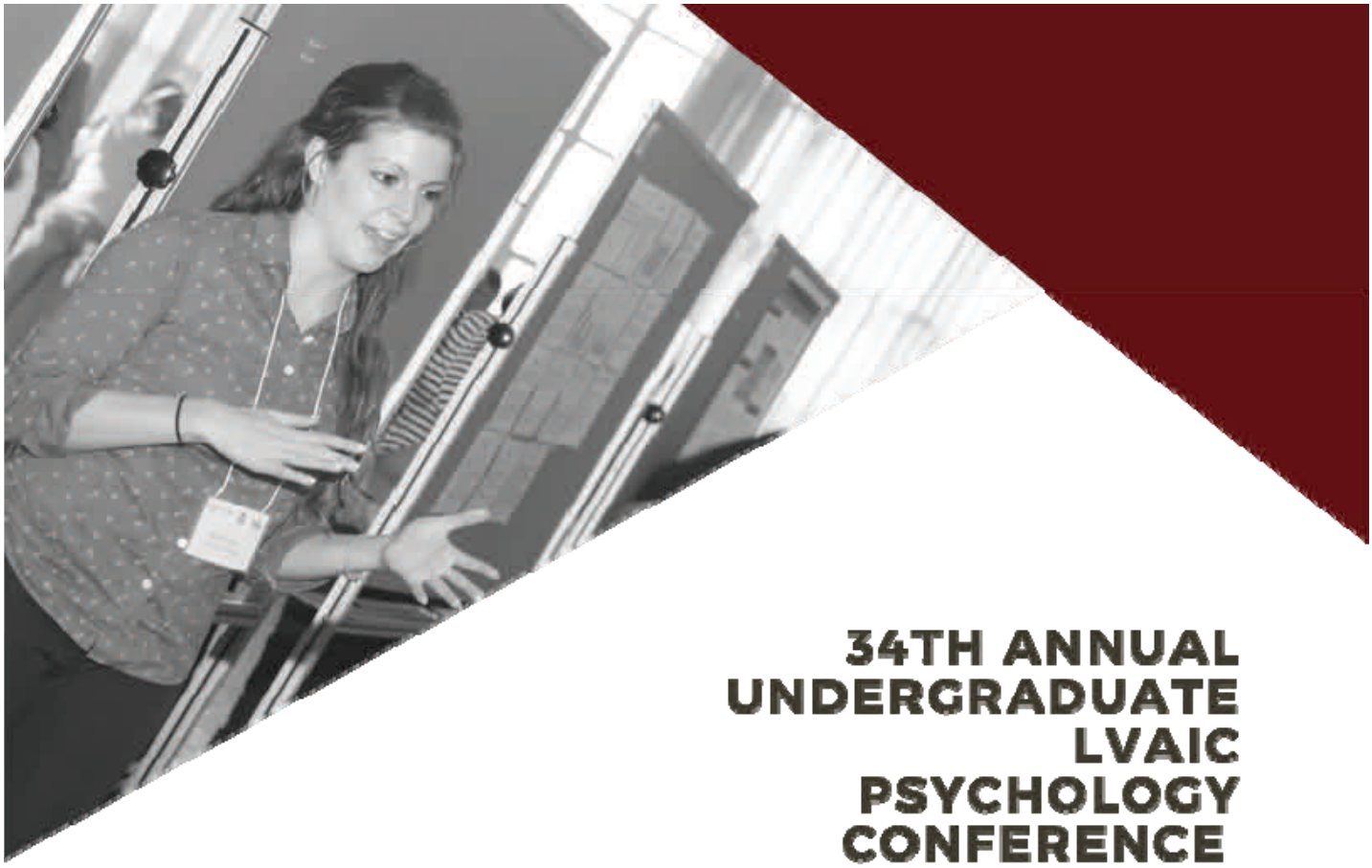

34TH ANNUAL UNDERGRADUATE LVAIC PSYCHOLOGY CONFERENCE AND THE 10TH ANNUAL UNDERGRADUATE LVSFN NEUROSCIENCE CONFERENCE

APRIL • 27 • 2019

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LVAIC

Lehigh Valley Neuroscience

NEUROSCIENCE KEYNOTE—8:45—9:45 a.m.—Seegers Union Great Room

"Sleep-Dependent Thalamocortical Activity is Crucial for Visual System Plasticity"

Dr. Jaclyn Durkin

Dr. Durkin graduated Summa Cum Laude from Muhlenberg College in 2013 with a Bachelor of Science in Neuroscience and a minor in Mathematics. She earned her PhD in Neuroscience from the University of Michigan in 2019, and is currently a postdoctoral fellow at the University of Pennsylvania. Dr. Durkin first became interested in neuroscience during her undergraduate experience at Muhlenberg College. While at Muhlenberg, she worked in Dr. Gretchen Gotthard's lab studying an animal model of Post Traumatic Stress Disorder, with a particular focus on potential non-pharmacological means of eliminating anxiety-like behavior. Dr. Durkin started her graduate work in the University of Michigan's Neuroscience Graduate Program in 2013. While doing her thesis work in Dr. Sara Aton's lab, she developed a passion for understanding the neurobiology of sleep. Her dissertation focused on the role of sleep-specific neural activity in regulating synaptic plasticity, a process believed to underlie memory formation. This work was funded by a National Science Foundation Graduate Research Fellowship and a Pre-Doctoral Fellowship from the Rackham Graduate School at Michigan. In 2018, Dr. Durkin was awarded the Neuroscience Graduate Program Innovator Award and the Office of Graduate Student and Postdoctoral Affairs Award for Excellence in

PSYCHOLOGY KEYNOTE—11:30 a.m.—12:20 p.m.—Seegers Union Great Room

Dr. Ayana Jordan

"Faith Based Approaches To Increasing Access to Treatment for African Americans with Substance Use Disorders"

Dr. Jordan completed an MD, PhD program at Albert Einstein College of Medicine of Yeshiva University. She completed a general adult psychiatric residency and addiction psychiatry fellowship at Yale University, where she served as Program-Wide Chief. Currently, Dr. Jordan is an assistant professor at Yale and a physician attending at Connecticut Mental Health Center. She is committed to increasing access to addiction services within minority communities, both nationally and abroad. Dr. Jordan has done research in Sierra Leone, West Africa examining the link between, mental illness, substance use and stigma, and has served as an expert witness discussing these issues. In CT, Dr. Jordan is working with Black churches to offer evidenced based interventions for substance use. Dr. Jordan is the proud recipient of various clinical and research awards and was rcently inducted into the Top 40 under 40 society, by her undergraduate alma mater.

2019

MUHLENBERG COLLEGE

Lehigh Valley Association of

Independent Colleges (LVAIC)

And Lehigh Valley Society for Neuroscience

(LVSfN))

Undergraduate Conference

LVAIC Member Institutions

Cedar Crest College

DeSales University

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Moravian College

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Participating Colleges and Universities

Alvernia University

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DeSales University

Dickinson College

Eastern University

Lafayette College

Lehigh University

Lycoming College

Messiah College

Moravian College

Muhlenberg College

Saint Francis University

University of Delaware

Schedule of Events

7:30 – 8:45 a.m. Registration/Check-In, Seegers Union Light Lounge

8:45 – 9:45 a.m. Neuroscience Keynote Speaker, Dr. Jaclyn Durkin
Seegers Union Great Room

Oral Presentations 1, Moyer Hall

10:00 – 11:15 a.m.

Knowledge and Learning……..Room 106
Neuroscience I……..Room 109
Social Psychology……Room 209

11:15 – 11:30 – Break

11:30 a.m. – 12:20 p.m. Psychology Keynote Speaker, Dr. Ayana Jordan
Seegers Union Great Room

12:30 – 1:30 p.m. Lunch, Seegers Union Wood Dining Commons

1:30 – 2:30 p.m. **Poster Presentations, Seegers Union Event Space**

Oral Presentations 2, Moyer Hall

2:45 – 4:00 p.m.

Applied Psychology……..Room 101
Neuroscience II……Room 104
Clinical and Cognitive Psychology……..Room 109
Social Cognitive Psychology……Room 209
Attitudes and Beliefs……Room 214

4:00 – 5:00 p.m.

Neuroscience Alumni Panel, Seegers Union Great Room

Jackie Durkin '13
Alex Kossar '11
Matt Marini '11
Venkat Mokkapati '15

Oral Presentations 10:00—11:15 a.m.

Moyer Hall

Knowledge and Learning

Moyer Room 106

10:00-10:15 Can We Afford to Strikeout Swinging?
Michelle Rajan, Dr. Matthieu de Wit
Muhlenberg College
Faculty Advisor: Dr. Matthieu de Wit

Affordances are the 'action possibilities' available to an organism. Affordances are typically defined relative to an organism's body (e.g., arm length). Less attention has been dedicated to the study of action-scaled affordances, defined relative to a participant's skills. In this study, we aimed to understand participants' sensitivity to their action-scaled affordances by using virtual reality to simulate the image of an impending ball traveling at varying speeds and asking the participants to pounce a button the moment the superimposed ball traveled through a projected screen. Participants attended two sessions, the first being a pre-test to discover their affordance boundaries (which balls they can and cannot stop) and the second being a test of their affordance perception accuracy in a game-like setting akin to baseball. This is a preliminary study meant to inform our future research aimed at contrasting the theory of affordances with traditional theories of perception.

10:15-10:30 Alcohol-Related Social Media Content and College Student's Drinking
Jordyn Abrahams, Dr. Lucy Napper
Lehigh University
Faculty Advisor: Dr. Lucy Napper

Past research has shown a relationship between exposure to alcohol content on social media and college students' drinking behaviors. This may reflect alcohol content increasing perceptions of peers' drinking. (i.e., perceived alcohol norms). In the current study, participants were presented with either alcohol related or non-alcohol related images in the form of an Instagram feed. Participants were then randomly assigned to view information about the prevalence of social media or a social media literacy intervention addressing how social media is not always representative of reality. We hypothesized that individuals exposed to alcohol-related social media content would have higher perceived alcohol norms and be more willing to consume alcohol. We also hypothesized that participants who viewed the social media literacy intervention would have decreased perceptions of peers' alcohol consumption and experience a decrease in willingness to consume alcohol in the future.

10:30-10:45 Promoting Oral Listening Comprehension Through E-Books: What is the Best Way?
Gina Maurer
Lehigh University
Faculty Advisor: Dr. Ageliki Nicolopoulou

Oral listening comprehension is critical for achieving successful reading comprehension, and bookreading is one powerful way to promote this skill. Technology's increased presence in everyday life provides children the opportunity to listen to books independently of adults through the read-to-me feature of e-books. The current study aimed to determine the best way to utilize e-books to promote oral listening comprehension. Preschool and kindergarten children answered comprehension questions after listening to an e-book alone or reading it with an adult who asked either low cognitively-demanding (literal, open-ended) questions or high cognitively-demanding (inferential) questions. We hypothesized that children would comprehend the story best when an adult read the e-book to them while engaging in high cognitively-demanding questions, next best if the adult asked low cognitively-demanding questions, and least when children listened to the e-book alone. Preliminary results indicate that our hypotheses may be supported for the younger but not the older children.

10:45-11:00 Dominique Nazaire
Eastern University

The current study seeks to investigate the effect of a faith-based college experience on the coping mechanisms of its students. The participants will be 99 students from Eastern University all of diverse racial, ethnic and religious affiliations. Participants in the study however, must be at least 18 years of age. The researcher sets out to observe if the results indicate that: Students identifying as Christian will score higher on the Positive reinterpretation and growth, Religious coping, and Use of emotional and social support scales; Students identifying as Christian will score lower on the Substance use, Behavioral disengagement, and Mental disengagement scale on the COPE inventory. Participants will take a survey composed of demographic questions, the COPE Inventory and the DUREL. The demographic questions will not affect their scores in anyway. After data is collected, it will be analyzed using the scoring keys on the COPE inventory and DUREL. The results demonstrated a high correlation between Religious Coping, and Use of Emotional and Social Support scales and Religiousness; and a negative correlation between the Substance Use, Behavioral Disengagement, and Mental Disengagement scales and Religiousness.

