

Department of Psychology



19th Annual

L. Starling Reid Undergraduate Psychology Research Conference April 25, 2025

L. Starling Reid

L. Starling Reid was born on March 15, 1920 in Greenville, MS. He received his B.A. (1943) and M.A. (1943) from the University of Mississippi. After an interruption for service in the United States Navy, his higher education culminated with award of the doctorate from the Ohio State University in 1949.

In the same year he was appointed to the Psychology faculty at the University of Virginia, where he remained until his premature death on April 19, 1978. He served as chairman of the Department from 1960 to 1972 and during 1977-78, periods during which the Department moved into new areas of psychology and 17 new faculty members were recruited.

The range of his scholarship was broad. From his master's thesis until 1960 he was involved in studies of animal learning and motivation. His original interest in human learning and memory developed during the years at Ohio State, and this became a major focus of his research during the final two decades of his life. Dr. Reid guided the writing of a number of dissertations on the topic, some of which continue to be widely influential. He invented a new method for studying the immediate memory span; this made possible its continuous monitoring. First presented in a paper with two students in 1960, it has become such a standard procedure in the investigation of memory that the detailed citation of its origin is now considered almost superfluous.

The wide respect that Professor Reid's original work inspired led to his appointment to editorial positions for several distinguished psychological journals. He served with marked success as program chairman of the Eastern Psychological Association. His professional stature was recognized by membership in the Society of the Sigma Xi and by fellowship status in the Division of Experimental Psychology of the American Psychological Association and in the American Association for the Advancement of Science. Additional recognition included his election to the Council of the AAAS Section on Psychology.

Many aspects of university life, beyond the classroom and the laboratory, profited from his considerable energy and broad competence. He was for many years secretary of the Assembly of Professors, and was for several years chairman of the Athletic Advisory Committee and was elected for a term as president of the Atlantic Coast Conference.

His most lasting contributions to the life of this University came from his extended tenure as Chairman of the Department of Psychology. As the number of faculty tripled during his dozen years as Chairman, the centrifugal forces of specialization could easily have fragmented a group that had always enjoyed a remarkable degree of cohesiveness and interaction. It is to his everlasting credit that such an outcome was avoided, and the solid underpinning for the presently diversified Department was preserved and strengthened.

Dr. Reid's leadership was unobtrusive but steady, farsighted and at the same time responsive to daily needs. He was consistently attentive to the needs around him, quietly patient and yet persistent in his strivings for the betterment of the entire Department.

In 1983 a memorial lecture series was established to recognize his contributions to the Department and the University. The Annual L. Starling Reid Undergraduate Psychology Research Conference began in 2007.

Participating Institutions

Barnard College at Columbia University College of William & Mary Hampton University James Madison University Mary Baldwin University Meredith College New York University St. Mary's College of Maryland Warren Wilson College Washington and Lee University University of Virginia Virginia Polytechnic Institute and State University

Conference Schedule

Location: Ern Commons

- 8:45-9:15 Registration and Refreshments
- 9:15-9:20 Welcoming Remarks: Chris Mazurek, Ph.D. Director of Undergraduate Studies in Psychology University of Virginia
- 9:25-11:00 Oral Presentations I
 - Shirley Mingye Li
 - Lauren Lee
 - Anna Lobner
 - Bettina Wagner
 - Oluwatoni Ikhile
 - Emily Mortman

11:10-12:00 Poster Session I

- 12:00-1:00 Lunch
- 1:10-2:00 Poster Session II
- 2:10-3:50 Oral Presentations II
 - Divya Lobo
 - Gianna Latorre
 - Cecile Xu
 - Sam O'Brien
 - Diana Park
- 3:55-4:00 Appreciation Remarks: Chris Mazurek, Ph.D.

Oral Presentations I (9:25 – 11:00 AM)

- « Mingye Shirley Li
 - Speak in Sync Online: Linguistic Similarity Backfires Short Term Wellbeing
 - University of Virginia
- « Lauren Lee
 - The Impact of Internalized Feminine Ideology on Self-Silencing Among Juvenile Legal System (JLS)-Involved Girls: An Investigation of Shame and Guilt as Mediators
 - New York University
- « Anna Lobner
 - Eyewitness Description Quality Varies with Facial Recognition Ability
 - University of Virginia
- « Bettina Wagner
 - Beyond Deficits: Evaluating the Integrated Sensory Processing Sensitivity Inventory (ISPSI) as a Holistic Measure of Sensory Processing
 - University of Virginia
- « Oluwatoni Ikhile
 - Exploratory Analysis of Symptoms Relating to Perceived Gender Differences in ADHD
 - Virginia Polytechnic Institute and State University
- « Emily Mortman
 - Examining the Relationship between Frontal Lobe Alpha Asymmetry and Infant Distress Behavior
 - University of Virginia

Speak in Sync Online: Linguistic Similarity Backfires Short Term Well-being

Mingye Shirley Li

University of Virginia

Advisor: Adrienne Wood, Ph.D.

Language is crucial for establishing mutual understanding in social interactions, and its importance is amplified in online messaging where social cues are absent. Social interactions often require balancing the maintenance of existing connections with the pursuit of new ones. This behavioral trade-off is formally known as the social exploration-exploitation trade-off (Tsang et al., 2024). This study investigates how individuals adapt their language to navigate this trade-off when forming new social bonds online. Through an online messaging experiment each participant (n = 210) engaged in unstructured 1-on-1 conversations with up-to 9 strangers. Participants were instructed to either focus on the quality or quantity of their connections within the messaging platform. Those in the quantity condition spoke with more partners within their chat rooms (t = 5.43, p < .001, df = 138) suggesting that we successfully altered their conversation strategies. A total of 16.3k discussion threads, comprising 103.9k words, were analyzed for Language Style Matching (LSM) and Semantic Textual Similarity (STS). While STS remained stable across conditions, LSM significantly varied by social strategy, being highest in the control condition and lowest in the explore group. Surprisingly, higher LSM predicted greater declines in subjective positive experience following the interactions ($\beta = -21.75$, p = .002). These findings suggest that while linguistic synchrony may aid early rapport, excessive alignment can undermine short term well-being. In an increasingly message-saturated world, such surface-level harmony may paradoxically backfire, weakening genuine connection.

The Impact of Internalized Feminine Ideology on Self-Silencing Among Juvenile Legal System (JLS)-Involved Girls: An Investigation of Shame and Guilt as Mediators

Lauren J. Lee

New York University

Advisors: Shabnam Javdani, Ph.D. Erin Godfrey, Ph.D. | Uma Guarnaccia, M.A.

Existing literature has shown that internalized traditional social conceptions of femininity correlate with self-silencing behaviors, with levels of shame and guilt mediating this relationship and impacting psychological well-being in women. However, despite known harmful outcomes of self-silencing, there is a dearth of research exploring how these factors manifest within adolescent girls involved in the juvenile legal system (JLS). This research investigates how internalized femininity influences self-silencing behaviors and whether experiences of shame and guilt mediate the relationship between these variables among JLS-involved girls. Using pre-collected data from the NYU ROSES Lab, this study analyzed a sample of 257 JLS-involved girls between the ages of 11 and 18 as participants. A regression analysis was first conducted to explore whether feminine ideology predicts self-silencing in the sample of JLS-involved girls. Next, following the outlines of Baron and Kenny (1986), a mediation analysis was conducted to assess whether shame and guilt mediate the relationship between feminine ideology and self-silencing. Higher internalized femininity was found to be significantly correlated with greater self-silencing behaviors, with shame playing a significant mediating role. Guilt, while related, did not drive self-silencing in the same way. Race, though slightly connected with feminine ideology, did not affect selfsilencing outcomes directly. This research provides insights into the unique psychological challenges faced by JLS-involved girls and aims to inform the development of targeted mental health-related policies to support system-impacted girls.

Eyewitness Description Quality Varies with Facial Recognition Ability

Anna Lobner

University of Virginia

Advisor: Chad S. Dodson, Ph.D.

An eyewitness's description of a culprit is essential for enabling the police to locate a suspect and create a lineup. Current police procedures use standard verbal (VO) instructions that typically yield minimal descriptions. New research posits that a more structured technique called the Person Description Interview (PDI) is more effective than VO instructions in eliciting high-quality descriptions from eyewitnesses. Little research, however, directly compares the PDI and VO descriptions, which motivates this study. In experiment one, all participants (N=223) were given either a PDI or VO description, drawn from a study by Dodson & Sean-Carlisle et al. (2024), and instructed to select a face that best matched the description. In general, participants showed a modest ability at using a description to select the described face. An interaction between description type and face recognition ability showed, however, that usefulness of the description depended on the face recognition ability of the describer within the PDI description alone. In experiment two (N=502) we intended to extend and replicate the findings in experiment one by including a greater range of facial recognition ability and descriptions from correct and incorrect eyewitnesses. In this sample, participants were above chance at selecting a face based on a description and this ability varied based upon if the eyewitness was correct and participants' confidence in their selection. Usefulness of the description was not dependent on facial recognition ability of the describer. Results of this study explore nuances in collecting and interpreting eyewitness testimony.

Beyond Deficits: Evaluating the Integrated Sensory Processing Sensitivity Inventory (ISPSI) as a Holistic Measure of Sensory Processing

Bettina Wagner

University of Virginia

Advisors: Kevin A. Pelphrey, Ph.D. | Stefen Beeler-Duden, Ph.D.

Sensory Processing Sensitivity (SPS) can profoundly influence daily life, yet traditional models often frame these differences as deficits. Holistic approaches, however, conceptualize sensory processing as multidimensional, encompassing both challenges and strengths. To better capture these experiences, we developed the Integrated Sensory Processing Sensitivity Inventory (ISPSI) by combining the Highly Sensitive Person Survey and the Julie Bjelland Sensitivity measure. This study examined psychometric differences between the ISPSI and deficit-oriented measures like the Glasgow Sensory Questionnaire (GSQ), evaluating how well each captured the sensory processing spectrum and its association with well-being.

Neurotypical and neurodivergent adults (N=162, 72 neurodivergent) completed the ISPSI and GSQ. Exploratory factor analysis identified four ISPSI factors (Sensory Reactivity, Affective Orientation, Purpose Orientation, and Intrapersonal Reactivity). Regression analyses revealed that both the ISPSI and GSQ significantly predicted weekly positive and negative affect as measured by the Positive and Negative Affect Schedule (PANAS) (all ps < .001). For Negative Affect, the ISPSI factors Sensory Reactivity and Affective Orientation significantly contributed to the model, whereas the GSQ factors Auditory, Gustatory, Olfaction, and Vestibular were significant. For Positive Affect, Purpose Orientation (ISPSI) and Auditory and Proprioception (GSQ) were significant. AIC model comparisons revealed that the ISPSI outperformed the GSQ better explaining the variation in Positive Affect (AIC=446.15), whereas the GSQ better explained Negative Affect (AIC=365.96).

By contrasting deficit and holistic models, the study identifies their distinct contributions to understanding well-being and suggests the holistic approach may better reflect lived experience and inform support for highly sensitive individuals.

Exploratory Analysis of Symptoms Relating to Perceived Gender Differences in ADHD

Oluwatoni Ikhile

Virginia Polytechnic Institute and State University

Advisors: Adrienne Romer, Ph.D. | Jenna Jones Devine, B.A.

Girls with ADHD tend to demonstrate more internalizing symptoms than boys; however, they also demonstrate externalizing symptoms, such as hyperactivity and impulsiveness (Handwerk et al., 2006). Additionally, girls with ADHD experience higher rates of comorbidity and are more likely to have ADHD symptoms misattributed to other diagnoses (Martin et al., 2024). The general factor of psychopathology ("p-factor") captures shared variance across disorders, accounting for comorbidity and severity (Caspi et al., 2014).

The present study examined baseline data from 1,553 preadolescents (n = 504 female) in the Adolescent Brain Cognitive Development (ABCD) study who screened positive for ADHD. Independent samples t-tests were used to determine whether specific dimensions of psychopathology and general psychopathology differed between genders among youth with ADHD diagnoses. Of those with ADHD, results indicated that boys had greater withdrawn depressive symptoms (t (1158.4) = 5.032; p < 0.001) and neurodevelopmental problems (t (1021.2) = 3.278; p < 0.001). Conversely, girls had greater inattention (t (940.98) = -2.3796; p = 0.018) and somatic symptoms (t (889.32) = -3.6175; p < 0.001).

Results suggest that boys with ADHD experience more symptoms specific to withdrawn depression compared to girls, whereas girls have more complaints of physical symptoms. Notably, while boys have significantly higher neurodevelopmental symptoms, girls experience more inattentive symptoms. The neurodevelopmental score has subsets of symptoms that include problems with inattention. However, symptoms of inattention are less easy to observe than the wider range of neurodevelopmental symptoms. These issues in visibility may lead to diagnostic discrepancies.

Analyzing the Role of Frontal Lobe Alpha Asymmetry on Infant Temperament

Emily Mortman

University of Virginia

Advisor: Meghan H. Puglia, Ph.D.

