this action stream is segmenting the ongoing act into its smaller-level

intentional component (i.e. — cleaning a kitchen is processed as reaching for a towel, picking up a dish, etc.). This study investigated the extent of 10- to 11-month-old infants' action segmenting skills (N=16), and how these skills are effected by infants' previous level of familiarity to an action sequence. After an initial period of familiarization to a video of continuous, everyday action, infants were shown a series of eight test trials (4 of which involved the movie seen during familiarization, and 4 of which were entirely novel to the infant) that highlighted either the completion of intentional acts (endpoint test videos), or moments that occurred n the midst of intentional acts (midpoint test videos). Infants showed a crossover pattern of results such that they looked longer at endpoint test videos when the stimuli were novel, and longer at midpoint test videos when they'd had previous exposure to the stimuli. These findings demonstrate that infants actively engage in online segmentation of dynamic action, and that their action processing strategies change depending on their familiarity with the action they're viewing. Implications for autism are also discussed.

Natalie Davis

Demand Characteristics and Response Biases on the MMPI-2

Advisor: Dr. Jason Quiring

The current study was designed to measure the effect of artificial demand characteristic instructions for inducing response biases and measuring the effects of those biases between two subject groups: (1) subjects who were instructed to lie that everything was going well for them, and (2) subjects who were instructed that they had many problems in life including many mental health problems. An overall significant difference was found between subjects who were directed to 'lie bad' and those directed to 'lie good.' Results suggested that the MMPI-2 successfully detected a difference in people presenting in an overly healthy or unhealthy way. This study adds to the discussion about how institutional demand characteristics may elicit patients' response biases on measures of psychopathology; and, understanding these effects is important for our ability to accurately diagnose, medicate and treat patients with psychopathology.

Wanda Dixon

Rule Compliance in Individuals with High-Functioning Autism and Asperger Syndrome

Advisor: Dr. Debra Eisert

The American Psychiatric Association (APA) recently accepted high-functioning autism (HFA) and Asperger's Syndrome (AS) as disorders on the Autism Spectrum. There is an ongoing debate and continuing research on whether these two disorders are distinct conditions. This study looks at rule compliance in these two groups to determine if there is a difference in how they understand and comply with rules. A total of 18 parents, of adolescents aged 11 to 18 and identified with either HFA or AS, answered a 37-item questionnaire regarding rules compliance by their teens. The results demonstrate that the two groups differed significantly overall in their compliance with AS adolescents being more resistant to compliance.

John Downes

Gender, Affect and Decision Making

Advisor: Dr. Ellen Peters

A series of two studies related decision making to affect and gender. In Study 1, participants responded to a series of questions measuring the attractiveness of a $9 bet in a Loss and a No loss condition and affect to that $9 bet (ie, how "good or bad" they felt about it). In Study 2, they rated their perceived risk of nuclear power when "nuclear power" was written in either a nice font or an ugly font. Findings were mixed when considering the hypothesis that women may use more affect in the decision making process. On the attractiveness scale men found the bet more attractive,

in both the Loss and the No loss conditions. On the affect scale of "good/bad" men also felt more affect to the $9. Lastly, women rated the perceived risk of nuclear power higher than men on its own but the risk ratings of men were higher in the ugly font versus nice font condition while women's ratings were not influenced by the font. This gender difference may have been due to the ceiling effect for women's risk ratings.

Scott Fraundorf

Betrayal trauma and attention: Emotional processing systems affect response to trauma related information

Advisor: Dr. Michael Posner and Dr. Mary Rothbart

This study examined the influence of an emotional set on processing of negative words related to trauma. Participants who were high or low on a scale of trauma experiences were randomly assigned to complete either an emotional writing task or a neutral writing task, designed to establish either an emotional or a more neutral processing set. Following this task all participants pressed one of four computer keys to indicate the color of words presented by computer. Each word was either emotionally neutral or trauma related. Data will be collected during April and early May 2005 and presented in terms of reaction time differences between neutral and trauma words. The results are expected to support the hypothesis that participants who experienced trauma respond more slowly to the trauma words than the neutral words when primed with the emotional task but respond to both categories at the same speed when primed with a neutral task. Participants who have not experienced trauma are hypothesized to respond at the same speed regardless of prime. These results would suggest that an individual's response to trauma related information depends on whether he or she has been set to use an emotional or neutral processing system.

Christina Gamache Martin

The Relationship of ADHD Symptomatology and Teachers' Perceptions of Maltreatment Effects on Children's Learning and Behavior

Advisor: Dr. Jennifer Freyd and Lisa Cromer

Stimulant medication sales increased 500 percent between 1991 and 1999 (U.S. Drug Enforcement Agency, 2000). Has ADHD become an epidemic: Or, has there been a massive increase in the over-diagnosis of ADHD (Leslie, 2004)? Weinstein et al. (2000) reported that ADHD presentation in children resembles trauma symptoms. Further, maltreated children are often diagnosed with both ADHD and PTSD (McLeer et al., 1994). ADHD (Forness & Kavale, 2001) and maltreated children (Trocme & Caunce, 1995) are also largely represented in special education. Nearly one-third of children in special education are maltreated (Sullivan & Knutson, 2000). Similarity between ADHD and trauma symptomatology calls etiology into question. Because of teachers' important roles in children's lives, this study examines teachers' perceptions of maltreatment effects, beliefs about stimulant medication and the causes of ADHD, and motivations for special education referral. Teachers (N = 156) completed an internet survey. As predicted, teachers' described maltreated children as exhibiting many ADHD symptoms. However, teachers believing ADHD to be biological were not more likely to support stimulant medication use, and teachers who supported stimulant medication use were not more likely to refer students for special education. Implications for maltreated children identified as having ADHD are discussed.

Mary Gray

Betrayal Trauma, Acculturation and Historical Grief among Native Americans

Advisor: Dr. Jennifer Freyd and Lisa Cromer

Since European contact, Native Americans have experienced loss of life, land, and culture causing intergenerational trauma and unresolved grief (Yellow Horse Brave Heart & DeBruyn, 1998). Not surprisingly, identification with Native American heritage has been found to be affected by the individual's level of acculturation in, or resistance to,

dominant white culture, as well as ownership of traditional customs and beliefs (Garrett & Pichette, 2000). Acculturation studies in the extant literature report ways to measure acculturation and discuss the relationship between acculturation and psychological health. They do not however, examine the relationship of acculturation to intergenerational trauma. The current research documents prevalence rates of historical grief and betrayal trauma to better understand how these relate to Native American identity and acculturation. Native Americans in Oregon (N = 46) participated in the study. Participants completed the Historical Losses Scale (Whitbeck et al., 2004) Native American Acculturation Scale (Garrett & Pichette, 2000) and the Brief Betrayal Trauma Survey (Goldberg & Freyd, under review). As predicted betrayal trauma is negatively correlated to acculturation r = -.256, p<.05, meaning that Native Americans who are less acculturated to dominant white culture experience more trauma. Results are discussed in relation to historical losses and Native American diversity.

Andrea Hopkins

Activation asymmetry of prepulse inhibition in high and low trait anxious females during stress

Advisor: Dr. Patricia White

The startle blink (muscle reflex to loud sounds) is reliably reduced in humans and other species when preceded by a weak pre-stimulus (Dawson, Schell, Swerdlow, & Filion, 1997). This pre-pulse inhibition (PPI) is hypothesized to reflect an automatic pre-attentive inhibitory process that protects initial processing of the auditory prepulse by dampening effects of startling stimuli (Dawson et al., 1997) indexing sensory filtering. PPI is disrupted in schizophrenia and other psychotic disorders (Filion, Dawson, & Schell, 1998) although PPI has not been well-examined in anxiety disorders other than PTSD. Possible laterality shifts associated with anxiety were assessed using a dichotic listening task and bilateral eye recording during baseline and stress conditions in 8 high trait anxious and 12 low trait anxious right-handed females. Examination of startle blink amplitudes suggest that high trait anxious participants fail to show habituation of the startle blink during baseline relative to low trait anxious participants, while both groups show reduced habituation in startle blink amplitude during stress. PPI is reduced in high trait anxious participants during baseline conditions but effects of stress differed for binaural and monaural delivery. With regard to activation asymmetry, at a pre-attentional probe during baseline and across probes during stress, high trait anxious subjects show reduced PPI in the left eye/left ear, suggesting right hemisphere difficulties with auditory filtering. This finding is consistent with the more general literature reports of right hemisphere over-activation in trait anxiety in studies of spatial EEG.

Logan Johnston

Impact of Ethnic Diversity and Familiarity on Similarity Judgments

Advisor: Dr. Holly Arrow

Studies of person perception have found that people routinely categorize others according to observable surface characteristics such as gender and ethnicity (Stanger, Lynch, Duan, & Glass, 1992). Less information is available on the degree to which such categories influence perceptions of self-other similarity among interacting dyads, although some theorizing suggests that the impact of these surface characteristics should decline over time as people get to know each other better (Moreland & Levine, 1992). Data from 30 five-member self-organized task groups was used to investigate the degree to which both ethnic similarity or difference and familiarity (inferred from length of acquaintance) affected self-other judgments of similarity and difference for dyads embedded in these groups. Some members were interacting for the first time, while others had known each other for months or years. Greater familiarity was predicted to increase both similarity and difference ratings based on the reasoning that people who knew each other better would discover both more ways in which they were similar and more dimensions of difference. People who had known each other longer rated one another as more similar and less different than those who had known each for a shorter period. Similarity and difference ratings were negatively correlated. An unexpected gender effect was found with regards to judgment discrimination. Women appear to be more

discriminating in their judgments of similarity. In dyads that are different along both gender and ethnic composition lines, women saw the least similarity between themselves and the other dyad member. This effect was not seen in any other combination of ethnic and gender composition.

Diana Kerr

Parental Support, Validation, and Positive Affect: Relationship Quality with Adolescents and Antisocial Behavior

Advisor: Dr. Thomas Dishion

The parent-adolescent relationship has been shown to influence adolescents' development of interpersonal problem solving skills and association with deviant peers. The present study attempts to answer how positive parent-adolescent relationship quality (PPRQ) characterized by parental validation and positive affect differentiates between normative and high-risk youth, African American and European American youth, and between male and female youth. The study was a secondary analysis of a sub-sample of 133 participants' observational data, coded with the Simple Affect Coding system (SACS) from a study called Project Alliance. It was hypothesized that normative youth would have a higher mean score of (PPRQ) compared to high risk youth, African American youth would have a lower mean score compared to European American youth, and that males would have a lower mean score compared to female youth. Results showed significant effects of risk group and ethnicity on (PPRQ) and supported the research hypotheses. A significant interaction effect of risk group and ethnicity on mean scores of (PPRQ) showed normative European American youth to have higher mean scores compared to African American youth, but no difference in mean scores between high risk European American and African American youth. Non-significant effects of gender or the interaction of gender, ethnicity, and risk were found. The findings provide implications for parental intervention and prevention research and indicate a need for further replication of the study with the consideration of socioeconomic status.

Angela Lansing

The Effects of Parenting Environment and Child Theory of Mind on Preschoolers' Well Being

Advisor: Dr. Kirby Deater-Deckard and Katy Cahill

This study evaluates the link between the interaction of child theory of mind and parent child mutuality as a moderator of child well-being. Parent-child mutuality and cognitive ability have been shown to have an effect on child well-being. Yet, there is a limited body of knowledge about the interactions between parenting and cognitive ability in relationship to child self-concept. The present study is designed to examine these relationships as they pertain to preschool age children. Families with fraternal (DZ) and identical (MZ) twin pairs were evaluated on parenting environment (PARCHISY) child theory of mind (Stanford-Binet cognitive ability score) and child self-concept (Eder puppet interview). Results are hypothesized to predict the effects of parenting environment and child theory of mind on child well-being.

Brittni Lauinger

Selective Auditory Attention and Socioeconomic Status in Young Children: An ERP Based Study

Advisor: Dr. Helen Neville and Dr. Lisa Sanders

This study examined the relationship between selective auditory attention in children and socioeconomic status (SES) through an event-related potential (ERP) based paradigm. Selective auditory attention is the ability to pick out which sounds you want to hear and which you want to ignore, also known as the "cocktail party effect" (Cherry, 1953). SES is a factor of interest because it is very strongly related to cognitive ability in children (Noble, Norman, & Farah, 2005). SES was measured by the Hollingshead Four-Factor Index, a composite based on the child's mother's and father's occupation and level of education (Hollingshead, 1975). The subject population was defined

as normally developing children, ages 3.5 – 7.5 years old, and representing a continuum of SES levels (N = 46). The current study uses a paradigm in which linguistic and nonlinguistic probes are embedded in two simultaneous narratives to measure the auditory attention effect by means of ERPs. The attention effect is the difference in the ERP response to probe stimuli embedded in the attended versus the unattended stories. The first hypothesis was that 3.5 – 5 year old children in general would show similar attention effects to those of 6 – 7.5 year old children. The second hypothesis was that, when broken down by SES, children from high and low SES families would show different attention effects. Analyses of the data showed that the 3.5 – 5 year old children did show attention effects similar to those seen in 6 – 7.5 year old children. Also, when age groups were combined and divided (by median split) into two age-matched SES groups, differences were found. Although both high and low SES groups showed significant attention effects, only the high SES group showed a significant difference by probe type, an effect that has been shown in adults (Coch, Sanders, & Neville, in press). This may suggest that subjects from high SES families may be better at attending specifically to the story and therefore the linguistic probes on the attended side are also attended. The low SES group may be attending to anything coming from the attended story.

Paul Monson

The Role of Event Plausibility in Autobiographical Memory Suggestion

Advisor: Dr. Jennifer Freyd and Lisa Cromer

Research in memory suggestion has found that adults are susceptible to suggestion of an impossible event: meeting Bugs Bunny at Disney (Braun, Ellis & Loftus, 2002). The present study attempted to manipulate event plausibility in order to investigate the role of event plausibility (Pezdek, Finger & Hodge, 1997) in memory suggestion. Participants were University of Oregon undergraduates (N = 58) participating for credit in psychology courses. Participants read an autobiographical advertisement about an event in Disneyland that varied on event plausibility and possibility. It was hypothesized that event plausibility, and not possibility, would affect memory suggestibility. Specifically, it was predicted that events low in plausibility would be less suggestibility than events high in plausibility. Results were not significant. Directions for future research are discussed.

Camilla Nermoen

Perspective-Taking and Perceived Overlap Between Representations of Self and Other

Advisor: Dr. Sara Hodges

This experiment investigated the effects of different perspective-taking instructions on perceived overlap between the self and other. Participants were assigned to one of three conditions: the "imagine target" condition, where they were instructed to imagine how a videotaped target felt; the "imagine self" condition, where they were instructed to imagine how they personally would feel in the target's situation; or the control condition, where they were given no perspective-taking instructions and were asked only to focus on factual information about the target. To measure perceived self-other overlap, participants adjusted two circles on a computer screen until the overlap of the two circles (or the distance between them) represented how close they felt to the target. With a preliminary sample collected (N = 56), the three groups did not differ significantly in terms of perceived self-other overlap. However, there was a trend for participants in the "imagine target" condition to perceive more overlap with the target than participants in the "imagine self" and control conditions, suggesting that imagining how another person feels evokes stronger feelings of closeness with that person than imagining how one would feel in the person's place or objectively observing that person.

Chiew Woon Ng

The Effect of Negative Emotions on Mere Exposure Effect

Advisor: Dr. Paul Dassonville, Dr. Sanjay Srivastava, Katie Burns

Mere exposure effect is a robust phenomenon in which the mere exposure to a particular stimulus will enhance an individual's attitude toward it (Zajonc, 1968). Additional research found that this enhanced preference for the exposed stimulus also extends to novel, but similar, stimuli (Zajonc, 2001). Murphy (2001) suggested that the repeated exposures might be sufficient to create a positive mood state and result in positive evaluations of the exposed stimulus. This study will investigate the impact of a negative mood state on the mere exposure effect. Participants will be randomly assigned to one of two conditions, "no mood induction" or "frustrated mood induction" and asked to perform a subtraction task orally. Those in the "no mood induction" condition will perform the subtraction task without interruptions, whereas, those in the "frustrated mood induction" condition will be continuously interrupted throughout the task. Participants in both conditions will then be exposed to 15 nonsense words subliminally flashed at different exposure rates. After the exposure period, they will be asked to rate the words for both liking and familiarity. It is predicted that the frustrated mood induction will impede the necessary positive mood state from developing and the mere exposure effect will not occur.

