Participant Abstracts and Project Summaries
EMU Academic and Creative Excellence Festival 2020

These are the posters and oral presentations that were able to be showcased in virtual form, despite the disruptions of the COVID-19 pandemic.

(Listing is in alphabetical order by presenter's last name)

Oral Presentations

Words Alive: my journey with spoken word poetry
Ariel Barbosa
Faculty mentor: Jenni Holsinger; co-directed by Kennedy Huddleston

Varying Teaching Style for Various Needs
Kara Durren
Faculty mentor: Paul Yoder

> The goal of my documentation of student learning project was to figure out how to cater to a classroom of students with a high range of needs. The presentation will focus on the value of reflective practice and the transition of using the tools I had developed in classes to a more practical setting. Moving from theoretical student's needs to actual student's needs. The presentation will look at a class of students I taught in my first student teaching placement. I will be breaking down the pre and post assessment data to determine how and what my students learned over the course of a 3 week unit.

Why Do We Use Computers the Way We Do?
Austin Engle
Faculty mentor: Mark Sawin

Super-mileage Car
Engineers for a Sustainable World club
Faculty mentor: Rodney Wilkins

> The Super-Mileage Car is a project that has been started by myself and a group of engineering students this year as part of the engineers for a sustainable world club. We are currently building the car to compete in the Shell Eco-Marathon competition in April in Sonoma, CA. The goal of the project is to build as efficient a vehicle as possible to achieve the highest fuel economy possible. We are in the gasoline internal combustion engine category prototype class. The car is being built from scratch according to the specifications of the competition. There are many complicated subsystems in the design and build of the car such as the chassis, body, and engine. The engine is being converted to electronic fuel injection and the body is going to be

created out of fiberglass from a male plug formed to the proper shape. The chassis was constructed from an extruded steel alloy called 4130 and was designed specifically to fit our needs and driver. The chassis was tig welded together and is extremely strong and also lightweight.

Reducing student food waste with an artificially intelligent plate grader
Austin Engle and Ben Stutzman
Faculty mentor: Stefano Colafranceschi

A significant portion of the food wasted in the EMU cafeteria comes from students who eat only some of what they put on their plates and discard the rest. This project aims to reduce this waste with an engineering solution. Initial research shows that shame and awareness could be powerful motivators for behavioral change (Ellison et al), which suggests that waste may be reduced by raising people's consciousness of what they throw away. The developed system has only recently been installed, so there isn't yet data to show whether the feedback makes a difference in overall waste. By the time of the ACE Festival, we will have several weeks of data and should be able to make the comparison.

Ellison, Brenna, et al. "Every Plate Counts: Evaluation of a Food Waste Reduction Campaign in a University Dining Hall." Resources, Conservation and Recycling, vol. 144, May 2019, pp. 276–84. ScienceDirect, doi:10.1016/j.resconrec.2019.01.046.
Swanson, Mark. "Digital Photography as a Tool to Measure School Cafeteria Consumption." Journal of School Health, vol. 78, no. 8, 2008, pp. 432–437. A computer cluster consists of several

EMU Super-Computer
Juan Vazquez Gomez
Faculty mentor: Stefano Colafranceschi

A computer cluster consists of several computers that work together to complete a task. The EMU supercomputer is controlled and managed by a masternode that schedules and delivers tasks to the other 18 nodes in the system. This system consists of 19 Dell Optiplex 390s donated by Eastern Mennonites Informations system. Each of the computers has a Centos 8 linux distribution operating system, Kubernetes cluster infrastructure software, network file system for sharing files with all the nodes, and Docker a linux container management software for delivery of applications. The EMU Supercomputer aims to host several web applications that all students, staff, and faculty can have access to. The Supercomputer will allow students who are granted access upon request to work on projects using the Supercomputer. The Supercomputer will also include a mail server, mersenne prime search software, bitcoin mining using graphics cards also donated by the Information System, and work closely with the Garbage grader team and the Digitize rainwater team for storing information in the Supercomputer. The ultimate goal of the Supercomputer is to allow students, staff, and faculty access to a computer system more powerful than any other computer system on campus, support Eastern Mennonite University claims of sustainability by using old equipment donated by the Information System, and allow students to learn more about managing such a system.

