

# 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 organization 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 Mother 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 superfluous 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 measured 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 incongruent (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.