Infants cry when they are separated from their caregivers from birth, even before they develop their own attachment styles. However, what parts of the brain are activated when the baby detects that they are no longer being held? At 8 monthsof-age, around the time babies start crawling, they also begin to develop "stranger danger" and express more discomfort when they are being held by people other than their parent or guardian. The current project utilizes a large, ongoing longitudinal study in which infants aged 0-24 months perform a variety of simple tasks while undergoing EEG, including assessing their baseline brain function through resting state conditions when they are held and not held. I will examine longitudinal brain function at 8 months- the age at which attachment style and stranger fear emerges (n=42). I hypothesize that the level of frontal alpha asymmetry– the difference between left and right alpha (6-9 Hz) activity over the frontal lobe- will be a marker of infant distress when transitioning from being held to not held. Specifically, I anticipate more activity in the right frontal lobe, corroborating past research examining expressions of fear. The data was analyzed using ANOVA for each Hz level, and paired t tests between the held and non-held condition. No significant result was found through each statistical test. These findings fill a gap in the literature about frontal lobe alpha asymmetry, and indicate that this neural pattern is not a marker of early separation anxiety.

Poster Session I (11:10 AM - 12:00 PM)

Does Being in the Political Minority of a Community Predict Social Network Size?

Danae Thomas | Natalia W. Leaf

University of Virginia

Advisors: Adrienne Wood, Ph.D. | Kyle J. Barrentine, B.A.

In this tumultuous climate, political affiliations have taken on a higher meaning. Navigating life as a political minority can be an emotionally charged experience, where the warmth of your relationships, the way others perceive you in the opposing party, and the bonds you share with friends can all shift. The goal of this project is to unpack how living within a politically discordant area shapes their social network. To test this, we recruited 400 participants from Cloud Research Connect. Participants completed an online survey measuring their within-county (M = 7, Range = 0.100 listed friends) and out-of-county (M = 12, Range = 0.500)listed friends) friendships and self-censorship, using demographics such as age, race, SES, political minority status, political party, and zip code. We conducted a multiple linear regression with party affiliation and counties' political leaning to predict the number of out-of-county friendships. The interaction effect between political affiliation and county leaning on within-county friendships was nonsignificant [$\beta = 0.13$ (318.18), p = 0.76]. Results were also not significant when using their out of county friendships, political party affiliation, and the county's average political leaning, [$\beta = 0.17$ (267.15), p = 0.86]. We were unable to determine how an individual's social network was shaped by living in a politically discordant area. Although our study didn't produce significant findings, we believe it contributes to literature advancing our understanding of how political minorities navigate the changing political climate in the United States.

Investigating Attitudes Towards Mobile Sensing in Mental Health Research and Interventions Among College Students High in Social Anxiety

Isabella Alvarez

University of Virginia

Advisor: Bethany A. Teachman, Ph.D.

Despite the pervasiveness of mental illness, there is a shortage of quality mental health care providers, highlighting the need for scalable and accessible interventions. Digital mental health interventions, such as Just-in-Time Adaptive Interventions (JITAIs), utilize passive sensing, automatic collection of data through sensors, and active sensing, user-input data like surveys, to deliver mental health support. Although DMHIs hold great promise for improving mental health care, researchers have not fully explored potential concerns about privacy, data security, and informed consent. Little is known about how users perceive these technologies and what factors influence their willingness to engage with them. Another critical consideration is how individuals evaluate the potential risks and benefits of data collection in the context of their mental health concerns. To investigate these questions, we recruited 29 undergraduate students high in social anxiety from the University of Virginia. Participants completed a semi-structured interview assessing their attitudes toward mobile sensing in mental health research and interventions, including concerns about privacy and data security, preferences for informed consent, and comfort and usability of wearable sensing devices. Participants' comfort with mobile sensing was strongly tied to perceived usefulness and level of transparency about how data would be used. While many saw potential benefits in personalized feedback and mental health support, concerns about privacy, transparency, and data utility varied widely. These findings provide insight into how to ethically and effectively implement mobile sensing technologies in mental health care.

Empowering Youth With Controlling Their Social Media Use

Ava Arvand | Abby Waldrop | Kim Wilkins

University of Virginia

Advisors: Bethany A. Teachman, Ph.D. Stefanie Sequeira, Ph.D. | Emma R. Toner

Today, adolescents are developing in a digital context as social media becomes an increasingly important part of their social lives. While many view it as harmful to teen mental health, research presents a nuanced picture, highlighting benefits like strengthening relationships, fostering community, and encouraging unique hobbies. To balance these benefits and risks, youth perspectives must guide digital literacy interventions that promote healthy social media use. In this exploratory qualitative study, UVA's Thriving Youth in a Digital Environment hosted a "hackathon" where 39 high school and undergraduate students designed a digital mental health intervention to help teens navigate negative social comparisons and build healthy online connections. Before and after the event, participants shared advice they would give to someone struggling with negative social comparisons or loneliness on social media. After the event, they also reflected on how their social media use relates to their mental health. When qualitatively analyzed for themes and response quality, this data will reveal how the "hackathon"—featuring didactic training, collaborative critical thinking, and app design—shapes adolescents' perspectives on healthy social media use. Additionally, this study will highlight key youth concerns about unhealthy social media use, informing the development of effective, youth-centered digital literacy interventions.

Individual Differences in Translating Verbal Confidence into Numeric Values and Their Impact on Accuracy in Eyewitness Lineup Judgments

Kaitlin Blakeslee

University of Virginia

Advisor: Chad Dodson, Ph.D.

Mistaken eyewitness identifications are one of the leading causes of wrongful convictions, making it critical to assess an eyewitness's ability to accurately identify a suspect in a lineup. Despite the high stakes of eyewitness identifications, humans have only a modest ability to differentiate between correct and incorrect eyewitness identifications. Across two experiments, we examine key factors that influence accuracy discernment within lineup judgments, including the perceived influence of eyewitness confidence and memory for the suspect's features. Additionally, we investigate individuals' ability to translate verbal confidence statements into numerical values and how this skill relates to their accuracy in evaluating correct versus incorrect lineup identifications. Participants viewed lineup decisions and confidence statements from a previously conducted lineup paradigm (Grabman et al., 2019) and were tasked with deciding whether the identification was correct or incorrect as well as rating their own confidence. Each participant evaluated six lineups (three correct, three incorrect) and assessed how the eyewitness's confidence and memory for specific features influenced their judgments. Some participants also translated the eyewitness's verbal confidence statement into a numeric rating before making their judgement. We found that greater reliance on eyewitness confidence improved prediction accuracy, as measured by d-prime. Additionally, we saw that participants with better translation ability demonstrated greater discernment. This study is the first to investigate how translating eyewitness confidence statements into numerical values affects lineup accuracy assessment, offering novel insights for cognitive mechanisms underlying eyewitness evaluations within the justice system.

Third Party Social Interaction Processing and Gender in Adults

Rebecca Bonheur

University of Virginia

Advisors: Tobias Grossmann, Ph.D. | Olivia Allison

Social categorization based on group membership has played a large role in the nature of human interactions. Visual processing of category-specific information occurs within the first few 150-200 milliseconds of an interaction in adults (Maurer et al., 2008), and research has shown that viewing a member of one's own social group has resulted in faster and more in-depth facial processing in the temporal and parietal regions of the brain (Mouchetaint, 2003; Ito, 2005). While previous research has focused more on racial categorization and experimenter-assigned groups (Cikara, 2014), there is much to be explored regarding the role that categorization of gender plays in social interaction processing and behavior. This study uses electroencephalography (EEG) to investigate the role that adults' gender identity plays in visually processing information about third party social interactions of their own compared to the opposite gender (N=74, Mage= 19.98, SD= 3.22). As published in our pre-registered study and analytic plan, we hypothesized that responses to third party social interactions of one's own identified gender will be different from responses to third party social interactions of one's opposite identified gender. Using a three-way repeated measures ANOVA, we found that viewing interactions of one's own gender led to a lesser amplitude in frontal regions and greater amplitude in temporal regions than interactions of the opposite gender.

"We are UVA Army ROTC, but we see each other more as family": A Qualitative Examination of an Evidence-Based Intervention Among ROTC and Non-ROTC College Freshmen

Rebecca Fitch

University of Virginia

Advisors: Alison Nagel, Ph.D. | Erin Young, B.A.

Rates of loneliness and depression among college-aged students have risen drastically in the past decade (Keyes et al., 2023). Due to military-mandated barriers to mental health care, students in the Reserve Officer Training Corps (ROTC) are especially vulnerable (Lazar, 2014). The Connection Project (TCP) is an evidence-based, small-group intervention shown to reduce loneliness and depression and increase belonging in college students (Allen et al., 2021), but it has never been implemented with ROTC students. Using a participant-observation approach, this study examined TCP among a small group of ROTC freshmen and a group of non-ROTC freshmen. Facilitator post-session notes, weekly participant connection scores, and post-intervention surveys were qualitatively analyzed using guidelines by Huberman, Saldana, and Miles (2018). Three themes emerged: (1) the trajectory of connection building, (2) the role of vulnerability, and (3) the ROTC group's relationship to ROTC culture. The ROTC group's shared identity facilitated quicker connection and earlier vulnerability, though with a "cap" effect. The non-ROTC group showed lower initial buy-in, building connection later through finding shared identity. ROTC participants also navigated tensions between subverting and embracing ROTC culture, including discussions of gender roles and expectations. While both groups reported high final levels of connection, ROTC students expressed a stronger sense of belonging to their ROTC community. Findings suggest that TCP may be adapted to better support ROTC students' unique social-emotional needs and offer a non-clinical avenue for promoting mental health and belonging.

Attitudes Towards Aggression Mediates the Longitudinal Association Between Autonomy and Relatedness and Overt Aggression in Adolescence

Eva Carr

University of Virginia

Advisors: Joseph P. Allen, Ph.D. Nathan Field, Ph.D. | Natasha A. Bailey, BA.

The link between limited autonomy during disagreements and a sequelae of internalizing symptoms is well studied, but relatively less is known how autonomy may be related to indicators of externalizing behavior such as aggression. Aggression, especially taking place early in development, is a common precursor to broader antisocial behavior. Thus, it is crucial to better understand how these behaviors might develop from the (un)successful navigation of early interpersonal experiences. Using multi-informant data drawn from a longitudinal study involving 174 youth (M=83, F=95), the current study examined whether adolescent autonomy and relatedness with peers at age 13 was associated with self-reported aggression at age 15, and attitudes towards aggression at age 14 was examined as a possible mediator between the two. Findings suggest that positive autonomy and relatedness and less favorable attitudes towards aggression predicted less aggressive behavior. Moreover, attitudes toward aggression fully mediated the link between autonomy and aggression, suggesting that success in navigating autonomy with peers might lead to the endorsement of less favorable attitudes towards aggression, and subsequently less aggressive behavior. Results indicate promoting teens to establish autonomy while maintaining relatedness with peers might prevent both antisocial ideas and actual behaviors. This suggests that encouraging positive interpersonal engagement skills in young adolescence might help prevent maladaptive behaviors in the later teen years.

Noradrenergic Modulation on OPC Differentiation

Mary Cage Carter

University of Virginia

Advisors: Tsai-Yi Lu, Ph.D. | Berenice Almaguer, B.A.

Oligodendrocytes (OL) are responsible for myelination in the central nervous system (CNS), and they originate from oligodendrocyte precursor cells (OPCs), which continually self-renew and differentiate to sustain OL population and preserve CNS homeostasis. However, the mechanisms regulating OPC proliferation and differentiation in vivo, particularly in response to physiological and neuronal activity, remain largely unknown. It's known that neuronal activity modulates OPC behavior, and recent literature has shown that when alpha-1A adrenergic receptor (Adra1a) for noradrenaline is conditionally knocked-out (cKO) in OPCs, there is a significant decrease in OPC proliferation and differentiation. Also, other literature has shown that OPC proliferation and differentiation increased when mice underwent voluntary physical activity (VPA). During states of physical activity, arousal, attention, and learning, noradrenaline is released; therefore, we hypothesize that noradrenergic signaling may be involved in OPC differentiation. We evaluated our hypothesis by performing the VPA experiment with Adra1a cKO mice and analyzed rates of OPC proliferation and differentiation in motor cortex by performing immunohistochemistry and viewed images under confocal microscopy. Additionally, we're also interested in whether OPCs lacking Adra1a undergo spontaneous proliferation and differentiation. Based on our current data, we don't suspect the noradrenergic pathway to be either heavily implicated in OPC differentiation when Adra1a cKO mice undergo VPA nor involved in spontaneous differentiation. Thus, we provide new evidence that points towards the role of physiological and neuronal activity on OPC differentiation in regard to homeostatic functions of the CNS.

Life Satisfaction Trajectories Over the 10 Years Post-TBI among Asian American/Pacific Islanders (AAPIs): A Models System Study

Olivia Chapman | Mia Dini | Bridget Xia

University of Virginia

Advisor: Paul B. Perrin, Ph.D.