The Erosive Potential of Kombucha, Coke, and Apple Juice on Bovine Teeth
Anna Jemi-Alade
Faculty mentor: Tara Kishbaugh

Kombucha tea has become a popular beverage on the consumer market, but much remains unknown about its effects on tooth enamel. Soft drinks and fruit juices have been known to cause enamel erosion, but there is currently no data on the effects of kombucha on enamel. Since kombucha is an acidic beverage with a pH of less than 4.5, it was hypothesized that kombucha would have the potential to erode enamel. In this study, the erosive potential of kombucha on bovine enamel was determined. A total of 40 incisors were divided into 5 groups (n = 8) to test GT's Trilogy kombucha, Kevita Master Brew Lavender Melon kombucha, Coca-Cola, Mott's no sugar added 100% apple juice, and a sterile water control. The Kevita and GT's kombucha produced erosion on the teeth (p = 0.002, p < 0.001). As expected, the coke and apple juice also produced erosion (p = 0.001, p = 0.009). The titratable acidity of each beverage was measured via titration and a strong negative correlation was seen with the percent mass loss at 172 hours (r = -0.985, p = 0.015). The initial pH and the sugar content of each beverage were recorded, but neither played a role in predicting the erosive potential of the drinks. Although there are many proposed health benefits of kombucha, drinking kombucha may be harmful for human tooth enamel.

Leading Together?
Anisa Leonard
Faculty mentor: Deanna Durham

"We feel that at this time it would be unwise to admit such students into the co-educational institution. However we express our heartfelt sympathies for our colored brethren and sisters with their education problems and are ready to open up such measures of opportunity for them as such opportunities are expedient and possible." wrote the EMU Board of Trustees in 1945 during which my my Great-Great Uncle John L. Stauffer was serving as EMU president. Coincidentally it is largely due to the Mennonite social-capital which I have (in part through Stauffer) that I, a black woman, not only attend EMU, but have had the privilege of serving in various leadership positions during my time here.

So how much does having a Mennonite identity at EMU (and the social capital which comes with it) contribute to the fact that our Mennonite students having the majority of student leadership roles despite their declining statistical makeup of our student body? Conversely, what are the barriers preventing non-Mennonite students from being in leadership positions? In order to answer this question this project looks in depth into the demographic makeup of the last 20 years of our on campus leaders. Through statistical analysis, individual interviews with alum, and heartfelt introspection I've embarked on a journey to better understand the systems in place at EMU that prevent us from fully leaning into our mission statement of leading together.

Hairstories
Gabby McMillon
Faculty mentor: Deanna Durham

For some people hair-care is a mundane matter that has little or no impact on their daily

routine or choices. However, for others hair-care takes up a greater amount of mental energy and time. Why is that? Why is hair so central to some people's self perception? How does it become a defining characteristic? These are some of the questions that will be guiding my project on "hair stories" as I try to explore the intersection of identity, family (heritage), and culture through hair. Through the course of this project, I will study my own hair story and those of a couple (3-5) of my peers. In conjunction to gathering narrative story, I hope to develop a visual representation of each story in a painted piece. The end result will be a collective showcase of various hair stories.

Climate Action at EMU: Website Design and Rainwater Harvesting

James Paetkau, Collin Longenecker, and Karissa Sauder
Faculty mentor: Esther Tian

In 2015, Eastern Mennonite University produced a climate action plan that recognized EMUs contribution to the current environmental crisis and set forth specific steps that could be taken for EMU to reach climate neutrality by 2035. While this was accepted by administration in 2015 further action is necessary to meet the suggestions set forth in the climate action plan.

The goal of this project is to regenerate conversation that was taking place during the writing of the 2015 climate action plan, and to develop a tool that can be used by future groups at EMU for climate advocacy. This will be achieved by digitizing the 2015 EMU climate action plan (with any current revisions and additions) through the design of a website and installing a rainwater system in an EMU owned building. The main goals of the website include being a resource for students and faculty/staff members to easily access carbon emission data that is updated yearly, providing general information to students about building energy use on campus, and detailing past and future projects that could be useful for student leaders and administrators looking to do projects that reduce carbon emissions on campus. The installation of the rainwater system is designed to happen in an EMU building expected to become residential housing within the next few years. The water will be collected and redistributed for toilet flushing and garden irrigation for a forest farm that will be grown in the land directly surrounding the house.

Just Try Not to Kill it: exploring Biblical storytelling

Anna Ressler
Faculty mentor: Andrea Saner

Wonder and Wisdom: How the Narrative of Christian Worship Shapes Us

Ryan Scarberry
Faculty mentor: Kevin Clark

Gathering for worship is a consistent practice for many Christians. Yet, what are we doing when we worship? Of the many realities of worship, one in particular is that when Christians gather to worship they enter into a larger story. We are awakened to this story through holy imagination (which is to say, the Holy Spirit illuminating our hearts). This narrative in worship draws us to wonder and wisdom as we ponder and practice what it means to live as people of God.