Yvette Pederson

A Comparative Analysis of Adolescent Language

Advisor: Dr. Thomas Dishion

Comparisons of vocabulary in conversation between at risk and normative adolescents were examined to determine if language has the potential to promote problem behavior within the at risk group. All volunteers for this secondary analysis were males aged 14 to 18 and of African American, Latino, Asian American or Caucasian descent. Their conversations about drugs and alcohol were transcribed and analyzed by the Linguistic Inquiry and Word Count Program, which designates each word of conversation into 1 of 74 categories, calculating a percentage for each. Preliminary review suggests at risk youth expressed a higher percentage of swearwords, the pronoun "I," along with words indicating negation and negative emotion. Language, a common denominator within groups, could prove to be a valuable predictor for early detection and intervention of problem behavior with further linguistic assessment.

Giuseppe Pellegriti

Schizotypal Gender Differences on Trail Making Performance

Advisor: Dr. Patricia White

Numerous studies report executive function deficits in schizophrenia patients. For example, schizophrenic subjects have been found to produce slower scores on both motor speed (TMT-A) and executive function (TMT-B) trailmaking tasks compared to controls (Woelwer & Gaebel, 2002). In contrast, schizotypals report similar but milder symptoms and show executive function (TMT-B) but not motor speed (TMT-A) deficits relative to controls (Keefe, Silverman, Roitman, & Harvey, 1994). This project compared performance of psychometric schizotypals (n = 9) to controls (n = 12) on the traditional TMT tasks and an expanded version of TMT with 5 tasks, the CTMT, during baseline and stress conditions. In this preliminary and very small sample, results were mixed. Group differences were not found on either motor speed or executive function TMT tasks, but were found on two of the four tests of the CTMT. On CTMT 2 (which includes distractor stimuli) schizotypal males but not females tended to complete the task more slowly across baseline and stress conditions. On CTMT 4, which alternates word and numeric representations of numbers, male schizotypals were slower during stress than male controls, while female schizotypals were slower than female controls during baseline but not stress. Due to the extremely small sample size and failure to replicate previous TMT-B deficits among schizotypals, these preliminary findings are viewed with caution but suggest that gender may play a possible role in stress effects on executive function in schizotypy; data will continue to be collected.

Melissa Pistono

Recovered Memory: Scientific Research and its Implications for the Justice System

Advisor: Dr. Jennifer Freyd

The recovered memory debate has had an impact on more than just the scientific community; its effects can also be seen in the court room. Recovered memories; How do they occur? Why does it happen? What are the mechanisms involved? How frequently does it occur? Are recovered memories accurate? And how does the justice system use scientific research to evaluate the validity and reliability of recovered memory cases presented in a courtroom? This paper reviews the research on recovered memories and examines how the judicial system utilizes scientific research when determining the admissibility of testimony regarding recovered memories.

Scarlet Rappl

Sleep and Memory Inhibition: Investigating the Effect of Sleep on the TNT Paradigm

Advisor: Dr. Michael Anderson and Ben Levy

Previous research using the Think/No Think (TNT) paradigm has demonstrated that people are able to intentionally suppress the memory of specific words (Anderson and Green, 2001). The current study examines the possible relationship between sleep and memory inhibition, as measured by the TNT paradigm. Participants were randomly assigned to sleep either 4-5 hours or 9-10 hours on the night before the experiment took place. The day of the experiment, each participant completed a computerized TNT task designed to measure their ability to inhibit the memory of specific words. After completing the task, participants completed two detailed questionnaires, one regarding the mental techniques they used to complete the TNT task, and the other surveying their sleep habits. Preliminary findings do not suggest a difference in performance between sleep-deprived and non-sleep-deprived individuals on the TNT task as hypothesized.

Santiago Garcia Rodriguez

Effect of Surface- vs. Deep-level Diversity on Self-Other Similarity Judgments

Advisor: Dr. Holly Arrow

The current study examines the effects of diversity on the evolution of judgments of similarity within task groups. Literature on social psychology sustains that in the initial stages of group development, members pay more attention to surface-level traits, such as gender or ethnicity, when evaluating others. As the group interacts, group members shift their attention to deeper-level attributes, such as values and beliefs, to make their judgments (Moreland & Levine, 1992). Data on 44 five-person task groups that met for three consecutive weeks, and whose members were of same or different ethnicity, were used to investigate the evolution of similarity judgments. Results showed that males followed the expected pattern with higher ratings of similarity for same-ethnicity than for different-ethnicity members, but with means converging over time. However, female groups showed unexpected results giving higher ratings of similarity for ethnically-different than for ethnically-alike group members keeping means constant over time.

Cassandra Tyson

Context, Induced Motion, & Spatial Localization: An Induced Motion task comparing real and illusory contours.

Advisor: Dr. Paul Dassonville

The visual system uses an abundant number of contextual cues in order to process incoming information about the environment. Although usually reliable, occasionally cues are inaccurate, leading to the experience of visual illusions. The perceptual system is vulnerable to illusion, and can easily be misled by the context of a visual scene into misperceiving object characteristics such as size, orientation, location, and movement. The context of a large frame offset to one side in an otherwise impoverished visual environment will cause the subjective sense of straight ahead to drift toward the center of the frame, known as the Roelofs effect (Roelofs, 1935, Brogsole, 1967, Dassonville & Bala, VSS 2002). A stationary target presented inside a moving frame will appear to move in the opposite direction, a phenomenon known as Induced Motion (Dunker, 1929). The motion induced in the stationary target can best be explained by the Induced Roelofs effect (Bridgeman & Klassen, 1983) in that the shifted frame causes the target mislocalization. What it is about the context of the frame that leads to the mislocalization of the target is unresolved; is it the low level physical characteristics of the stimulus, or higher level processing? To examine this question, we compared the magnitude and time course of the illusion of a real frame with one created using illusory contours. Illusory contours are created by differences in luminance, texture, or color and result in the perception of figure against ground where no actual boundaries exist. In the current experiment, the effect of an illusory rectangle (Kanizsa type) was compared to that of a real rectangle during a stroboscopic Induced Motion task. The first experiment examined the magnitude of the illusion. The second experiment sought to determine whether or not there was a significant difference in the time course of the illusion comparing real and illusory conditions. The Kanizsa figure evoked a small but significant Induced Motion effect, however there was no difference in the time course detected by the current experiment.

Diana Woodworth

Comparing the observed emotion in adolescent-parent interaction

Advisor: Dr. Thomas Dishion

The study is a secondary analysis using the 117 adolescent-parent, video-taped interactions that have been coded using the Simple Affect Coding System (SACS). The objective of this study was to compare the RPMs and durations of positive affect, validation, distress, anger and neutral states between at-risk and normative subjects, between African-American and European-American subjects, and between female and male adolescent subjects. Comparisons derived from the coded emotion of the adolescent-parent interactions revealed the following: 1) significantly higher RPMs and durations of anger among at-risk adolescents and moms than among normative adolescents and moms, 2) significantly higher RPMs and durations of positive affect among at-risk moms than among normative moms, 3) significantly higher RPMs and durations of validation among European-American moms and adolescents than among African-American moms and adolescents, and 4) significantly higher positive affect among at-risk adolescent girls than among at-risk adolescent boys.

Undergraduate Honors Projects – 2003-2004

Lauren A. Anas

The Influences of Early Adversity

Advisors: George M. Slavich and Scott M. Monroe, PhD

Recent research suggests a strong link between depression in adulthood and exposure to undesirable events and difficulties during childhood. In particular, parental separation as well as physical and sexual abuse appear to negatively affect the adjustment of the children, placing them at higher risk to experience recurrent episodes of depression in adulthood. To test the hypothesis that individuals who are exposed to parental separation and/or abuse are at increased risk to experience recurrent depression compared to individuals who are not exposed to early adversity, the Life Events and Difficulties Schedule (LEDS; Brown & Harris, 1978) was administered to 84 depressed adults. Participants were asked a number of questions regarding early adversity. Information obtained from the interviews including whom the individual was separated from in childhood, reasons for the separation, the nature of the subject-parent relationship, and whether or not they experienced physical and/or sexual abuse as a child. Depression history was subsequently examined for each of the adult participants. Results from the study suggest that children who experienced a separation from a parent during childhood underwent a major transition during the period and experienced more than one depressive episode during their adulthood. Subjects that experienced bad relationships with their fathers during childhood were more likely to have more than one depressive episode during adulthood.

Taylor Bryant

Influence of Reference Group on Body Image Perception

Advisor: Myron Rothbart, PhD

This study examined how comparison level and reference group influences women's satisfaction with personal body image. Participants examined 14 photographs of either thin or heavy women. Photographs were either European or African American women. Four independent sets of photographs were created, corresponding to the four experimental between-subject conditions: white/thin, white/heavy, black/thin, and black/heavy. Participants indicated satisfaction with their own body shape before and after observing the photographs. It was predicted that women would be less satisfied with their own body after observing thin than heavy women, and this effect will be strongest when viewing their own racial group. No significant findings supported the hypotheses, although there was strong correlation between ponderosity and dissatisfaction.

Stephanie Carpenter

Mood and the Generalization of Affect: A Test of Emotional Specificity

Advisors: Ellen M. Peters

This study examined the impact of environmental factors on the generalization of affect using 225 university undergraduates. Following a mood manipulation, subjects in the control condition completed a numerical estimations task with sad and angering scenarios, cognitive load subjects listened to a musical composition while completing the estimations task, and reasons analysis subjects analyzed and listed reasons for making their estimates. We predicted that emotional specificity (angry or sad) would be greatest in the control condition, reduced under reasons analysis, and that affect under cognitive load would either generalize to valence (negative mood), or would display greater emotional specificity. Current results indicate that specificity is reversed under Reasons Analysis and Cognitive Load induces greater specificity for sad mood, suggesting an automatic emotional process.

Lauren Corder

Underlying Mechanisms of Auditory Processing During Stress: Relationship of early muscle response and mid-latency ERP component

Advisor: Dr. Patricia White

The decline in amplitude of the P50 component of the auditory event-related potential in a paired click paradigm acts as indirect evidence of a pre-attentional gating deficiency. White and Yee (1997) found that normal P50 suppression was disrupted when non psychiatric subjects simultaneously performed an oral stressor. Subsequent investigation of 10 experimental modifications (Yee and White, 2001) showed that extreme facial muscle activity and silent stress both disrupt normal P50 suppression. In this study, the same 10 paradigms used by Yee and White were analyzed with regard to an earlier muscular component associated with auditory orienting, the post-auricular reflex (PAR) and component which follows P50 in auditory processing and is related to selective attention, the N100 component. Analysis of earlier and later components during auditory processing was conducted to investigate and clarify the mechanisms that may underlie the disruption of P50 suppression. In this work, both PAR and N100 also showed amplitude suppression to the second stimulus of the click pair. PAR was shown to alter in amplitude but not suppression ratio during facial muscle activation, and PAR also did not show suppression disruption during the stressor. In contrast, the N100 suppression showed similar effects of stress as the P50 component. Also, P50 and N100 ratios correlated positively during the stressor but were not associated during a passive baseline. Thus, results from this study suggest that response suppression to paired stimuli may occur as early as the orienting response (PAR) but stressor effects appear to occur later during auditory processing.

Sarah Dailey

Individual Definitions of 'Race' for the Self

Advisor: Chuck Tate

This study examined how people define 'race' in reference to the self and whether these definitions matter for various self-relevant social judgments. Study 1 examined the structure of definitions of 'race' for the self. Two theory types were found: phenotype (physical appearance) and ethnicity (some combination of values, behaviors, and societal classification). Study 2 examined how theory type relates to how people want to be perceived by others when 'race' is an issue. Ethnicity theorists found it more acceptable for 'race' to be mentioned in a conversation than did phenotype theorists. Study 3 examined the relationship to perceptions of other in-group members, and ethnicity theorists rated that it negatively affects them personally when a person does not act consistent with their 'race' more than did phenotype theorists.

Corrie A. Doyle

The Physiological Correlates of Life Stress and Depression

Advisors: George M. Slavich & Dr. Scott Monroe

Prominent theories have proposed a positive correlation between life stress and major depressive disorder (MDD). These events generally involve highly aversive experiences, concerning serious threats to core relationships. This investigation addresses the life stress and its effects on baseline and emotionally provoked physiology in MDD subjects. Behavioral measures to assess depression and severity of life events were administered, as well as physiological measurements known to be directly connected to innervations involved with the sympathetic nervous system: a key player in the stress response. The findings suggested MDD subjects who have experienced life stress exhibited physiological correlates consistent with a more intense and elongated stress response as compared to their no-stress counterparts. Differences in physiological correlates like these may reflect a core connection between objective and subjective variables in this disorder.

Daniel J. Friend

The role of attachment and dissociation in the intergenerational transmission of abuse

Advisors: Dr. Jennifer Freyd

The goal of this project was to examine individual differences among perpetrators. Specifically, the relationship between attachment and dissociation was examined in association with abuse history and perpetration of abusive acts. The hypothesis was as follows: those with abusive history would be more likely to become perpetrators if classified as insecurely attached, those abused subjects who were classified as non perpetrators and securely attached would show higher DES scores, in accordance with Betrayal Trauma Theory. Data was collected using self-report measures from 233 undergraduates. Caution should be used in interpreting these results, since a limited number of subject reported being perpetrators. Limitation and future research implications are also discussed.

Naruka Hirayama

Gender Differences in Social Support from Parents and Peers and Depressive Symptoms among Middle Adolescents

Advisors: Dr. Thomas J. Dishion

Adolescence is the time when a gender difference in depression first appears. However, no clear evidence exists for increased depression in adolescent girls. The purpose of this study is to combine sociological and psychological approaches to understanding middle-adolescent depression and to examine the question of why more adolescent girls experience depression than do adolescent boys in terms of a gender-differential socialization. The sample consisted of 527 high school students in Portland, Oregon, and they were administered questionnaires containing scales measuring depression, social skills, and parents' parenting skills. Middle adolescent depression was not directly related to family conditions and social support from family, but peer relationships played a significant role for both genders. The primary findings in this study were that girl's depression was strongly correlated with type of peers although they tend to have prosocial peers; Girls who have deviant peers, especially, develop depressive symptoms. In contrast, boy's depression was not related to the type of peers although they have more deviant peers, and social preference reduced their depression. Those results revealed that adolescent boys and girls have different ways of making socialization.

Angela Rose Kelley

Sensory Gating Phenomenology in Relation to Modd and Quality and Duration of Sleep

Advisor: Dr. Patsy White

Poor sensory gating, or filtering of sensory input, has been observed in several clinical populations such as schizophrenia and mania (Freedman et al., 1987). Subsequent research has shown a relationship between anxiety or stress and sensory gating in schizophrenia (Yee, Nuechterlein, Morris and White, 1998) and in non-clinical populations (White & Yee, 1997). Stressful disruption of sensory gating has been attributed to effects of arousal. Clinical populations with impaired gating also possess disturbed sleep, which has been demonstrated to alter arousal independent of pathology. Thus, clinical pathology may directly influence gating, or previously observed poor gating in clinical populations may be a secondary effect stemming from disrupted sleep. Thus, these studies assessed the relationship of sensory gating phenomenology to disturbed sleep. In Study 1, poor sleepers (n=310) were found to have increased self reported disruption of sensory gating phenomenology. When depression was co-varied in this analysis, poor sleepers still showed a trend for self-reported disruption in subscales indexing distractibility and

perceptual modulation. In Study 2, intended and unintended sleep loss, measured crudely, were not shown to cause differential disruption of sensory gating. In this study, typical sleep duration was found to vary with the stress/fatigue subscale of the Sensory Gating Inventory across participants (n=152). Among all males, but not females, total hours of sleep negatively correlated with stress-fatigue vulnerability and among males unintentionally deprived of sleep, sleep duration showed a negative correlation with perceptual modulation. Overall, disrupted sleep appears to impair at least some sensory gating phenomenology, with potentially greater disruption in males than in females.