Asian American and Pacific Islanders (AAPIs) have been disproportionately underrepresented in rehabilitation research, resulting in a limited understanding of the long-term effects of injury in this population. To date, no research has investigated longitudinal life satisfaction outcomes after traumatic brain injury (TBI) within an AAPI sample. The current study bridges this gap by examining demographic and injury-related factors predicting life satisfaction trajectories in AAPIs with TBI. The sample consisted of 381 AAPI-identifying individuals with TBI who were enrolled in the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)-funded TBI Model System (TBIMS) national study and had data for at least one Satisfaction with Life Scale (SWLS) total score at any time point (i.e., years 1, 2, 5, or 10). Primary and secondary hierarchical linear models (HLMs) examined baseline predictors of life satisfaction trajectories over the first 10 years post-TBI and whether these predictors interacted with time. Overall, life satisfaction remained stable over time. Higher overall life satisfaction trajectories were seen among participants who had been married at baseline; had higher educational attainment; had been employed at injury; had low annual earnings; and had no pre-TBI mental health treatment history. However, none of these predictors significantly interacted with time, suggesting no differential change in life satisfaction as a function of these predictors. The findings offer key insights to help inform culturally sensitive rehabilitation approaches for AAPIs with TBI.

The influence of parental closeness on general psychopathology in a sample of college undergraduates

Cameron Cheeks | Jolee Sloss | Garrett Hosterman | Adrienne Romer

Virginia Polytechnic Institute and State University

Advisor: Adrianne Romer, Ph.D.

Previous research concluded that positive attachment to one's mother is a stronger predictor of later psychosocial development than attachment to one's father, but a secure attachment to both parents is related to optimal development (Cusimano & Riggs, 2013). This study examines the link between parent-child relationships and internalizing, externalizing, and general psychopathology. By assessing these relationships, we aim to identify how students' relationships with their mother and father uniquely influence mental health.

Our study includes 512 Virginia Tech undergraduate students. Using two items from the Achenbach Adult Self Report (ASR) to capture the participant's relationship with their mother and their father, measured on a Likert scale ranging from "no contact" to "better than average". We will exclude participants whose mother or father is deceased. Using a series of linear regressions, we aim to examine how students' separate relationships with their mother and father influence total, internalizing, and externalizing problems in the ASR, controlling for age, race, and gender.

The results found that poor maternal relationships were significantly associated with higher internalizing (Std. B=-0.178; p<0.001), externalizing (Std. B=-0.174; p<0.001), and total (Std. B=-0.181; p<0.001) ASR scores. Additionally, poor paternal relationships were also significantly associated with higher internalizing (Std. B=-0.249; p<0.001), externalizing (Std. B=-0.193; p<0.001), and total (Std. B=-0.273; p<0.001) ASR scores.

These results suggest that poor parent-child relationships may act as a risk factor for higher levels of psychopathology in university students. Interventions focused on strengthening the parent-child relationship may improve university students' overall wellbeing.

An Evaluation of Milk and Cookies (MAC): A School-based Program for Children in First Grade and Kindergarten with Incarcerated Parents

Jules Colombo

College of William & Mary

Advisor: Danielle Dallaire, Ph.D.

Children's emotional identification and regulation are critical for social-emotional development, particularly for those facing parental incarceration. However, research on targeted interventions remains limited. The present study evaluates the effectiveness of the Milk and Cookies (MAC) Program, a school-based intervention designed to improve emotional competence in children with incarcerated parents from eight Richmond Public Schools. Participants were 35 children in kindergarten and first grade, who completed a questionnaire assessing emotion identification and emotion bias. Preliminary analysis displayed children who completed a full year of MAC had higher emotion identification accuracy scores than newly enrolled participants. These findings suggest that structured interventions like MAC can enhance emotional competence and reduce behavioral risks in children affected by parental incarceration.

Cultural Tailoring of a Cognitive Bias Modification for Interpretation Digital Program for Latinx Individuals with Elevated Anxiety Symptoms

Emilú Englander Fuentes | Taylor L. Myers-Brower Mendoza Gonzalez | Laura A. Barnes | Kaitlyn D. Petz

University of Virginia

Advisor: Bethany A. Teachman, Ph.D.

Anxiety is highly prevalent among Latinx individuals in the U.S., yet only 10% receive any mental health care. Digital mental health interventions (DMHIs) may help overcome barriers such as cost, stigma, and limited Spanish-speaking providers. However, few DMHIs offer Spanish operability or cultural adaptation, reducing engagement. This study examines perceptions of MindTrails Español (MTE), a culturally tailored app-based intervention adapted from the cognitive bias modification for interpretation (CBM-I) program MindTrails. CBM-I aims to foster cognitive flexibility by prompting users to reduce the rigid negative thinking style common in anxiety and increase benign interpretations of ambiguous situations. MTE was developed based on user feedback from a previous study with Spanish-speakers moderate-to-high in anxiety symptoms. Tailoring included adding culturally relevant scenarios, visuals, and motivational sayings. Qualitative data was collected via semi-structured interviews with N=11 participants and was analyzed thematically using an inductive framework. Preliminary analyses revealed several emerging themes: Personalization, Customization, and Generalizability of the Training Program, with positive responses alongside suggestions for increasing the fit of program both with the individual and the Latinx culture; Ideas for Use Beyond Our Intended Use, both for understanding one's anxiety and in addressing experiences of discrimination; and Confusion Over Rationale, with implications for user interface changes to better onboard participants. Early findings suggest positive impressions of MTE and highlight potential enhancements to better address the needs of the target audience. Limitations: We did not reach saturation due to recruitment challenges, and participants typically had a short app usage time (< 1 hour).

Children's Attitudes Toward Physical Disability: Visual Perceptions of Disability Status on Perceived Play Enjoyment

Catherine Lim | Sage Bennett Jessica Li | Alison Selverstone | Audrey Taplitz

University of Virginia

Advisor: Zoe Robertson, Ph.D.

Several factors, including disability status and family attitudes, shape children's affective attitudes toward their peers (Nowicki, 2006). Children's perceptions of others with and without disabilities influence how children interact. For instance, children judge others with severe physical disabilities as having fewer friends (Longoria & Marini, 2006). That said, children generally view the exclusion of their disabled peers as morally wrong (Gasser et al., 2014). This study investigated non-disabled children's affective attitudes toward active peers with or without a physical disability. We also studied how parent-reported contact with disabled peers affects children's attitudes during active play. We presented children without disabilities aged 4-9 (N= 28, mean age= 74.83 months [6 years]) in Charlottesville, Virginia, with two images, one at a time, showing an active child in a wheelchair and an active child without a wheelchair. We then asked participants whether they would have fun playing with the child in the image. Children did not systematically prefer playing with a disabled child over a non-disabled child, t(27)= -1.36, p = .185. Based on parent responses, children do not have higher perceived enjoyment with a child with a disability depending on if they have reported close contact with someone with a disability, p = .656. Study limitations include a small sample size and a majorly white and educated sample. Our results have implications for the continued promotion of disability inclusivity in schools. Educators in Virginia may recognize our findings and continue using strategies that effectively promote positive disability attitudes in the classroom.

Prefrontal-Alpha Asymmetry as a Moderator Between Infant Temperament and Toddler Development

Elise Harris | Que Nguyen

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Advisors: Meghan H. Puglia, Ph.D | Winnie Chang, M.S.

Identification of developmental delays in early childhood is crucial for timely intervention, and understanding underlying neurological and behavioral mechanisms can improve predictive models of development. Prior research demonstrates individual relationships between infant temperament, frontal alpha asymmetry (FAA) measured via electroencephalography (EEG), and domains of toddler development. However, little is known about how all subdomains of the three variables interact and how FAA might moderate these interactions. This study examines early indicators of developmental differences by integrating temperament, neurological, and developmental variables to deepen our understanding of early indicators of developmental differences. At 12 months, participants (n=35) underwent an EEG paradigm to assess FAA and completed the IBQ-R temperament questionnaire. At 24 months, participants returned to the lab to complete the Bayley-4 developmental assessment. Statistical analyses explore the relationships between EEG, IBQ-R, and Bayley-4 data to evaluate their multivariate interaction. Contrary to the hypothesis, we found significant relationships between positive temperament and right-frontal activation ($\beta = -1.20$, p = .03), as well as between high adaptive-behavior developmental functioning and right-frontal activation ($\beta = -21.03$, p = .05). No moderation effects were observed among the three variables, also contradicting the hypothesis. These results highlight the need for further exploration of other factors that may contribute to the neurological and behavioral mechanisms underlying developmental differences.

Predictive Model Learning Impairment vs. Perceptual Prior Impairment: Which Perspective Best Explains the Predictive Impairment in Autism (PIA) Hypothesis?

Lalain Imran

University of Virginia

Advisor: Per B. Sederberg, Ph.D.

The current body of scientific literature lacks consensus on whether autism spectrum disorder's diverse traits share any underlying causality. The Predictive Impairment in Autism (PIA) hypothesis is the idea that broad autistic phenotypic markers are due to an impairment in predictive processing. Little research exists to compare the two most prominent perspectives of PIA: the predictive model learning impairment hypothesis and the perceptual prior impairment hypothesis. We conducted a study to investigate which perspective best explains the PIA hypothesis. Participants completed a novel computerized trajectory task, in which they were to predict the time and location where a butterfly would cross a bar. Each butterfly color was associated with a trajectory type per block, and visible durations were varied per trial to change the amount of sensory information received on each trajectory type. The task measured participants' time and location predictions along a predetermined trajectory. At the end of the task, the Broad Autism Phenotype Questionnaire (BAPQ) was administered. We will analyze the effects of butterfly color-trajectory association and different visible durations on trajectory prediction accuracy. We predict that if the predictive model learning impairment perspective best explains the PIA hypothesis, then BAPQ score and learning rate, between butterfly color and trajectory type association, will be inversely correlated. Contrarily, if the perceptual prior impairment best explains the PIA hypothesis, then a higher BAPQ score will be directly correlated with worse prediction performance on low sensory input trials-regardless of their prior knowledge of the trajectory.

The Role of Moral Conflict and the Ingroup Effect on Peer Reporting of Academic Transgressions

Kranti Kaur

University of Virginia

Advisors: Amrisha Vaish, Ph.D. | Sophie Clayton, M.A

People regularly overestimate their morality, believing they would always choose the moral answer if given the choice. However, morality is significantly more complex than it is given credit for. This is especially salient in the case of honor codes, which serve to encourage peer cohesion, yet rely on peer reporting of academic misconduct to function. This generates a moral conflict for students, who must choose between their integrity and compassion for their peers. To operationalize the peer group, we established minimal groups of blue and green colors, creating an "ingroup" and an "outgroup" for each participant. We wanted to learn whether there is a significant ingroup effect in an academic context. A pseudo-participant was instructed to "cheat" during the study by taking a photograph of a literature text to use as a reference during a memory test based on its content. Bystander participants were then given the opportunity to report the transgression to the experimenter both indirectly and directly. We hypothesized that participants in the same group as the cheater would be less likely to report their transgression than participants in the outgroup. It was determined that there was no significant difference (N = 80, p = .06) between ingroup and outgroup reporting of the cheater, although the trend aligned with our hypothesis. To elucidate the truth of this suggestion, future research could replicate this experiment with a method of "cheating" that is perhaps more ecologically valid to create a more realistic paradigm.

Wide-Field Imaging of Seizures in a Rodent Model of Absence Epilepsy

Sakina Lashkeri

University of Virginia

Advisors: Mark Beenhakker, Ph.D. | Scott Killianski, Ph.D.

Absence epilepsy is a neurological disorder characterized by brief episodes of impaired consciousness, often occurring in children aged 4 to 10. These episodes are associated with abnormal electrical activity in the brain, most commonly manifesting as spike-and-wave discharges (SWDs) on electroencephalogram (EEG) recordings. Understanding the underlying neural mechanisms of absence seizure propagation is crucial for advancing therapeutic strategies.

In this study, combined widefield imaging and EEG approaches are employed to investigate cortical activity during seizures in a mouse model of absence epilepsy. Utilizing mice bred to express spontaneous SWDs and a genetically encoded calcium indicator, GCaMP, we use widefield imaging to visualize calcium dynamics across the cortical surface while simultaneously recording EEG. These combined techniques enable the spatial tracking of seizure-related neural activity.

This dual-modality approach enables direct comparison between EEG and fluorescent imaging data, offering insight into seizure propagation patterns and the cortical regions most involved in seizure generation. Imaging data are analyzed through MATLAB to delineate spatial and temporal dynamics of cortical activity during absence seizures. Analysis is ongoing, but preliminary data indicate that fluorescence decreases during SWDs and abruptly rises after termination. Overall our findings will provide a deeper understanding of the cortical networks involved in seizure onset and spread, potentially informing more targeted and effective treatments for absence epilepsy and future interventions for absence epilepsy.

Noun Town Chronicles: A Study on Vocabulary Acquisition Using Immersive Technologies and Their Implications for Migrant and Immigrant Communities

Leonardo Montenegro | Christian Domerchie | Marianna Schindler

St. Mary's College of Maryland

Advisor: Jennifer Tickle, Ph.D.