What's Growth Got to Do With It?: Finding Ways to Promote Learning and Motivation for First Generation ELLs in a High School Setting

Abigail Shelly

Faculty mentor: Paul Yoder

> This project follows English Language Learners from a local high school in a documented, data-driven learning process through an English unit. Data and documentation were gathered over a 6 day period with formative, summative, and performance based assessments. Planning and execution were based on previous assessment data on grammar, vocabulary, and reading comprehension levels. This project set out to analyze if proportional instructional time allotted to areas of need would increase overall proficiency levels. Gathered data proved that the adjustments resulted in both higher test scores and margins of growth in students.

Is Comfort Food a Loneliness Coping Mechanism for International Students?

Phoebe Swe

Faculty mentor: Gregroy Koop

> Existing research in social cognitive psychology suggests that comfort food is an effective way to cope with loneliness because of its association with positive relational memories (Troisi & Gabriel, 2011). This means that comfort food is, paradoxically, used in isolation in individualistic cultures. However, this literature almost exclusively utilized participants from Western and individualistic cultures. Thus, the generalizability of comfort foods is not adequate for people from other cultures, like collectivist culture. Individualistic and collectivist cultures generally have distinct cultural values. While the individualistic cultures mainly value autonomy, self-control, and freedom of choice, the collectivist cultures value interdependence, connectedness, and relationships. Research findings with international students from collectivist cultures show that they are more likely to seek social support when faced with loneliness due to their cultural emphasis on relationships (Moore & Costantine, 2005). The present project seeks to explore how international students cope with loneliness, if the consumption of comfort foods is one of the common strategies, and whether it is used differently by international students. In order to examine the purpose behind each student's loneliness coping strategies, this study uses both individual and group interviews. Many of the interview questions are based off of the findings from Brown et al. (2010) A Taste of the Unfamiliar study, and they are categorized into four categories: culture, loneliness, homesickness, and coping strategies. The interviews are conducted with international students from EMU's Intensive English Program, undergraduate, and graduate programs. Results from this study will discuss how and why international students cope with loneliness in the ways that they do. Furthermore, the findings from the stories of the students and their added challenges in a place of unfamiliarity can contribute in the university's effort to collectively create spaces for them to feel supported and included.

Exploring Fractions in a Special Education Resource Room

Katie Wenger

Faculty mentor: Paul Yoder

> This DOSL unit focused on finding the least common multiple (LCM) in order to add and subtract fractions with different denominators. I created this unit for a fourth-grade student who I worked with for twenty minutes a day, four days a week in a special education resource room at

Northwood Elementary School (NES). During this project, I planned lessons that would support my student's individual strengths, interests, and needs. My overall goal for this assignment was to create a learning environment where my student was able to be successful and feel proud of the work that she completed.

Give Me Back My Pants: The Process
Clara Weybright and Lydia Chappell Deckert
Faculty mentor: Chad Gusler

For the past few years we have been writing creative nonfiction with the intention of producing a book-length work. This has been a valuable way to process the things that we were experiencing as we went through college, but we think that it's also worth sharing with a broader audience. Freshman year we would sit, hunched over library tables rapidly pounding on our computer keyboards until the library closed. Sophomore year, we spent our semesters apart, each adventuring off on a different cross-cultural.Junior year we made our project more official - we decided to create our own independent study and ask Chad Gusler if he would be willing to read over some of our material and help us envision an end goal. This was the stage we were in when we presented at the ACE festival last year. Senior year, we decided to officially make this project our final honors capstone project.

As we look through the writing that we've done both this semester and in previous ones, we see themes - care, friendship, danger, conflict, crisis, adventure - start to pop out. We recognize the important distinction between stories that are just fun to tell and stories that actually say something. We want stories that people connect with - stories that are about this specific time and place in our lives, but one with which people can identify.

 In this presentation, we will walk the audience through the process of creating this piece together. We'll also read a chunk of writing from this semester out-loud, if they're lucky.