Neuroscience 1

Moyer Room 109

10:00-10:15 The Influence of Reward on Attention in Cross-Dimensional Contexts
Michael Ioannou
Lehigh University
Faculty Advisor: Dr. Nancy Carlisle

Previous studies have shown that stimuli associated with rewards can capture attention when presented as a distractor in follow-up tasks, indicated by slower response times to a target. This occurs even as those stimuli are no longer associated with rewards, and stimuli with higher levels of reward generate slower responses. The purpose of the current experiment was to explore the extent to which this effect, known as value-driven attentional capture, can translate into additional contexts. Specifically, the rewards were associated with specific colors, and we attempted to determine whether attentional capture would be enhanced if participants were then given a task where they had to look for a target based on color compared to shape. Results indicate that the effect disappeared in the test phase, possibly because participants were given a cue to identify the target. Future research should explore whether value-driven attentional capture is generalizable to more complex tasks.

10:15-10:30 Detection of Retinal in the Caudal Photoreceptor (CPR) of Crayfish
Michael Chejlava, Dr. James Dearworth, Adusei Matthew
Lafayette College
Faculty Advisor: Dr. James Dearworth

The CPR, a photosensitive interneuron located in the 6th abdominal ganglion (AB6) of the ventral nerve cord of crayfish, is thought to process non-image-forming behaviors such as circadian photoentrainment and backward walking. The photoreceptive mechanism is poorly understood but thought to use a photopigment with a signal cascade involving 11-cis retinal and resembling melanopsin. To confirm our hypothesis, we have used ultra-performance liquid chromatography mass spectrometry (UPLC-MS) to measure for 11-cis retinal. We have extracted tissues (brain, compound eyes, AB6s containing CPRs, and tail muscles) from 20 adult crayfish, Procambarus clarkii. Retinals will be converted to their corresponding oxime isomers and quantified by reverse phase UPLC-MS using a C18 column. Measures of the retinals extracted from the tissues will be compared to standards. Detection of 11- cis retinal oxime in AB6s will indicate presence of 11-cis retinal and support existence of a functional protein working in the CPR.

10:30-10:45 The Impact of Reward on Visual Search
Allison Kayne
Lehigh University
Faculty Advisor: Dr. Nancy Carlisle

Attentional selection mechanisms allow for prioritization of stimuli in the environment that are important for cognitive processing. The current experiment was designed to further investigate the effects of reward on selective attention using visual search tasks. We intended to analyze how different visual search tasks modulate the effect of a previously rewarded distractor stimuli through analysis of EEG recordings. If the participant is given a cue (i.e. a top-down goal) before a task, will a previously rewarded distractor continue to detract attention from a target? We found a marginally significant difference between the Pd waveform present in the test without a cue, indicating suppression of the rewarded distractor, and a test with a shape cue. Although only marginally significant, this could suggest that attentional resources are being deployed to the previously rewarded distractor in only the no cue test which consequentially could impair a participant's ability to find the target.

10:45-11:00 Evaluating the Role of Dopamine in Caffeine-Induced Increases in Alcohol Consumption
Gillian Barkell, Dr. Sarah Holstein
Lycoming College
Faculty Advisor: Dr. Sarah Holstein

Growing rates of use of alcohol mixed with energy drinks is concerning given prior research suggesting that caffeine may be substantially increasing alcohol intake. In previous experiments, we have found that moderate doses of caffeine (5-10 mg/kg) increased operant responding for a sweetened alcohol solution, and have suggested that caffeine may be increasing drug-seeking behavior for alcohol by enhancing the reinforcing efficacy of alcohol. The purpose of the current study was to examine whether caffeine enhances alcohol's reinforcing effects through its actions on the A2A-D2 receptor complex. Male Long -Evans rats (n = 8) were administered 5 mg/kg caffeine, 0.01 mg/kg eticlopride (D2 receptor antagonist), or a combination of the two drugs 30 min prior to the operant self-administration session. Although caffeine increased responding for the sweetened alcohol solution, eticlopride did not inhibit this effect. These results suggest that caffeine's reward enhancing effects may be independent of the A2A-D2 receptor complex.

Social Psychology

Moyer Room 209

10:00-10:15 How Do Males Perceive Behavior of Females? Effects of Identity Manipulation
Alison Krakauer
Lehigh University
Faculty Advisor: Dr. Almut Hupbach

People often infer traits about another person based on particular behaviors even without intending to do so. Are trait inferences affected by manipulations of one's identity? The present study investigates how a suppressed or heightened male identity affects males' spontaneous inferences of stereotypical fe-

ty affects males' spontaneous inferences of stereotypical female traits. To study this, a procedure was implemented that intended to temporarily suppress or heighten male identity. Participants were then presented with female faces and corresponding behaviors. Based on a pretest, these behaviors could elicit the inference of stereotypical female traits. The inference of such traits was tested with the false recognition paradigm. It is predicted that a suppressed male identity will result in fewer, and a heightened male identity in more trait inferences. People tend to be quick to make judgments and infer traits about another person based on a particular behavior even when they are not intending to do so. Do these judgments change with the manipulation of one's identity? The proposed study investigates the relationship between identity manipulation and trait inferences. It examines how a suppressed or heightened male identity affects males' spontaneous inferences of stereotypical female traits based on presented behaviors, and their recall of such traits. To study this, a procedure will be implemented that intends to temporarily suppress or heighten male identity. Participants will then be presented with female faces and corresponding behaviors. Based on a pretest, these behaviors could elicit the inference of stereotypical female traits. The inference of such traits will be tested with the false recognition paradigm. It is predicted that a suppressed male identity will result in fewer, and a heightened male identity in more trait inferences. This study might lead to a better understanding of the impact of state of mind on spontaneous endorsement of stereotypes. The findings have significant implications for political and business sectors.This study may lead to a better understanding of the impact of state of mind on spontaneous endorsement of stereotypes. The findings have significant implications for political, academic, and business sectors.

10:15-10:30 Role of Cosmetics and Feminine Ideology in Self Objectification

Christine Cimpian
Muhlenberg College
Faculty Advisor: Dr. Alexandra Frazer

Internalized cultural standards of beauty create feelings of inauthenticity in women (McCabe et al., 2017). Unable to bridge the internalized self and the outer self increases body dissatisfaction. Cosmetics function as a form of self preservation and can mitigate feelings of inauthenticity (Barzoki, 2018; Cash & Cash, 1984); however, internalized beauty standards have many consequences. It is difficult to avoid these standards because of the backlash women received when they do not wear cosmetics. This study focuses on understanding the role of feminine ideology and relationship with cosmetics in current models of contingent self-esteem and objectified body consciousness. I propose that appearance based self-worth and body surveillance will predict cosmetics use, and that frustration with cosmetics will predict body shame. Finally, I proposed that greater endorsement of feminine ideology will predict cosmetics use. Data was collected from a sample of 237 people using mTurk. Data analysis is ongoing.

10:30-10:45 Having It All: Factors Influencing Career and Reproductive Health in Emerging Adult Women

Morgan Levy
Lafayette College
Faculty Advisor: Dr. Lauren Myers

Emerging adulthood is the developmental phase, prior to the transition to adulthood, defined by identity exploration. Work Family Conflict (WFC) is the strain felt when caught between work and family roles. Although emerging adults (EA) are childless, they forecast potential conflict in their futures while clarifying career and family goals, known as anticipated WFC. Family planning knowledge that empowers proper utilization of contraception and fertility preservation may impact prioritization. The purpose of this study is to maximize reproductive autonomy in EA women in conjunction with their career development. It is expected that whether an EA anticipating WFC is knowledgeable about contraception and fertility preservation cannot be explained by work-family salience alone. Using surveys, this study aims to analyze factors relating family and career planning in EA women. Ultimately, maximizing reproductive autonomy in this population has the potential to empower ambitious women to achieve both career and family goals.

10:45-11:00 Community Perception on Mental Illness Diagnoses in Police Officers and Their Effectiveness in the Field

Rebecca Milano
Eastern University
Faculty Advisor: Dr. Douglas Trimble

Police officers experience repeated trauma in the field that leads to the presence of post-traumatic stress disorder (PTSD) and other trauma related disorders. An increase in suicide rates and undetermined deaths within police can be linked to a PTSD diagnosis. A negative internal stigma with mental illness exists in officers because of the belief that a disclosure of symptoms resulting from trauma will yield professional repercussions and being seen as unfit by the community. The purpose of this study was to identify if overall police perception is skewed by a diagnosis of PTSD. Participants for this study included 78 students from Eastern University in St. Davids Pennsylvania. Results indicate that there is a significant difference ($p < .0005$) in police perception between officers with a mental illness diagnosis and those without, suggesting that officers diagnosed with a mental illness have a negative perception and are believed to be less effective.

Poster Presentations: 1:30—2:30 pm

Seegers Union Event Space

P1. The Role of Antidepressants on Zebra Finch Pair Bond Maintenance
Emily Fidlow
Lafayette College
Faculty Advisor: Dr. Michelle L. Tomaszycki

Antidepressants, such as selective serotonin reuptake inhibitors (SSRIs), are a highly prescribed drug. Yet, the exact neurobiological mechanisms are not well understood. SSRIs cause numerous side effects, including anxiety, a loss or increase in appetite, and sexual dysfunction. However, the effects of SSRIs on social relationships remain poorly understood. A recent study found that, in female Eurasian starlings, exposure to ecologically relevant doses of fluoxetine (Prozac) reduced the amount of courtship behaviors they received by males, indicating that these females may have been considered less attractive as mates (Whitman et al., 2018). The aim of the present study is to test the effects of physiological SSRI dose on male and female courtship and pairing behavior in zebra finches. Eurasian starlings and zebra finches are closely related songbirds in which males perform courtship behaviors to a preferred female and the female chooses a mate based on those behaviors. I hypothesize that injecting fluoxetine will weaken the strength of a previously established pair bond after a 48-hour separation period. I will allow pair bonds to form in mixed sex aviaries for two weeks then injected four birds of one sex with either one of two doses of fluoxetine (5mg/kg or 10mg/kg) dissolved in 0.9% sterile saline, or 0.9% sterile saline (control) into the pectoral muscle for three consecutive days. Pairs are then separated for 48 hours and the focal subject is tested in a 2-choice preference test. This research adds to our understanding of the effects of SSRIs on social behavior and health.

P2. Real-World and Clinical Trial Efficacy of Selective Serotoin-Reuptake Inhibitors in the Treatment of Obsessive-Compulsive Disorder Measured by Survey and Meta-Analysis
Erich Miller, Dr. Eric Recktenwald, David Shoup
Alvernia University
Faculty Advisor: Dr. Eric Recktenwald

Obsessive-compulsive disorder (OCD) is a chronic neuropsychiatric illness characterized by persistent thoughts, urges, and feelings, coupled with repetitive behaviors performed to eliminate obsessional distress. One first-line method of treatment is the use of drugs known as Selective Serotonin Re-Uptake Inhibitors (SSRI). There are 6 SSRI's prescribed for OCD. This study identifies the real-world efficacy (RWE) of SSRI's as reported by psychiatrists and compares it to meta-analyzed clinical trial data (RCT). The survey asked respondents (N=348) to identify: the SSRI medication they most commonly prescribe for treatment for OCD and the efficacy of their preferred first-line SSRI. Results indicate fluoxetine and sertraline are prescribed at a significantly higher rate than the other SSRI's (p

P3. Underdogs and the Perceptions of Music
Eva Hersch, Yunshan Jiang, Ilissa Kaufman, Danielle Kraes,
Muhlenberg College
Faculty Advisors: Dr. Laura Edelman, Dr. Kenneth Michniewicz

Underdogs are disadvantaged people in competition who are unlikely to succeed. "Underdogs" are often viewed as inspirations, while topdogs are viewed as entitled. In the current study, we examine how people view music listeners and producers, portrayed as either underdogs or topdogs, of four music genres based on the association of these genres with social prestige and the capacity to earn money by doing so. We predicted that participants would think more negatively of topdogs who affiliated with low-status music through listening or composition; however, underdogs would in contrast not be viewed more negatively for affiliating with high-status music.