Desires to learn foreign languages are increasingly supported by cutting-edge virtual reality (VR) technologies that immerse learners in contextualized environments. Given the relevance of these technologies for language acquisition, this study examines the effectiveness of immersive technologies for vocabulary learning and explores attitudes towards their use, particularly regarding their implications for migrant and immigrant communities. Undergraduate participants were randomly assigned to one of three Italian vocabulary learning conditions: flashcards and a poster (no-immersion), a computer-assisted language game (lowimmersion), or a VR-assisted language game (high-immersion). While the learning task significantly improved vocabulary acquisition overall, no significant differences in vocabulary acquisitions were observed between the learning conditions. Participants in the non-immersive learning environments acquired the most vocabulary relative to the other learning conditions, although the difference was not significant. Participants recognized the benefits of interactive technologies for helping migrant and immigrant communities learn vocabulary, but they also pointed out several drawbacks, including high costs, simulation sickness, and limited usefulness for other types of language learning. This research aims to support the development of current and future language learning applications by exploring what modalities and formats of learning are most conducive to vocabulary acquisition, particularly for migrant and immigrant communities. Additionally, this study fills a significant gap in the literature by being the first to explore attitudes towards how different immersive learning formats may be received by immigrants and migrant communities who are disproportionately impacted by language barriers.

Characterization of novel SNPs within Oxtr and their impact on Oxtr-H mRNA expression in the prairie vole

Katelyn Leone | Emma A. Page

University of Virginia

Advisor: Jessica J. Connelly, Ph.D.

Oxytocin is a nonapeptide that regulates many physiological processes, including complex social behaviors and reproduction, through its interaction with the oxytocin receptor. Previous research has shown that oxytocin receptor gene (OXTR) expression is correlated with several single nucleotide polymorphisms (SNPs) within its third intron. The expression of Oxtr in prairie voles, a translational animal model used to study oxytocin-dependent processes, is similarly associated with SNPs within this region. Our lab has previously identified a novel alternative transcript Oxtr-H originating from the third intron with unknown biological function. The expression of this transcript appears to be partially associated with genotype at the SNP KLW2. We seek to identify a SNP that better explains the differential expression of Oxtr-H. We hypothesized that a SNP within the promoter of Oxtr-H may be responsible for the differential expression of this transcript. RNA expression data of Oxtr-H and Oxtr-B, the main transcript, was collected for all samples in the brain and the uterus. Sanger sequencing was conducted to identify novel polymorphisms within a 1540 bp region containing the putative Oxtr-H promoter. Genotype was subsequently investigated at four novel polymorphisms KDL1 (C/G), KDL2 (-/C), KDL3 (C/A), and KDL4 (T/C). No significant association was found between Oxtr-H expression and genotype at KDL1, KDL2, or KDL3. Interestingly, the novel polymorphism KDL4 may be associated with Oxtr-H and displays linkage disequilibrium with KLW2. This finding provides support for the identification of causative SNPs and associated differences found in Oxtr expression, which has significant downstream effects on complex social behaviors.

Children's Reasoning about Gratitude and Reciprocity: A Cross-Cultural Exploration

Ruby Gerken | Qiao Chai | Parvathy Viswanath

University of Virginia

Advisor: Amrisha Vaish, Ph.D.

Gratitude is a prosocial emotion that fosters relationships and enhances well-being, developing from early childhood through adolescence. Despite its importance, the influence of cultural norms and socialization practices on children's gratitude development remains understudied. This study examined the cross-cultural development of gratitude and reciprocity in children aged 5 to 10 from India (N =50) and the United States (N = 50). Children completed the Wishes and Gratitude Survey, and logistic regression analyses assessed the prevalence of gratitude types (concrete, verbal, and connective). Additionally, five gender-matched vignettes examined children's expectations of gratitude and reciprocity, varying by giver (peer or teacher) and motivation (voluntary or involuntary). Generalized linear mixed models examined whether children expected gratitude and reciprocity, as well as the degree of these expectations. Results indicate that voluntary giving significantly influences gratitude expressions, particularly among children in the United States. However, the benefactor's social role did not strongly affect children's expectations of gratitude or reciprocity in either country. Consistent with prior research, younger children predominantly expressed concrete gratitude, while older children demonstrated more complex (connective) gratitude. These findings contribute to a broader cross-cultural understanding of gratitude development.

Keywords: Gratitude, Reciprocity, Prosocial Values, Emotions, Child Development, Cross-Cultural

Reimagining Brain Data: Visualizing Neurodiversity Through MDS and Clustering

Siwen Liao

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Advisor: John D. Van Horn, Ph.D.

There exists a history of psychology research that claims a sex difference exists in ASD diagnoses, demonstrating and emphasizing questions of sexual dimorphism and ASD symptomatology. Understanding this gender gap in ASD diagnoses is critical since developments can open pathways to major advancements in prevention and treatment. When we think about data, we often think about statistically meaningful summaries and predictions, but data also tells underlying stories when expressed creatively. By performing multivariate statistical analysis techniques paired with additively manufactured data visualizations, we bridge the gap between rigorous scientific inquiry and art.

Using data from over 300 MRI-derived brain surface models collected by the Autism Centers of Excellence (ACE) study, we analyzed volumetric brain differences in individuals with and without autism spectrum disorders (ASD), females and males, by using multidimensional scaling (MDS). These differences were further explored using hierarchical clustering, producing a dendrogram that visually narrates the nuance and complexity between the ASD and gender groups. To accompany our quantitative analysis, we 3D-printed corresponding brain models with the goal to create an aesthetic experience that invites viewers to engage with the data in an innovative way. The selected prints serve as physical representations of neurodiversity, a tangible narrative celebrating the subtle and striking differences between male and female brains. Combining data science and brain science, we aim to engender discussion about neurodiversity and create a deeper understanding of the human brain using an interdisciplinary approach.
Independent vs. Interdependent: Self-Construal's Influence on Cultural Identity Conflict

Josephine A. Mbiah

College of William & Mary

Advisor: Joanna Schug, Ph.D.

This study aimed to replicate and extend the findings of Ferenczi, Marshall, and Benjanyan (2015) regarding the psychological effects of identity denial and intragroup marginalization among bicultural individuals. 74 participants were recruited from the College of William & Mary, who self-identified with multiple cultural or ethnic groups. Participants were randomly assigned to one of two selfconstrual conditions: independent or interdependent. They completed a 30-minute Qualtrics survey assessing attitudes, affective responses, and individual differences, including emotion regulation and self-concept clarity. The study examined whether self-construal moderates the psychological impact of identity denial—defined as identifying with a cultural group while being rejected by it especially in relation to bicultural identity integration. Unlike previous studies, self-construal was manipulated independently of identity integration to better isolate its effects. Given prior research linking identity denial to negative wellbeing, this study also explored whether traits such as emotion regulation and selfconcept clarity might buffer against these outcomes. Independent samples t-tests were used to analyze differences across conditions. Results showed that the manipulation significantly influenced interdependence levels but not intragroup marginalization. These findings offer insight into how self-construal may influence the psychological experience of bicultural individuals facing identity-related challenges. They suggest that self-construal alone may not fully buffer against intragroup marginalization, but individual traits such as emotion regulation and self-concept clarity may still play a role. This research contributes to our understanding of cultural identity, social acceptance, and mental health, with potential implications for supporting bicultural populations through identity-based interventions.

Hyperventilation and Blood Alkalization Effect on Seizures in a Mouse Model of Absence Epilepsy

Ashley McHugh

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Advisors: Mark Beenhakker, Ph.D. | Scott Kilianski

Absence epilepsy is a pediatric epilepsy characterized by a temporary loss of consciousness, often appearing as staring spells. Hyperventilation has been shown to induce absence seizures in patients with absence epilepsy, but the underlying mechanisms are not completely understood. This phenomenon has not been extensively tested in the C3H/HeJ mouse strain, a rodent model of absence epilepsy. One common theory suggests the mechanism of this effect is related to the blood alkalization that results from hyperventilation. This study investigated if hyperventilation induces spike-wave discharges (SWDs), a key feature of absence epilepsy, in C3H/HeJ mice. Electroencephalogram headset implantation surgeries were performed to monitor SWD activity during delivery of hypoxic gas to induce hyperventilation. Two methods were used: a recording rig on a Styrofoam sphere with a nose cone for gas delivery, and plethysmography chambers with adjustable gas composition. Additionally, an experiment involving injections of acetazolamide was conducted to raise blood pH and assess the effects on SWD count. The hyperventilation experiment on the rig did not show an increase in SWD count during hypoxic gas delivery. This was likely due to flaws in the rig setup, as the mice were not consistently hyperventilating as intended. I expect the data from the plethysmography chambers, which allow for more reliable induction of hyperventilation, will support this interpretation by showing an increase in SWD count. Analysis is in progress. No clear conclusion could be drawn on acetaozlmadie's effect on SWD count due to high variability in the results and limited sample size.

Quality of Participant-Generated Stories to Reduce Anxious Interpretations as Predictors of Outcomes in Online and Mobile Cognitive Bias Modification

Audrey Michel

University of Virginia

Advisors: Bethany A. Teachman, Ph.D. Emma R. Toner | Kaitlyn D. Petz, B.A.

While the prevalence of anxiety has increased over time, access to quality mental health care has not been able to keep up with the demand. Digital mental health interventions can increase access to evidence-based mental health resources because of their scalability, accessibility, and cost-effectiveness. MindTrails, a web- and mobile-based anxiety reduction platform, implements Cognitive Bias Modification for Interpretations to help users promote flexible thinking, with the goal of reducing rigid negative interpretations of ambiguous situations and anxiety symptoms. The MindTrails training includes "Write Your Own" (WYO) scenarios, in which participants are instructed to describe a personally relevant situation that raises some emotional ambiguity and then apply a non-threatening resolution to reduce the ambiguity. Across two studies (1:N=22; 2: N=268), we test whether the quality of WYO responses is predictive of better mental health (anxiety, depression symptoms) and mechanism of change (positive and negative interpretation bias) outcomes. WYO scenarios will be ascribed a value from 0-2 on how effectively they introduce potential threat, resolve emotional ambiguity, vividly depict a threat-relevant scenario, and reduce the assignment of a negative interpretation. To test whether WYO quality rating scores predict change in reported anxiety symptoms, depressed mood, and positive and negative interpretation biases, we will run a set of linear mixed-effects models. We will also qualitatively evaluate users' reported experience writing scenarios based on qualitative interview data from a subset of participants.

How Cartoons Can Shape Children's Views on Disability Through the Social Model

Izah Qureshi

University of Virginia

Advisor: Zoe Robertson, Ph.D.

Children begin developing social biases early in life, often excluding peers who are perceived as different, including those with disabilities (Aboud, 2003; Dunham et al., 2011). This study explored whether exposure to media portrayals of disability could shape children's and adults' attitudes. Participants were randomly assigned to watch either a cartoon that portrayed disability using the social model (emphasizing societal barriers) or a neutral cartoon without any disability themes. Participants included 53 children (ages 6–8) and 62 adults. Measures assessed willingness to interact with disabled vs. non-disabled peers, trait attributions, beliefs about disability-related inequality, and proposed solutions to an accessibility vignette.

Results showed that children in the social model condition expressed significantly less bias in intended behavior, indicating more equal willingness to engage with both disabled and non-disabled peers, compared to children in the neutral condition. Both children and adults overwhelmingly judged the inaccessible vignette scenario as unfair. Qualitative coding suggests that children in the social model condition were more likely to suggest external, societal-level solutions (e.g., "build a ramp") to address accessibility barriers. Adults generally showed prosocial attitudes across both conditions, with no significant effects of media exposure on quantitative outcomes. In open ended responses, adults were more likely to adopt a social model of disability than children.

These findings suggest that brief exposure to media framed through the social model of disability could influence children's social inclinations in meaningful ways. Future research using more extensive interventions or repeated exposure of the social model may further clarify how media can promote inclusion.

ACEs on Black Faces: Addressing the Impact in Black Communities

Jasia Redmond

Hampton University

Advisor: Vanessa Goodar, Ph.D.

Adverse Childhood Experiences (ACEs) are significant predictors of long-term health outcomes, and their impact on African-American communities is especially profound due to a combination of historical trauma, systemic inequities, and socioeconomic challenges. ACEs-such as exposure to violence, household dysfunction, and neglect—are linked to higher rates of mental health issues, including depression, anxiety, and substance abuse, which disproportionately affect Black children. The unique challenges faced by African-American children, such as racial discrimination, economic hardship, and limited access to resources, compound the negative effects of ACEs, creating a cycle of adversity that is difficult to break. Research has shown that Black children often experience ACEs at higher rates than their white counterparts, with significant impacts on their emotional, cognitive, and social development. These experiences can lead to disrupted attachment, lower academic achievement, and increased risk for behavioral problems, which perpetuate disparities in education, employment, and health. However, despite these challenges, many African-American youth demonstrate remarkable resilience. Community support, strong family ties, spirituality, and cultural identity often act as protective factors, helping youth navigate the trauma of ACEs.

Investigating the Relationship Between Equanimity and Affective Experience

Tre Ridgway-Davis | Lily Jo | Hailey Stokes | Ava Rossi

Virginia Polytechnic Institute and State University

Advisors: John A. Richey, Ph.D. | Sachinthya Lokuge, B.S.