Working With My Hands: Connecting to the past through sewing
Emma Yoder
Faculty mentor: Jenni Holsiner

Poster Presentations

The Affective Valence of News Events Shapes Predictions
Austin Carroll
Faculty mentor: Gregory Koop

Research shows that affective states can have a profound effect on decision-making and judgements. The work of Lerner, Small, & Lowenstein (2004), importantly looks at the way specific emotions affect decision-making. Typical mood inductions have used scenes from movies (Lerner, Small & Lowenstein, 2004) or instructed participants to think of a time they felt a certain way (Lerner, Small & Fischoff, 2003). For example, on a risk assessment, anger resulted in more optimistic assessments than fear. However, there are certainly many other factors that

influence moods in the real world. According to statistics reported by the Pew Research Center (2018), more than 784,000 Americans view daytime news daily and 1.15 million view the evening news daily, and 68% of adults report getting news on social media. The purpose of this study is to examine whether news stories have a sufficiently large effect on our affective states to affect individuals' likelihood judgements about future events.The Taino culture had the largest indigeno

Scales Of Justice: An Inquiry into Power and Anchoring

Olivia Dalke

Faculty mentor: Gregory Koop

The premise of numerical anchoring is that the mental processing of an arbitrary number can consistently and predictably influence a subsequent decision. For example, when presented with a random number from a Wheel of Fortune spin, individuals estimated the number of African countries in the United Nations to be significantly higher or lower depending upon the arbitrary number they had received (Kahneman and Tversky, 1974). For both factual and subjective judgments, those in high-power conditions have displayed significantly stronger anchoring effects than those in low power conditions (Lammers & Burgmer, 2017). Similarly, in situations where individuals perceive an attempt to manipulate their judgment, there is likely to be a push away from (rather than an assimilation toward) the anchor (Marti &Wissler, 2000). The purpose of this study is to examine the boundaries of the moderating relationship between anchoring bias and power. Specifically, I am looking at whether aversion to extreme values will influence the severity of anchoring bias within high power populations differently than in low power populations

The Taino Diet: Delicacies from a Lost Paradise

Emilio Ramirez Fajardo

Faculty mentor: Maria Esther Showalter

The Taino culture had the largest indigenous population of the pre-Columbian Antilles. This group of docile people found in the Caribbean a seemingly endless food source. The proximity and biodiversity of the Caribbean Sea were fundamental for the Taino diet. The Taino had a diverse food profile, which was supported by their innovating agricultural techniques. This work represents an approach to the Taino's distinct nutrition and how they achieve it.

Effect of Nature on College Student Productivity

Caroline Gehman

Faculty mentor: Gregory Koop

A common belief is that exposure to natural elements benefits humans. We often are encouraged to get outside in nature to relax and recharge. Increasingly, people may be encouraged to bring design elements reflecting nature into our homes and workspaces (Gray & Birrell, 2014). The benefits of these natural elements range from restoration of directed attention (Wang et al., 2018; Kaplan, 2011) to lowering stress and hyperactivity levels (Louv, 2008). However, specific effects on college students have not been fully explored. The purpose of this study is to investigate the effects of nature and natural elements on college students' productivity levels. Two sections of the Developmental Psychology course were utilized as the

participants pool (N = 59). Two independent variables were studied: environment condition (control, plants-, plants+) and class section (A, B). Productivity, as the dependent variable, was operationalized as test scores. The implementation of the independent variables could be seen in the addition of potted plants and fully opened blinds in the plants+ condition, and no plants and completely closed blinds in the plants- condition. The classroom was left alone by the researcher for the control condition. The participants tested in the condition they were taught in. Results will be discussed, lending further insight into the effects of incorporating natural elements into academic settings.

Influences on Generosity: The Effects of Internal and External Influences on Generosity
Abbi Hawkins
Faculty mentor: Gregory Koop

Generosity is the act of giving. Whether it be money or time, it is something that happens around us all the time, yet we don't always notice it. It was estimated that 53.1% of all Americans made a charitable gift in 2016 (Osili & Zarins, 2018). Beyond monetary gifts, many people also give time. Twenty-five percent of the American population volunteers, and the average American adult will spend 52 hours a year volunteering their time to many organizations ("the ultimate list of charitable giving," n.d.). Many previous studies have focused on either money donations or time donations but not both. The purpose of this study was to better understand the predictors of generosity and whether they differ between donations of money and donations of time. The four influences included perceived peer influence, perceived church influence, perceived family influence, and perceived personal influence. This study allows us to better understand how the two compare to each other regarding the chosen influencers.

Knowing our limits: The relationship between help-seeking behavior and metacognition
Kate Kauffman
Faculty mentor: Gregory Koop

The nature of learning ensures that students at any level encounter challenges in their schoolwork, resulting in their need for assistance. To keep their learning process moving forward, students can adopt adaptive strategies of asking for help. Students seek out help in three different ways: appropriate help-seeking behavior, dependent help-seeking behavior, and avoidant help-seeking behavior (Ryan, Shim, & Patrick 2005). So far, educational psychology research has identified social and cognitive factors that predict these behaviors, but little work has been done on metacognitive processes. Metacognition is defined as a person's ability to introspect about what they know and what they do not know (Selmeczy & Dobbins, 2013). This ability could therefore be a critical predictor of adaptive help-seeking. In order to address this gap, I conducted a recognition memory experiment with metacognitive checks and opportunities to seek out help on test trials. Furthermore, this design removed social factors that have already been shown to influence help-seeking behavior and focused solely on metacognition's relationship to adaptive help-seeking behavior.