P4. Synchronous Movement, Music, and Social Bonding
Rosemary Corcoran, Chrystina Obleschuk, Jacob Sonnenklar
Muhlenberg College
Faculty Advisor: Dr. Laura Edelman

Previous research found that synchronous music and synchronous movement increased perceptions of bonding (Edelman & Harring, 2016). The current study uses a 2x2x2 subject design to see if music affects cooperation and competitiveness in college-aged individuals. We used "Walking on Sunshine" by Katrina and the Waves as a musical stimulus. Each session was comprised of a participant and a confederate. Participants were assigned to either complete a puzzle or a control survey, in silence or with music. In the puzzle condition, participants either worked cooperatively or competitively, with music or in silence. At the end of the manipulation, the participant and confederate completed a questionnaire to measure entitativity and rapport with the confederate, mood, and manipulation checks. Results found that cooperation is significantly different than competition and the control task, independent of the presence of musical stimuli. There is a significant difference found between music and no music across conditions.

P5. Sex Education Adolescents
Amanda Josephs, Sarah Kremen, Jason Messey, Emily Segan
Muhlenberg College
Faculty Advisor: Dr. Kate Richmond

There is an ever growing demand for proper sex education at all ages. Psychology of Women students at Muhlenberg created new and innovative ways to teach adolescents about proper sex education.

P6. The Effect of Musical Groove on Social Bonding

Rebecca Carrara, Kaelyn Kappes, Juliana Reiner
Muhlenberg College
Faculty Advisor: Dr. Laura Edelman

Previous research (Edelman & Harring, 2014) shows that there are increased levels of overall bonding when synchrony and music are present in a group physical activity. The current study examines the difference between high and low groove music on group bonding while performing a synchronous movement dance-oriented task with an instructor. Different levels of groove can facilitate varying levels of desire to move. The current study aims to evaluate the different bonding levels associated with high and low groove. It is a 2 x 3 between-subjects design. The two independent variables are high groove or low groove music in each condition. The three conditions were watching and dancing with a video of a stick figure or a person, or with a live model. The dependent variable is the level of social bonding measured regarding the music, participants, and movement instructor. Preliminary results look very promising.

P7. Interactions in the Dance Classroom: Students and Teachers on Objectification and Self-fulfilling Prophecy of Women

Cateryna Kochan
Muhlenberg College
Faculty Advisor: Dr. Kenneth Michniewicz

Objectification plays a large role in interactions of the dance classroom. Teachers, being crucial facilitators in dance education, can influence students based on education or physiological understanding, as well as self-awareness. The researcher analyzed interactions between dance teachers and students in the classroom in regards to measures of objectification, self-access, and self-concept; relating them to teacher's experiences. They analyzed 5 different dance classes and found that teacher's awareness and education did impact their students', as well as their own self-concept, and it was a likely factor in students' self-objectification.

P8. Casa Connects: Increasing Family and Child Engagement

Logan Day, Abigail Dodds, Nancy Ruiz, Jordan Weurth,
Dr. Stefanie Sinno
Muhlenberg College
Faculty Advisor: Dr. Stefanie Sinno

Family involvement is linked to student engagement. Through the creation of individualized packets, containing general engagement activities and personalized interests, the Casa project is meant to create opportunities for family involvement. Surveys were distributed to the families asking general questions regarding time spent with child, interest of the child as well as the parents, and areas of strength and weakness in academics and behaviors. Data showed a desire from families to be more involved in their child's life, personally and academically. Individualized packets were distributed to the families in December at a Casa gathering. This provided the opportunity for community participants and the research team to connect. Future plans included a monthly family workshop to connect with other families, discuss processes of engagement, and share their experiences. The goal is to increase active parental involvement in their child's education within the Casa community.

P9. FOMO or No? Social Media Use and Loneliness in Emerging Adults

Amanda Baildon, Danielle Kats, Louise Olson, Anna Pohoryles, Jane Zimnick
Lafayette College
Faculty Advisor: Dr. Lauren Myers

The effects of social media use on loneliness are still up for debate, with literature pointing to both positive and negative impacts. Additionally, discrepancies in loneliness have been found between passive and active engagement with social media platforms. We used a pre/post-test experimental design and a time-limited Instagram manipulation to study the differential impacts of passive vs. active Instagram use on loneliness over time. We predicted that passive use would lead to increased loneliness, while active use would result in decreased or stable loneliness. Results indicated a modest impact of active Instagram use on loneliness, such that loneliness decreased from Time 1 to Time 2 in the active condition. Loneliness did not change over time in the passive condition. These findings point to potential benefits of social media use, although further research is necessary to test the nuances of this continually evolving technology.

P10. Leader-Member Exchange in Groups

Jiewei Zhang
Lafayette College
Faculty Advisor: Dr. Andrew Vinchur

The Leader-Member Exchange (LMX) theory of leadership states that leaders develop different quality relationships with various members in their work units. This study investigated the effects of LMX quality on individual task performance and satisfaction and how the effects of LMX quality could be influenced by group LMX differentiation. I hypothesized that participants with a high LMX leader will report higher performance and satisfaction than those with low LMX leaders. Undergraduate students were randomly assigned into three groups. In the first group, the leader differentiated participants into high and low LMX categories. Group Two had low differentiation with a high LMX leader, and Group Three had low differentiation with a low LMX leader. Preliminary results (N = 59) indicated that individuals with a high LMX leader reported higher satisfaction than individuals with a low LMX leader. At the time this abstract was due, data collection and analysis was continuing.

P11. Individuals with Invisible Disabilities: A (Possible) Hierarchy of Discrimination

Jane Zimnick
Lafayette College
Faculty Advisor: Dr. Andrew Vinchur

Individuals with invisible disabilities are discriminated against more than those with any other disability type. Because they are hidden, not disclosing one's disability prevents workers from receiving necessary accommodations and can lead to poorer well-being. Little research has examined whether a hierarchy of discrimination exists for invisible disabilities. By providing participants with matched, fictitious application materials that only differ in terms of disability type and discloser type, the current study evaluates whether a hierarchy of discrimination exists among individuals with high functioning autism spectrum disorder (ASD), learning disabilities, depression, and no disability, and whether explicit disclosure affects the hiring decision. I hypothesize that depression will receive the lowest hiring, salary, and perception scores, and that individuals who self-disclose will be evaluated lower than those who do not, particularly for the ASD condition. At the time that abstracts were due, the research is in the data collection stage.

P12. Internal vs. External Locus of Control: Correlations with Stress and Academic Success in Undergraduate Students

Sarah Lynch
DeSales University
Faculty Advisor: Dr. Sarah Starling

Locus of Control (LOC) is the degree to which one believes they have control over the outcome of life events. LOC is correlated with other aspects of life, including health, stress, and success. Following DeSales IRB approval, 53 student volunteers completed an anonymous online survey including the Rotter LOC test and an LOC test from the University of Virginia (UVA), to determine whether their LOC was more internal or external. They also completed a stress assessment and provided demographics including self-reported academic success (GPA) and grade level. Results from the Rotter test and the UVA test were correlated ($p < .05$). Analysis found a correlation between LOC and stress ($p < .01$) when using the Rotter test, but not when using the UVA test. Results from the Rotter test suggest that those with an external LOC report higher stress levels. LOC and GPA, and GPA and stress, were not correlated.

P13. Emotions Effects on Color Preference

Amanda Josephs, Julia Kearney
Muhlenberg College
Faculty Advisor: Dr. Laura Edelman

Much of the research on color preference assumes that color preference does not change depending on the emotional context of a situation. However, new research is finding that emotion can affect a person's color preference or the likability of a specific color at a given time. Participants came to our workroom and were showed either a slideshow with only hospitable photos or only hostile photos. After watching the slideshow participants were asked to choose a green or red sheet of paper where they will be asked to write "why" they picked that color sheet of paper. The color paper participants picked was then recorded. Hopefully this research will provide important data on whether adults and infants react similarly to color after different emotional experiences.

P14. The Consequence of Gender-Atypical Accessories on Perceptions of Dog Owners

Maggie Esposito, Tongyao Su
Muhlenberg College
Faculty Advisor: Dr. Kenneth Michniewicz

People associate particular breeds of dogs with personalities that coincide with gender stereotypes (Budge, Spicer, St. George, & Jones, 1996). Failure to conform to gender roles results in negative evaluations from others (Rudman & Fairchild, 2004), which suggests that owning a particular kind of dog may differently influence people's impressions of others based on that person's gender. The current study explored how people view male and female dog owners as a consequence of several characteristics of the dogs they own. We asked 677 participants to evaluate a hypothetical man or woman who owned a dog that varied by its breed (masculine or feminine), its sex (male, female), and the type of accessory it wore (masculine, feminine, or none). Results suggested that gender stereotypes about pet accessories influenced our perceptions of the owner's personality on gendered traits and owner responsibility.

P15. Subliminal Modulation of Semantic Interference

Channing Everidge, Diana Garcia, Noah Haber, Yu Lu, Larrisa Miller
Lehigh University
Faculty Advisor: Dr. Padraig O'Seaghdha

The accessibility of individual word meanings is affected by the surrounding context. Specifically, people have a harder time naming pictures in a related group than in an unrelated group. This phenomenon, termed semantic interference, is thought to reflect the unconscious activation of related words and concepts that automatically compete for production. To address this process directly we asked: How does subliminal priming affect semantic interference? We manipulated the presence or absence of related masked primes during cyclic naming of sets of categorically or associatively related pictures. Although masked priming facilitated picture naming in the associatively grouped pictures, we found that, if anything, interference increased for primed categorically grouped pictures. Subliminal priming provides a promising method to study the effects of unconscious word activation in different communicative contexts.

P16. English Chinese Naming

Wenyan Feng, Shuhan Li
Muhlenberg College
Faculty Advisor: Dr. Alexandra Frazer

The study is aiming to exanimates the word-onset phoneme preparation effect in word-form production, specifically on phonological encoding for word-initial segments between English and Chinese. Using E-Prime, we conduct form-preparation-task, in which participants are given a group of words that share the initial sounds (e.g., dusty, dummy, double, ducky) paired with a cue (picture, character in Chinese), and asked to iteratively name them when cued. We measure the degree of relatedness in sounds indicated by reaction time. By doing picture naming and word reading (four pairs with translated characters in Chinese) tasks, we compare how easily those words can be accessed with a shared phonological onset, compared to the words without the relationship. Based on how much time participants take to respond the memorized words when presented with cues, we could approach to further understanding of language processing and encoding.

P17. How Do You Cope?

Margaret Esposito, Grace Lingenfelter, Kevin Pugh, Steven Smith
Muhlenberg College
Faculty Advisor: Dr. Erika Bagley

Studies regarding coping strategies showed that there are 13 recognized methods of coping (Carver, Scheier, & Weintraub, 1989). Prior research showed that there were gender and age differences in most commonly used coping strategies (Hampel & Peterman, 2005). Additionally, research suggests that those who identify with similar identity aspects in others will perceive their behavior positively, in which there is a positive relationship between one's own behavior and perceptions of that same behavior in others (Watson, 1982). [a sentence about coping in mental health disorders (citation)]. [A another sentence specifically about ADHD and Depression with coping strategies (Citation)]. But little is known about how these aspects of coping play a role in how people perceive coping strategies performed by others. The present study aims to investigate the perception of various active coping strategies, given that active coping strategies are one of the most commonly used strategies (Citation)]. Specifically, we seek to understand the nuances of how coping strategies can affect stigma towards and perceptions of the behaviors of those dealing with mental illness. [sentence about number, age, and kind of participants]. In this 2x2x3 within-subjects experimental design, we manipulate gender, mental disorder (ADHD & Depression), and active coping strategies via vignettes. Perceptions are assessed through the COPE Scale (Citation), an Empathy Scale (Citation), and a demographic questionnaire. Data analysis is ongoing and results are to be discussed. We hypothesize people of specific identities will perceive the coping strategies of those with similar identities more positively than those with dissimilar identities. We also aim to discover which coping strategy is perceived as the most effective and believe that the answer will be informed by the agree to which participants identities relate to the identities they read about. We believe findings in the current study may be applicable to existing research on stigma overall.

P18. Prepare to Swear: Considering Phonological Preparation of Taboo Words

Hazem Abdelaal, Kathryn Hodges, Alyce Huot, Jessica Oxer, Marwan Rajha, Dr. Alexandra Frazer
Muhlenberg College
Faculty Advisor: Dr. Alexandra Frazer

This experiment investigates whether speakers can prepare to swear in the same way as they prepare non-taboo words. Swearing, when produced reflexively, has greater right hemisphere activation than normal production – suggesting that swearing is a different linguistic process. We used a form preparation paradigm to consider preparation for non-reflexive swearing (O'Seaghdha & Frazer, 2014). Participants were presented with two types of lists; homogeneous - all of the words share the phonological onset (e.g. /f/ - feet, film, fuck), and heterogeneous - none of the words share the onset (e.g. film, shit, door). Our results showed that the presence of the swear word did not contravene preparation for the homogeneous sets, and swear words were facilitated similar to the non-taboo words.