Molly Kessner

Evoked Heart Rate during Facial Affect Recognition in Schizotypy and Social Phobia

Advisor: Dr. Patsy White

Research has shown deficits in affect recognition in schizophrenia and attentional and memory biases to angry faces in social phobia. To assess the influence of social anxiety on arousal and physiological response during processing of facial emotion, schizotypal (SZ;n= 11), socially phobic (SP;n=11) and normal control subjects (CNT;n=12) were exposed to startle probes, at 120 ms and 3800ms, while viewing facial images. Heart-rate (HR) change while processing provided physiological measure of parasympathetic (HR deceleration) and sympathetic regulation (HR acceleration) while processing affective stimuli. The tri-phasic HR curve was derived from measuring changes in inter-beat interval duration, yielding measurement of cardiac acceleration and deceleration to affective stimuli. In this study, subjects viewed the same angry, happy and neutral images during 5 tasks in which attention was manipulated toward or away from specific emotional content, with HR acceleration and deceleration assessed for the 3800 ms probe. SZ show enhanced orienting and reduced arousal with affective targets, but in the absence of attention directed toward emotion, show enhanced orienting only for angry images. SP display specific attentional biases toward non-target angry images and reduced affective arousal after the non-target angry image offset, but also showed a an unpredicted reduction in affective arousal during viewing angry target images, with similar responding to happy and neutral images as controls. Taken together, these results suggest anomalies specific to each clinical group when processing angry images and support the need for attentional manipulation during processing of affective images to capture the full range of physiological response.

Andy Kohnen

Feature-matching and self-other comparisons

Advisor: Dr. Sara Hodges

The current study explores the application of feature-cancellation and direction of comparison effects to self-other comparisons. College participants (N=90) made a comparison either between their own study habits and a fabricated comparison-other or between a previous participant's study habits and that previous participant's corresponding comparison-other. They did so on the basis of a checklist of 27 bad study-habits. Participants making a comparison involving a high degree of overlapping features tended to rate both people in the comparison very similarly. More interestingly, participants tended to rate the overall study habits of the other as significantly worse than those of the self when there was a low number of overlapping features, presumably because of direction of comparison effects. Finally, participants comparing two others with a low degree of overlap between their habits tended to rate the referent as worse than the target of comparison.

Nathan D. McVeigh

Influence of Retrieval-Induced Forgetting during Second Language Acquisition

Advisors: Benjamin J. Levy and Dr. Michael C. Anderson

This study examined whether different verbal labels for a visual stimulus compete between languages, and, if so, does this lexical competition lead to retrieval-induced forgetting during second language acquisition. The participants were 32 undergraduates who had taken at least one year of college-level Spanish. Participants named objects on a computer screen in either English (e.g., cow) or Spanish (e.g., vaca), and then completed an independent probe rhyming test (e.g., bough _____). The results support the hypothesis that retrieving a word from a secondary language to name a picture causes the phonetic label from the primary language to become less accessible. Such findings suggest that retrieval-induced forgetting aids in second language acquisition by reducing lexical competition from the primary language.

Kimberly L. Merrill

Chronic Life Stress and Major Depression

Advisors: George M. Slavich, Leandro D. Torres, & Dr. Scott M. Monroe

The literature on life stress and depression has identified at least two types of stress that differ temporally from each other: relatively-acute stressful life events and more-chronic ongoing difficulties (Monroe & Hadjiyannakis, 2002). Although a number of studies have investigated the role that relatively-acute stressful events play in the onset (Mazure, 1998; Kessler, 1997), course (Hammen et al., 1986; Lloyd et al., 1981), and symptom severity (e.g., Dolan et al., 1985; Hammen et al., 1992) of major depression, few studies have examined the role that ongoing difficulties play in this disorder. To address this void in the literature, 85 depressed adults were administered the Life Events and Difficulties Schedule (LEDS; Brown & Harris, 1978) and the Beck Depression Inventory II (Beck et al., 1988,1987). The LEDS was used to assess the severity and nature of participants' ongoing difficulties occurring one year prior to their depressive onset, whereas the BDI was used to assess depressive symptoms. Researchers then examined the domain in which the difficulties occurred and the frequency of experiencing difficulties across the entire sample, as well as, within each of the sexes. Descriptive analyses were compiled to further elucidate the impact ongoing stressors have on depression.

Dustin Selman

Investigations in Spatial Perception using Geometric Visual Illusions

Advisor: Dr. Paul Dassonville

The time course of the Delboeuf circles illusion was probed by flashing targets at different times within an alternating small and large contextual figure. Participants (college undergraduates) adjusted the target's sizes to match static comparison figures. The purpose was to examine the mechanisms of geometric visual illusions by examining the onset of assimilative and contrastive components within the Delboeuf illusion. It is hypothesized that the illusion is a distortion of perceived space (within which the target is embedded) rather than a distortion of the apparent size of the target itself. This hypothesis is supported by results showing non-instantaneous but gradual illusion onset, where the context must be present for some length of time prior to the probe for maximum effect.

Aiko Takahashi

Temperament and Involved Parenting: Predicting Foster Children's Externalizing Behaviors

Advisors: Katherine C. Pears & Dr. Louis J. Moses

This study examined externalizing behaviors of preschool-aged foster children (60 boys and 53 girls) 6 months after a new placement. Parental involvement, child temperament, and treatment condition were tested as the predictors of externalizing behaviors. The only predictor was treatment condition, whether or not both parents and children had behavioral trainings. The treatment group showed higher levels of externalizing behaviors compared to the control group. An interaction between temperament and parenting showed high levels of externalizing behaviors in children who had difficult temperament with uninvolved parenting and those who had easy temperament and involve parenting. It was concluded that foster children may become reactive to the treatment within the first 6 months and optimal behavioral outcomes could be expected by such "Goodness of Fit" between child temperament and parenting.

Catherine Tenedios

Adult attachment and traumatic experiences

Advisor: Dr. Jennifer Freyd

In the past infants have been the main focus in understanding attachment, but recently there has been a growing interest in studying attachment in adults. The purpose of this present study is to evaluate the five most prominent adult attachment scales; the Adult Attachment Scale (Collins & Reed, 1990), Bell Object Relations Inventory, (Bell et al, 1986), Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987), Parental Attachment Questionnaire (Kenny, 1987), and Parental Bonding Instrument (Parker, Tupling & Brown, 1979). Another aim is to explore the relations between traumatic exposure, dissociation, alexythymia and attachment. Undergraduate students at the University of Oregon completed a questionnaire that includes items form the five prominent adult attachment measures, along with traumatic exposure, dissociation and alexythymia surveys to assess any possible relationships.

Dan Turano

The Effect of Marital Instability and Parental Support on Children's Behavior and Peer Group Choice

Advisors: John Light & Dr. Tom Dishion

Strong social networks have been discussed as a large contributing factor for positive outcomes during acute or chronically stressful events. An event that has become more common in society, and yet has received little direct research, is how marital instability and parental support, effects children. The purpose of this study was to create a mediational model that would accurately depict what factors lead children to perform antisocial behavior and spend time with deviant peers. It was purposed that marital instability and low parental monitoring would lead children to form stronger bonds with deviant peers who would promote antisocial behavior. The data used for the study was acquired through project Alliance, which is a sample of 373 sixth grade children who were selected from teacher report for having abnormal behavior. Through linear regression many factors were identified that lead children toward deviant behavior and social networks. The factors most salient across gender were marital status, reports of family conflict, and the child's report of parental monitoring. There were some limitations to this study due to the nature of how the data was acquired. Nevertheless, these finding are important because they focus on an ever increasing incident in child development that, if critically studied, may help society understand the ramifications of marital instability and parental support on children.

Ginny Williams

Juror's Decision Making based on Story Model for Criminal Trials

Advisor: Dr. Robert Mauro

Story construction theories such as the constructionist, explanation based, and story model help to predict what people are concluding from the stories they hear. These models are useful for exploring juror's decision making using ideas like plot, character development, how well facts are expressed and consistency across the story. Up to this point research has only predicted decision outcomes. By looking at stories that vary in their facts (poor fitting story) and coherence (poorly written story) the researchers were able to determine that the good story with fitting facts had more support for a not guilty verdict in an assault case compared to the well written story that does not fit the facts. Further exploration of story models for juror decision making will help to determine the importance of story construction, which could help in regard to the way lawyers develop their arguments.

Trey Gregory Willison

Effects of Parental Relationship Separations On Children: Increases In Adolescent Antisocial Behavior's

Advisor: Dr. Tom Dishion

A relationship between teenage antisocial behavior and early childhood parental relationship separations has been recognized in many studies. In the following, a total of three hypothesizes were tested. First, it was hypothesized that children who were younger at the time of their parent's relationship separation would display more teenage antisocial behavior than those who were older. Results indicated no significant effect for children's age at the time of a parental separation. The second hypothesis was that the total number of parental relationship separations would be predictive of teenage antisocial behavior. Results indicated that the numbers of parental relationship separations a child experiences are significantly correlated with early teenage antisocial behavior. Lastly, it was hypothesized that boys would show significantly more antisocial behaviors than girls. Results indicate there are no significant gender effects in predicting antisocial behavior. In sum, this study found that each parental relationship separation a child goes through regardless of their age or gender increases the amount of antisocial behavior displayed at age twelve.

Ista Zahn

Stereotype threat, women's math test performance, and primed ideas about what the test measures

Advisor: Chuck Tate

Stereotype threat theory predicts that salient negative stereotypes about women's mathematical abilities will impair females' math test performance. We hypothesized that priming females with information suggesting that math tests measure learned skills (as opposed to innate ability) would reduce the impact of negative stereotypes on their test performance. Prior to taking a math test, 69 University of Oregon undergraduates were primed with information suggesting either that math tests measure learned skills or innate ability. Females who received the ability prime performed better in a reduced threat condition, while females who received the skill prime performed better when the threat was not reduced. This result suggests that salient negative stereotypes may not impair performance when skill is emphasized.

Ting Ting Zhou

Investigation in the Activation Level of Critical Lures in the DRM Paradigm

Advisors: Ben Levy & Dr. Mike Anderson

The DRM paradigm demonstrates that people can misremember words that were not presented (Roediger & McDermott, 1995). Previous results have shown false recognition rates of critical lures (CLs) to increase, and then decrease, with study repetition (Seamon et al., 2003). Various strategies, such as source monitoring and recollective rejection may cause this reduction in false alarms. The current experiment uses independent probes (Anderson & Spellman, 1995) to examine the activation level of CLs with repetition. Forty-eight undergraduate participants studied word lists 1, 5, or 10 times, and their memory was tested for the words using recognition and independent probes. Results replicate the decrease in false recognition rate, despite a relatively constant activation level of the critical lures.

Undergraduate Honors Projects – 2002-2003

Kimberly A. Babcock

Dissociation & Home Environment: Mediators of Childhood Social Competence

Advisor: Dr. Jennifer Freyd

The focus of this research is the development of a theoretical model of childhood social competence. Specifically, the hypotheses of this study were 1) that maltreated children should display lower levels of social competence than non-maltreated children; 2) that non- maltreated dissociative children should display lower levels of social competence than non-maltreated non-dissociative children; and 3) that maltreated dissociative children should display higher levels of social competence than maltreated non-dissociative children. The participant in the study was one first grade teacher, who provided ratings for six first grade children, four male and two female. Data collection consisted of questionnaire data from the Child Dissociative Checklist, the School Social Behavior Scales, and a maltreatment symptoms checklist. The hypotheses are cautiously supported by the data, as the sample size is very small. Discussion focuses on the implication of this research and the need for additional study.

Justin Birge

The Phenomenology of Sensory Gating Associates Predictably with Measures of Schizotypal Symptoms

Advisor: Dr. Patricia M. White

Physiological measures of sensory gating have been demonstrated to be reduced in schizophrenics and their first-degree relatives, relative to controls. It has been hypothesized that these impaired indices of sensory gating relate to symptoms of cognitive fragmentation and sensory overload observed in schizophrenics, although this has not been

demonstrated. To assess the relationship of stimulus overload and schizotypal symptoms in the general population, the Sensory Gating Index (SGI) and the Schizotypal Personality Questionnaire (SPQ) were administered to 491 undergraduates. Because previous research has shown relationships between schizoptyal symptoms, scholastic performance, and smoking rate, this study included self-reported smoking rate and grade-point average (GPA). As predicted, sensory gating (SGI) positively correlated with schizotypal symptoms (SPQ). Similarly, the predicted positive correlation between smoking and sensory gating (SGI) was demonstrated to be weak although statistically significant. In assessing whether SGI scores were elevated in smokers, males show the predicted pattern of greater sensory gating impairment in individuals who smoke, while females showed the reverse pattern. Self-reported GPA was found to correlate negatively with the SGI and SPQ but only in schizotypals. Overall, these results support the hypothesis that the phenomenology of sensory gating is associated predictably with measures of schizotypal symptoms as well as behavioral indices such as smoking and scholastic performance. Thus, this study lays the groundwork for assessing relationships between the sensations reported in the SGI and physiological measures of gating.

Siong-Guan Chng

Advisor: George M. Slavich

The Effects of Confidant Social Support on the Severity and Recurrence of Major Depression

Social support is considered to be a critical psychosocial factor in the buffering of clinical depression in individuals diagnosed with depression. Previous studies had shown that individuals with confidants as social support were less likely to develop depression following very stressful life events (e.g., death of a spouse) than those without confidant support (Murphy, 1982). The present study investigated the effects of confidant social support on the severity and recurrence of major depression. Two predictions were made. First, individuals who had their significant other as a confidant at Time 1 are predicted to have less severe depression at depression onset as measured by the BDI compared to those people whose significant other was not a confidant at Time 1. And second, individuals who had their significant other as a confidant were predicted to be more likely to recover from depression at Time 2 (six months after onset) as measured by the BDI compared to those people whose significant other was not their confidant.

Clintin Davis-Stober

Emergent Leadership in Focus Group Settings

Advisor: Dr. Holly Arrow

Emergent leadership has often been defined as the process through which a group member is granted leadership status in a previously leaderless group. The focus of this study is the behavioral process leading towards the emergence of a group leader, as well as a leader's impact on the group's overall performance. Focus groups of five members were recruited and given a discussion task involving intra-group discussion and consensus. Nine separate behaviors were recorded and regressed against the emergent leadership status of small group members. A factor analysis was then performed to identify possible common behavior categories. Data analysis is pending.

Eric Edmondson

Understanding the Lay Conception of Human Values and Goals

Advisor: Dr. Bertram Malle

The contemporary social-psychological literature contains surprisingly little research on human values. Moreover, definitions of the values concept are mostly the subjective opinion of the researcher and do not necessarily reflect the lay person's understanding. The purpose of this study is to document how lay people conceptualize values, and how they differentiate them from phenomena such as goals, principles, convictions, and attitudes. Data collected through computer-based questionnaires and a judgment task will provide the information needed to gather an intersubjective concept of values. Preliminary findings show that values, goals, principles, convictions, and attitudes are distinctly different in the lay person's mind. Additional analysis aim at identifying the specific features that make values distinct and give them their psychological and social functions.

Jason A. Fair

Maintaining Representations in Visual Working Memory

Advisor: Dr. Edward K. Vogel

Visual working memory facilitates the online storage and manipulation of visual information. Here, we recorded ERPs from subjects while they performed a visual WM task, in which they were presented a bilateral array of colored squares (4 in each hemifield) and were asked to remember the items in only one hemifield. Memory for those squares was tested two seconds later with the presentation of a test array that was either identical to the memory array or differed by one color. Approximately 200 ms following the onset of the memory array we observed a posterior slow negative wave over the hemisphere that was contralateral to the memorized hemifield in the array. This contralateral negativity persisted throughout the two-second blank delay period until the onset of the test array and appears to reflect the maintenance of these items in memory. In a control experiment we demonstrated that these results were due to memory maintenance and not spatial attention.