Mindfulness-based interventions (MBIs) are effective treatments for various psychopathologies (Zhang et al., 2021), potentially by influencing positive and negative emotions directly. Although MBIs are generally thought to decrease negative affect and increase positive affect, the exact mechanisms through which MBIs influence affect are unclear. One underexamined component of mindfulness is equanimity (EQ), or the capacity to remain emotionally unperturbed regardless of outcomes. EQ can be developed through practicing de-centering and selfcompassion, which are components of MBIs. Nevertheless, there is a dearth of research investigating the relationship between EQ and negative or positive affect. To explore this, we collected the responses of forty-four adult participants from a predominantly collegiate population (ages 18-65) on The Two-Factor Equanimity Scale (EQUA-S) and the Positive and Negative Affect Schedule (PANAS) and performed a series of straightforward correlational analyses. We found that overall EQ was not significantly associated with trait positive affect or trait negative affect. However, higher even-mindedness (EM), a dimension of EQ describing the decoupling of one's affect from the outcomes of events, was significantly correlated with lower trait positive affect, r(42) = -.39, p = .007 – with no significant linear association existing between EM and trait negative affect. These findings support a growing body of literature and provide evidence of a component of EQ, specifically EM, being associated with affective experience. Our findings also encourage future research examining how subdivisions of EQ may uniquely contribute to affective experience, and how they may ultimately contribute to potential therapeutic implications of EQ.

How Mental Health is Conceptualized in Adolescent Classroom Education: A Mixed Methods Study of Educators and Students

Nathalie Robayo

Barnard College, Columbia University

Advisor: Michael Wheaton, Ph.D.

Research has shown that evidence-based mental health interventions in high school classrooms based around standardized curricula are effective in increasing positive attitudes toward mental health and reducing stigma. However, these interventions are often never designed for under-resourced schools, where many social barriers influence how mental health education is taught. For example, many underresourced high schools often have to resort to more cost-effective teaching formats through external mental health agencies or university-based programs. The current study examines the relationship between type of school (public or private, underfunded or affluent, etc.) and perceived effectiveness of mental health education, as perceived by students. Through an experimental procedure, the current study also tests whether educational format (classroom teacher, outside speaker, etc.) is related to perceived effectiveness. Participants were 200 Barnard College and Columbia University students, ages 18 to 34. The study was approved by the local IRB and all participants provided informed consent. Each participant was asked questions about their background, experience with high school mental health education, and perceptions of a randomly assigned sample syllabus. A one-way ANOVA indicated a significant difference in perceived effectiveness of mental health education between school type groups. A repeated measures ANOVA indicated that participants perceived sample syllabi to be significantly less effective in reducing stigma compared to their effectiveness in providing resources and increasing mental health literacy. No significant differences were found in perceived effectiveness between educational format groups. Lastly, detailed interviews with mental health experts provide deeper insight into adolescent mental health and curricula implementation.

Relations between Theory of Mind and General Psychopathology Utilizing the Short Story Task

Bailey Vaughn | Erika Strobel Jolee A. Sloss, B.S. | Garret R. Hosterman, B.S.

Virginia Polytechnic Institute and State University

Advisors: Adrienne Romer, Ph.D. | Chloe Hudson, Ph.D.

Dysfunctions in theory of mind (TOM), one's ability to infer the mental state of others, are present across diagnostic categories. Specifically, reduced TOM has been linked to internalizing and externalizing disorders, but studies have yet to examine relations with general psychopathology. The Short Story Task (SST) is a narrative-based evaluation of TOM that measures an individual's ability to infer mental states by answering questions of characters' beliefs, intentions, or emotions. Participants included 501 Virginia Tech Psychology students who completed an online survey measuring social cognition and psychopathology. Participants completed the SST as a measure of mental state reasoning, and the Adult Self Report (ASR) as a measure of general, internalizing, and externalizing psychopathology. Separate multiple linear regressions were conducted to examine the associations between SST Spontaneous and Explicit Mental State Reasoning scores and the ASR Total, Internalizing, and Externalizing Problem scores, with age and gender included as covariates. SST Explicit Mental State Reasoning scores were significantly associated with ASR Total (Std. B=0.117, p=0.0095), Internalizing (Std. B=0.122, p=0.007), and Externalizing (Std. B=0.089, p=0.048) Problem scores. When controlling for SST Comprehension scores, none of the findings remained significant. Further research is needed to understand the direct role TOM plays in general psychopathology.

Can Females Detect Ovulation Cues in Other Females?

Sara M. Buie | Shannon P. Brown Rebecca M. Fleetwood | Anna M. Pierce

James Madison University

Advisors: Melanie L. Shoup-Knox, Ph.D. | Krisztina V. Jakobsen. Ph.D.

The fluctuation of hormones across the menstrual cycle is necessary for reproduction but may also impact women's faces and voices. Observers' preference for women's faces and voices at high fertility would evidence the evolutionary ability to detect ovulation cues. Among women observers, it is possible that the ability to detect ovulation cues in other females is cycledependent. In this study we tested women's ability to detect vocal and facial ovulation cues across their own menstrual cycles. Participants who were naturally cycling were brought in for three visits, each at a different stage of their menstrual cycle (menstrual, ovulation, and luteal). Participants observed face and voice stimuli of women that were collected at ovulation and the luteal phase. Participants completed a forced-choice task to determine which face and voice was more attractive. Our findings showed that participants in their luteal phase were more sensitive to facial ovulation cues, but participants in their ovulation phase were more sensitive to vocal ovulation cues. Additionally, our results revealed that participants overall were more sensitive to vocal ovulation cues than visual ones. These results indicate that there is a possible evolutionary drive for females to be able to detect ovulation cues in other females, such as mate selection or competition.

Predicting Neurodevelopmental Outcomes in Preterm Infants Using Maternal-Neonatal Determinants and Perinatal Interventions During Neonatal ICU Admission

Zoe Kitchings | Madelyn G. Nance

University of Virginia

Advisors: Meghan H. Puglia, Ph.D. | Winnie Chang, M.S.

The critical care that infants and their birth parents receive during gestation and parturition shape life-long developmental mechanisms and moderate the impact of pre-existing medical conditions within the mother-infant dyad. The complex processes by which delivery method, modifiable perinatal interventions, and inherent medical determinants influence social-emotional maturation are not fully understood. This study aims to identify clinical factors associated with an increased risk of developmental delay to optimize neonatal care and direct future research. We extracted data from 63 preterm infants' electronic health records, including maternal obstetric history, perinatal data, and relevant diagnoses during an initial admission in UVA's Neonatal Intensive Care Unit (NICU). At 22-26 months corrected age, participants completed the Bayley Scales of Infant Development (BSID) and Autism Diagnostic Observation Schedule (ADOS). Extracted infant health metrics were utilized in iterative regression modeling to predict BSID and ADOS scores. To evaluate the predictive accuracy of optimized models, we utilized confusion matrices. 44 infants (70%) were born via cesarean section and 22 (35%) had behavioral ratings indicating risk of developmental delay. The optimized model predicted BSID behavioral rating with 81% accuracy and ADOS score severity with 57% accuracy. Significant interactions were observed with delivery methods such that cesarean sections were associated with lower performance on neurodevelopmental assessments. These results suggest a potential influence of delivery method on long-term cognitive development in premature infants. Further study is needed to elucidate underlying mechanisms and ensure the current understanding of cesarean safety, which primarily emphasizes respiratory outcomes, also considers potential long-term neurodevelopmental effects.

Learning Increases the size of Thalamic Inputs to Prefrontal Parvalbumin Interneurons

Yousif Abood | Mahum Aiesha | Ashley Chang | Lindsey Bruns Max Iida | Mary Mason | Shevya Panda | Evaline Portillo | Caitlin Shifflet

University of Virginia

Advisor: Adema Ribic, Ph.D.

Learning new tasks requires appropriate levels of behavioral inhibition, an executive function mediated by the prefrontal cortex (PFC). Previous studies in mice show that within the PFC, increased activity of a subclass of inhibitory neurons called Parvalbumin interneurons promotes behavioral inhibition. A bulk of excitatory inputs onto these interneurons originates in the mediodorsal thalamus, the main thalamic input to the PFC. However, it is unclear how learning new tasks impacts the thalamic projections onto prefrontal Parvalbumin interneurons. To address this, we used quantitative immunohistochemistry to quantify the changes in size and density of putative thalamic inputs onto prefrontal Parvalbumin interneurons.

Adult male and female mice were trained on a discrimination task, where the presentation of one image was rewarded with water and the presentation of a different image had no consequence. Mice were trained daily until they were able to successfully discriminate between the two images and withhold their behavioral responses (licking) to the non-rewarded image. After that, mice were transcardially perfused, their brains isolated and sectioned, and their PFCs were used to detect vesicular glutamate transporter 2 (vGlut2) and Parvalbumin using immunohistochemistry. Images were collected using a confocal microscope and analyzed using ImageJ.

We found that vGlut2 puncta on Parvalbumin dendrites in the prefrontal cortex are larger in mice trained on a visual discrimination task, suggesting that learning a task increases the strength of thalamic inputs onto prefrontal interneurons. Our findings hence support that excitatory inputs onto prefrontal Parvalbumin interneurons mediate executive function and warrant further investigation.

Poster Session II (1:10 – 2:00 PM)

Parent-Child Inclusionary Attitudes Towards Disability Types

Julia Pfeiffer | Yiyang Zhang | Helena Nguyen

University of Virginia

Advisor: Zoe Robertson, Ph.D.

Although parental attitudes have profound effects on children's development, research on the influence of parental attitudes on children's inclusion of peers with disabilities remains inconclusive. While some studies suggest a positive parentchild attitude correlation, others find no significant association. Given the mixed results, this study examines whether children's attitudes toward peers with disabilities align with their parents' attitudes. Participants (n = 31) were primarily white and mixed-race children ages 4 to 11 years and their parents. Each child and one of their parents were presented with a photo set featuring two gender-matched vignettes: one depicting a character with a physical disability (using a wheelchair) and the other with a sensory disability (wearing hearing aids). Children and parents were then asked which character they would prefer to accompany them to the mall. A Fisher's exact test was used to examine whether children and parents' answers were associated with one another. Contrary to our hypothesis, there was no statistically significant relationship between children's choices and parents' choices, p = .335. Additionally, children and parents did not systematically prefer one disability type over the other, one-sample tchildren(28) = 0.550, p = .586, tparents(17) = 0, p = 1.0. While we did not find evidence that children's disability attitudes are associated with parents' attitudes, our results are limited by the small sample size and one-question survey. This study highlights the need to continue investigating the association between parents and children's disability-related attitudes, as well as potential influences outside of the household.

Impacts of Social Belonging Interventions within the Context of Natural Disaster and Small Liberal Arts Colleges

Ysobel Ashworth | Michaela Phelan

Warren Wilson College

Advisor: Jennifer Mozolic, Ph.D.

Previous research suggests that when first-year college students are presented with information to suggest that experiences of adversity are universal and brief, incorporating this belief increases their sense of social belonging (SB) and success in college. The current study aimed to determine if a lay theory social belonging intervention could be applied in a small, liberal arts college setting. Forty-four participants recruited from First Year Seminar courses completed the entire study which was conducted over twelve weeks and included the following phases: demographic questions; pre-test measures of SB, academic engagement (AE), and flourishing; primary intervention; booster intervention; and post-test measures that repeated the pre-test and added GPA and retention. In the primary intervention, participants responded to survey data and quotes from prior students about their experiences overcoming adversity in the social environment (TRT) or physical environment (CTRL) of college. The booster intervention asked participants to reflect on their writing from the primary intervention and to consider the influence of Hurricane Helene. While previous studies support the application of the "saying" is believing" lay theory to increase social belonging, this hypothesis was not supported in our replication. Exploratory analyses suggest that several unique conditions – including the demographic makeup of the sample and the natural disaster that temporarily shut down campus – may have confounded the results. While further research should explore adaptations of this intervention for small liberal arts colleges, our data was able to show how experiencing a natural disaster can impact SB and AE in first year college students.

Exploring the Role of Microglia in Engram Representations of Social Memories

Eva Campbell | Walter J. Tatera Sabrina Lee | Brenda Sanchez | Piotr Kraszewski

University of Virginia

Advisor: Elise C. Cope, Ph.D.

Social memory deficits are characterized by the inability to recognize familiar individuals. The neural mechanisms underlying these impairments are poorly understood. The hippocampal CA2 subregion and its excitatory projection to ventral CA1 (vCA1) are essential for processing, storage, and retrieval of social memories. Memories are encoded in neuronal ensembles termed "engrams," which are activated during learning and reactivated upon recall. Microglia, the brain's immunocompetent cells, are known to modulate neuronal activity, indicating a mechanism by which microglia-neuron interactions may shape engram representations of social memories. We observed social memory deficits in mice depleted of microglia via colony-stimulating factor 1 receptor inhibitor, PLX-3397. When allowed to repopulate, microglia exhibited morphological changes, including increased soma volume and reduced process complexity. Current work utilizes the Targeted Recombination in Active Populations (TRAP2) tamoxifeninducible genetic system to investigate how microglia regulate neuronal activity. We crossed TRAP2+/+ with ZsGreen+/+ reporter mice to permanently "tag" neurons activated during social memory encoding; combined with immunolabeling of reactivated neurons expressing Fos (activation marker) during memory retrieval, putative "engram" neurons were identified. TRAP2+/-;ZsGreen+/- mice were depleted of microglia (PLX-3397), subjected to novel and familiar social interactions, and perfused to examine Fos with immunolabeling. ZsGreen+ and Fos+ cell counts in CA2 and vCA1 revealed that microglia depletion does not alter neuronal activity in response to a novel or familiar conspecific, respectively. ZsGreen+/Fos+ co-labeled cell counts indicated that microglia do not modulate social memory engrams. Future work will use more targeted manipulations to explore the role of microglia in social memory circuitry.