P19. Does FOMO Keep You Up? Sleeping in the Age of Social Media

Leah Flanzman, Brenna Littleson, Samantha Shera, Dr. Erika Bagley
Muhlenberg College
Faculty Advisor: Dr. Erika Bagley

Smartphones provide opportunities to stay in touch with friends, families, and strangers around the clock, through direct texting and social media applications. Unfortunately, all this social connection is not necessarily positive, as problematic smartphone usage has been linked in previous literature to lower sleep quality and shorter sleep duration in adolescents (Lemola et al, 2015) and emerging adults (Murdock, 2013). Smartphones may affect sleep because they keep individuals awake, engaged in communication or wake them with alerts (Lemola et al, 2015). Fear-of-missing-out (FoMO; Przybylski et al, 2013), the uncomfortable sense that one is missing out on rewarding experiences that friends are having, is also associated with excessive smartphone usage as individuals seek to remain socially connected, even when not present (Elhai et al, 2016). Individuals may experience FoMO related anxiety (Cheever, et al, 2014), thus even when the smartphone is turned off, FoMO could continue to interfere with sleep. Prior research has begun to explore these relations, but the role of FoMO in the link between smartphone usage and sleep is unclear. The current study sought to examine FoMO as a mediator and moderator of relations between smartphone usage and sleep.

P20. Evaluating Use, Stereotypes, and Attitudes of Vaping among College Students

Angela Bell, Sandra Manfreda, Bec Stargel, Alayna Tackett
Lafayette College
Faculty Advisor: Dr. Angela Bell

Given the quick and widespread adoption of JUUL, there is a need to examine patterns among young adults who have used pod e-cigarettes, and to identify the social-cognitive factors that increase or decrease dependence. The present study sought to understand college students' experiences with vaping and smoking, and explored the relationship between vaping beliefs and behaviors. Participants (N=133) evaluated (1) traits of those who vape, (2) their attitudes toward smoking, and (3) perceived harm of vaping compared to smoking. Results revealed that those who tried JUUL (N=75) attributed more positive stereotypes (e.g., stylish, intelligent) to e-cigarette users and had less negative attitudes toward smoking. Further, those who tried JUUL rated pod e-cigarettes as significantly less harmful than regular cigarettes compared to their non-vaping counterparts. These findings are consistent with previous research in which people who used e-cigarettes believed they were significantly safer than combustible cigarettes.

P21. A Man's Best Wingman: How Men's Response to Dogs' Behavior Impacts Women's Perceptions of Owner Attractiveness

Christine Cavaliere, Brooke Greenberg
Muhlenberg College
Faculty Advisor: Dr. Kenneth Michniewicz

Perceptions of masculinity and femininity of dogs affect perceptions of owners on these qualities. In this study, we examined perceived attractiveness of men to heterosexual/multi-gender attracted women based on a hypothetical man's dog and how it was disciplined. We hypothesized that a man who disciplines his dog in an authoritarian way will be only viewed as more attractive when the dog is first disobedient (compared to obedient), and we hypothesized that a man who does not discipline his dog would be found as more attractive when the dog is already obedient (compared to disobedient). Participants were randomly assigned to view evaluate the attractiveness of a man based on physical features and personality attributes reflecting perceived masculinity and femininity. We explore how these qualities relate to participants' own sexual openness, empathy, and relative masculinity and femininity.

P22. Discussing America's Opioid Epidemic

Molly Plotkin
Muhlenberg College
Faculty Advisor: Dr. Kenneth Michniewicz

Past research has examined the ways which men and women are stigmatized if they are addicts during the current opioid epidemic. Yet, in our progressive world, there is little information regarding how genderqueer individuals are portrayed. The current study analyzes how gender impacts the way which an individual is viewed when educated on three established models used to explain drug addiction: Medical Model, Moral Model, Developmental Model. Participants learned about models of addiction and were then asked to answer questions about the lives of three individuals of different genders, all else being the same. We expected to find that participants justified the addiction of each individual they read about according to their gender, using one of three models. Findings suggest that the Developmental and Moral models are used more readily when explaining a genderqueer individual's addiction.

P23. Effects of Aroma and Priming on SAT Reading Comprehension Scores

Kayla Jacunski, Lilly Kashishian, Jonathan Storer
Messiah College
Faculty Advisor: Dr. John Bechtold

A comprehension exam along with the presence of an essential oral was used to examine the effects of aroma and priming on cognitive performance. Sixty-three college students (49 female, 14 male) enrolled in an Introduction to Psychology course completed two SAT reading comprehension exams in 25 min. Groups experienced one of two essential oil blends via diffusion, and were either primed or not primed with the name of the blends at the beginning of the task. Results revealed non-significant trends favoring the Motivate primed condition over the Peace primed condition. Subjective ratings of feelings were analogous to the corresponding aromas for the primed groups, while ratings were recorded in the opposite direction for the unprimed groups. Both of these results indicate a possible placebo effect.

P24. Understanding Race at Majority White Colleges: Ethical Collection of Qualitative Data from Marginalized Populations

Breanna Boothe, Maia Brint, Michael Cannon, Hannah Cohen-Oppenheimer, Shaynie Hayward , Brianna Howland, Amanda Josephs, Jourdan Layne, Lisha Rabeje, Lucy Sedlis, Bennett Urian
Muhlenberg College
Faculty Advisor: Dr. Connie Wolfe

The experiences students of color (SOC) have at small, predominantly White institutions (PWIs) are typically very different than those of white students in terms of racial climate, experiences with racism, and racial identity exploration. PWIs must improve conditions for SOC to retain and better serve this student population. Although there is a growing body of research exploring this issue, much of it is quantitative and none of it is, as yet, about our college in particular. Our research focuses on SOC at Muhlenberg. We are collecting data about SOC's sense of belonging via open-ended questions from online surveys, and via interviews. The qualitative method is essential to our research; it will add detail, nuance, and context to quantitative climate data. Our poster will explain the value of this approach, the steps we took to collect our data without further marginalizing this unique population on our campus, and some preliminary findings.

P25. The Consequence of Gender-Atypical Accessories on Perceptions of Dog Owners

Maggie Esposito, Tongyao Su
Muhlenberg College
Faculty Advisor: Dr. Kenneth Michniewicz

People associate particular breeds of dogs with personalities that coincide with gender stereotypes (Budge, Spicer, St. George, & Jones, 1996). Failure to conform to gender roles results in negative evaluations from others (Rudman & Fairchild, 2004), which suggests that owning a particular kind of dog may differently influence people's impressions of others based on that person's gender. The current study explored how people view male and female dog owners as a consequence of several characteristics of the dogs they own. We asked 677 participants to evaluate a hypothetical man or woman who owned a dog that varied by its breed (masculine or feminine), its sex (male, female), and the type of accessory it wore (masculine, feminine, or none). Results suggested that gender stereotypes about pet accessories influenced our perceptions of the owner's personality on gendered traits and owner responsibility.

P26. Reduction of Cadmium-Induced Hair Cell Death via Elimination of Functional Mechanotransduction

Kelly Tarcza, Dr. Tamara Stawicki
Lafayette College
Faculty Sponsor: Dr. Tamara Stawicki

Cadmium is a heavy metal that is toxic to sensory hair cells, causing hearing loss in people exposed to it through the air of industrialized areas, cigarette smoke, and contaminated food. The hair cells within the zebrafish lateral line system are morphologically and functionally similar to inner ear hair cells in mammals and are susceptible to the same ototoxic agents, thereby allowing for findings in fish to be applied to mammals. We hypothesized that the loss of functional mechanotrandsuction (MET), which is involved in other ototoxin entry, would result in a reduction of cadmium-induced hair cell mortality. We first utilized Cdh23 mutants who lack functional tip links and therefore contain hair cells that have lost functional MET activity. Additionally, we administered benzamil to wild type fish in order to further confirm whether functional MET is required for cadmium entry into hair cells.

P27. Does Status Shape the Visual Perception of Painful Facial Expressions?

Jingrun Lin, Alexandra Klysa, Dr. Peter Mende-Siedlecki
University of Delaware
Faculty Advisor: Dr. Peter Mende-Siedlecki

Research in public health indicates that there are socioeconomic status-based disparities in pain care, even controlling for race and insurance status. More recent work indicates perceptual contributions to racial disparities in pain care. Given that status impacts face processing similarly to race (i.e., lower social status is associated with disruptions in configural face processing), is the perception of painful facial expressions also shaped by status? We presented targets depicting increasingly painful facial expressions, and manipulated status within-subjects through attire (low versus high), and presentation orientation between-subjects (upright presentations, preserving configural face processing vs. inverted presentations, disrupting configural face processing). We observed a marginal interaction between status and presentation orientation on thresholds for pain perception: within upright presentations, pain was less readily recognized on low- versus high-status targets, but no difference was observed for inverted presentations. These data offer initial evidence that status shapes the visual perception of pain.

P28. Differential Effects of Chronic Stress on the Behavior of C57BL6/J and Swiss Mice: Strain Differences

Kelly Kramer
Saint Francis University
Faculty Advisor: Dr. Shlomit Flaisher-Grinberg

The exposure to stress has been demonstrated to aggravate psychopathological conditions such as anxiety and depression. This project was designed to investigate the effects of chronic stress on the behavior of a heterogeneous Swiss strain of mice, in comparison to a homogeneous C57BL6/J strain. The strains were randomly divided and exposed to either the Unpredictable Chronic Moderate Stress paradigm or to a non-stress condition. Results demonstrated increased anxiety, depression-like and compulsive-like behaviors in the inbred strain compared to the outbred strain. The TST revealed an increase in depression-like behavior in the outbred strain, which cannot be explained by activity or memory performance, but could be modulated by weight differences between strains. These results show that the two strains were effected by stress but the inbred strain showed increased sensitivity and a stronger reaction to the stress paradigm and may be a better choice when assessing the effects of stress.

P29. The SNARC Effect Using Animals

Riley Alvaro, Ingrid Crumpton, Morena Koorie, Renna Thomas,
Lafayette College
Faculty Advisor: Dr. Luis Schettino

Previous studies have measured reaction time as a function of the Spatial Numeric Association Response Code Effect known as the SNARC effect. This association attributes smaller magnitudes with the left side of space and larger magnitudes with the right side of space. Past studies have indicated that reaction time is faster when the magnitude difference is congruent with the number line associated with one's native language. In this study a further look into the SNARC effect was evaluated by the use of physical objects as a representation of size, specifically animals, in order to test if the SNARC Effect was applicable to physical objects. Twenty five Lafayette College Students were presented with three experiments, the third of which contained two conditions: press either green key green 'A' or 'L' when an animal name is displayed on the screen, press either green key green 'A' or 'L' when an odd number is displayed on the screen, and press 'A' for small animals relative to sample for the congruent condition, and press 'L' for large animals relative to the sample for the incongruent condition. An analysis of experiment

1 and 2 was not conducted due to the high number (over 60%) of participant mistakes. A statistical analysis of the experiment 3 showed that there was no significant difference between congruent *M* = 0.98 (*SE* = 0.04) and incongruent *M* = 1.00 (*SE* = 0.03) reaction times. The results indicate that the SNARC Effect using animal size has no effect on reaction times. This study needs to be modified to reduce duration time and include other types of physical objects. Additionally, this study needs to be replicated in order to reduce overall participant error.

P30. Gene Mapping of Aminoglycoside Resistant Zebrafish Mutant 2168

Danielle Bellefeuille, Lauren Parkinson, Dr. Tamara Stawicki
Lafayette College
Faculty Advisor: Dr. Tamara Stawicki

This mutation was identified in a ethylnitrosourea (ENU) mutagenesis screen, looking for resistance to aminoglycoside induced hair cell death. The location of this mutation was mapped using RNA sequencing, microsatellite markers and mapping using an integrated genomics viewer.