Christoffer Hansen

An Investigation into the use of Patriotic Symbols and Imagery in Advertising in Television Commercials airing after 9/11/2001

Advisor: Dr. Sara Hodges

This study investigated participants' reactions to advertising that used patriotism as a means of persuasion. The purpose of this study was to see whether the ads were stimulating patriotism beyond the initial message of 'buy our product', and to also create a reasonable intervention that prompts people to be responsible consumers of mainstream media. Pre-testing of subjects was required to obtain participants' initial level of patriotic attitudes. There were two experimental manipulations that acted as an intervention ('re-think' and 'exploit' conditions) and a control condition. After pre-testing, participants were recruited to watch nine recorded television commercials and fill out a post-test that was identical to the pre-test. Statistical analysis indicated a significant main-effect in which participants became less patriotic from pretest to posttest. However, this was not a result of the experimental manipulations.

Maureen A. Hansen

Influence of Gender Course on Attitudes about Gender

Advisor: Dr. Jennifer J. Freyd

This study examines whether a college course can affect students' attitudes about gender. Effects of one University of Oregon general education course, Psychology of Gender, on students were measured using an anonymous survey assessing hostile and benevolent sexism completed before and after the course. A significant main effect of the course on overall sexism scores was found, with the mean sexism score after the course being significantly lower than before the course. A marginally significant (p = .075) result was that hostile sexism scores decreased more than benevolent sexism scores. Although there was not a statistically significant three way-interaction, a trend in the data suggests that the hostile versus benevolent differences are due to the males, who show no evidence of decreasing benevolent sexism during the course although their hostile sexism scores drop, and females show comparable decreases in both. There is also a trend in the data suggesting that younger students' scores decreased more than those of older students. This study had some limitations, particularly due to the anonymous nature of the survey instrument. Nonetheless, the results provide insight warranting continued research to promote effectively designed curriculum to increase understanding regarding gender issues.

Catharine Hochhalter

Temperament, Relational Styles, and Depressed Mood in Early Adolescence

Advisor: Dr. Mary K. Rothbart

During adolescence, girls show an increase in depression and affiliative need (Cyranowski, Frank, Young, & Shear, 2000). Work by Ellis (2002) indicates that levels of affiliation and depressive mood in adolescent girls are highly correlated. The current study examined whether affiliation might be linked to depressed mood through a socially dependent personality style. The possibility that correlations between personality style and depressed mood may be mediated by temperament variables was also investigated. A sample of 56 adolescent females, between the ages of 11 and 13 years, completed three questionnaires: (1) The Early Adolescent Temperament Questionnaire-Revised (Ellis & Rothbart, in preparation), (2) The Personality Style Inventory-Revised (Robins, Ladd, Welkowitz, Blaney, Diaz, & Kutcher, 1994), and (3) The Body Changes Questionnaire (Carskadon & Acebo, 1993). Significant correlations were found between depressive mood and social dependency, autonomy, shyness, and frustration. A significant correlation between affiliation and depressive mood was not found, and, thus, the possible mediating effects of social dependency could not be examined. However, further analyses revealed that shyness and frustration appear to be mediating the relationship between social dependency and depressive mood.

Kurstin Hollenbeck

Action Parsing: A Study of the Role of Linguistic Labeling in the Segmentation of Action Streams

Advisor: Dr. Dare Baldwin

Past research studies have shown that both infants and adults use statistical information to segment continuous streams of language. This line of research extends that finding to segmentation of continuous streams of human action. The present study investigates the role of verbal labeling in action segmentation by adults. Subjects in the control group (n= 14) were shown one five minute long, silent video of a person performing a continuous stream of movement. The movement consisted of twelve individual actions, consistently occurring in four permutations of three, with the permutations repeated in random order throughout the five minutes. Subjects in the experimental group (n= 13) watched the same video, but with nonsense labels provided verbally for each of the four permutations every time they occurred. Subjects were then given a recognition test to assess whether they could distinguish between a permutation they had viewed repeatedly, and another group of three actions (each of which had occurred individually, but not in the order shown). Any difference between the groups' performances on the recognition task would indicate the effect of labeling on adults' ability to segment novel action. Data have not yet been analyzed.

David Huh

Voluntary vs. Involuntary Immigration in the Acculturation of Asian Pacific Americans

Advisor: Dr. Gordon C. Nagayama Hall

Asian and Pacific Islanders migrate to the United States primarily for educational and economic opportunities, but also involuntary due to the misfortune of war and conflict in the native country. The rapid and involuntary culture shock faced by refugees and other involuntary immigrants would be expected to generate a qualitatively different acculturative experience than families who immigrated under less stressful conditions. This study is one of the first to empirically examine the differences with respect to the circumstances of immigration. It was hypothesized that students whose families came to the U.S. due to circumstances beyond control would favor protection of their ethnic identity and have greater degrees of family conflict. Students of Asian or Pacific Islander descent were given a self-report questionnaire containing demographic, acculturation, family connectedness, and family conflict measures. In contrast with the original hypotheses, Asian/Pacific Islanders from involuntary migration backgrounds were actually more acculturated than their peers. Furthermore, those from involuntary migration backgrounds had lower degrees of family conflict. The findings suggest that greater acculturation may be protective in families who endured a high level of migration stress, which leads to a lesser degree of family conflict.

Akiko Ikkai

The Role of Muscarinic Receptors in Covert Orienting in Rats

Advisor: Dr. Richard Marrocco

The basal forebrain (BF) is one of the major sites of cholinergic projection to the cortex and limbic system, and there is evidence for its importance in spatial attention. In the current study, the role of muscarinic acetylcholine receptors in BF on reflexive visuospatial attention was investigated. Four Long-Evans rats were trained to perform CTD task; rats were trained to fixate at the central points and respond to the stimuli presented in the peripheral visual field. Reaction times (RT) to orient toward targets were measured and analyzed. The validity effect was defined as the difference in the mean RTs between valid (cue correctly forecasts the target location) and invalid (cue incorrectly forecasts the target location), and the alerting effect was defined as the difference in the mean RTs between double (both cues appear bilaterally, one target presentation) and no-cue (no cue presentation, one target presentation). Thirty-two gauge cannulae were implanted bilaterally into the BF. Either saline, oxotremorine (OXO) low dose (0.3μg/side) or OXO high dose (3.0μg/side) was infused 10 minutes prior to the CTD task. Contrary to our hypotheses, there was no significant effect of OXO on the overall validity or alerting effect. However, the analysis of cue type and cue-to-target interval (CTI) revealed that OXO high dose significantly slowed double cue RT at 700 msec CTI, which resulted in the smaller validity effect in that particular cue*CTI combination. There was a significant hemispheric effect. Rats responded faster to the targets presented in their right visual fields in any cue/drug combination. Cannuli placement confirmation with MRI is still in progress.

Kyoung Rae Jung

Emotional Arousal and Lexical Semantic Priming: A Hi-Density Event-Related Potential(ERP) study

Advisor: Dr. Don Tucker & Gwen Frishkoff

The present study used ERP and behavioral measures to examine effects of emotional arousal on semantic processing as subjects made lexical decisions to words ("targets") flashed briefly on a computer screen. Targets were preceded by single words ("primes") that were either closely related, remotely related, or unrelated ("semantic distance"), or by a neutral string of hash marks (#####). Participants were divided high and low Positive Affect (PA) and Negative Affect (NA) groups, according to their scores on the Positive and Negative Affect Scale (PANAS). Based on a previous study from our laboratory, we hypothesized that two ERP components that are sensitive to semantic priming, a medial frontal component (MFN), peaking around 300ms after target onset, and a later, more posterior component (P300/N400), would show differences only as a function of NA, reflecting the influence of negative affect on arousal and attention in semantic priming. As predicted, semantic effects were observed in both

the behavioral measures(accuracy and reaction time)and in both the MFN and P300/N400 components. The difference between unrelated and neutral conditions on both measures suggested an influence of suppression, as well as facilitation. Further, the high trait NA group displayed a greater MFN than the low NA group, independently of the semantic distance. Results are discussed in the context of prior theories about emotional effects on cognitive processing, and possible implications for neuropsychological theories of anxiety.

Asako Kanazawa

Cultural Differences in Dysfunctional Attitudes and Life Events in Depression

Advisor: George M. Slavich

Life stress has been found to influence the onset and maintenance of major depression when interacting with an individual's cognitive vulnerability (Beck, 1987; Monroe & Simons, 1991). However, few studies have examined the role that life stress and cultural specific dysfunctional attitudes play in the course of depression. The present study addressed this shortcoming in the literature by investigating whether a match between ethnicity and congruent stressful life events prior to depression onset predicts the dysfunctional attitudes and depressive symptoms in a sample of clinically depressed adults. 30 Caucasian Americans and 9 Asian Americans were examined at two time points. Stressful life events occurring prior to depression onset were retrospectively assessed at Time 1, and dysfunctional attitudes and depressive symptoms were assessed at both Time 1 and Time 2 (6 months after onset). The results did not support the hypothesis. However, interestingly, only Asian Americans who experienced stressful life events in the achievement-domain, significantly increased their depressive symptoms from Time 1 to Time 2.

Ayaka Kawakami

Ethnicity and the Measure of Schizotypal Personality Disorder

Advisor: Patricia M. White Ph.D.

Ethnic variability in the self-rating measures of mental disorder has been increasingly interesting because such measures usually contain questions regarding personal beliefs or behaviors, which may vary by ethnicity or culture. Data from over 6000 undergraduates from Los Angeles were classified into 17 cultural groupings and compared on a self-report measure of schizotypal personality disorder, the SPQ-B (the Schizotypal Personality Questionnaire; Raine and Benishay, 1995). Small but significant ethnic group differences and within-group variability differences were found. Although group differences in total scores were small, a significant number of individuals are diagnosed differently by using threshold scores from the general population versus ethnically-determined threshold scores for schizotypy. Also, these data reveal a higher prevalence of smokers among schizotypals, a finding widely reported for schizophrenia populations. Using ethnically-derived thresholds, schizotypal male but not females are shown to smoke more than non-schizotypals, but this interaction is only a trend using the general population threshold for schizotypy. Interestingly, this pattern of increased smoking among schizotypals occurs only in males in American-born respondents but among both genders in foreign-born respondents. Significant gender by ethnicity interactions also were demonstrated on the scores of the SPQ-B. Gender differences have been considered a potentially biological aspect of schizophrenia spectrum disorders, but among schizotypals, this data suggests cultural as well as biological influences for patterns of gender response and behavioral associations with schizotypy.

Halina Kowalski

Diathesis-Stress Domain Match: Testing Differential Predictions on Depression at Time 1 and Time 2

Advisor: George Slavich

The congruency hypothesis proposed by Beck (1967, 1987, & 1989) and his colleagues (Clark, Beck, & Alford, 1999) posits that negative cognitive patterns increase people's vulnerability to depression when they experience negative life events in "congruent" or highly valued domains. Previous research testing this hypothesis, however, has produced mixed results. Whereas some researches have found statistical interactions between interpersonal vulnerability and retrospective reports of negative life events (Clark et al., 1992; Robins, 1990; Robins & Block, 1988; Rude & Burnham, 1993), others have not (Lakey & Ross, 1994; Morgrain & Zuroff, 1994; Robin, 1990). The present study addressed these two differential predictions by administering the Life Events and Difficulties Schedule (Brown & Harris, 1978) and the Dysfunctional Attitudes Scale (Weissman & Beck, 1978) to 32 clinically-depressed adults. Support for the formulation that diathesis-stress matches predict severity of depression was found using a repeated measures ANOVA. Specifically, individuals experiencing a match were significantly more depressed than their no-match counterparts both at depression onset (Time 1) and six months after depression onset (Time 2), $F(1,30) = 5.97$, $p = 0.021$.

Mary Larson

Blame and Praise: Does the Relationship to the Actor Matter

Advisor: Gayle Pearce

The present study explores two hypotheses: (1) people will alter their blameworthiness and praiseworthiness assessments depending on their level of intimacy to the transgressor, and (2) any differences due to intimacy in blameworthiness and praiseworthiness assessments will be mediated by differences in controllability, responsibility, and intentionality to the act. The present study had participants assess the degree of blameworthiness and praiseworthiness for three different perpetrators: a brother who is ten years older than the participant, a close male friend, and an acquaintance. Results indicate that participants differed only in the way that they praised the three targets. Overall, brothers received stronger praiseworthiness assessments than friends. Brothers also received stronger praiseworthiness assessments for moderately positive acts than acquaintances. However, no differences occurred between the targets in terms of blameworthiness assessments for negative acts. This study indicates that participants attribute praiseworthiness differently depending on their level of intimacy to the actor.

Donovan C. Long

Changing Perspective: Investigating Actor-Observer Asymmetry

Advisor: Dr. Bertram F. Malle

Historically, social psychologists involved in work with attribution theory have postulated that ordinary people use a dichotomy of situational vs. dispositional factors to explain human behavior. Within this framework, an asymmetry was found such that "actors" tend to attribute their behavior to the immediate situation and "observers" tend to attribute others' behavior to their dispositional characteristics (Jones & Nisbett, 1972). A well-known experiment (Storms, 1973) appeared to eliminate this actor-observer asymmetry through a manipulation in which actors saw their own behavior from the external (observer) perspective. However, several attempts to replicate Storms' results have failed. Nonetheless, the hypothesis that actors change their explanations when they see their behavior from an observer perspective seems very plausible and worthy of testing. Perhaps, however, the disposition-situation dichotomy is not sensitive enough to capture this effect. The present study tests the changing-perspective hypothesis by replicating the original procedure employed by Storms (1973) but using a more complex and robust folk-conceptual model behavior explanation (Malle, 1999). It is hypothesized that the results reported by Storms (1973) will not be replicable using the traditional situation-disposition dichotomy but that the folk-conceptual analysis will yield meaningful actor-observer differences that are sensitive to a change in perspective.

Katie MacCionnaith

Impression Management

Advisor: Dr. Bertram Malle

Traditional attribution theory discusses actor/observer asymmetry in terms of person factors vs. situation factors and trait-like person factors vs. nontrait person factors. The present study uses an alternative theory, the folk-conceptual model, which has found that actors more often use reason and unmarked belief explanations of behavior, while observers typically use causal histories, desires, and marked belief explanations of behavior. The primary process that has been used to explain this asymmetry has been cognitive access, which claims that actors such explanations because they have mental access and memory for reasons (especially belief reasons), while observers do not have such access to another person's mind. The present study looks at an alternative hypothesis as to what process underlies the asymmetry, the process of impression management. This hypothesis suggests that actors try to present themselves as rational and deliberate, and therefore use reasons and particularly belief reasons to explain thier behavior. The present study had participants explain behavior from either the actor perspective or the observer perspective, and in either a control or impression management condition where participants were told to create a positive impression of the agent. The participants' answers were coded, using the F.Ex coding scheme to identify and clarify the various explanations. The actor and observer conditions were compared, with the prediction that asymmetries would follow past findings. The control and impression management conditions were also compared for types of explanation. Results are still being analyzed. The discussion focuses on the implications of the findings of impression management as the process underlying the actor-observer asymmetry in behavior explanation.

Melissa Magaro

The True Irony of Thought Suppression: Depression and Deficits in Inhibitory Control

Advisors: Dr. Michael Anderson and Dr. Anne Simons

Depressive and non-depressive undergraduate students participated the Think/No-Think paradigm (Anderson & Green, 2001). Participants learned word pairs that consisted of a hint word and a response word (e.g. AVENUE – MILE). Throughout the experiment they practiced recalling some response words while they avoided thinking about the responses to other hint words. Later participants were given cued recall tests to observe the accessibility of all of the response words. Anderson and Green (2001) found that on final memory tests, participants were less likely to correctly recall to those words that they practiced suppressing. In addition, this recall impairment corresponded to the number of presentations of the suppression item. As the amount of suppression practice increased, their ability to recall the correct response word subsequently decreased. I predicted that depressed participants would be less successful at preventing the avoided words from coming to mind compared to their non-depressed counterparts. Previous research, based on the ironic processes theory, has indicated that depressed populations have difficulty keeping unwanted material out of mind (Wenzlaff & Bates, 1998; Howell & Conway, 1992). The current study examined this phenomenon using a new paradigm, with the expectation that the depressed and non-depressed groups would show different patterns of results. This difference would have implications for the way that episodes of depression are understood and treated.