"Bad" or Misunderstood? The Implications of Labeling and Corporal Punishment and their affect on Neurodevelopmental diagnosis in Black Children

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Black children are disproportionately labeled as "bad" or "disruptive" in school settings, leading to punitive discipline rather than proper assessment for neurodevelopmental disorders such as Attention-Deficit/Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD). Simultaneously, corporal punishment remains a common disciplinary practice in Black households, reinforcing behavioral patterns that educators and medical professionals may misinterpret. This study examines how labeling and corporal punishment influence the likelihood of Black children receiving neurodevelopmental diagnoses. Drawing from Becker's Labeling Theory, Bell's Critical Race Theory (CRT), and Bandura's Social Learning Theory, this research explores how repeated labeling can shape children's behavior, how systemic bias influences parental and institutional perceptions, and how exposure to corporal punishment affects social-emotional development. Using a sequential mixed-methods approach, this study surveys both parents and educators to assess their perceptions of Black children's behavior, disciplinary practices, and awareness of neurodevelopmental disorders. Participants who consent will take part in focus groups, allowing for deeper qualitative analysis. The findings will provide insight into how implicit bias and social conditioning contribute to disparities in diagnosis, highlighting the need for culturally informed assessments and intervention strategies. This study seeks to challenge deficit-based narratives about Black children and advocate for more equitable approaches to behavioral and developmental support by addressing these systemic barriers.

The Paradox of Emotional Flexibility: Examining the Effects of Emotion Regulation Strategy Switching on Negative Emotion

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Emotion regulation, defined as an individual's ability to control the intensity and duration of their emotions, has been linked to positive outcomes like lower rates of psychopathology. Recent research on emotional flexibility has highlighted switching strategies could be a crucial tool for emotional regulation in various contexts, warranting further research.

The current study assessed whether switching between different emotion regulation strategies, sticking to a single strategy, or using no strategies is associated with lower momentary negative emotion. Participants (N = 137) viewed four videos validated to induce negative emotions, then were instructed to utilize whichever strategy they felt may best reduce negative emotions as they viewed the video, with the options to freely switch between strategies at any time.

Omnibus one-way ANOVA revealed significant differences in negative emotion during only one of four videos, F(2,135) = 4.084, p = 0.019, $\eta 2 = 0.06$. However, post-hoc, Bonferroni corrected tests indicated those who never regulated the given video (M = 255.80, SD = 188.48) significantly outperformed those who used many strategies (M = 336.14, SD = 129.25, p = .047) or just a single strategy (M = 331.08, SD = 116.67, p = .025).

By assessing emotion regulation choices and emotion in real time, this study provides evidence that participants who regulated using multiple strategies might experience greater emotions versus those who never attempted to regulate among low-intensity stimuli. This in turn may suggest that those who switch more are more likely to have ineffective regulation skills.

Sexual Identity and Perceived Power: Exploring Disparities in Power Allocation Between LGBTQIA+ and Cishet Participants

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Social hierarchies are fundamental in determining the amount of power allotted to identity groups. Currently, we examine the amount of power different sexual identity groups are perceived to be allotted by society versus how much power participants indicate each group should ideally have. Across two studies conducted in 2024, LGBTQIA+ and cishet participants first rank-ordered six (Study 2) or eight (Study 1) sexual identity groups into a social hierarchy. Next, participants were asked to assign power to each group based on a) how much power they feel society gives each group and b) how much power they personally feel that each group should have in society. We found differences between how LGBTQIA+ and cishet participants personally felt power should be distributed and how it actually is distributed. LGBTQIA+ participants, compared to cishet participants, believed that power should be more equally allocated across sexual identity groups, and that society gives significantly more power to those identifying as straight. These findings provide insight into the differences between hierarchy within and outside of the LGBTQIA+ community and increase visibility of marginalized sexual identities.

Investigating Social Capital's Role in Benefit of Living Learning Communities

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Living learning communities have been reported as beneficial to college students who participate in them. Living learning communities may look slightly different across settings but are defined by students living and learning together who have mutual interests (LiveOn 2025). There are known benefits like improved retention and academic performance, but the direct reason for these benefits are still debated in the literature and widely unknown. The current study aims to collect data on social capital to potentially better understand the cause of these benefits. Social capital is known as the "potential ability to obtain resources, favors, or information from one's personal connections" (Kenton 2024). Participants are incoming freshmen at a small liberal arts school split into three groups: Freshmen selected by the institution to participate in the pilot residential housing initiative program in STEM, freshmen in STEM not in the housing program, and all other freshmen. All participants will complete surveys to measure how much institutional assistance they had with coursework (i.e., Did you go to any of the following people for help with your coursework? Professors, teaching Assistants, Friends at school, Students in your classes, Tutors) (Moschetti & Hudley, 2008). We will conduct one-way between subject ANOVAS on GPA (academic performance), retention between fall and spring semester, and social capital. Data will be collected in the spring using a survey and data already collected from the institution's registrar's office.

Does Music Make You Happy?: Investigating the Correlation between Music and Happiness

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It seems common sense that music increases happiness. However, this relationship is not as supported by current literature as one would expect. While some studies indicate that music does increase happiness (Krause et al., 2021; Morinville, et al., 2013), others suggest the opposite (Lamont & Ranaweera, 2020). The current study looked to see if a correlation exists between music participation and general happiness using data collected as a part of the 2002 General Social Survey (GSS) by NORP at the University of Chicago. It was hypothesized that passively attending a popular or classical concert in the past year is positively associated with general happiness, and that actively playing a musical instrument is also positively associated with general happiness. Mann-Whitney U Tests revealed significant positive correlations between general happiness and attending a classical concert in the past year (Z = -2.84, p = .004). All other relationships were found to be positive, but not significant. Due to the limitations of the correlational nature of this study as well as limitations to the survey data collected (e.g., singing was not included in playing a musical instrument), replication of this study is recommended, but with more current data and adjustments for confounding variables, such as income and leisure time. Further research using experimental designs to increase validity and address causality is also recommended.

A Genetically Informed Study of Epigenetic Aging and Health Related Quality of Life in a Midlife Sample of Twins

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DNA-methylation based markers of biological aging, also known as "epigenetic clocks", are strong predictors of age-related disease and mortality. Health-related quality of life (HRQoL) is similarly a valid indicator of chronic disease and morbidity outcomes. However, there is limited research on the relationship between HRQoL and epigenetic aging. We explored this relationship using a twin design that allowed us to control for genetic and shared environmental confounds within pairs of twins. We collected data from 435 midlife twins in the Louisville Twin Study (average age = 48.78, SD = 9.56). Participants completed the RAND SF-36 Item Health Survey (SF-36), a self-report measure of health perception. We quantified DunedinPACE, a DNA-methylation based measure of epigenetic age, using whole blood samples. We tested whether the subscale from the SF-36 that measures health-related quality of life (HrQoL) is associated with DunedinPACE in midlife. We conducted a genetically informed correlated factor model, in which DunedinPACE and HrQoL were both decomposed into genetic and environmental components using the classical twin model. Correlations between the components and the phenotypes were estimated across the two variables. We found that there was a statistically significant phenotypic relationship between HRQoL and DunedinPACE (r = -0.102, p < .05) after genetic and environmental confounds had been controlled by the twin model. Based on our findings, HRQoL and a comprehensive measure of biological age are significantly correlated, even after controlling for genes and shared environment.

Exploring how Adolescents Identify, Differentiate, and Label Their Emotions based on Insights from Focus Groups

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Advisor: Stefanie L. Sequeira, Ph.D.

Adolescence is a period of significant emotional transformation, marked by psychological, biological, and social transitions (e.g., autonomy shifts, identity formation, evolving social expectations) that shape emotional awareness. Despite these developmental changes, many existing emotion assessments were designed for adults, potentially misrepresenting adolescent emotional states. These measures rely on adult-based frameworks that overlook how adolescents identify, differentiate, and label emotions-skills essential for emotional competence. Yet, research on how adolescents understand and articulate their emotions remains limited. This study conducted seven focus groups with 24 adolescents (ages 11–17) to explore emotional awareness based on how they identify, differentiate, and label emotions. Participants completed surveys, defined emotion-related terms, and responded to scenario-based prompts about peer relationships, life transitions, and personal challenges. Using thematic analysis, we examined whether adolescent descriptions align with constructs in a commonly accepted tool for assessing emotional states, the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988), or reveal meaningful discrepancies. We predict that findings will show adolescent emotional awareness is not fully captured by adult-derived measures, demonstrating complexities in how youth describe and experience emotions. Specifically, we predict that adolescents may articulate and understand more nuanced emotions than previously recognized, especially regarding negative experiences. These insights are expected to inform the development of more valid, developmentally attuned emotional assessments, bridging the gap between adultcentric measures and adolescents' evolving emotional landscapes.

Assessing the Impact of Active Learning Strategies in Large-Enrollment Courses Using Natural Language Processing

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Advisor: Mariana Teles, Ph.D.

Active learning strategies have gained prominence in higher education for their potential to enhance student engagement and learning outcomes. However, assessing their effectiveness in large enrollment courses remains challenging. This study examines the impact of active learning components in two large enrollment psychology courses and demonstrates the application of advanced Natural Language Processing (NLP) techniques in analyzing student feedback comments in course evaluations. We compared traditional lecture-based formats with active learning approaches in two large courses in Psychology (A Survey of the Neural Basis of Behavior and Introduction to Cognition). Student feedback was analyzed using zero-shot classification via Facebook's BART Large Language Model, categorizing responses into four dimensions: learning experience, engagement, perceived learning, and excitement about content. Results showed significant improvements in all dimensions for both courses under the active learning format, with particularly strong effects on learning experience and engagement. The Introduction to Cognition course showed a non-significant trend in increased excitement about content. The innovative NLP approach provided nuanced insights into student perceptions, overcoming limitations of traditional course evaluations. This study contributes to the growing body of evidence supporting active learning in large classes and introduces a scalable, efficient method for assessing pedagogical innovations in higher education.

The Effects of Excessive Rumination on Athletic Success

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Excessive rumination or anxiety can draw a player's mind from a moment in their sport to distracting thoughts. The success of an athletic task may be halted due to overthinking and a lack of focus. The pre-frontal cortex (PFC) of the forebrain is implicated in rumination and cognitive perseveration in addition to being connected to many sensory and motor regions; thus, the PFC is a key brain area in discovering the impact of overthinking in sports like basketball. A portable Functional Near Infrared Spectrometer (f-NIRS) allowed for analysis of the connectivity and recruitment of the subregions within the PFC. The f-NIRS collected quantitative data on oxygenated/deoxygenated hemoglobin in a spatial and temporal manner while the participants directly performing a series of basketball tasks (n=15) athletes with various basketball experiences (Professional, Collegiate, Recreational, and Novice). Data were analyzed one second before the release of the basketball from their hand. Significant inhibition was found in various subregions of the PFC including the Left Dorsolateral(p uncorr<0.01) and Right Dorsolateral (p uncorr<0.05) regions when comparing success versus failure. This supports the theory that suppression of brain subregions implicated in rumination and cognitive perseveration may lead to better performance of tasks, as it allows attention to be fully directed towards the execution of an action. Connectivity between the Frontal Polar Cortex and Orbitofrontal Cortex (p FDRcorr<0.01) also showed significance in increasing their patterns of firing before a shot attempt. These results lay the foundation for future research to determine if strategies that inhibit subregions of the PFC may enhance athletic success.

Individual Differences in the Value of Completion

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When deciding which tasks to prioritize, people usually think about the specific rewards of the activity—for example, students might weigh their level of interest in different assignments, or the number of points at stake. Recent theorizing suggests that some individuals may also consider whether the activity offers the chance to finish something. Research has shown that people sometimes prioritize this dimension, choosing tasks as if the experience of completion is a reward in itself. We propose here that there is an individual-difference component to how people value completion opportunities, and we aim to develop an instrument that will detect dispositional variance. This paper introduces a scale to measure the generic value of completion, conceptualizing it as a latent variable manifesting through two dimensions: the degree to which people feel bothered by incomplete tasks and expect to feel satisfied by completing tasks. We developed items and conducted factor analyses, yielding a 20-item scale with a 2- factor structure and high internal reliability. Testing the scale across multiple populations supported its generalizability. Furthermore, we began to assess the discriminant and convergent validity of our scale with respect to related measures. The value of completion has moderately strong positive associations with conscientiousness and the need for cognitive closure. Planned follow-up research will assess test-retest reliability, discriminant validity with additional constructs, and predictive validity with key behaviors. We discuss how, pending these additional tests, the scale may have applications in clinical and organizational settings.