P31. Moravian College Music and Memory Program: Insight into Quality of Life

Kate Arner, Miranda Buskirk, Amanda Fish, Kelcey Hill, Jess Ionescu, Maggie Jones, Carla Ramos
Moravian College
Faculty Advisor: Dr. Cecilia Fox

The MUSIC and MEMORY Program is a non-profit organization that uses personalized music to improve the quality of life of the elderly who may be living with dementia or Alzheimer's disease. Family caregivers and elder care professionals are trained to introduce this personalized music via playlists on iPods and other digital audio devices to these individuals to enhance cognition. Music is known to become associated with an event from a person's life so that hearing this specific piece of music years later evokes memories of the original experience (Simmons-Stern et al). Furthermore, listening to personalized music is able to significantly reduce states of anxiety within the elderly living with dementia and Alzheimer's disease, thereby improving their quality of life (Irish et al, Guetinet al). Moravian College faculty and undergraduates are developing a partnership with Phoebe Ministries Richland, PA to establish a Music and Memory Program within the Lehigh Valley. Through a grant from the Council of Independent Colleges, this initiative is currently being more fully developed. Undergraduates have been partnering with the Phoebe residents to introduce personalized music in the hope of improving not only cognition, but more importantly, quality of life measures.

P32. Age of Memory and Reconsolidation: Cycloheximide Disrupts Reconsolidation of Recent and Remote Appetitive Odor Discrimination Memory in Rats

Desiree Bsales, Jessica Golbitz, Hannah Gura, Rebecca Shear
Muhlenberg College
Faculty Advisor: Dr. Gretchen Gotthard

Consolidated memories become vulnerable to change through protein synthesis inhibitor (cycloheximide) administration, when reactivated. Rats learned a discrimination task to dig for a reward. Reactivation occurred 1 or 72 days post-training. Cycloheximide or saline was then injected intraperitoneally. Results showed that cycloheximide interfered with learned memories regardless of memory age.

P33. Externalizing Language Production

Marissa Bocchiaro, Madeline McLaughlin, Nicole Moysak, Shanyin Yang
Lafayette College
Faculty Advisor: Dr. Luis Schettino

We're interested in how language is processed. In order to make the processing of language visible we decided to create an artificial language that involves the use of physical tokens to create sentences. The language is not a transliteration of English, but contains its own grammar. The tokens represent nine classes of words; e.g. verbs and nouns. In order to demonstrate that the language can be learned, four experimenters trained themselves using a set of lessons for two weeks (15 minutes per person per session). Videos were obtained of all sessions. An analysis of the videos shows that the users developed fluency in language production.

P34. Understanding the Mechanism of Cadmium-induced Hair Cell Death

Isabella Alampi, Jay Briggs, Tamara Stawicki
Lafayette College
Faculty Advisor: Dr. Tamara Stawicki

Cadmium and other heavy metals are known to cause hearing loss potentially through the loss of hair cells. To investigate this damage further, we manipulated the lateral line hair cells of zebrafish. These lateral line hair cells are located externally on the zebrafish, which allows the fish to take up these agents easily. We first investigated zebrafish with mutations in different cilia genes and found they had differing effects on the toxicity of cadmium. We also treated fish with varying zinc concentrations used in conjunction with cadmium solutions to study the protective effects of zinc based on previous research that has shown zinc to be protective against cadmium toxicity. While cotreating with zinc was not shown to be effective treating the fish with zinc prior to cadmium exposure could lead to more significant and better preventative effects on hair cells.

P35. Characterization of the Relationship between Diet and Mitochondrial Function in a Drosophila Epilepsy Model

Ashley Carey, Stephan Geneus, Dr. Elaine Reynolds
Lafayette College
Faculty Advisor: Dr. Elaine Reynolds

"Bang-sensitive" Drosophila mutants have been utilized as models for epilepsy and neurodegeneration. Some of the bang-sensitive gene products suggest mitochondrial dysfunction as a possible underlying cause. We wanted to more clearly define

the connection between mitochondrial function and phenotype by manipulating diet. Bang-sensitive strains were reared on the standard low protein/high carbohydrate diet (MYC) or a protein -rich yeast sugar (YS) diet. The mutants display a lower percentage of seizures on the YS food, but also reduced viability and lifespan. Several biochemical methods were utilized to define the effects of diet. Cytochrome oxidase (CO) in mutants is reduced, with increased CO levels in all flies raised on the YS food. This may be due to a decreased number of mitochondria in some mutants. Mitochondrial staining was done in the motor neurons to assess whether changes in mitochondrial function were correlated with changes in organelle morphology or the number of mitochondria.

P36. A Potential Modulatory Role for Ziziphus Jujuba var. Spinosa on the GABAA Receptor

Dana Kneisley, Sapir Mashiach '18, Dr. Jeremy Teissére
Muhlenberg College
Faculty Advisor: Dr. Jeremy Teissere

Ziziphus spinosa semen (ZSS), known otherwise as the Chinese red date, has been given historically as a remedy for sleeplessness, anxiety, and other ailments. We are interested in identifying its receptor target; while former data from two-electrode voltage clamping in Xenopus laevis oocytes shows that ZSS activates the GABAAR in an excitatory fashion by increasing the chloride conductance into the cell, these results are not replicated well and other data shows an inhibitory effect in decreasing the conductance. Past research has also shown dose-dependent increases in GABA-induced chloride current when coapplied with ZSS, indicating a potentiating effect of ZSS on the receptor in addition to its possible role in activation. Future research is aimed at creating a better understanding of the modulatory effects of ZSS on the GABAAR and identifying the amino acids residues of the putative binding pocket.

P37. Differential Effects of Prenatal and Early Postnatal Stress on the Behavior of Adult C57BL6/J Mice

Julia Kuehn, Dr. Shlomit Flaisher-Grinberg
Saint Francis University
Faculty Advisor: Dr. Shlomit Flaisher-Grinberg

Exposure to stress has been demonstrated to affect a variety of physiological and psychological systems, increase susceptibility to illness and inflammation, and contribute to the development of pathological conditions such as depression, anxiety and dementia. However, it is currently unclear if exposure to prenatal or postnatal stress yield differential effects. To test this question, the current project exposed C57BL6/J mice to predictable prenatal, postnatal, or no-stress paradigms and evaluated its behavior in adulthood. To simulate prenatal stress, pregnant dams were exposed to consecutive cold-water immersion and removal of bedding for 21 hours every other day, eight days prior to birth. To simulate postnatal stress, nursing females were separated from pups for 1 hour/day for 10 days immediately after birth. Control, no-stress, females were left undisturbed throughout the pregnancy period and after birth. Five weeks after the procedure was completed, seven weeks old female offspring were tested using animal models of human activity, anxiety and despair/depression. Results demonstrated a differential effect on behavior in experimental mice compared to control mice, specifically for minute five of the forced swim test. Further exploration of the effect of prenatal and postnatal stress on behavior will need to be conducted to allow the interpretation of these findings.

P38. Does Opsinamide, an Antagonist to Melanopsin, Affect the Pupillary Light Response in Turtles?

Mark Glover, Ani Jeeda, Richard Villa, Dr. James Dearworth
Lafayette College
Faculty Advisor: Dr. James Dearworth

Melanopsin, which is thought to be expressed in the iris and retina of turtles, plays a role in controlling their slow pupillary light response (PLR). We investigated how inhibition of melanopsin affects the PLR in turtles. Red-eared slider turtles (Trachemys scripta elegans) were restrained to measure their pupils. Pupil sizes were tracked during three cycles of 30 minutes of dark, followed by 10 minutes of light. Baseline trials (n=6) have been done on one animal, and a control set of trials (n=5), using an intraperitoneal injection of inert vehicle dimethyl sulfoxide (DMSO), have also been done. Responses were then compared to those measured after injection of an opsinamide (AA92593) (n=2), which blocks melanopsin-dependant responses. Baseline and control responses were the same; opsinamide appears to slightly increase the rate of constriction of the PLR and reduce its amplitude. Replicates will be done to statistically confirm.

P39. Exercise Ameliorates Methamphetamine-Induced Anxiety in Pair-Housed Female Mice

Dylan Gilhooly, Nicole Tamvaka, Justina Warnick
Dickinson College
Faculty Advisor: Dr. Anthony Rauhut

The present experiment examined if pair housing enhanced the anxiolytics effects of exercise in female, Swiss-Webster mice. Pre-adolescent (~ 21 days old) mice (N = 60) were housed alone (Single) or with another female mouse (Pair) for 4 consecutive weeks. Half of the mice had a running wheel (Wheel) placed in the home-cage whereas the other half did not (No Wheel). After 4 weeks, anxiety-like behavior was assessed using three, behavioral tasks: elevated-plus maze (EPM), hyponeophagia, and open-field task (OFT). The anxiogenic effects of methamphetamine (1.0 mg/kg) also were assessed in the OFT. The hyponeophagia test revealed that Exercise mice were less anxious regardless of housing condition. Pair-housed mice were more anxious than Single-housed in the No Wheel condition following an injection of methamphetamine. Housing differences were not detected in the Wheel condition. Taken together, these results suggest that exercise ameliorates the anxiogenic effects of methamphetamine in pair-housed female mice.

P40. Will Foul Smells Stop you from Predicting when Objects can hit you? A Test of Neural Reuse

Michael Tronolone, Dr. Matthieu de Wit
Muhlenberg College
Faculty Advisor: Dr. Matthieu de Wit

This study explores structure-function relationships in the human brain during multitasking. In cognitive neuroscience, there are two competing theories on how our brain works. Functional specificity says every region of the brain has a specific function while neural reuse argues that regions are multifunctional and plastic. Billington et al. (2011) suggest that the anterior insula is responsible for tracking a looming but not a receding object's time to collision (TTC), while Wicker et al. (2003) suggest that the anterior insula is activated during experience of disgust. We will expose participants to looming and receding TTC stimuli with and without presenting an olfactory stimuli of disgust (a prank store "smell from hell"). Interference with looming but not receding TTC judgments would provide evidence for the theory of neural reuse. References: Billington, J., R. M. Wilkie, Da. T. Field, & Wann, J. P. (2011). "Neural Processing of Imminent Collision in Humans." Proceedings of the Royal Society of London B: Biological Sciences, 278 (1711): 1476–81. https://doi.org/10.1098/rspb.2010.1895. Wicker, Bruno, Christian Keysers, Jane Plailly, Jean-Pierre Royet, Vittorio Gallese, and Giacomo Rizzolatti. 2003. "Both of Us Disgusted in My Insula: The Common Neural Basis of Seeing and Feeling Disgust." Neuron 40 (3): 655–64. https://doi.org/10.1016/S0896-6273(03)00679-2.

P41. Direct Activation and Potentiation of the GABA(A) Receptor by Passiflora Incarnata Extract

Thomas Barrett, Lucas Blecker, Joshua Lucas, Trevor Luck, Patrick Maehler, Alex Stavros
Muhlenberg College
Faculty Advisor: Dr. Jeremy Teissere

The γ-aminobutyric acid type A receptor (GABAA) is the primary target of medications that treat conditions including anxiety, epilepsy, and insomnia. Pharmacologists have synthesized drugs including benzodiazepines, barbituates, and anesthetics to work on the GABAA receptor, but naturally occurring GABAA modulators can also be used to treat these same conditions. P. incarnata, a plant native to the Southeast US, is studied for its anxiolytic effects on the GABAA receptor. Here, direct activation and potentiation of both wild type and mutant GABAA receptor configurations, specifically mutations at the α1 V409 and Y410 positions, are measured. These measurements are used to locate the binding site of the active components in P. incarnata through two electrode voltage-clamping of Xenopus ooctyes expressing the receptor.

P42. GABAA Receptor Modulation by Citrus Oils

Christopher Dasaro, Julia Rocereta, Dr. Christine Ingersoll, Dr. Jeremy Teissere
Muhlenberg College
Faculty Advisor: Dr. Jeremy Teissere

The γ-aminobutyric acid type A receptor (GABAA) is the major therapeutic target for drugs treating anxiety, insomnia, and epilepsy, although the molecular actions of naturally-occurring herbal anxiolytics and hypnotics are poorly understood. Limonene, a monoterpene in Citrus fruits, has been proposed to act at the GABAA receptor because essential oils from Citrus fruits containing limonene have been shown to induce anxiolysis and sedation. Here, we have shown that pure limonene does not directly modulate or potentiate the GABAA receptor, however Bergamot and Lemon essential oils do act as direct activators. GC-MS data of these oils show that GABA, the endogenous ligand, is not present in the oils and does not confound the data supporting direct activation by the oils. The GC-MS data also indicates the presence of both limonene and linalool in Bergamot essential oil. Taken together, we show that Citrus oils are novel modulators of the GABAA receptor and we have begun to understand the composition of these oils.