Yukiko Matsuura

Personality and Personal Values in Travel Destination Preference among College Students

Advisor: Lynn R. Kahle

The roles of personality traits and personal values in relation to travel destination preferences were investigated. It was hypothesized that extraverted and internally-oriented people would prefer adventurous travel destinations, and that neurotic and externally-oriented people would prefer busy/crowded destinations. The Mini-Modular Markers (a short form of the Big Five) and the List of Values (a personal value scale) were employed to measure individual trait and value factors, and the travel destination preference inventory was applied. Participants consisted of 147 students at the University of Oregon. The results of a linear regression analysis supported the ideas that both personality traits and personal values could be good predictors of travel destination preferences. The relation between the traits and values, and the applicability of individual traits and values in tourism were discussed.

Jennifer Miner

Parental Attitudes Toward Pretend Play and Imaginary Companions in Preschoolers

Advisors: Dr. Marjorie Taylor and Dr. Kirby Deater-Deckard

Thirty-six middle class parents of preschoolers and 37 parents of Head Start preschoolers responded to a questionnaire about their attitudes toward common child behaviors, including pretend play. The pretend play behaviors to which parents responded included simple object substitution, and three forms of role play (impersonation, invisible imaginary companion, and visible imaginary companion). Parents also reported on the imaginary companions of their children, if any were present. Results from this study indicate that Head Start parents were less positive toward pretend play than non-Head Start parents were, and that parents were generally less positive toward role play than toward object substitution. Parents' attitudes toward pretend play did not appear to relate to whether or not their child had an imaginary companion.

Matt Orbell

The Role of Physical Health in the Relationship Between Attractiveness and Cooperation: A laboratory study

Advisors: Dr. Warren Holmes, Jean Stockard, and Andre Lambelet

While there is a well-documented relationship between a subject's perceived physical attractiveness and others' willingness to cooperate with them, there has been no investigation of the role of perceived health in this equation—despite the fact that, in much evolutionary theory, health and appearance are claimed to be positively correlated. Cooperation in a prisoner's dilemma paradigm was investigated using subjects' health and physical appearance (attractiveness) scores as independent variables. It was hypothesized that subjects would favor cooperation with those whom they perceived as healthy as well as with those whom they perceived as attractive. Both predictions were supported. Subjects favored cooperation with those whom they perceived as healthy and, independently, did so with those they found to be physically attractive. An implication from this preliminary study is that health should be considered as well as physical attractiveness when investigating decision making in potentially cooperative social encounters.

Eve Rivinus

Why Stay?: Group Membership Preferences in Multiple Rounds of a Social Dilemma Experiment

Advisor: Dr. Holly Arrow

Participants played a multiple-round social card game (modeling a social dilemma) in which they formed groups repeatedly to earn money. After a group discussion on how to split the prize, participants made anonymous,

individual claims on the money. If they overclaimed ("cheated"), the entire group was penalized. Members then answered whether they wanted to stay in the same group another round. Participants who cheated, had low trust of their groups, were victims of cheating, and were in large groups wanted to leave their groups significantly more often than those who did not fit these criteria. Trust and cheating were also combined into one variable to look at their effects together. Low-trusting cheaters were least likely, whereas high-trusting cooperators were most likely to want to stay in their groups. Looking at the data qualitatively through participant comments also revealed differing motivations underlying the desire to stay in or leave a group.

Laura Shula

Visual Selective Attention – One Mechanism or Multiple Mechanisms

Advisor: Dr. Edward Vogel

Cognitive psychologists have conceptualized attention in many different ways. For example, selective attention is thought to be involved in the encoding of objects into visual working memory, as seen in the attentional blink (AB) phenomenon. However, attention has also been conceptualized as a spatial "spotlight-like" process that can be moved through space to facilitate finding a target among distracters, as shown in visual search tasks. These depictions of attention are intrinsically different, yet the question still remains whether attention is one mechanism with multiple jobs, or multiple independent mechanisms are responsible for each type of task. Using a dual task procedure that incorporated the attentional blink and visual search, the question was asked, while one type of attention is being used, can the other type of attention function normally? That is, can subjects shift their spatial attention to a new target location while they are simultaneously encoding a different object into visual working memory? The first target in the task was a number among a stream of letters, while the second target was a visual search task. The event-related potential (ERP) component, N2pc, was used to test whether an individual can move his/her attention during the attentional blink. Behaviorally, typical AB results were found with a suppression of accuracy for the second target with a short lag between the two targets. An N2pc was also found during and after the AB period suggesting that the attentional processes underlying spatial attention and visual working memory encoding are at least somewhat independent mechanisms.

Sara Stebner

Adults' Action Processing Relies on Detection of Statistical Structure

Advisors: Dr. Dare Baldwin

Recent work indicates sensitivity to statistical regularities within action may facilitate adults' action processing. For example, motion combinations that co-occur frequently are recognized as more familiar than novel combinations of these same motion elements. The present study examined whether adults' sensitivity to statistics in action requires dynamic presentation of motion; alternatively, adults may be able to track statistics if motions are depicted by still-frames capturing event boundaries (boundaries are known to be a focus of processing within action). Of interest is whether adults' sensitivity to statistical co-occurrences is robust enough to enable integration across static depictions of action. Twenty-four adults viewed a lengthy sequence of still-frame images in which four pre-established combinations of three motion elements were randomly intermixed. In a recognition phase, adults judged the highly predictable pre-established motion combinations ("actions") to be more familiar than novel combinations of the same motion elements ("non-actions"), indicating sensitivity to patterns of statistical cooccurrence when motion elements were static. These findings confirm adults' sensitivity to statistical regularities in action even in the absence of dynamic motion.

Sara J. Walker

Self-Control in Middle-School Students: Gender Effect, Stability, and Validity of Ratings

Advisor: Dr. Thomas J. Dishion

This study examines the development of self-control among middle-school children as rated by teachers and by the youth. The data were collected as part of an ongoing prevention trial referred to as the Adolescent Transitions Program (ATP) (Dishion, et al, 2002). In grades 6, 7 and 9 data were collected on 988 (50% female) students' self control, as well as on other aspects of the school and social adjustment. This study addresses four issues pertaining to self-control: the effect of gender, the stability of the trait over time, the predictive validity of self-report ratings on later problem behavior, and the convergent validity of self-report and teacher ratings. Analyses of ratings completed by 6th and 7th graders revealed a significant effect of gender on self-control. Existing research attempting to understand the stability of self-regulation during middle-school years suggests an increase in control and stability during this time (Murphy, et al, 1999); results from this study supports such a claim. The significant convergent validity of youth and teacher reports found in the current study's analyses serves to verify that the two reporting agents agree as to individual differences on students' self-control. Finally, the significant predictive validity of later problem behavior, suggests that self-control is a key skill to acquire during adolescence, as well as to identify a possible intervention target.

Undergraduate Honors Projects – 2001-2002

Christine Adams

The Influence of Attachment and Gender Traditionality on the Vocational Aspirations of Adolescents

Advisors: Leslie Leve and Dr. Kirby Deater-Deckard

The relationship between adolescent vocational aspirations, attachment to parent, and gender role traditionality was examined using a longitudinal sample of 351 children (approximately 50% female). Data was collected at age 14/15 and age 17/18. Two hypotheses were examined: (1) attachment security was expected to correlate positively with higher vocational aspirations, (2) higher gender role traditionality was expected to relate to lower vocational aspirations for girls and higher vocational aspirations for boys. In a simple correlation analysis, boys' attachment at age 14/15 showed a significant positive relationship to higher vocational aspirations at age 17/18. No significant relationship between attachment and vocational aspirations was found for girls. A hierarchical regression analysis on the gender role traditionality hypothesis showed trends toward significance for both females and males, suggesting that further research is needed in this area.

Michelle M. Ayres

Gender Differences in Reported and Displayed Psychological Aggression

Advisor: Deborah Capaldi

There has been a significant amount of research on communication between men and women in intimate relationships. Evidence suggests that both men and women use psychological aggression within relationships at approximately equal rates. The current study examines gender comparisons of the severity of psychological aggression employed by young adult partners in heterosexual relationships. Additional analysis involved examination of gender differences in the rate of positive affect used during interactions. Study questions were examined for 158 young adult men and their partners involved in a study of couple's relationships. Psychological aggression and positive affect were assessed through questionnaires and observational coder ratings. Findings indicated little or no gender difference in the prevalence and/or severity of psychological aggression used in intimate relationships. Results suggest couples counseling should address the aggression of both partners in order to improve communication and reduce the escalation of negative affect into psychological and physical abuse.

Charmaine Chan

Does similarity breed contempt? Revisiting the role of similarity And intentionality in blaming responses

Advisor: Gale Pearce

Festinger's social comparison theory suggests that people pay closer attention to the actions of similar others than dissimilar
others. Taylor and Mettee (1971) suggested that, this attentional salience translates into stronger negative emotions and more negative personality appraisals for the interpersonal transgressions of a similar other than a dissimilar other. However, their previous work lacked a direct measure of attentional salience so the exact hypothesis could not be tested. In the present study, participants read about either an intentional or unintentional transgression committed by a peer, who they expected to meet. Half of the participants were told that they were similar to their peer while the other half was told that they were dissimilar. In contrast to Taylor and Mettee's hypothesis (1971), participants' emotional responses to the transgression and personality assessments of their peer were not influenced by the similarity manipulation. However, participants expressed greater liking and desire for friendship with a similar peer. The intentionality manipulation did result in significant differences such that participants had more positive emotional responses and thought that their peer was more responsible and conscientious when the peer committed an unintentional act.

Cory Coleman

Neural Network Models of Thermotaxis in the Nematode Caenorhabditis elegans

C. elegans is a 1mm long soil nematode which is capable of remaining at a preferred temperature by navigating a thermal gradient through a behavior known as thermotaxis. In order to investigate the neural mechanisms underlying thermotaxis, both feedforward and recurrent neural networks are successfully trained to control thermotaxis in a computer model of the nematode. Additionally, existing robotics algorithms for thermotaxis-like tasks are used as the inspiration for a neural-hybrid control system which not only mimics the thermotaxis behavior but also replicates the effects of laser-killing individual neurons in C. elegans.

Kristin Flegal

Putting It In Words: Does Verbal Overshadowing Affect Motor Memory?

Advisor: Dr. Michael Anderson

Describing memories for difficult-to-verbalize perceptual experiences has been shown to impair later recognition memory for those experiences, a phenomenon termed "verbal overshadowing." Previous investigations have demonstrated the detrimental effect of verbalization in a number of perceptual modalities. The present study examines whether the verbal overshadowing effect applies to motor memory. Specifically, does verbally describing a recently practiced motor skill (golf putting) impair one's ability to perform that skill?

Bradley Kauwe

An attentional Background: The Role of Attention in an Apparent Motion Visual Illusion

Advisor: Dr. Paul Dassonville

The Roelofs effect is a visual illusion that produces apparent motion of a stationary object in the opposite direction of a moving background, similar to the apparent motion of stars in a moving field of clouds. Given the overt imposition of a moving background, the question is what role does attention play in this illusion of mislocalization? A minimal visual cue was used to draw attention to one side of the visual field during the presentation of a target. Targets were significantly mislocalized in the opposite direction of the cue, apparently drawing the perceptual center towards the cued direction along with the remembered location of the target positions. However, auditory cues had little effect on target localization. Ultimately, very little visual stimulus was required to elicit an induced motion effect, suggesting the role of attention in perceiving visual space, but somewhat divorced from general or cross-modal attention. Visual attention may consolidate space around an attended location, thus expanded the apparent distance between perceived objects and loci of attention.

Alice M. King

Always Look on the Bright Side of Life: Suppression using Words with Negative Valence

Advisor: Dr. Michael Anderson

The notion of repression has been controversial throughout its history. Recent work using the think/no-think (TNT) paradigm suggests, however, that people can actively inhibit memories for emotionally neutral experiences. The current study uses the TNT paradigm to ask whether emotionally negative words can also be suppressed as effectively as neutral words. Twenty-four introductory psychology students were instructed to recall, or to try to avoid recalling, previously studied negative and neutral word pairs during a series of trials, either 0, 1 or 16 times. The Dissociative Experiences Scale and the Freyd/Goldberg Trauma Survey were also administered to participants. Participants' ability to suppress negative words, as well as the relation of this ability to trauma history is discussed.

Bridget Klest

Trauma, Dissociation, and Attention: Memory for Neutral and Traumatic Stories

Advisor: Dr. Jennifer J. Freyd

Previous research has consistently found a positive correlation between history of trauma and dissociation, and recent research (DePrince and Freyd, 1999) suggests that people who score high on a measure of dissociation may have enhanced abilities at dividing attention and suppressing traumatic information from consciousness. The current study set out to replicate these findings using more complex stimuli than have been used previously. Fifty-two

subjects, half scoring high and half low on the Dissociative Experiences Scalewatched neutral videos while listening to neutral and trauma related stories. High dissociators remembered significantly more than low dissociators when listening to neutral stories, and performed no differently than low dissociators when listening to trauma related stories. This interaction was significant, t (50) = 1.72, p < .05 (one-tailed), and this finding is consistent with previous research.

Karman Leung

Acculturative Influences on Body Dissatisfaction, Fear of Fat and Self-Esteem: A Comparison between European American and Asian American College Women

Advisor: Dr. Gordon Hall

This study compared body dissatisfaction, fear of fat, body image and self-esteem between 134 European American and 27 Asian American college women. It also investigated the effect of acculturation on these aspects within the Asian American group. Racial differences were not found. There were no significant differences in the degree of body dissatisfaction, fear of fat and self-esteem between the two groups. Acculturation did not have a significant effect on body dissatisfaction, fear of fat, body image or self-esteem among Asian American college women. However, intercorrelations were found among the measures used in this study. These findings suggest that Asian American women have similar beliefs on body image and self-esteem as their European American counterparts. Factors other than acculturation may have influenced the level of body dissatisfaction and self-esteem in Asian American women.

Brad Lytle

How Feelings of Guilt Affect Empathy

Advisor: Dr. Bertram Malle

The present study examines the differences in the effect guilt will have on empathy when guilt is caused by breaking a moral rule (moral guilt) or a social standard (social guilt). Participants wrote about a past event in which they felt social guilt, rule guilt, or no guilt. Each group had 20 participants with ages ranging from 17 to 22. The present study examines empathy in two ways, by measuring fantasy, and empathetic accuracy. A fantasy score was obtained by counting the number of times thoughts and feeling were added to a fictional story. An empathetic accuracy score was obtained by rating the accuracy of inferred the thoughts and feelings of a target person. No effect of guilt was found on either empathy task.

Sarah Murrell-Kindle

To Laugh, Or Not to Laugh?: Individual Differences in the Enjoyability of Aggressive Humor

Advisor: Dr. Ellen Peters

Gray's Behavioral Inhibition and Activation Systems theory was used to examine the impact of individual differences on the degree to which participants found aggressive humor enjoyable or upsetting. Ninety-one female undergraduates watched and evaluated 18 one-minute cartoon films clips (nine aggressive and nine non-aggressive) in small groups. Participants also periodically rated their mood, and evaluated such cartoon nostalgia as like or

dislike for the main cartoon characters. In contrast to the hypotheses, few significant correlations were found with the Behavioral Inhibition and Activation Systems scales. However, significant correlations were found between rankings of violence and upset feelings, and both positive and negative mood decreased over the course of the study. Implications of social influence variables, such as participant laughter, are discussed.