Examining Prosocial Motivations from Parent and Child Perspectives

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Humans are social beings that rely heavily on our cooperative relationships (Tomasello et al., 2012). To navigate these relationships and build networks of cooperation, individuals must assess not only others' prosocial actions but also the intentions underlying those actions. This study examines both children's and parents' preconceptions of prosocial intentions, as well as the role of parental socialization in shaping children's beliefs. Children (N = 70) participated in a structured online study in which they heard two prosocial stories and answered questions about the agent's motivations, the recipient's emotions, and their own evaluations of the agent's actions. Meanwhile, parents completed a quasistructured interview about their views on prosocial motivations. Using a shared coding framework adapted from Eisenberg et al. (2016), we compared children's interpretations with their parents' reported beliefs. Results showed that when evaluating the prosocial agent's intentions, children generally emphasized positive motivations. In contrast, parents provided a more nuanced perspectiveacknowledging emotional empathy while also emphasizing the importance of external rewards, such as character development, reciprocity, or social status.

New Places, New Feelings: How Primal World Beliefs and Mobility Behaviors Predict Momentary Subjective Experience

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Research using mobile sensing has advanced our understanding of how mobility behaviors shapes emotions and social behaviors. Human behaviors are crucial to understand, as they can compound to influence long-term wellbeing. However, little attention is given to how general beliefs about the world (primal world beliefs) shape these relationships. This study examines how these beliefs and mobility interact to predict momentary subjective experience (affect and activity typicality) at the between-person level. First-year undergraduates (N = 374) participated in a longitudinal study involving passive mobile sensing and ecological momentary assessment. From this data, we measured (i) GPS-tracked mobility behaviors aligned with survey submissions (total visits, visit duration, and total visit duration), (ii) primal world beliefs from self-reports for each wave of data collection (beliefs in a safe and enticing world), and (iii) momentary affect and activity typicality. Generalized multilevel models indicated that both enticing and safe world beliefs positively predicted momentary affect. Participants reported lower affect in frequently visited locations and higher affect in novel places. Being in more frequently visited locations was associated with more typical, routine behavior at that moment. However, among those with a strong belief in a safe world, extended stays in one location were associated with engagement in rarer activities. These findings suggest that primal world beliefs moderate the relationship between mobility and activity novelty, but their influence on momentary affect remains limited. This study provides new insights into the psychological mechanisms underlying human mobility and momentary experiences.

Improving Students' Learning Strategies and Academic Outcomes Through a Cognitive Science-Based Intervention

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The purpose of the Teaching and Learning Hub is to fundamentally improve teaching methodologies and student learning through the application of learning strategies from cognitive sciences. The experimental group -- composed of firstyear undergraduate students -- met in groups of four, with a third- or fourth-year mentor, for six weeks in one-hour-long sessions. In a session, mentors led lectures, activities, and discussions of strategy; strategies included hierarchical organization, SQ3R (survey, question, read, recite, and review) reading, mental imagery, and the Methods of Loci strategy. Pre- and post-test assessments with self-reported (1) motivation to learn, (2) learning strategy outlook, and (3) academic self-efficacy measures were collected from the experimental and control groups (1: n=40; 2: n=20). We found that participants who received the experimental program had a significant increase in scores for variables related to critical thinking, hierarchical organization note-taking techniques, and overall summarizing strategies compared to the control participants. These findings highlight the effectiveness of cognitive science-based learning strategies in improving student motivation, strategy use, and academic confidence.

Neural correlates of language acquisition in infancy

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Delays or difficulties in language ability are associated with a range of disorders in children and adults; thus, it is crucial to investigate the neurological basis of language acquisition in infancy to understand cognitive outcomes. Power spectral density (PSD) is used to analyze the frequency of neural activity recorded by electroencephalography (EEG). Higher frequencies such as the beta and gamma waves are associated with active cognitive processing. This study aims to analyze whether PSD in beta and gamma bands in brain areas responsible for language processing during infant engagement in an auditory listening task would positively predict language ability in toddlerhood. At eight months of age, two independent samples underwent EEG recordings while listening to speech and nonsocial stimuli. At 16 months of age for one sample (N=32), parents completed the Infant Behavioral Questionnaire and the Infant Developmental Checklist to assess language ability. At 24 months of age for the second sample (N=28), toddlers completed a language assessment via the Bayley-4 Scales for Infant and Toddler Development and parents completed a Bayley-4 questionnaire. A linear regression analysis revealed a significant positive association between beta power at eight months in language regions and Bayley-4 assessment scores at 24 months in sample two (β =15.70, p=.027, adjusted R²=0.14). No significant relationships were found in the gamma band or in either wave band for sample one. These resultscontrasted across brain waves, language measures, and ages-provide insight into the neurological underpinnings of language acquisition to inform developmental predictions.

Teaching Adolescents Supportive Friend Emotion Socialization Skills: Results of a Pilot Study

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Emotion socialization (ES) is the process through which adolescents learn to identify and regulate their emotions consistent with cultural display rules (Eisenberg et al., 2020). Friends are important ES agents during adolescence (Hale et al., 2023). Furthermore, high-quality friendships are critical for adolescent development and are associated with a myriad of benefits (Güroğlu, 2020). The present study examines the effects of an emotion competency training program (TINT; Kehoe et al., 2013) on adolescent friend ES practices and friendship quality. The adapted TINT program was delivered in-person to a community sample of adolescents through six two-hour sessions. Participants were 34 adolescents (22 girls, M = 11.90 years, 76.5% White) who participated in six smaller groups. Data collection is ongoing. They answered two questionnaires evaluating friend ES (Klimes-Dougan et al., 2014) and friendship quality (Parker & Asher, 1993) at weeks 1(T1), 6(T2), and 10(T3). Regarding ES, for friend worry and sadness supportiveness, there was a large effect size such that supportiveness increased from T1 to T3. For neglect of friend's worry, there was a large effect size, with a significant decrease from T2 to T3. There was a large effect size for relational aggression to sadness expression with a decrease from T1 to T2 and from T1 to T3. Friendship quality significantly increased from T1 to T3, with improvements in conflict resolution and companionship. The findings suggest that the modified TINT program effectively promotes supportive friend ES practices and improves adolescent friendship quality, particularly for expressions of worry and sadness.

How sexual orientation influences sensitivity to ovulation cues

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Hormonal changes necessary for reproduction may cause women to leak ovulation cues. Males' perception of these cues has been discussed for mating advantages, while female perception may be an intrasexual competition strategy (Pipitone & Gallup, 2008; Ostrander et al., 2018). Non-heterosexual females may have heightened sensitivity to ovulation cues compared to heterosexual females due to cognitive adaptations for both mating and intrasexual competition. This study examines how sexual orientation influences their sensitivity to other women's ovulation cues. Naturally cycling participants reported their sexual orientation and specified the gender identities they seek in a potential partner. Participants were presented with sets of female faces and voices where one was from the ovulation phase and the other was from the luteal phase, and were asked to pick which was more attractive in a forced choice task. Participants completed these tasks at visits in their low hormones phase (menstrual) or high hormones phase (ovulation or luteal). We expected all females to rate ovulation phase stimuli as more attractive, with non-heterosexual females rating ovulation phase stimuli as more attractive. Heterosexual females tend to pick the ovulating voice regardless of phase, while non-heterosexual females in their high hormones phase tend to pick luteal voices. Across groups, luteal faces were chosen more, especially by non-heterosexual females in their high hormones phase. Findings indicate, although sensitivity to ovulation cues may be driven by biological sex, the role of sexual orientation may be critically overlooked.

Analyzing Digit Span Subtest in WISC/WAIS IQ tests

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This study examines performance on the Block Design (BD) subtest of the Wechsler Intelligence Scale for Children (WISC) and the Wechsler Adult Intelligence Scale (WAIS) using data from the Louisville Twin Study. Traditional intelligence assessments often emphasize accuracy, but this research investigates response time as a separate indicator of cognitive ability. Using R, the original BD scores were recoded into two variables: accuracy (0/1) and bonus points, which reflect additional credit awarded for speed. Structural equation modeling in Mplus was then used to analyze the relationship between speed and accuracy, assessing whether they function as distinct cognitive factors rather than a single unified measure. This study also examines the extent to which response time contributes to understanding individual differences in performance. By incorporating speed as a factor, this research explores alternative ways of quantifying cognitive ability beyond total scores alone.

EEG Alpha Oscillatory Dynamics Reflect Affective Modulation of Pain by Personally Meaningful Music

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Music is a promising non-pharmacological approach to pain modulation, yet the underlying neural mechanisms remain incompletely understood. This study examined how different types of music modulate EEG responses to long-lasting heat pain stimulation, with a focus on alpha oscillatory activity. Forty-eight healthy participants underwent EEG recording while exposed to painful heat stimuli (Pain 50/100) applied to the ventral forearm. Each stimulus was delivered at the midpoint of a 60-second music clip. Participants listened to personally meaningful positive music, research-assigned negative music, and neutral instrumental music in an order-randomized block design. EEG alpha power and peak alpha frequency were analyzed time-locked to the pain stimulus, and pain intensity and unpleasantness ratings were collected before and after each condition. Our results showed that positive music significantly reduced both pain intensity and unpleasantness, while negative music significantly increased pain unpleasantness. EEG analysis revealed a significant increase in heat pain-related alpha power during positive music (p = 4.6236e-60) and a significant decrease in peak alpha frequency during negative music (p = 3.6216e-06). No significant modulation of alpha activity was observed during negative or neutral music. Personally meaningful positive music was associated with increased alpha oscillatory responses to painful stimulation and lower subjective pain ratings. These results suggest that music may influence both neural and perceptual aspects of pain and that alpha power could serve as a potential marker for affective modulation in pain-related EEG research.

Adolescent Boys' Responses to Masculine Norms: A Qualitative Study of Resistance and Accommodation

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Amid ongoing concern over youth mental health, adolescent boys have shown less improvement than their female peers across measures such as depression, loneliness, and suicidal ideation (Centers for Disease Control and Prevention [CDC], 2023). While scholars debate whether this trend stems from pressure to conform to dominant masculine norms (Chu, 2014; Way, 2011, 2024) or from the devaluation of boys' "natural" tendencies (Unnever & Chouhy, 2021), few studies have examined how boys themselves make meaning of masculinity across adolescence. This qualitative study draws on the Phenomenological Variant of Ecological Systems Theory (PVEST; Spencer, 1997) and the Listening Guide method (Gilligan et al., 2003) to investigate how adolescent boys describe and respond to dominant gender norms. We analyze interview and survey data from 18 boys (ages 11–18) drawn from a longitudinal, mixed-methods study. Initial coding focuses on boys' responses to three dominant masculine norms identified in the literature: emotional stoicism, autonomy, and physical toughness (Chu et al., 2005; Gupta et al., 2013; Santos, 2010; Way et al., 2014). Responses are classified as either resistance (e.g., desire for emotional expression or support) or accommodation (e.g., endorsement of toughness or self-reliance; Way et al., 2014). Early findings highlight instances of both implicit and explicit resistance to masculine norms (Way et al., 2014), as well as contextual influences such as peer interactions and family dynamics (Chu, 2014; Endendijk et al., 2013; Way, 2011). Additional inductive codes, such as emotional vulnerability and sports as activities, have emerged during analysis. Future work will explore differences by age and racial identification (Way, 2011; Way et al., 2014), and examine how micro- and macro-contexts shape boys' responses to gender norms over time (Spencer & Tinsley, 2008; Bronfenbrenner, 1994).

Mind over matter? How trait and state willpower beliefs interact with metabolic state in stress responses

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Self-regulation, a psychological construct encompassing emotional control, task discipline, and stress management, is implicated in health outcomes and long-term life success. However, theoretical models fail to explain why individuals differ in their self-regulatory abilities. The ego depletion hypothesis proposes that people's self-regulatory capacity is finite and depleted across effortful tasks. Other models focus on individuals' willpower beliefs, showcasing that self-regulation primarily depends on mindset and resiliency as opposed to a limited resource. Ultimately, both models fall short in providing a compelling and biologically accurate mechanism to explain self-regulatory differences between individuals. Emerging knowledge in the field of allostasis grants a nuanced perspective. Allostasis shows that the brain integrates information from internal physiology, past experiences, and the environment to guide behaviors that will enhance chances of survival. When bodily resources are low, the brain will "view" behaviors that are energetically costly, like self-regulation, as posing too big a risk to survival. To test this, N=55 healthy, young, adult participants were randomly assigned to either a fasted (low resource condition) or satiated (high resource condition) state. While completing stressful speech and math tasks, participants' stress responses were measured via electrocardiograph. Participants then answered self-report questionnaires regarding their emotions and beliefs in willpower capacities. Results showed that individuals who were fasted and believed that willpower is a limited resource had worse physiological responses to the stressful tasks, consistent with predictions from allostatic theories. Future studies should leverage metabolic study designs to disentangle how self-regulatory processes are grounded in the body and brain.
Looking to the Stars: Celebrity Music Fandom and the Search for Spiritual Meaning

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Scholars have considered the increase of celebrity fandom alongside the decline of organized religion, theorizing that fans look to the media and celebrities they 'worship' to find meaning in an increasingly secular world. Limited empirical studies provide inconclusive results on the relationship between meaning, religion, and celebrity fandom. Participants (N = 201) completed a survey of celebrity worship (attitudes and actions towards favorite celebrities), intensity of fandom for music, relationships with other fans, motivations in music selection, meaning in life, spirituality, and religion. Although the majority of participants were fans of Taylor Swift (n = 75) or the Grateful Dead (n = 66), members of other fandoms (n= 60) participated as well. Spirituality and religiosity positively correlated with celebrity worship. Results indicated that celebrity worship and fandom relate to the search for and presence of meaning in life in general and in music listening specifically, providing valuable insight into the motivations and outcomes of fandom. Fans were more interested in finding meaning than pleasure in the music they listened to. While fandom engagement related to an increased presence of meaning in life, celebrity worship correlated with increased search for meaning.