P43. Functional Specificity vs. Neural Reuse: a Dual Task Paradigm

Aaron Lobell, Dr. Matthieu de Wit
Muhlenberg College
Faculty Advisor: Dr. Matthieu de Wit

Understanding the function of specific brain regions is a foundational question in cognitive neuroscience. Contrasting views are that one brain region performs one function (Functional Specificity) and that a specific brain region becomes activated during tasks in multiple, different cognitive domains (Neural Reuse). In this study we created a dual task in which a motor task was paired with one of two perceptual tasks of equal difficulty (detecting stimulus orientation or brightness). The idea that a brain region is needed to perform both tasks may lead one to think that one task would interfere with the ability to perform the other. However under certain circumstances one task may also facilitate concurrent performance of the other task. This research will add to the current debate of functional specificity versus neural reuse and the question of what drives facilitatory versus interference effects of secondary tasks.

P44. Young Rocio Octofasciata Cichlid Fish show Variable Patterns of Coloration and Aggression

Victoria A. Attinger, Jennifer M. Dobrowski, Brianna L. Marrero, Dr. Audrey J. Ettinger
Cedar Crest College
Faculty Advisor: Dr. Audrey Ettinger

Cichlid fish provide a useful animal model, showing body color changes in response to changes in social status. The Rocio octofasciata species studied here display three coloration patterns in younger fish including the presence or absence of striping and fluorescence. We examined the correlations between coloration and aggressive behaviors, collecting data from two separate broods of young fish, one of which also contained a parent, over the course of five months. We observed both frequent daily changes in body coloration and the development of fluorescent spots over time. Occurrences of aggressive behaviors

were noted and compared to the coloration in both age groups. We observed a higher frequency of aggressive behaviors in fish with light colored body color and fluorescent spots when compared to the darker and medium body color fish. Future experiments will continue to examine the distribution of and changes in coloration patterns within each group.

P45. Videography of Immunohistochemical Methods for Identifying Malanopsin in the Eye of the Red-Eared Slider Turtle

Sabatino Ciatti Jr., Dr. James Dearworth
Lafayette College
Faculty Advisor: Dr. James Dearworth

Melanopsin (Opn4) is a photopigment that is thought to be found in cells of the eyes of red-eared slider turtles (Trachemys scripta elegans) and the source of their slow pupillary light responses. Previous experiments have demonstrated that the retina and iris of red-eared sliders possess mRNA for melanopsin for both major ortholog forms: Opn4x (GenBank JN815264) and Opn4m (GenBank HM197714). This study utilizes videography to document a protocol for identifying corresponding proteins by immunohistochemistry. After euthanasia of animals, eyes will be dissected and preserved in 4% paraformaldehyde. Anterior and posterior halves of eyes will be incubated in 20% sucrose to cryoprotect, and cut into 12 micron sections. Antibodies for Opn4x and Opn4m with fluorescent probes matched to epifluorescent filters and confocal laser lines will be purchased to label locations in tissues. DAPI (cell nuclei) and intrinsic fluorescence (e.g., oil droplets in cones) will serve as counter stains.

P46. Effects of Visuospatial Interference on Episodic Memory in Virtual Reality

Victoria Castillo
Muhlenberg College
Faculty Advisor: Dr. Gretchen Gotthard

Working memory capacity theory was tested by having participants play a virtual reality game, followed by visuospatial interference (Tetris) or control task. Tetris was effective at decreasing free recall, but not cued recall or recognition. Applications of this work to the treatment of memory-based disorders, like PTSD, will be discussed.

Oral Presentations 2:45—3:45 p.m.

Moyer Hall

Applied Psychology

Moyer Room 101

2:45-3:00 Meditation and Attention-Awareness
Jonathan Cabot, Jillian Praet, Sarah Stribula
DeSales University
Faculty Advisor: Dr. Sarah Starling

We examined the short-term effects of meditation on attention and awareness. We hypothesized that exposure to short-term meditation would enhance attention-awareness abilities and improve performance on a change blindness test. 29 adults (9 men) with no previous meditation experience completed a change blindness test. Fourteen of those participants performed ten minutes of daily meditation for one week using the app headspace. Seven days later, all participants completed a second change blindness test. Performance on the initial change blindness test did not differ by group $t(27) = 0.395$, $p = .70$. Although both the control $t(14)= -5.166$, $p= .000$, and meditation group $t(13)= -6.600$, $p= .000$ improved across tests, the groups did not differ at second test $t(12)= 1.417$, $p= .182$. This suggest that a week's worth of meditation does not significantly impact attention-awareness. Future studies should focus on the effects of long-term meditation.

3:00-3:15 The Effect of Presentation Modality on Working Memory
Jessica Borget, Morgan Fox, Paige Merrill, Lorita Moussa
DeSales University
Faculty Advisor: Dr. Sarah Starling

We examined the effect of presentation modality on working memory. 30 college age participants completed 18 trials where they were exposed to 10 items followed by a short recall test. Each trial was presented as visual stimuli alone (written word or image), auditory stimuli alone, or visual and auditory stimuli together with items counterbalanced across participants. A repeated measures ANOVA found a main effect for stimulus type (written vs. image) $F(1, 28) = 24.26$, $p < .001$ and a main effect for audio vs. no audio $F(1, 28) = 5.36$, $p = .03$ but no interaction effect $F(1, 28) = .58$, $p = .45$. Post Hoc analyses found that performance was better for the image than the written condition regardless of whether or not audio was used. The addition of audio significantly improved performance on the text condition but not the image condition. Overall, integrating multiple modalities is beneficial for learning.

3:15-3:30 The Effects of Online Reviews on Consumer Buying
Taylor Aron, Rebekah Gonzalez, Anna Maria Passaro, Madison Strockoz
DeSales University
Faculty Advisor: Dr. Sarah J. Starling

Companies regularly recruit individuals with high social media followings to promote their products. To test the effectiveness of these social media influencers, 26 adult female participants watched reviews from social media influencers. Participants rated their likelihood of purchasing 8 items on a scale from 1 ("I would absolutely not") to 10 ("I would definitely buy this product") both before and after viewing a positive (7 items) or negative (1 item) online review. Initial ratings of the items ($M = 5.20$) did not differ from neutral (5.5), $p =.15$. A paired samples t-test comparing pre to post ratings found that the positive review significantly increased ratings, $t(181) = -5.18$, $p < .001$ (from 5.13 to 5.85). The negative review significantly decreased ratings, $t(25) = 3.87$, $p = .001$ (from 5.65 to 3.65). This suggests that online reviews may have an effect on purchasing decisions.

Neuroscience II

Moyer Room 104

2:45-3:00 The Neuroprotective Effect of Curcumin in the Striatal 6-Hydroxydopamine Rat Model of Parkinson's Disease
Adriana Facchiano, Dr. Cecilia Fox
Moravian College
Faculty Advisor: Dr. Cecilia Fox

Parkinson's disease (PD) is a progressive neurodegenerative disorder that develops when dopamine neurons within the nigrostriatal pathway are destroyed from inflammation, which may be the result of enhanced microglial cell activation. Curcumin, a compound derived from turmeric, has shown to not only provide protection to dopamine neurons, but also reduce this inflammatory response in the 6-hydroxydopamine (6-OHDA) nigral lesion rat model. Furthermore, previous research from our lab demonstrated that curcumin has both protective and restorative effects in this acute model of PD. The current study investigated whether curcumin could exert a similar restorative effect in the more progressive 6-OHDA intrastriatal lesion model of PD. Each experimental animal received an injection (i.p.) of 75 mg/kg curcumin for 3 days/week while the control animals received an equal volume of the vehicle, DMSO, for 6 weeks post-surgery. Behavior data using the rotarod and foot-fault tests were obtained for six weeks post-surgery. Analysis of behavior data did not reveal a significant main effect between time and group in either test. Analysis of percent survival of dopamine neurons within the substantia nigra was assessed via stereology and revealed a significant difference between the control and experimental groups, suggesting curcumin may have a restorative effect in this striatal lesion model.

3:00-3:15 The Effects of Early Life Nutritional Stress on theExpression of MCC and Dopamine
Adriana Pero, Dr. Michelle Tomasycki
Lafayette College
Faculty Advisor: Dr. Michelle Tomasycki

Zebra finches are an excellent model of learning and memory. Developmental nutritional stress (NS), a model for early life adversity, is known to cause learning deficits in male zebra finches, evidenced by reduced song complexity. Although the neural basis of the NS learning deficit is not well understood, genes likely play a role. One candidate is the gene coding for the enzyme 3-methylcrotonyl carboxylase (MCC), which is necessary for leucine catabolism. MCC deficiency is known to cause cognitive deficits and learning disabilities, positing that MCC is important for learning. Additionally, dopamine plays an important role in learning. In male zebra finches, MCC and dopamine receptors (D1a and D2) are both present in the song-learning pathway, and NS may cause learning deficits by altering expression of dopamine receptors and MCC in the song pathway. Female zebra finches exposed to NS were unable to choose males on the basis of song quality, suggesting that NS also causes learning deficits in females. However, not much is known about the presence of MCC and dopamine in the learning pathways in female zebra finches. The present study will investigate the extent to which NS reduces MCC and dopamine receptor (D1A and D2) expression in song and auditory pathways of NS zebra finches of males and females. By examining the effect of NS on MCC and dopamine receptor expression, our results will help elucidate the role of MCC and dopamine in learning, and also elucidate the neural correlates of early life adversity.

3:15-3:30 Competitor Activation and Semantic Interference: Evidence from Combined Phonological and Semantic Similarity
Hazem Abdelal, Alyce Huot, Jessica Oxer, Marwan Rajha
Muhlenberg College
Faculty Advisor: Dr. Alexandra Frazer

Incremental learning explanations state that semantic interference is driven by activation levels of competitors (Oppenheim, Dell, & Schwartz, 2010). To explore non-semantic contributions to interference, we examined the combined and separate effects of facilitatory phonological form preparation and semantic relatedness in a blocked cyclic picture naming procedure. We used the basic items and paradigm from Frazer et al. (2014) but expanded sets to 4 items and repeated the items in "supercycles" to reduce the anticipatory facilitation that they observed. We expect to find about twice as much interference in word sets that shared both meaning and form (e.g., cyclically name partridge, puffin, pigeon, and peacock) as in semantic-only sets. Thus, phonological similarity should impact interference when it is combined with a semantic attribute. Together with previous findings in the literature, these results suggest that co-activation from a variety of sources can drive semantic interference.

Clinical and Cognitive Psychology

Moyer Room 109

2:45-3:00 Effects of Psychiatric Labels and Gender on Knowledge, Attitudes, and Social Acceptance
Shalen Roman
Cedar Crest College
Faculty Advisor: Dr. Kerrie Baker

Few studies have examined how psychiatric labels and gender impact perceptions of people with mental illness, and none have compared such differences for men, women, and gender-neutral individuals. To address this, the current 2 X 3 between-subjects study explored effects of psychiatric labels and gender on knowledge, attitudes, and social acceptance of individuals with mental illness. College students (N=66) read a vignette depicting an unlabeled or labeled individual identifying as male, female or gender-neutral, and completed 42 items from the Knowledge, Attitudes, and Social distance scales. Results showed label condition and gender did not significantly affect knowledge and social acceptance. However, label condition significantly affected attitudes, with participants who read unlabeled conditions reporting more negative attitudes than those who read labeled conditions. This suggests people have more positive attitudes towards people with mental illness due to empathy or accurate understanding. Implications of these findings and further research will be discussed.

3:00-3:15 Developing Treatments for MoMs: Postpartum Mental Health in Mothers of Multiples
Danielle Kats
Lafayette College
Faculty Advisor: Dr. Susan Wenze

Much research has been conducted on maternal mental health in the postnatal period, but fewer studies have focused on the unique challenges faced by mothers of twins and higher order multiples. Most previous research has suggested that mothers of multiples fare more poorly in several dimensions of mental health, including stress, anxiety, sleep, depression, and relationship satisfaction. The current study seeks to confirm these findings and extend our understanding of postpartum experiences in this population by using ecological momentary assessment methodology. Participants (to date, n = 44 mothers of newborn singletons and n = 29 mothers of newborn multiples) complete baseline measures and then respond to four short surveys every day for seven days. Surveys are delivered to participants via smartphone at semi-random timepoints throughout the day. Data collection is ongoing and preliminary between-group analyses will be discussed.