Emily Neuhaus

Forest for the Trees: The Weak Central Coherence Theory of Autism

Advisor: Dr. Dare Baldwin

Central coherence is defined as the ability to integrate otherwise isolated information to arrive at a coherent and useable whole. The current paper explores the theory put forth by Frith (1989) that weak central coherence is the fundamental cognitive feature underlying autism. The diagnostic criteria for autism are reviewed, and Frith's theory is subsequently explored in depth. Empirical evidence from the domains of visuo-spatial, linguistic, and social processing is presented, as are challenges to the theory. It is concluded that Frith's theory parsimoniously accounts for the assets and deficits of autism, including tentative support for the hypothesis that weak central coherence underlies autism's theory of mind impairments. The discussion is followed by a research proposal intended to examine the links between theory of mind and central coherence, which employs established research methods as well as one new measure. Potential areas of future research into central coherence are speculated upon, and include schizophrenia and dissociative disorders.

Rachel M. Nichols

The Role of Mother-Infant Interactions in Language Acquisition: A Fresh Look at the Fine-Tuning Hypothesis

Advisors: Dr. Dare Baldwin & Rebecca Brand, M.S.,

The current study considered the fine-tuning hypothesis from the point of view of semantic development. Mothers and their infants aged 16-20 months were observed in a natural play setting using toy sets that were assembled based on reported vocabulary of the infants. A three-part prediction was made; first, that mothers would utilize more supportive kinds of speech when speaking of objects for which infants had no label, second that the use of supportive speech would decrease as infants aged and vocabulary increased, and third, that mothers would speak more about objects for which infants had no label as infants aged. None of the predictions were borne out; however, an interesting trend of speaking more often about typical than atypical objects was observed. Significance of the findings is discussed and ideas for future research are proposed.

Veronica Stotts

Deconstructing Barbie: The Pressure Women Feel to Obtain an Ideal Body: An Evolutionary vs. Social Identity Perspective

Advisor: Dr. Gordon Hall

From an evolutionary perspective, men and women should have the same vision of the ideal female body because women would strive for the body. However, previous evidence suggests that women actually strive for a body that is thinner than the male ideal, suggesting thinness may be a social construct. This would indicate that women strive to

be thin because they are striving to attain a standard set by other women, not in order to attract a mate. In the current study, men and women did not differ on the waist-to-hip ratio or level of thinness they thought to be ideal for women. thinness is a social construct, based on the Social Identity Theory. The Social Identity Theory proposes that all knowledge is socially derived through social comparisons , which indicates that women attain knowledge of the ideal female body by comparing themselves to other women. The theory also proposes that social competition is one of several strategies group members use to achieve positive distinction. Results in the current study support these components of the theory, supporting the hypothesis that thinness is not a result of evolution, but rather is socially derived.

Undergraduate Honors Projects – 2000-2001

Angela Adams

Predicting Adolescent and Runaway Behavior

Advisor: Dr. Tom Dishion

This study examined adolescent runaway behavior from an inpatient setting. The data was collected from the case files of 91 ex-residents of a local adolescent residential treatment center. Five variables were tested as possible predictors of runaway behavior: having a history of running away, having a history of sexual abuse, having a history of physical abuse, number of previous out-of-home placements, and proximity of home. It was hypothesized that residents with either a history of running away, a history of sexual abuse, a history of physical abuse, multiple previous out-of-home placements, or a home that is in the same area as the treatment center would be more likely to run away than those residents who do not have these histories/characteristic. Residents who ran away from the treatment center were more likely to have a history of running away, a history of sexual abuse, and multiple previous out-of-home placements. The results suggested that a resident's likelihood of running away could be predicted based on certain personal characteristic recorded at intake.

B. Renee Ahnert

The Social Outcomes of Empathic Accuracy

Advisor: Dr. Sara Hodges

The primary purpose of this research is to investigate the social outcomes of empathic accuracy. The main hypothesis is that positive regard towards a perceiver increases as that perceiver's empathic accuracy (with respect to the target in question) increases. In other words, we like people better if they are accurate in understanding our moment-to-moment thoughts and feelings. These questions were addressed using a widely used empathic accuracy paradigm, whereby actual thoughts and feelings reported by the target are compared to perceiver's inferences of those thoughts and feelings. In addition, perceivers wrote a free-form letter to targets. Targets, after reading the inferences and the letter, rated each perceiver on a number of dimensions related to positive regard. The target subjects (N=20) were first-time mothers whose babies were between two and four months of age. Initial results

indicate that the perceiver's empathic accuracy does predict a global measure of positive regard reported by targets towards those perceivers. It remains to be seen, however, whether empathic accuracy will still be a significant predictor once some of the other variables are taken into account. Future research on this project will address this question.

Melanie Ayres

Gender Schemas in Children's Judgments of Others

Advisors: Heidi Ellis and Dr. Jeffrey Measelle

At around age 4, children have been found to make gender typical associations and are already developing a gender schema. This study seeks to understand whether or not preschool children will use their gender knowledge to make differential judgments of other children. The participants, male and female subjects ages 38-65 months, were read a story in which the story character was either referred to as male or female. At the conclusion of the story, the participants were asked several questions about how they expected the character to behave in various situations. They were also given a series of dichotomous adjectives and asked to choose which one best described the story character. Partial support was found for the hypothesis in that kids rated the characters somewhat differently based on the character sex, but it is suggested that the child's sex may also play a role in how children think about others.

Danielle Chantiny

The Effect of Stroke on Handedness

Advisor: Dr. Paul Dassonville

The cerebral hemispheres are asymmetrical and specialized, suggesting that one hemisphere might be better equipped to control fine motor movements in the hand. However, this does not explain why approximately 90% of the population is right-handed while the other 10% is left-handed or ambidextrous, nor does it explain why some people have very strong preferences for one hand over the other while others only weakly prefer one hand. While hand preference remains fairly stable over a lifetime, hand performance may change due to unfortunate circumstances such as a stroke. Using a modified Edinburgh Inventory participants in this study declared hand preference before and after the stroke. General findings show that after moderate or severe stroke, participants express preference for the unaffected hand regardless of hand preference prior to the stroke. Contrary to the hypothesis, no patterns were found after mild strokes; some participants showed no alteration in hand preference from pre to post-stroke, while others' preference changed only slightly, and still others demonstrated strong preference for the unaffected hand.

Ryann Crowley

Gender and Trusting

Advisor: Dr. Holly Arrow

This study investigates the trusting behaviors of men and women. The participants of this study are 261 women and 104 men enrolled as undergraduates at the University of Oregon. Trust was measured using a social card paradigm. The results of this experiment indicate that women are marginally more trusting than men ($p<.037$, $df=276$) and that

women trust women more than they trust men (p<.007, df=89). Understanding that there are differences between males and females helps improve environments where males and females must interact. Knowing the trusting behaviors of males and females will help further the investigation of gender differences.

Brooke Hallinan

Experience, Empathic Accuracy and Alcoholism

Advisor: Dr. Sara Hodges

Have you ever thought to yourself, "What on earth is that person thinking?" Wouldn't it be nice if people could learn ways to better infer with the thoughts and feelings of others? This experiment examines empathic accuracy, or the ability to accurately infer the thoughts and feelings of others. In particular, I examine how both Alcoholics Anonymous (AA) members and non-alcoholic college students infer the thoughts and feelings of other AA members. I am particularly interested in examining how similarity of experience or imagining oneself in a similar experience affects empathic accuracy for someone describing his or her experiences as an alcoholic. The subjects included 10 AA members as targets, 10 AA members as perceivers and 40 non-alcoholic college students. The results suggest that neither shared experience nor imagining oneself in a similar experience helps increase one's ability to accurately infer an alcoholic's thoughts and feelings.

Kumi Kitano

Japanese-American Differences in Social Desirability Valuing

Advisor: Dr. Gerard Saucier

The present study was designed to study judged social desirability values between Japanese and Americans. Fifteen Japanese students (male=7 and female=8) and around twelve American students (male=6, female=6) will be asked to complete both English and Japanese versions of questionnaires. A t-test and ANOVA will apply to the data of social desirability scores to analyze the relationship between personality-descriptive adjectives and cultural values. In addition, comparing a Japanese questionnaire with an English questionnaire within the same cultural group, different language values will be examined. The main research hypothesis is that there will be significant differences of social desirability values between Japanese culture and the United States culture. Specifically, since Japanese culture is strongly associated with the concept of omoiyari, translated generally into empathy, my specific hypothesis is that Japanese will tend to rate as more desirable empathy-related personality terms than will Americans

Tiffany L. Lewis

Beyond the Fight Song and "Louie Louie": A Study of Intergroup Perception among Members of the Oregon Marching Band

Advisor: Dr. Mick Rothbart

Approximately 100 University of Oregon marching band members participated in this study which addresses two general issues regarding stereotyping and intergroup perception within a marching band. The first issue of interest is ingroup favoritism: Do the "families" of woodwind, brass, and percussion each view themselves as superior to the

other? Ingroup favoritism was assessed through subjects' ratings of each family's musical contribution and importance to the band. The second issue of interest compares actual and perceived temperament differences between families of the band. Subjects filled out a modified adult temperament measure first for themselves and then as they thought typical members of each family would. There was no evidence of ingroup favoritism between woodwind and brass families but strong support or stereotyping. Implications for social psychology and music education are discussed.

Quinton Moretz

Voluntary Suppression of Information from Working Memory

Advisor: Dr. Mike Anderson

This experiment tests the idea that through the use of inhibitory control processes, a person can voluntarily suppress unwanted information from working memory when cues to this information are presented. Results show that as the repetitions of suppress trails increase, there is a decrease in final recall when cued with the same information.

Hadley Morotti

Empathy, Gender and Physiological Feedback

Advisor: Dr. Sara Hodges

The study examined the effect of false physiological feedback on empathic accuracy and empathic concern. College-aged participants (n=49) watched a video of a graduate student explaining why she needed participants for a study. Participants were assigned to either a control or false feedback condition, although all of them were attached to false physiological feedback equipment. False feedback participants heard a series of sounds that were supposedly related to their skin conductance and indicated a high level of arousal, whereas control participants heard nothing. After the video, participants completed measures of empathic accuracy and empathic concern and indicated their willingness to help the graduate student by donating hours for free for experiments. Contrary to predictions, no significant differences were found between the two experimental groups, nor were there any sex differences, for any of the measures, suggesting that the false physiological feedback did not affect participants' perceptions of the target.

Ingrid Perdew

Dissociation, Abuse Histories and Types of Abusers

Advisor: Dr. Jennifer Freyd

A survey was completed by 26 women, who were experiencing different types and levels of abuse from their intimate partners. Information was gathered for each type of reported abuse, including severity, frequency, psychological impact on the victim, and the perpetrator's use of denial and blame. Analyses determined if the women's dissociation levels were related to their abuse histories. In addition, this study examined the characteristics of each abuser, and then compared these characteristics to different typologies of male batterers. Some methodological limitations of this study are reviewed, and suggestions for future research are offered.

Catherine J. Peterson

Individual Differences and Group-Inclusion Strategies

Advisor: Dr. Holly Arrow

The strategies utilized by an individual to become included into a group are affected by individual differences. Sixty-seven male and female, undergraduates at the University of Oregon, ranging predominantly in age from 18 to 25, were placed in a game situation that involved repeatedly forming small groups. These interactions were video recorded and coded for strategies utilized and the resulting success, or lack of (inclusion versus exclusion). These individuals and their interactions were also assessed using Robert F. Bales SYMLOG (1990); and the subjects assessed their own personalities using Gerard Saucier's Mini-Markers (1994) for comparison, and in hope of possible correlation with strategy use. Results are still forthcoming.

Stephanie L. Skow

The Search for Meaning in PMS

Advisor:

The present research focuses on examining possible benefits or secondary gains that PMS might promote. Secondary gains could include absence from school or work, permission to express anger, heightened sensitivity, or even eating certain foods, such as chocolate. Thirty-three female college freshmen and sophomore students completed questionnaires that assessed negative PMS symptoms, PMS benefits, and PMS treatments. First it is predicted that women will report experiencing PMS not only during the premenstrual period, but also during menstruation. The second hypothesis states that women will experience positive benefits as well as negative symptoms of PMS. Finally, it is predicted that there is a positive correlation between positive and negative symptoms of PMS. The results support all predictions. Women do report experiencing PMS during both the premenstrual and menstrual periods. Participants also report experiencing positive benefits as well as negative symptoms of PMS. Positive correlations do exist between clusters of negative symptoms and PMS benefits. The meaning behind the Western phenomenon of PMS is discussed, as well as women's definition of PMS.

Kumiko Yokokura

Culture Shock Among International Students

Advisors: Jason Quiring and Dr. Gerard Saucier

Culture shock among international students was examined at the University of Oregon. Three factors were used in determining culture shock: communication, academic, and preparedness. As the concepts of individualism and collectivism suggested, it was hypothesized that region of origin could contribute to the degree of culture shock experienced by Asian and European students. Twenty-six Asian international students and 25 European international students participated to fill out the survey. The results were statistically significant, which supported the hypothesis that culture shock was greater among Asian students than European students. Furthermore, the Asian students experienced more difficulties in communicating with Americans, had more concerns about academics, and showed greater efforts to prepare to come to the United States as compared to the European students.

Undergraduate Honors Projects – 1999-2000

David Boyer

The Relationship between Religiosity and Depression with Discordant Intimate Relationships

Advisor: Dr. Hy Hops

Pre-existing questionnaire data, from Oregon Research Institute's (ORI) SMOFAM project, from 274 participants for the 1996-1997-assessment year (T-10), were examined for relationships between relationship discord, depression, and religiosity. Religiosity was defined as religious belief and religious activity. For the purpose of this study, altruism and social support were also associated with religious activity. Hence, there were four factors, along with general religiosity, that were examined: religious belief, religious activity, altruism, and social support. The objective was to determine if a relationship exists between reduced incidence of depression and the four factors mentioned above, within discordant intimate relationships. This research was deemed important for three reasons: (a) the high incidence of co-morbid marital discord and depression found in much of the recent research, as well as in the present study, (b) religiosity, altruism, and social support have been associated with both relationship satisfaction and depression, (c) there is little research to be found in this area. It was hypothesized that religiosity, in general, would be significantly correlated with depression regardless of relationship satisfaction. Further it was hypothesized that altruism, social support, religious activity, and religious belief would all be found to be significant predictors for depression scores regardless of relationship satisfaction. Finally, it was thought that religious belief would be found to be the least predictive and altruism the greatest predictor for depression scores regardless of relationship satisfaction. The hypothesis regarding the relationship between general religiosity and depression was not supported, with the exception that a significant positive relationship was found between religiosity and depression within discordant relationships. The hypothesis that altruism, social support, religious activity, and religious belief would all have predictive value for depression scores as well as the hypothesis for the ordering of predictive ability of altruism and religious belief remained unsupported as well. An interesting significant interaction was found between relationship satisfaction and religious activity. Within discordant relationships, the incidence of depression was high for subjects with high religious activity, while the incidence of depression was low for those with low religious activity. Within satisfying relationships, the incidence of depression was low regardless of religious activity. One possible explanation for these findings is that people in discordant relationships and are depressed are searching for a solution to their problems by participating in religious activities and have yet to find relief.

Kate Brainard

Premenstrual Dysphoric Disorder

Advisor: Dr. Scott Monroe

Premenstrual dysphoric disorder (PMDD) is a proposed psychiatric disorder. Much controversy has been raised in response to a diagnostic category pathologizing an otherwise normal biological function– the menstrual cycle. PMDD is considered to be a subset of the more common and less severe premenstrual syndrome (PMS). Many of

the issues that have obstructed the future direction of PMS are also questionable factors in the construction of the diagnostic category for PMDD. Some common problems related to PMDD are 1) the rating of symptom severity, 2) there is no etiology for the disorder, 3) many women with premenstrual complaints are present with an additional, comorbid disorder 4) there are no known effective treatments, 4) most women with premenstrual complaints will not meet the strict diagnostic criteria for PMDD. The nature of this paper is to review some of the recent literature on PMDD and address the issues which contribute to the problematic construction of PMDD.