How Do Children Perceive Leaders?

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For decades, leadership qualities from childhood have been shown to have significant continuity to adulthood, and many theoretical links have been drawn between perceptions of leadership from childhood to adulthood. However, little non-theoretical research exists investigating children's thoughts of leaders' warmth and competence across multiple social behaviors and through their own justifications. Given the growing nationwide inequality linked to reduced interpersonal trust that extends to institutions and leaders, understanding how individuals construe their leaders is now more important than ever. Since this development begins in childhood, it further warrants more research into this topic. By introducing children to a leader and non-leader group and asking them which group performed certain social behaviors in scenarios, the present study explored children's perceptions of leadership. A sample of 96 participants (ages 4-12) participated in an online study looking at whether they associated leaders with prosociality, reliability, effort, and talent. We hypothesized that children's beliefs would change with age, linking leaders with lower prosociality, reliability (trust), and efforts (hard work) but higher talent (intelligence) compared to non-leaders. Results revealed that compared with 4-6 year-olds, only more 7-9 year-olds significantly indicated leaders as less prosocial, and only more 10-12 year-olds significantly indicated them as less effortful. However, no significant effects were observed with the reliability or talent measures. These findings provide further insight into the early development of leadership perceptions, suggesting younger children hold a more positive view of leaders, decreasing with age, except for talent, which children may perceive as more consistent.

The Impact of Preterm Birth on Early Vocalizations and Motor Reflex Development in Mice

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Premature birth is associated with deficits in motor function (Gemperli et al., 2024), cognitive performance (McCoy et al., 2024), and visual processing (Witteveen et al., 2023) in adulthood. However, the early developmental mechanisms underlying these impairments remain unclear. Understanding how prematurity influences early neurodevelopment may offer insight into its long-term effects. Using a previously established mouse model of preterm birth (Witteveen et al., 2023), we generated pups born one day early and assessed vocal and motor milestone achievement in both preterm and term groups. Pups underwent ultrasonic vocalization (USV) and motor reflex testing during the first two postnatal weeks to evaluate early developmental outcomes. Isolation-induced USVs were recorded from postnatal days (PND) 0 to 14 using a specialized microphone and analyzed with DeepSqueak software. Preliminary findings suggest no significant differences in vocalization output at PND0; however, preterm mice exhibit altered USV patterns and reduced output at PND3 and PND8. Motor development was assessed using the righting reflex task, measuring a pup's ability to reorient after being placed on its back. Preliminary data from term mice indicates improved righting time with age, with a significant gain of motor ability between PND6 and PND7. Further testing will include expanded USV and motor reflex analyses to assess developmental trajectories in preterm mice. By focusing on vocalization patterns and motor function over early development, we aim to identify specific impairments associated with prematurity. Our findings will provide a foundation for future research on the precise neural mechanisms underlying preterm birth-related developmental disorders.

How Cooperation and Competition Shape Children's Inclusivity Toward Peers with Disabilities

Brandon Siu | Yufan Liang

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Advisor: Zoe Robertson, Ph.D.

Children's social decision-making is shaped by contextual factors, including whether a setting emphasizes cooperation or competition. However, limited research has examined how these dynamics influence their willingness to befriend peers with disabilities. The present study investigates how cooperative versus competitive interactions impact typically developing children's friendship choices when interacting with peers who have either physical or intellectual disabilities. Twenty-nine children were recruited from the Virginia Discovery Museum and were randomly assigned to either a cooperative or competitive puzzle game scenario. Following the scenario, each child was introduced to two fictional peers—one with a physical disability and one with an intellectual disability—and asked to choose which peer they would prefer to befriend. A Fisher's Exact Test was conducted to examine whether the type of game (cooperative vs. competitive) interacted with the disability type to influence children's friendship choices. This analysis yielded no significant interaction effect, indicating that the influence of disability type on children's friend choice did not differ by game condition. A binomial test and a one-sample t-test were used to assess whether children showed a preference for befriending a peer with a physical disability versus an intellectual disability. Results also revealed no statistically significant differences in peer selection based on disability type. The study highlights the complexity of social decision-making in childhood and the need for further research on how contextual and individual factors jointly shape inclusive social behavior.

Oral Presentations II (2:10 – 3:50 PM)

« Divya Lobo

- Focused Ultrasound: A Novel Methodology to Reduce Opioid Relapse Vulnerability
- University of Virginia

« Gianna Latorre

- Hungry and Stressed? Fasting Blunts the Ability to Mount Physiological and Psychological Stress Responses in Humans
- University of Virginia
- « Cecile Xu
 - Experiencing Mental Health Challenges and Help-Seeking: Help-Negation Effect in Asian-American High School Students
 - New York University
- « Sam O'Brien
 - An investigation into the characteristics of early exploratory behavior, that predict success in subsequent scent detection learning of explosives.
 - University of Virginia
- « Diana Park
 - Reported Paternal Influence on Adolescent Dating as a Predictor of Romantic Satisfaction at Age 33
 - University of Virginia

Focused Ultrasound: A Novel Methodology to Reduce Opioid Relapse Vulnerability

Divya Lobo

University of Virginia

Advisor: Wendy J. Lynch, Ph.D.

Opioid Use Disorder (OUD) is a growing epidemic affecting over 2.1 million people in the United States. Even with treatment, relapse still occurs in 40- 60% of individuals. As such, new treatments are necessary for relapse prevention. Low Intensity Focused Ultrasound (LIFU) is a precise, noninvasive therapy with significant potential to mitigate relapse vulnerability by modulating neuronal activity. A target region for inhibitory-LIFU treatment is the dorso-medial Prefrontal Cortex (dmPFC), particularly the prelimbic cortex (PLC) because of its role in craving. Craving remains elevated during late withdrawal, increasing relapse vulnerability. This study aimed to (1) validate that inhibitory LIFU of the PLC increases inhibitory neuronal activity and (2) demonstrate that LIFU-induced inhibition of the PLC during late withdrawal decreases relapse susceptibility. In Experiment 1, drug-naive Sprague Dawley rats received either no treatment or an inhibitory-LIFU aimed at the PLC or dorsal peduncular region of the dmPFC as an anatomical control. Neuronal activity was measured in the dmPFC and nucleus accumbens projection using immunohistochemistry and Western Blots. In Experiment 2, rats were trained to self-administer fentanyl and then given extended access to the drug using conditions known to induce high levels of drug seeking. During late withdrawal (day 14), rats were treated with inhibitory LIFU or given no treatment. Relapse vulnerability was assessed the following day using a withinsession extinction/cue-induced reinstatement procedure. Our preliminary data support our hypothesis that inhibitory LIFU of the PLC selectively increases inhibitory activity and that treatment during late withdrawal decreases relapse vulnerability.

Hungry and Stressed? Fasting Blunts the Ability to Mount Physiological and Psychological Stress Responses in Humans

Gianna Latorre

University of Virginia

Advisor: Jennifer MacCormack, Ph.D.

Can hunger change physiological and psychological responses to a stressful experience? Little research has tackled this question in humans, despite early evidence that hunger potentiates physiological systems and can alter emotion (Herbert et al., 2012; MacCormack & Lindquist, 2019). To test this question, we randomly assigned 55 healthy young adults to either a hunger condition (n=29, fasting overnight before lab arrival) vs. satiety condition (n=26, full meal prior to lab arrival). In lab, all participants completed the Trier Social Stress Test to examine differences between hunger vs. satiety for cardiac-mediated autonomic nervous system reactivity (heart rate, heart rate variability, pre-ejection period) and psychological reactivity (emotions, somatic sensations, stress appraisals). Results reveal that, relative to hungry participants, satiated participants exhibited greater sympathetic nervous system arousal at baseline and improved recovery poststressor (pre-ejection period: ps=.017, .067), marginally higher cardiac reactivity (heart rate, p=.091), with no differences in heart rate variability indices of parasympathetic activity. Similarly, when comparing pre- vs. post-stressor survey results, while there was no significant difference in hungry vs. satiated participants' reported emotions, satiated participants reported more intense somatic reactions and negative threat appraisals during the stressor (ps=.005, .012). Findings support theories of allostasis and stress which argue that in a depleted homeostatic state, the body-brain predicts that it does not have enough resources to mount a full stress response, producing more blunted reactions. Ultimately, this work could inform new insights on the effects of food insecurity, nutrition, and dieting on stress coping, health, and wellbeing.

Experiencing Mental Health Challenges and Help-Seeking: Help-Negation Effect in Asian-American High School Students

Cecile Xu

New York University

Advisors: Pamela Morris-Perez, Ph.D. | Adam Benzekri, M.S.

Asian American youth face a critical mental health crisis. Despite experiencing comparable rates of suicidal ideation as their peers, they are the least likely to seek mental health services. While cultural stigma has been widely cited as a barrier. limited research has examined how the severity of psychological challenges influences help-seeking in this population. This study investigates the helpnegation effect—the tendency for those experiencing more severe mental health symptoms to avoid seeking help-within an Asian American adolescent context. Participants were 1,090 California high school students (ages 15–18) who completed surveys on psychological distress, suicidal ideation, and help-seeking attitudes and behaviors. Results from logistic regressions showed that in Asian American population, experiencing mental health challenges were positively associated with help-seeking behavior, which contradicted the help-negation effect. In contrast, distress was negatively associated with help-seeking efficacy. Moderation analyses indicated that Asian identity did not significantly alter these associations, with one exception: among Asian students, longer duration of suicidal ideation was associated with greater confidence in seeking help, whereas the opposite pattern was observed among non-Asian students. These findings underscore the complex relationship between the severity of mental health challenges and help-seeking among Asian American youth and suggest a need for culturally responsive school-based interventions that address both perceived efficacy and service utilization.

An investigation into the characteristics of early exploratory behavior, that predict success in subsequent scent detection learning of explosives

Sam O'Brien

University of Virginia

Advisor: Cedric L. Williams, Ph.D.

There is great interest in identifying key canine behavioral traits that predict success as scent detectors of explosives and other harmful odorants. Addressing this question is important because according to the TSA, the training failure rate is roughly 17%, which is high given the \$33,000 cost (TSA, 2021). Fortunately, rats present a cost effective alternative due to their exceptional olfactory capabilities, rapid learning, and natural exploratory behavior. These traits render this species a more cost-efficient approach for identifying behavioral patterns that predict later success in scent detection learning. To explore this alternative, early exploratory behaviors were documented in Sprague Dawley rats during their initial period of acclimation (i.e., habituation) to a customized scent detection learning chamber. The rats then underwent seven phases of learning to produce accurate detection of the explosive TNT. Once training culminated, performance in explosive detection was used to separate animals into groups of 'complete' (i.e. completed all stages with accuracy higher than 90%) or 'fail' (i.e. failed to meet the success criteria). Statistical analysis was conducted using behavioral data from the preliminary acclimation stage of training, to determine what differences there are between rats who completed or failed to complete training. We identified that rats who exhibited higher levels of exploratory behavior (e.g., less time spent by door) were more likely to complete training. These findings highlight the potential for a rodent behavior assessment that is simple, easily replicable, and empirically validated for selecting high-performing scent detection animals.

Reported Paternal Influence on Adolescent Dating as a Predictor of Romantic Satisfaction at Age 33

Diana Park

University of Virginia

Advisors: Joseph P. Allen, Ph.D. | Nathan H. Field, Ph.D.

Fathers play an essential role in adolescent development, influencing various social and emotional outcomes in adulthood. This study explores how paternal influence in adolescent dating decisions may predict adult romantic relationship satisfaction in adulthood, with a focus on the moderating role of positive reasoning during conflicts with data from a longitudinal community sample of 55 participants (21 males and 34 females). Preliminary analyses revealed that reported paternal influence in dating during adolescence (age 18) significantly predicted adult romantic satisfaction (age 33.5). Additionally, fathers' positive reasoning during conflicts was associated with higher romantic satisfaction and lower stress levels in adulthood. Results indicated that for adolescents with fathers who employed high levels of positive reasoning, romantic relationship satisfaction was unrelated to paternal influence. Conversely, for adolescents with fathers demonstrating low positive reasoning, romantic satisfaction was directly predicted by high levels of paternal influence. This suggests that paternal influence might act as a buffer against the negative effects of low reasoning, providing adolescents with a sense of connection and stability even when fathers lack positive reasoning skills. These findings highlight the nuanced role of fathers in adolescent development and their potential lasting impact on romantic outcomes.