3:15-3:30 Anxiety and the Use of Jewelry as a Coping Mechanism

Paige Adamczak
Eastern University
Faculty Advisor: Dr. Douglas Trimble

This study evaluates the effectiveness of using jewelry as something meaningful and grounding to fiddle with when anxiety symptoms present themselves. Fourteen participants who agree to be observed during a presentation completed an online self-report questionnaire via Google Forms in order to compile quantitative data on their anxiety as both a pretest and posttest. The pretest was comprised of a demographics survey and a shortened Spielberger State-Trait Anxiety Inventory (STAI) by Chlan, Savik, and Weinert (2003) with the posttest comprised of an identical demographics survey and the GAD-7. Participants who agreed to a follow-up interview were asked about their jewelry-wearing behaviors and how (if at all) this affects any anxiety they experience, which will be compared to the participant's individual pretest and posttest scores. The data is currently under analysis to discover whether or not significant jewelry provides any relief of anxiety symptoms to those under stress.

3:30-3:45 Put Down the Essential Oils, and Pick Up the Crayons: The Effects of Art-Making and Aroma on Stress

Kyle English
Cedar Crest College
Faculty Advisor: Dr. Kerrie Baker

This research examined the reduction of stress while engaging in an activity and smelling an aroma. Participants either colored in a mandala or assembled a puzzle while being exposed to one of three scent conditions (lavender, vanilla, or grapeseed oil). There were 78 students from Cedar Crest College who participated in the research. State anxiety was measured through the State-Trait Anxiety Scale and through two physiological measures, electrodermal activity and peripheral temperature. It was hypothesized that participants in the lavender and the art activity will have the greatest amount of stress reduction. The results found that the art making activity reduced stress over time significantly more than the puzzle activity, but the aroma had no significant effect on stress. Neither the activity or aroma affected the physiological measures. The implications of these findings will be discussed.

3:45-4:00 Long-term Effects of Therapy on Adult Survivors of Childhood Trauma

Morgan Lyons
Eastern University
Faculty Advisor: Dr. Doug Trimble

The long term effects of adverse childhood experiences have been studied extensively for many years. Childhood trauma includes a wide variety of negative experiences that a child may experience which may have long-term consequences for that child. Early intervention for these children may be what can prevent these long-term consequences. Adults who qualified were given a PTSD instrument and an attachment instrument. Three hypotheses were tested: adult survivors of childhood trauma who have been to therapy will score lower on PTSD than adult survivors who have not been to counseling, adult survivors of childhood trauma who have been to therapy will score lower on the avoidant attachment, anxious attachment, and disorganized attachment than adult survivors who have not been to therapy, and adult survivors of childhood trauma who received therapy will report having less anxiety while taking the PTSD and attachment measures.

Social Cognitive Psychology

Moyer Room 209

2:45-3:00 The Trolley Dilemma: Is There A Gender Difference in Decisions?

Madison Adams, Stephen DiFiore, Devon Guthrie, Barbara Pizarro
DeSales University
Faculty Advisor: Dr. Boyce Jubilan

People vary when it comes to solving moral dilemmas. The trolley dilemma (Foot, 1965), was designed to determine the participant's moral decisions and has been used to evaluate moral decisions as either utilitarian or deontological. This present study looked at gender differences on moral decisions using the trolley dilemma. Participants were presented with 12 scenarios involving pushing a button to stop the trolley thereby killing one person to save three people or to push a person in front of the trolley to stop from killing three people but still kill one. ANOVA did not reveal a significant difference between the decisions of men and women ($p = .285$). Analysis also revealed that participants pushed the button (Mean = 62%) more often than push the person (Mean = 31%) in these scenarios ($p = .003$). The deontological decision appears to be supported by the present data.

3:00-3:15 Effect of Musical Elements on Mental Distractions and Short-Term Memory

Ashley Cochran, Delaney Jimenez, Eilis McCall, Kathleen Wing
DeSales University
Faculty Advisor: Dr. Boyce Jubilan

Background music can affect performance on cognitive abilities. According to Salame & Baddeley (1989), vocal music creates greater interference on mental clarity when compared with instrumental music and silence. The present study compared the effects of "pop" music in classical form to original classical music and silence to determine whether music may affect reading comprehension. Twenty participants listened to the types of background music while reading select passages and were later tested for comprehension. ANOVA did not show a statistically significant effect of background music on comprehension ($p = .584$). However, silence lead to the highest mean score (mean = 39.5% correct) when compared to classical music (38% cor-

rect) and "pop" music in classical form (33% correct). Based on this study, studying in silence produces the highest level of recall as opposed to studying with music.

3:15-3:30 Does Snapchat Make You Feel Better About Yourself? A Correlational Study Between Snapchat Filters and Self Esteem

Lauryn Dominique, Allison Gara, Allison Schoenly, Gabrielle Stobb
DeSales University
Faculty Advisor: Dr. Boyce Jubilan

Snapchat, a photo-taking phone application, has become a recent phenomenon among young adults. Snapchat offers the ability to take "selfies", including photo-editing filters to enhance these photos. "Selfies" were reported to affect social sensitivity and self-esteem of individuals (Shin, et al., 2016). Using Snapchat, this study looked at the effect of filters on self-esteem using the Rosenberg's Self-Esteem Scale amongst college students. ANOVA showed no significant interaction between gender and self-esteem scores using Snapchat filters ($p = .107$). However, interesting trends were found: prior to the use of filters, men had a higher mean self-esteem score when compared to women ($p = .069$), and the mean self-esteem score in women increased when filters were used ($p = .254$). In contrast, mean self-esteem in men decreased when filters were used ($p = .235$). These results suggest that using filters in Snapchat had a positive effect in women but not in men.

3:30-3:45 Home is Where the Heart is. But Today, the Phone is Where the Heart is

Chelsea Ashenfarb, Sydney MacDonough, Taylor Vertolomo, Rachel Moe
DeSales University
Faculty Advisor: Dr. Boyce Jubilan

The use of social media applications have become prevalent in society today and could affect personal characteristics. For example, increased use of Facebook was related to lower self-esteem according to Vogel et al. (2014). The present study looked at the correlation between the active screen time of college students on social media, namely, Facebook, Twitter, Instagram, and Snapchat using the IOS12 update on the IPhone as they relate to self-esteem, self-efficacy, and body image. Results revealed a significant positive correlation between body image and Facebook, Snapchat, and total time spent on social media ($p < .05$). A significant negative correlation was found between self-efficacy and Twitter and total time spent on social media ($p < .05$). Self-esteem was not correlated with any measure of the use of social media. The effect of social media on personal characteristics are not always identical.

3:45-4:00 The Effect of Academic Majors on Gender-Science Implicit Biases

Lauren Dixon, Theresa Fusaro, Bryan Kohberger, Sabrina Lin
DeSales University
Faculty Advisor: Dr. Boyce Jubilan

A perception exists that there is a gender difference when it comes to capabilities in science that can be reflected in gender ratio discrepancies in certain careers or occupations. The present study explored the gender bias towards science of men and women college students, who are either in STEM or non-STEM majors (total n = 32), to perhaps understand such discrepancies. Harvard's Gender-Science Implicit Bias tests was used. ANOVA showed a gender bias by major interaction of $p = .055$. Men in non-STEM majors did not show a bias when compared to men in the STEM majors ($p = .038$). It also appears that the men in the non-STEM majors did not show a noticeable bias when compared to women in the non-STEM majors ($p = .057$). These results suggest that gender-science implicit bias may exist among college students that could impact on their career decisions in the future.

Attitudes and Beliefs

Moyer Room 214

2:45-3:00 The Effect of Motivational Speeches and Art Task on Affect, Self-Efficacy, and Motivation

Jacey Ludlam
Cedar Crest College
Faculty Advisor: Dr. Kerrie Baker

Previous studies have examined the stress-reducing qualities of art, but not the positive effects art creation can have. The goal of the current study was to examine the positive effects of structured and unstructured art making on college students' affect, self-efficacy, and levels of motivation. Fifty-five college students were randomly assigned into four different groups: either the motivational or demotivational vignette group, and the structured art making or unstructured art making group. It was predicted that participants in the motivational vignette and unstructured art making group would have the most positive affect, increased positive affect, higher self-efficacy levels and increased motivation. Results showed that affect and self-efficacy significantly improved over time, regardless of type of art task. Completing an art task overall significantly improved participants' mood and self-efficacy, demonstrating the benefit of art creation. The implications of these findings and future research ideas will be discussed.

3:00-3:15 The Effects of Music Genre on Sexualized Advertisement Models

Lillie Fidelman
Cedar Crest College
Faculty Advisor: Dr. Sharon Himmanen

Ads portraying sexually objectified females and males are frequent in today's society, but little is known about the viewers' opinions of the models portrayed in such commercials. This study investigated how music affects viewers' attitudes towards the models, and how they feel about the product being advertised by them. Excerpts from either a pop or classical song were

played alongside advertisements featuring sexualized male or female models. The 41 participants then completed a questionnaire measuring their attitudes towards the advertisement as well as a questionnaire measuring their objectification of others. Participants were also connected to an electrodermal response unit to measure their skin conductance. The study suggests that music has no effect on viewers' attitudes towards commercials, but the gender of the model does affect how attractive participants see them. A significant main effect was found between the gender of the model and how attractive the participants' rated them.

3:15-3:30 Made to Play? The Effects of Conscientiousness and Priming on Game Play Style

Maeann Brougher
Cedar Crest College
Faculty Advisor: Dr. Sharon Himmanen

Could priming and a participant's level of conscientiousness predict a preferred way of playing a video game? Cedar Crest College students (n=61) had their conscientiousness levels quantified using the Big Five Inventory and were then administered either a primed or unprimed vignette. A Group priming variant was expected to increase the likelihood of a role-playing (RP) preference. Solo priming was expected to increase the likelihood of a player-versus-player (PVP) preference. A high level of conscientiousness was expected to interact with a player-versus-environment (PVE) style of play and the Healer and Tank classes. No significant main effects, interactions, or contingencies were found. While no significant results were found, it was still a novel idea to see if play styles could be predicted by personality traits such as conscientiousness, as findings could benefit fields such as marketing and video game development.

3:30-3:45 The Development of Beliefs About Mental State Controllability

Julia Weinkauf
Lehigh University
Faculty Advisor: Dr. Amanda Brandone

Beliefs about mental state controllability in children emerge across development and may differ from those of adults. Research shows an overestimation of mental state control in young children, but important questions remain about whether these beliefs differ by mental state type and valence, and regarding the developmental trajectory. The current study further explores the development of beliefs about mental state controllability by exposing preschoolers, elementary schoolers, and adults to six vignettes describing characters experiencing a positive or negative emotion, and an associated thought and behavior. Participants then evaluated whether each mental state was intentional and changeable. We expect to find main effects of mental state (behaviors rated as more controllable than thoughts, and thoughts as more controllable than emotions), valence (positive rated as more controllable than negative), and age (lower expectations of control with age). These findings provide new insight into the development of controllability beliefs from preschool through adulthood.

3:45-4:00 Switch It Up: The Effect of Hand Dominance on Stress Inducing Task Performance

Christine Widera
Cedar Crest College
Faculty Advisor: Dr. Sharon Himmanen

Handedness' crucial role in our lives often goes unnoticed. The notion that right-handed participants using their nondominant hand would experience the most stress and anxiety compared to left-handed individuals was hypothesized. The relationship between hand dominance and hand switching during a stress-induction task was investigated. Students from Cedar Crest College (N = 42 right-handed, N = 5 left-handed) completed a chess game with their dominant hand and with their nondominant hand. State anxiety was measured through electrodermal activity and the State Trait Anxiety Scale, while hand preference was assessed through the Annett Hand Preference Questionnaire. There was not a large enough number of left-handed participants to investigate the difference between right- and left-handedness. Additionally, there was no significant difference in the stress of participants using their dominant and nondominant hands. Future research could investigate the role of handedness and rehabilitation after a loss of function due to trauma.