Jessica Calhoon

Gender and the Development of Visual Sequence Learning

Advisor: Dr. Mary Rothbart

Examined the gender differences in the development of visual sequence learning, using context dependent sequences, relating this development to executive attention. A random sample of 43 infants ranging in age from 24 – 25 months (11 females, 11 males) and 30 – 31 months (10 females, 11 males) were used for the analysis. Participants were analyzed by coding anticipations to ambiguous and unambiguous sequences within a given sequence. The visual sequence task consists of cartoon characters accompanied by beeping sounds presented on 3 computer monitors, labeled 1, 2, and 3, in a predetermined sequence (1213 or 3231 for counterbalancing). Unambiguous sequences are those in which the participants anticipate, or look to 1 when at 2 or 3. Ambiguous sequences are those in which the participants are looking at 1 and must go to 2 or 3. Ambiguous sequences require the development of context dependent learning capabilities, and thus demonstrate the development of executive attention. In both age ranges using a univariate analysis of variance, female participants approached significance with better mean performances than the male participants under the ambiguous condition. The nonambiguous condition produced means indicating that males 24 – 25 months performed better than females of the same age. However, the 30 – 31 month old female unambiguous means were consistent with the results from the ambiguous condition. According to the results, female infants 24 – 25 months and 30 – 31 months are approaching significance with respect to demonstrating earlier development of context dependent learning capabilities in ambiguous associations when compared to male infants of the same age. Although no results showed statistical significance, it is concluded that females may indeed develop the mechanisms necessary to perform context dependent learning associations at an earlier age than males.

Jessica Craine

Juvenile Detention Size and Behavior Dynamics

Advisor: Dr. Tom Dishion

This study examined juvenile detention facility size and behavior dynamics therein. Participants consisted of 70 youth in the custody of Lane County. Pre-existing data from the month of February was analyzed using the Pearson's correlation. Participants were scored by detention staff on a series of behaviors. It was hypothesized that group size and points would be negatively correlated. No correlation was found between the total population size and behavior dynamics. Once the lowest in the hierarchy of youth was removed a negative correlation was found. A positive correlation was found for the lowest level possibly due to lack of scoring.

Mariah Davis

Emotional and Cognitive Control

Advisors: Andrea Berger and Dr. Mary Rothbart

Cognitive control is involved in attentive, purposeful control of normally automatic mental events. A common example of cognitive control is the Spatial-conflict task, which is a matching task designed such that the stimulus and response are spatially incongruent during half the trials. Slower RT have been consistently found in the spatially incongruent trials. Emotional control is involved with the processing of stimuli which is emotional in content but the emotionality is not a relevant aspect of the task (such as a Stroop color-naming task in which color words are replaced with neutral/threatening words). RT are consistently slower when subjects deal with emotional stimuli. A considerable amount of research has found links between cognitive and emotional control. The purpose of our study was to construct a spatial conflict task with either positive or negative emotional pictures to see any interaction between the two constructs. 44 subjects participated in the study; for half of them the task was designed so that the spatial conflict would be vertical (up and down) and for the other half the spatial conflict task was horizontal (left and right). Subjects were asked to match pictures that appeared on computer screen to either a button which read "Animal" or one that read "Non-Animal" The task was set up on a computer touch-screen such that subjects pressed an upper or lower box in the vertical trials and a left or right box in the horizontal trials. A within subjects (repeated measures) ANOVA was run, and although in both groups there were consistent differences between the spatially compatible/incompatible trials as well as the emotionally positive/negative trials, no interaction was found between spatial compatibility and emotional valence. Results did show that subjects consistently responded slower to the upper position (vertical trials) as well as to the left hand side (horizontal trials). We hope to eliminate this confounding effect, and perhaps in refining this experiment will yet uncover an interaction between cognitive and emotional control.

Ryan M. Hampton

Effects of Minority Status, According to Gender, on Preference of Group Formation

Advisor: Dr. Holly Arrow

Minority status, according to gender, in groups is seen as critical in determining whether a person will prefer to form with the opposite or same gender. "Skewed" groups contain a large percentage of one gender (numerical "dominants") over the other gender (rare "tokens"), while "even" groups contain equal numbers of both genders. The results from the experiment show that both men and women when put in a minority or "token" position according to gender are more likely to want to form a group with individuals who are of the same gender. In contrast, when the numbers of men and women in a group were an identical ratio, both men and women were more likely to want to form a group with the opposite sex. This study discusses the relevance of these results to whom people prefer to form with and work with in group settings.

Heather Harvey

Exploring the Relationship between Inhibitory Control and Private Speech

Advisor: Laura Jones and Dr. Mary Rothbart

The present study investigated the relationship between inhibitory control and private speech in children (18 to 36 months). Increased private speech use in children 18-36 months may aid children in regulating their actions via planning and keeping the goal in mind, including inhibiting distractions in their immediate environment or errors that may interfere with reaching the stated goal. This relationship was tested with 63 children total from different

age groups who performed the Block Task, an inhibitory control task. The childrens' verbal ability ratings (MacArthur Communicative Inventory) and caregiver ratings of inhibitory control (TBAQ-R) were examined as well. The results showed that with age, the childrens' use of narrative and corrective speech increased until 36-months when the use of narrative and corrective speech decreases. The Block Task scores also increased with age. There was a significant positive relationship between the score and the use of narrative speech. A significant positive relationship between inhibitory control and private narrative speech did not occur. Thus, the results show that age plays a larger factor in private speech development and inhibitory control development but they may also affect one another. However, this is all based on what task is used and the Block Task may not be the appropriate task to test the private speech variable. The older children may have found the task easy enough to internalize their private speech and not speak as much. Future research should include a battery of tasks in order to have enough coding of speech and to consider inhibitory control.

Linda Ivy

Direction or Dimension: How Will I Choose?

Advisor: Dr. Sara Hodges

Preference judgment strategies were examined in 175 college students who were asked to rate pairs of car descriptions. The cars either shared 3 positive features and had 2 unique negative features, or else shared 3 negative features and had 2 unique positive features. Each car also had one feature (gas mileage or odometer mileage) that could be directly compared between the two cars (common dimension). Past research has shown that participants using feature-matching strategies tend to "cancel out" shared features and focus their judgments on the unique features of the second object (direction of comparison strategy). Other studies have shown that participants prefer an option that ranks more favorably on a common dimension, regardless of other features (dimension strategy). In this study, stimuli were arranged so that the car ranked higher on the common dimension was never the car that would be favored by direction of comparison. In addition, some participants were encouraged to view the common-dimension feature as a shared feature by adding a category label (i.e., "good gas mileage"). Participants' evaluations of the cars indicated no clear preference for either strategy, except that participants who accurately recalled the positive common dimension feature for both cars tended to prefer the car that was higher on this dimension, possibly indicating use of the dimension strategy.

Nga-Lok Lam

Anxiety-Linked Performance Deficit and Suppression Mechanism

Advisor: Dr. Robert Mauro

The research examined the hypothesis that anxiety-related performance deficit is caused by a weakened inhibitory mechanism, and the deficit will be most obvious when working memory capacity reached its limit. In the current experiment, 30 participants were first asked to memorize a digit string with either a high or low memory load condition, and then complete a suppression task developed by Gernsbacher and Faust (1991). Participants' reaction latencies under two memory load conditions and two state anxiety conditions were measured and compared. Contrary to our expectations, there was no significant main effect of memory load on decision latencies of the suppression task. Furthermore, subjects' performance under the high state anxiety condition was significantly better than their performance under the low anxiety condition. Some explanations for the findings as well as future research directions are discussed.

Tanya Nahman

Children's Error Detection and Correction Abilities

Advisor: Dr. Mary K. Rothbart

The current study examines developmental trends in children's ability to detect and correct errors, as a macroconstruct of executive function. Zelazo et al (1997) defines four stages in which a child proceeds from recognition of a problem to its solution. These stages include: Problem representation, planning, execution-intending/rule use, evaluation-error detection/correction. This study focused on the evaluation stage of problem solving involving error detection and correction. The process of error detection/correction is an important part of self-regulation in that it is problem solving to reach a goal. Participants in this study included 21 children at 18 months old, 24 children at 24 months, 21 children at 30 months and 15 children at 36 months. Each participant was presented with three increasingly difficult stages of a nesting cup task and asked to stack the set of cups, graded by size, to reach the goal of a completed stack. Significant developmental trends were found in the children's ability to correctly nest the cups, as well as complexity of error correction strategies. In addition, relationships between parent-report temperament scores, particularly those aspects dealing with executive function, and performance on the nesting cup task will be examined.

Nicole Scaife

Expectations and Memory for Recurrent Menstrual Pain

Advisor: Kristi Klein

The purpose of this research was to determine the relationship between expectations for pain, experienced pain, and remembered pain for women experiencing menstrual pain. Similar studies with patients experiencing acute pain have found a stronger relationship between expectations and remembered pain than between experienced and remembered pain. We hypothesized parallel results with recurrent menstrual pain such that there would be a stronger relationship between expected and remembered pain than between experienced and remembered pain. We were interested in possible methods by which we could improve participants' recall in order to strengthen the relationship between experienced pain and remembered pain. In one treatment group, participants were given memory cues to help them remember the pain, while the other treatment group was encouraged to recognize any discrepancy between expectations and experienced pain. We hypothesized that these two groups would remember their pain more accurately than a control group. Finally, we sought to establish pain anxiety as a moderator of the relationship between experienced and remembered pain. We predicted that participants who were highly anxious about pain would be less accurate at remembering their menstrual pain than those who were less anxious. We did not confirm our first two hypotheses; instead we found, as might be predicted intuitively, that the best predictor of remembered pain was experienced pain, rather than expected pain. Further, we found no effect for either of the treatment groups. While we did not confirm our third hypothesis regarding pain anxiety, we did find an effect such that the high-anxiety participants were better at remembering their recurrent menstrual pain.

David Smith

The Demand/Withdraw Pattern in Lesbian Relationships

Advisors: Heather Scott and Dr. Jennifer Freyd

This study focuses on the prevalence of the demand/withdraw pattern of conflict in lesbian relationships. In this pattern the demander pressures the other for change through blame and criticism, and the withdrawer actively avoids the discussion or retreats from the conversation. Forty lesbian couples engaged in two videotaped discussions, one in which partner A requested a change in partner B, and one in which partner B requested a change in partner A. Observers assessed the levels of 15 behaviors. Scores for demand and withdraw were calculated and compared to scores for heterosexual couples whose interactions had been rated using the same rating system. Results showed that lesbian women were significantly less withdrawing than heterosexual men. It was also found that demand on one's own issue was significantly more likely than on one's partner's issue, and that withdraw on one's partner's issue was significantly more likely than on one's own issue. Lesbian women were significantly less demanding on their own issue than heterosexual women were. The pattern of demanding on one's own issue and withdrawing on one's partner's issue was evaluated and it was found that lesbian demand-lesbian withdraw in homosexual couples was significantly less likely than female demand-male withdraw in heterosexual couples.

Suzanne Stieglitz

Inhibitory Control and Children's Theory of Mind

Advisor: Dr. Lou Moses

This study examined the relationship between young children's developing theory of mind and their inhibitory control abilities. Prior studies have shown that young children have more difficulty understanding the mental state of belief than understanding desire and pretense. Two explanations have been proposed for this asymmetry. One is that young children have a basic conceptual deficit in this area which leads to difficulty with false belief tasks but not with desire and pretense tasks. The other is that the conceptual requirements are the same but that the inhibitory demands of the tasks differ. The goal of my study was to test whether the inhibitory demands of false belief tasks are in fact greater than those of desire and pretense tasks. 45 three- and four-year old children were given a verbal intelligence measure, a battery of inhibitory measures, and a variety of theory of mind tasks assessing their understanding of belief, desire, and pretense. Surprisingly, we found that performance on the belief tasks was not significantly different from performance on the desire and pretense tasks. However, consistent with the inhibitory explanation, performance on false belief tasks, but not on desire and pretense tasks, was significantly correlated with inhibitory control after the effects of age, sex, and verbal intelligence were controlled. This evidence suggests that developments in inhibitory control may play a crucial role in changes in false belief performance in the preschool period and may explain why children have had greater difficulty with belief than with desire or pretense in previous studies.

Sarah Thompson

Street Youth: Identifying the Roadblocks that Keep Them from Improving Their Lives

Advisors: Dr. Tom Dishion and Keith Harris

Twenty-five street youth in and around Eugene, Oregon filled out an eight page, 104-item questionnaire consisting of demographic information, planning ability and life skills assessments, social networking questions, and scales for motivation, hope, and self-esteem. It was hypothesized that youth who had been on the streets longer would have lower levels of motivation and life skills, as well as poorer planning ability. It was further hypothesized that street youth would score lower on a hope scale than at-risk youth with homes, and that street youth would report more relationships with deviant peers than the other youth.

Andrea Wulf

Vividness, Risk Perception, and Individual Differences

Advisor: Dr. Ellen Peters

Vividness, risk perception, and individual differences were examined in an experiment in which paper mill employees were participants. Two forms of a questionnaire were distributed: one with vivid scenarios, and one with non-vivid. Each questionnaire contained general (societal) and specific (to paper mill environment) risk questions, as well as six scenarios about work related risks. It was hypothesized that vivid scenarios would elicit a higher perception of risk than non-vivid. This hypothesis was confirmed. The relationship between specific and general perceptions of risk was also examined and it was found that as perceptions of general risk increased, so did perceptions of specific risk. The BIS/BAS (Carver & White, 1994) and Big 5 MiniMarkers (Saucier, 1994) were used to evaluate personality factors. Reactivity to negative events (BIS and Emotional Stability) was found to be higher as risk perception increased. This effect was even greater when post scenario risk perceptions were examined.

Undergraduate Honors Projects – 1998-1999

Katherine Becker

Traditionality of Preschool Teachers and Stereotypicality of Child Activity Ratings

Advisor: Katherine Pears

This study examines the relationship between preschool teachers' gender role traditionality (as measured by the Attitudes Towards Women questionnaire) and how stereotypically teachers rate toys as being appropriate for boys and girls. The female teachers with experience with three to five-year-old children rated fifteen toys on how appropriate they are for boys and girls both from a personal point of view and the point of view of an average person in society. I hypothesized that experience and traditionality will be negatively related to stereotypicality of personal toy appropriateness rating. I also hypothesized that "girls' toys" (as previously rated by undergraduate raters) will be rated more stereotypically than "boys' toys." Finally, I hypothesized that teachers will rate toys more stereotypically from society's point of view than from a personal point of view.

Kay Brick

A Rose By Any Other Name: Individual Differences in Ambiguous Voting Decisions

Advisor: Dr. Ellen Peters

Previous research has suggested that how voters feel about the sound of a political candidate's name may guide their choices in the polls. The present study employed an experimental paradigm and supported the hypothesis that affect toward names influences voting behavior in a mock election. It was found that, on average, subjects voted for the

more positive name 54% of the time. Unexpectedly, subjects low in experiential, emotional information processing were more likely to vote for the positive name (56%) compared to subjects high in emotional processing (52%). Future research investigating the proportion of the voting public falls into each of these categories could determine what effect this "name bias" has on actual voting.

Laura Claxton

An Examination of the List Length Effect

Advisor: Dr. Michael Anderson

The purpose of this honors project is to examine the relationship between theoretical organizations of memory structures and the recall of items from memory by specifically examining the List Length Effect. The List Length Effect states that as the length of a list of items increases the percentage of correct items recalled decreases. This project compares two possible theories as to why this increasing inhibition or interference with recall occurs. One is called the Ratio-Rule and the other is known as Retrieval-Induced Forgetting. The Ratio-Rule states the items will be increasingly more difficult to recall as the length of the list increases because more items are proportionally in competition with one another in order to be recalled. Retrieval-Induced Forgetting argues that the retrieval of items from memory becomes increasingly more difficult as the length of the list increases because each time one item is retrieved from memory all of the other items on the list are being suppressed or blocked. As the number of items recalled increases, the number of suppressions also increases, making recollection of the remaining items increasingly difficult. I hypothesize that by controlling the order in which the words from a list are recalled, I will be able to demonstrate that Retrieval-Induced Forgetting explains the memory processes behind the List Length Effect. I will compare an identical critical 10 word set across three increasing list lengths (n=28, 38, 48) and expect to find that when the order of recall has been controlled for, the average percentage recall for the critical word set will be identical across increasing list lengths, thereby demonstrating that retrieval plays a part in the List Length Effect phenomenon.

Meghan Fallenstein

The Relationship of Life Events and Early Sexual Abuse to the Severity of the Depression in Adult Women

Advisor: Kate Harkness

The purpose of this study is to examine the relationship between severe life events experienced in adults as assessed by the Life Events and Difficulties Schedule (LEDS), childhood sexual abuse assessed by the Childhood Care and Abuse Interview (CECA), and severity of depression. Twenty-nine women, diagnosed with unipolar depression, were evaluated. I predict that those with a severe adult precipitative event will exhibit greater severity then those without an event. Similarly, those with childhood sexual abuse will experience greater severity then those with no abuse.

Jennifer A. Freeman

The Role of Perceived Motives in Evaluating Ambiguous Courtship Behaviors

Advisor: Dr. Bertram F. Malle

Research on how people perceive potentially sexual behaviors has primarily focused on specific behaviors (for example touching, eye contact, body language, closeness of two people) rather than on motives behind these behaviors. The present study explores people's evaluations of ambiguous courtship behavior that is held constant, while the motives for the behavior were manipulated to suggest friendliness, flirting, or sexual advancement. Undergraduate students (N=106) read a vignette consisting of one of six possible scenarios in which a male student forms a plan to introduce himself to a female student. Manipulations included the motivation behind the agent's action (either friendly, flirting, or sexual advancing) as well as the level of premeditation (spontaneous versus premeditated execution of the plan). Results showed that people evaluated the same behavior worse when its motive was sexual than when it was friendly or flirting. Effects were strongest for evaluations of the agent's character and his intention, but not his action. No differences in evaluations occurred as a result of the premeditation manipulation. This study confirms that people pay attention to subtle differences in motives when evaluating an agent or interaction. Furthermore, despite heightened media attention to sexual harassment, people still consider flirting a positive interpersonal behavior, more akin to friendliness than to sexual advance.

Jasmine Freese

Multisystemic Interventions for Violent Juveniles and Their Families: A Coordinated Effort of Juvenile Justice and Mental Health Professionals

Advisors: Robert O'Brien & Dr. Tom Dishion

This project presents an overview of the Multisystemic (MST) model for treating serious antisocial behavior in adolescents and their families.The model includes to therapeutic professionals: an Family Therapist who provides parent training with a focus on family strengths and resources, and a Behavioral Support Specialist who assumes a coach position for juvenile offenders and uses positive-reinforcement principles to intervene as problems occur. The Lane County Department of Youth Services, in collaboration with the Center for Family Development and the Oregon Social Learning Center have combined efforts to form the Violent Offender Rehabilitation and Treatment Project (VORT) in Eugene, Oregon. Statistically significant preliminary findings of this empirical study conducted with violent offenders aged 12-19, suggest that delinquency has multiple determinants that should be addressed with traditional probation and an intensive community- and family- based approach, using wraparound service philosophy.

Wendy Hatcher

Detection of Deception: Non-Verbal Cues in Lie Detection

Advisor: Dr. Robert Mauro

Lying and lie detection are common aspects of interpersonal communication. The goal of the present study was to develop a comprehensive system for identifying and coding behaviors related to deception. It was hypothesized that non-verbal body language would increase lie detection. Six non-verbal behaviors were coded in a sample of 20 subjects. Subjects were students who scored either high or low on a paper and pencil test of psychopathy and parolees or non-parolees. Both groups were videotaped during a mock job interview. Preliminary analyses suggest that few non-verbal behaviors increase lie detection above chance level.

Angela Laurita

The Concept of Intentionality Underlying People's Judgments of Criminal Behavior

Advisor: Dr. Bertram Malle

The present study explored how people use the concept of intentionality in the context of legal decision making. The study compared a recent empirically-based model of people's folk concept of intentionality to legal and philosophical models. The model of people's folk concept of intentionality predicts that people are sensitive to particular (often subtle) components of intentionality (e.g., content of intention, presence of skill). To test this sensitivity, subjects read descriptions of several criminal murder cases that have led to disagreements among legal and philosophical scholars. Each case hinged on one or two critical components of intentionality, and the study tested whether people would consider these components in their case judgments. People read and discussed the cases in groups, formed joint judgments about whether the defendant committed intentional murder or unintentional manslaughter, and justified their judgments. Twenty-five groups of two to three subjects participated. Analyses of their justifications showed that for each case, groups were sensitive to one or two particular (the predicted) components of intentionality, whether or not they judged the behavior to be intentional. Moreover, their intentionality judgments were predictable by the perceived presence or absence of these particular components. The present results have implications for legal and philosophical models of intentionality and point to several future research directions.

Elizabeth McDonald

Cortisol's Role In Exam Expectation

Advisor: Kristin Penza

Cortisol levels elevate during times of stress, which has been a helpful biomarker in the scientific study of stress. Cortisol levels elevate in many individuals before and during exams (Spangler, 1997); it is this area of research that I am particularly interested in. I hypothesize that those students with lower scores on the STAI and who indicate greater confidence levels will perform well on the exam will exhibit lower cortisol levels before the exam and will have lower cortisol levels after the exam than those students who indicate less confidence in their performance both before and after the exam. Subjects were volunteer students enrolled in a biological psychology course at the University of Oregon taking their final examinations. Subjects were asked to fill out a questionnaire before the exam including the STAI and a cortisol bioassay; then, after the exam, they were asked to fill out another questionnaire and assay. Results were insignificant except correlating pre-exam and post-exam cortisol levels for a variety of reasons discussed below.

Patricia Montgomery

The Relationship Between Personality Fragments in Dissociative Identity Disorder and Type and Frequency of Childhood Abuse

Advisor: Dr. Jennifer Freyd

The relationship between child abuse (CA), and emotional trauma is well represented in literature, as is the relationship between trauma and dissociative Identity disorder (DID) formerly called multiple personality disorder (MPD). However, studies examining this relationship in more detail are needed to help identify the association between specific types of abuse and psychological and physiological problems for earlier identification and treatment . The present study narrows specifically to hypothesize that the relationship between the type and frequency of early CA in intrafamilial situations, with little or no emotional support, are related to the number of

personality fragments, or dissociative ego states exhibited in DID. A voluntary survey of local clinicians revealed that negative home environment and sexual abuse are both prominent factors in DID. The relationship between the number of fragments and frequency of abuse is marginally significant, and the relationship between the number of fragments and ritualistic abuse is significant.

Nugil Murrell

Prediction Relationship Satisfaction in College Couples

Advisor: Keith Harris

The Present paper examined the relationship between relationship satisfaction and a multitude of positive relationship variables. Predictors were chosen to represent a wide range of positive influences on relationship satisfaction and included the following: self-esteem, self disclosure, humor, sexual satisfaction, commitment, and perception of partner's masculinity/femininity. The first hypothesis states that the full model will account for a significant portion of the variance in relationship satisfaction in couples. A second objective of this study was to determine exactly what variables made the most unique contribution to relationship satisfaction. This was done using a forward regression. Fifty University of Oregon undergraduates currently in committed dating relationships completed a packet of questionnaires. Regression analysis showed that the full model explained a significant portion of the variance of relationship satisfaction. Forward regression revealed that commitment, happiness, and partner's warmth accounted for 64 % of the variance in relationship satisfaction. Past research has tended to focus on negative variables (i.e. conflict) to the exclusion of positive variables. Results indicate that positive predictor variables contribute a great deal to relationship satisfaction. Implications for future research are discussed.

Karen Patterson

Plasticity and Changes in NMDA Subunits

Advisor: Dr. Barbara Gordon-Lickey

We wish to demonstrate a correlation between changes in N-Methyl-D-Aspartate (NMDA) receptor composition and changes in plasticity in the visual cortex. To do this, we stained tissue slices from Long Evans rats of ages P14, P30, and P90 for the NMDA receptor subunits NR2A and NR2B. We used immunohistochemistry to stain the NR2A subunit for its protein, and in situ hybridization to stain the NR2B subunit for its message RNA. After staining the tissues, we counted the cells labeled only for message RNA, the cells labeled only for protein, and the cells labeled for both message and protein. The cell counts were graphed. Although the total amount of cells with NR2B and NR2A decreased over time, the decrease was greater for cells with NR2B. The decrease was sharpest between P14 and P30, with relatively little change occurring between P30 and P90. We conclude that the amounts of NR2A and NR2B subunits in NMDA receptors change during development, and that these changes are coincident with the previously established time period of plasticity. Given that the NR2B subunit decreases more, our results suggest that this subunit most likely plays a role in plasticity. In the future, we hope to manipulate the plastic period and receptor composition to be able to better understand the nature of the relationship between them.

Elise Peltier

The Effects of Age and Presentation Differences on Empathic Accuracy

Advisor: Dr. Sara Hodges

The purpose of this research was to examine variables affecting empathic accuracy (one's ability to correctly infer the thoughts and feelings of others). Past research has shown that individuals are more empathically accurate towards a person when they perceive themselves as similar to that target individual. Therefore, one might expect college-aged subjects to empathize with an elderly target less than a similarly aged target. The medium in which participants are presented the target individual may also affect their empathic accuracy. Our second hypothesis was that subjects who are shown videotaped recordings of the targets relating their problems would show more empathic accuracy than subjects who read transcripts of the targets describing the same problems. And lastly, we hypothesized an interaction, such that the difference in the level of empathic accuracy between the college-aged and the elderly target would be larger in the video condition than the transcript condition. In order to test these hypotheses, subjects either watched videotapes of two targets (one college-age student and one elderly adult) describing a current problem, or they read the same interviews in transcript form. The subjects then inferred the thoughts and feelings of the targets in order to measure empathic accuracy. Our first two hypotheses were confirmed, showing that college-age participants were more accurate inferring the thoughts and feelings of the college-aged target that the elderly target, and those who watched videotapes were more accurate than those who read transcripts. The predicted interaction, however, was not significant.

Lynn Sconyers

An Investigation of the Hypothesized Association Between the 5-HTTLPR Polymorphism in the Serotonin Transporter Gene and Trait Neuroticism

Advisor: Dr. Gerard Saucier

Behavioral genetic research has established the importance of genes as one of the influences on personality attributes and psychopathology. Because of overlap between there domains, genes for psychopathology can be found by looking for genes for personality. The function of specific bioamines in psychiatric disorders has been widely explored, and considerable evidence has accumulated favoring the view that alterations in serotonergic neurotransmission is involved in the pathophysiology of affective and anxiety disorders. A potentially important role has been attributed to the serotonin transporter (5-HTT), which terminates the actions of serotonin in the synaptic cleft by reuptake into the presynaptic terminal. Lesch et al. (1996) reported an association between a functional polymorphism in the regulatory sequence for the 5-HTT gene (5-HTTLPR) and the personality trait of neuroticism as well as symptoms of anxiety and depression. Using a set of three independent samples (total N=411), I attempted to replicate Lesch et al.'s findings but was unable to find confirmatory evidence. Post hoc analyses explored a number of possible reasons for discrepancies between my results and Lesch et al.'s, including the contribution of gender components and other demographic variables and assumptions regarding how genotypes are converted into variables.

Sean Shiverick

Individual Differences in Inhibitory Control and Reasoning About False Representation

Advisor: Mark Sabbagh

Recent developmental, clinical, and neuroimaging evidence suggests that the cognitive underpinnings of reasoning about mental representations (e.g., beliefs) are dissociable from those required for thinking about non-mental representations. Two theories can potentially account for this dissociation. One theory postulates that the mechanisms subserving these two skills are qualitatively distinct. An alternative account of the dissociation posits

that both skills are subserved by similar cognitive mechanisms, but to quantitatively different extents. In the present study, we investigated whether performance on tasks which tap 'executive function' abilities – which have been shown to be related to reasoning about mental states – are also related to success at reasoning about non-mental representations. Forty subjects are being tested on a battery of executive function tasks (e.g., Bear/Dragon task) and a battery of false belief and false photograph tasks. A strong correlation between executive function and false photograph performance would provide evidence in favor of a quantitative relationship between the two skills. By contrast, a failure to find a relationship between executive function and false photograph performance may suggest that the two skills may rely on qualitatively different cognitive mechanisms.

Dahlia Spektor

The Driving Forces Behind Individuals' Interpretations of Ambiguous Comments

Advisor: Dr. Bertram Malle

This study explores the joint impact of global self-esteem and the activation of domain specific self-feelings on the interpretations of ambiguous self-relevant comments. In this study, participants of low and high self-esteem were asked to recall a situation that evoked a negative or positive self-feeling in one of four domains: academic competence, attractiveness, social skills, and athletic competence. Participants then indicated their self-views in the four domains and finally, interpreted a series of ambiguous comments.

Kim Tucker

The Effects of Similarity Judgments on Directional feature-matching processes

Advisor: Dr. Sara Hodges

Title: Calling all features: How thinking about similarity changes feature-matching effects

Abstract

In making preference judgments, the shared features of the two options under consideration typically "cancel out." The goal of this study was to discover whether pre-choice contemplation of the similarity of two options would bring the shared features back into consideration, thereby nullifying this cancellation effect. Prior to reading a pair of job descriptions with either shared positive and unique negative features or shared negative and unique positive features, participants were instructed to think either about the general category of the two jobs (similarity condition) or about which job they would prefer (preference condition). Replicating past feature matching studies, shared features did appear to be canceled, with overall ratings higher when the options shared negative features than when they shared positive features. However, contrary to what was predicted, considering the similarity of the two options did not moderate this effect. Also, unexpectedly, job descriptions in the similarity condition were rated uniformly lower than those in the preference condition. The results suggest that considering similarity may cause the decision-maker to give extra weight to negative features, whether shared or unique.

Sarah Vincent

Perceived Acceptance as a Predictor of Placement Among Free Methodist Clergywomen

Advisors: Kristen Penza & Dr. Sara Hodges

Clergywomen everywhere have struggled to become accepted as pastors. Within the Free Methodist Denomination, efforts are being made to ease this struggle. This study examines these women and whether or not their own perceived acceptance by others (both superiors and subordinates) is correlated with their placement within the church. My hypothesis was that these two would be strongly positively correlated, although results show little significant correlation.

Scott Woolley

Comparison of Physical Practice Vs. Mental Practive in a Rotation Task

Advisor: Ben Clegg

It is well known that practicing a skill like throwing a football or navigating by a map will eventually result in proficiency of that skill. The question then becomes is there a way practicing a skill that is better than other forms of practice. For example, is simply thinking about a skill as efficient as physically practicing that skill, or does a combination of both provide the greatest gains in proficiency? By testing and comparing physical and mental practice groups in a rotation task, in this case, rotating a needle to match a presented card with a picture of the desired needle position, it is hoped that this question may be addressed.

Yoshiko Yamada

On the Source of Asymmetrical Cross-language Priming Effects in Bilinguals

Advisor: Dr. Michael Posner

Cross-language priming occurs when processing of a word in one language is facilitated by prior exposure to a related word in another language. Priming effects have been observed when the native language (L1) prime precedes the second language (L2) target, but not vice versa. This study is investigating whether this asymmetry can be attributed to the difference in the sensitivity to priming between L1 and L2. Japanese-English bilinguals are briefly exposed to the prime which simply is either "English" or "Japanese (written in kanji)" immediately followed by the English or Japanese target. Their task is to decide whether the target is a real word or not. Although no significant difference in the strength of priming effects has been found between the two languages, the lexical decision has been made significantly faster when the prime indicates the same language as the target. This suggests that the two languages in bilinguals can be activated separately from one another and can be activated by simple primes.