Time	Moyer Room 106 Knowledge and Learning	Moyer Room 109 Neuroscience I	Moyer Room 209 Social Psychology
10:00	Can We Afford to Strikeout Swinging?	The Influence of Reward on Attention in Cross-Dimensional Contexts	How Do Males Perceive Behavior of Females? Effects of Identity Manipulation
10:15	Alcohol-Related Social Media Content and College Student's Drinking	Detection of Retinal in the Caudal Photoreceptor (CPR) OF Crayfish	Role of Cosmetics and Feminine Ideology in Self-Objectification
10:30	Promoting Oral Listening Comprehension Through E-Books: What is the Best Way?	The Impact of Reward on Visual Search	Having It All: Factors Influencing Career and Reproductive Health in Emerging Adult Women
10:45	Dominique Nazaire	Evaluating the Role of Dopamine in Caffeine-Induced Increases in Alcohol Consumption	Community Perception on Mental Illness Diagnoses In Police Officers and Their Effectiveness in the Field

Time	Moyer Room 101 Applied Psychology	Moyer Room 104 Neuroscience II	
2:45	Meditation and Attention-Awareness	The Neuroprotective Effect of Curcumin in the Striatal 6-Hydroxydopamine Rat Model of Parkinson's Disease	
3:00	The Effect of Presentation Modality on Working Memory	The Effects of Early Life Nutritional Stress on the Expression of MCC AND Dopamine	
3:15	The Effects on Online Reviews on Consumer Buying	Competitor Activation and Semantic Interference: Evidence from Combined Phonological and Semantic Similarity	

Time	Moyer Room 109 Clinical and Cognitive Psychology	Moyer Room 209 Social Cognitive Psychology	Moyer Room 214 Attitudes and Beliefs
2:45	Effects of Psychiatric Labels and Gender on Knowledge, Attitudes, and Social Acceptance	The Trolley Dilemma: Is There a Gender Difference in Decisions?	The Effect of Motivational Speeches and Art Task on Affect, Self-Efficacy, and Motivation
3:00	Developing Treatments for MoMs: Postpartum Mental Health in Mothers of Multiples	Effect of Musical Elements on Mental Distractions and Short-Term Memory	The Effects of Music Genre on Sexualized Advertisement Models
3:15	Anxiety and the Use of Jewelry as a Coping Mechanism	Does Snapchat Make You Feel Better About Yourself? A Correlational Study Between Snapchat Fiilters and Self Esteem	Made to Play? The Effects of Conscientiousness and Priming on Game Play Style
3:30	Put Down the Essential Oils, and Pick Up the Crayons: The Effects of Art-Making and Aroma on Stress	Home is Where the Heart Is. But Today, the Phone is Where the Heart Is	The Development of Beliefs About Mental State Controllability
3:45	Long-term Effects of Therapy on Adult Survivors of Childhood Trauma	The Effect of Academic Majors on Gender -Science Implicit Biases	Switch It Up: The Effect of Hand Dominance on Stress Inducing Task Performance

Muhlenberg College

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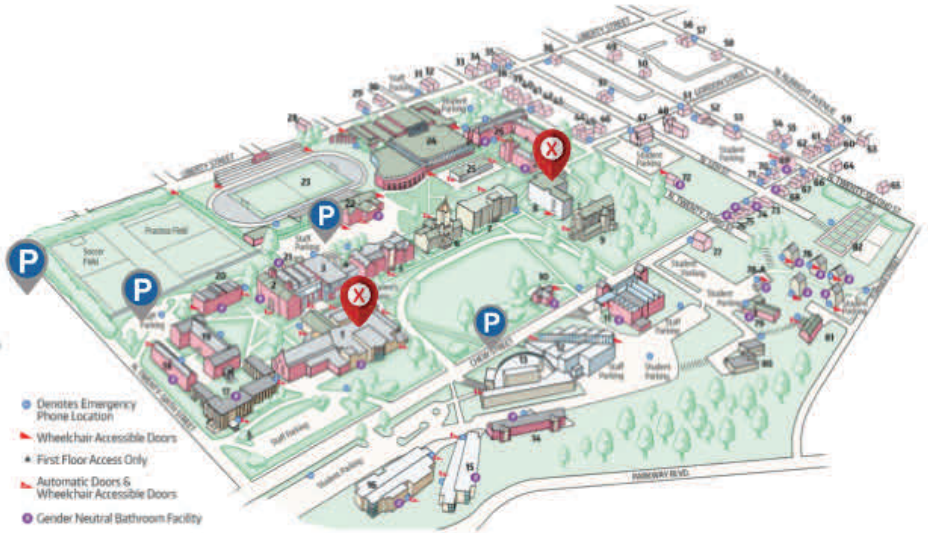
1. **Seegers Union #**
   Academic Resource Center
   Bleng Bookshop
   Career Center
   Community Engagement
   Dining Services
   Event Space
   Disability Services
   Great Room
   General's Quarters
   Hoffman Portico
   Java Joe's
   Mule Express
   PPE Green Roof
   Pre-Professional Services
   Prevention Education
   Red Door Cafe
   Seegers Union Director
   Senior Year Experience
   Student Engagement
   Student Government Association
   Wood Dining Commons
2. **New Science Building #**
   Altman Reading Room
   Biology
   Biochemistry
   Ecology
   Environmental Science
   Neuroscience
3. **Shankweiler Building & Trexler Tower**
   Access Center (Orthology)
   Biology
   Chemistry
   Greenhouse
   Research Facilities
4. **The Century Arch**
5. **Trumbower Hall**
   Chemistry
   Lifgow Auditorium
   Mathematics and Computer Science
   Physics
6. **Haas College Center**
   Admission
   Alumni Relations
   Controller/Treasurer
   Dean
   Development
   Financial Aid
   Human Resources
   President
   Provost
   Purchasing
   Registrar
   Title IX Coordinator
7. **Ettinger Hall**
   Accounting
   Business
   Economics
   Finance
   Languages, Literatures and Cultures
   History
   Information Technology
   Media Services
   Political Science
8. **Moyer Hall**
   Education
   Institute for Jewish-Christian Understanding
   Philosophy
   Psychology
   Religion Studies
9. **Egner Memorial Chapel**
10. **Gabriel House #**
    Muhlenberg Summer Study
    Muhlenberg College-Wescoe School of Continuing Education
11. **Trexler Library #**
    AT&T Information Commons
    Fulbright Room
    Muhlenberg Room
    Writing Center
12. **Baker Center for the Arts**
    Art
    English
    Film Studies
    Martin Art Gallery
    Music
    Paul E. Empie Theatre
    Recital Hall
13. **Trexler Pavilion for Theatre & Dance**
    Dorothy Hinu Baker Theatre
    Theatre & Dance
    Studio Theatre and Dance Studios
14. **Benfer Hall #**
    Student Residence
15. **South Hall #**
    Student Residence
16. **Robertson Hall #**
    Student Residence
17. **Prosser Hall* #**
    Student Residence
    Residential Services
    Campus Safety and Security
18. **Walz Hall #**
    Student Residence
19. **Brown Hall**
20. **Kathryn P. Taylor Hall #**
    Student Residence
    Lower Level Classrooms
21. **Watson Hall* #**
    WMUH
    MCTV
    Media & Communication
22. **Services Buildings #**
    Mail Room
    Plant Operations
    Copy Center
23. **Scotty Wood Stadium/ Marino Field**
    Synthetic Field, All-Weather Track
24. **Life Sports Center/ Brueckner Wing**
    Alumni Pool
    Athletics
    Counseling
    Development Services
    Dietrich Field House
    Fitness Center
    Haffer Health Services Suite
    Indoor Track
    Levering Tatan Wing
    Life Sports Center Café
    Memorial Hall (Gymnasium)
    The Muhlenberg Fund
    Pfaley Center
    Racquetball Courts
    Wrestling Room
25. **The "Courts"**
    Student Residence
26. **Martin Luther Hall #**
    Student Residence
    The Underground
27. **East Hall #**
    Student Residence
28. **Muhlenberg Independent Living Experience (M.I.L.E. House)**
    (2411 Liberty St.)
29. **Catholic Chaplaincy (Newman Center)**
    (2709-2711 Liberty St.)
30. **M.I.L.E. House**
    (2131 Liberty St.)
31. **M.I.L.E. House**
    (2151 Liberty St.)
32. **Faculty/Staff Housing**
    (2215 Liberty St.)
33. **M.I.L.E. House**
    (2251 Liberty St.)



34. **M.I.L.E. House**
    (2216 Liberty St.)
35. **M.I.L.E. House**
    (2241-2243 Liberty St.)
36. **M.I.L.E. House**
    (2216-2218 Liberty St.)
37. **M.I.L.E. House**
    (415-419 N. 1st St.)
38. **M.I.L.E. House**
    (418 N. 23rd St.)
39. **M.I.L.E. House**
    (415-417 N. 23rd St.)
40. **427-429 N. 23rd St.**
    M.I.L.E. House (427 N. 23rd St.)
    Staff Housing (429 N. 23rd St.)
41. **Staff Housing**
    (425 N. 23rd St.)
42. **M.I.L.E. House**
    (423 N. 23rd St.)
43. **Faculty/Staff Housing**
    (411 N. 23rd St.)
44. **M.I.L.E. House**
    (407-409 N. 23rd St.)
45. **M.I.L.E. House**
46. **M.I.L.E. House**
    (235 Gordon St.)
47. **M.I.L.E. House**
    (229 Gordon St.)
48. **President's House***
    (139 N. 1st St.)
49. **M.I.L.E. House**
    (413-415 N. 22nd St.)
50. **M.I.L.E. House**
    (409-411 N. 22nd St.)
51. **Delta Tau Delta**
    (202 Gordon St.)
52. **Phi Mu**
    (130 N. 22nd St.)
53. **Delta Zeta**
    (120 N. 22nd St.)
54. **M.I.L.E. House**
    (131 N. 22nd St.)
55. **M.I.L.E. House**
    (139-141 N. 22nd St.)
56. **M.I.L.E. House**
    (632 N. Albright Ave.)
57. **M.I.L.E. House**
    (628 N. Albright Ave.)
58. **M.I.L.E. House**
    (616 N. Albright Ave.)
59. **M.I.L.E. House**
    (218 N. Albright Ave.)
60. **M.I.L.E. House**
    (2135-2137 Chew St.)
61. **M.I.L.E. House**
    (2141-2143 Chew St.)
62. **M.I.L.E. House**
    (2145-2147 Chew St.)
63. **M.I.L.E. House**
    (2162 Chew St.)
64. **Faculty/Staff Housing**
    (2152 Chew St.)
65. **Faculty/Staff Housing**
    (2131 N. 22nd St.)
66. **M.I.L.E. House**
    (2036-2038 Chew St.)
67. **M.I.L.E. House**
    (2014-2016 Chew St.)
68. **Office of Communications #**
    (2023 Chew St.)
69. **Residence Hall #**
    (2001 Chew St.)
70. **Alpha Chi Omega (Millesheim House)**
    (2031 Chew St.)
71. **Phi Sigma Sigma (Henrietta House)**
    (2023 Chew St.)
72. **Huffman House* #**
    (125 N. 23rd St.)
73. **Anthropology/Sociology**
    (2030 Chew St.)
74. **Hillel: The Leffell Center for Jewish Student Life#**
    (2258 Chew St.)
75. **Global Education #**
    (2042 Chew St.)
76. **Multicultural Center* #**
    (2057 Chew St.)
77. **Alpha Tau Omega**
    (2161 Chew St.)
78. **The Village #**
    Student Residence
    (2151-2167 Turner St.)

78A. **The Village Laundry & Common Room #**
(2164 Chew St.)

79. **Hillside House #**
    Art
    Innovation and Entrepreneurship
80. **Sigma Phi Epsilon**
81. **Rehearsal House**
    Music, Theatre and Dance
    Haas Arts Center
    (2309 Turner St.)
82. **Tennis & Beach Volleyball Courts**

Non-campus sites:
- **Cedar Creek Field** (baseball & softball)
- **2442 Tilghman St.**
- **2525 Liberty St.**
- **Everson House** (2001 Chew St.)
- **Faculty/Staff House** (1626 Chew St.)
- **Faculty/Staff House** (1625 Liberty St.)
- **Faculty/Staff House** (2004 Chew St.)
- **Faculty/Staff House** (430 Chew St.)
- **Faculty/Staff House** (16 N. 16th St.)
- **Faculty/Staff House** (25 Old St.)
- **Faculty/Staff House** (23 Old St.)
- **Conrad Raker Biological Field Station #**
- **Career Advancement #**