The Effect of Binaural Beats on Age-Related Memory Deficits
Andy King
Faculty mentor: Gregory Koop

As we age, we may experience losses in areas of cognitive and physical function (Small, 2002). While physicians and pharmaceutical companies design medicines to combat these impairments, there may be another effective, simple, and completely free method to enhance one's memory. Binaural beat therapy has been shown over the course of multiple studies to have a significant positive impact on memory, attentiveness, and mood regulation in younger adults (Garcia - Argibay et al., 2018; Hsu et al., 2017; Dustman et al., 1962; Moore et al., 2012; Chen & Huang, 2016). While there has been much research on the benefits of beta binaural beats, this research has not included older adults, a population that has much potential to benefit from improved memory function (Garcia -Argibay et al., 2018; Hsu et al., 2017; Dustman et al., 1962; Moore et al., 2012; Chen & Huang, 2016).

Patient Perceived Function During Activities of Daily Living

Jenna Lile

Faculty mentor: Gregory Koop

The field of occupational therapy has researched how to improve activities of daily living (ADLs) and how they are completed with practitioners. There are a wide variety of ADLs including activities such as bathing, toileting, and walking. However, there is a gap in the literature as to whether or not patients are actually emotionally comfortable during this process. ADLs could be a source of discomfort for patients due to the increased vulnerability that they require. Because of the lack of research into whether or not patients are uncomfortable during ADLs, the goal of the current work is to determine which ADLs cause the most discomfort for patients, if any.

Use of saliva-based qPCR diagnostics for the accurate, rapid, and inexpensive detection of strep throat

Madeline Mast

Faculty mentor: Julia Halterman

Small healthcare facilities such as rural health clinics, urgent care facilities, and university health centers are essential for quickly diagnosing and treating common infectious diseases. Strep throat (ST) is a common disease presented in these types of facilities, but it must be distinguished from simple colds and influenza, and current rapid diagnostic procedures often yield a high rate of false results. Additionally, due to the potentially slow rate of obtaining a true positive diagnosis for ST (up to 72 hours for a bacterial throat culture), there is great need for faster, more sensitive diagnostic tools in small clinical labs. We hypothesized that new, inexpensive Open qPCR technology could be adapted to detect Group A Streptococcus (GAS) DNA from saliva samples, and that our new diagnostic protocol would be highly accurate, fast, and less expensive than current diagnostic tests. Saliva specimens collected from patients at James Madison University's Health Center were used to test the effectiveness of our newly-developed rapid DNA extraction method using Chelex-100, followed by a protocol developed for the Open qPCR machine to detect ST. Our final refined saliva processing and qPCR protocols were able to detect ST with 100% specificity and 100% sensitivity in 21-26 minutes at a cost of $0.85 per sample, compared to current rapid ST diagnostics that require a more invasive throat swab and detect ST with 71-95% sensitivity and 63-100% specificity in 10-15 minutes at a cost of $2.40 per sample. This research provides smaller, community-focused healthcare settings a more efficient, cost-effective, and highly accurate protocol for diagnosing ST.

El maíz: Comida, cultura, poder

Jonathan Nielsen

Faculty mentor: Wendell Shank

>In each culture there exists certain traditions that transcend the changes of time, often among them is food, for feeding, feeling, and surviving. In various regions of the Americas, there is a rich tradition of nixtamalization, a cultural practice that polymerized the corn of the ancient world. Not only does this process increase access to nutrients, but also the ability to elaborate the original product into complex foods. Just as the elaboration of corn is complex, so is the role of this crop in the Mesoamerican lifestyle. In this study, a comprehensive analysis of corn is conducted with regards to the history and religion, art, preparation and variety, associated social changes, and impact on the Mesoamerican diet, to better contextualize the famous American crop. (this study is conducted in Spanish.)

The Effect of Goal Setting & Behavior Adaptation on Self-Regulation

Shaylla Oswald

Faculty mentor: Gregory Koop

>Self-regulation is necessary to help achieve lifestyle goals such as nutrition, weight, and time management in addition to a respectable academic record and rewarding social standing. To be self-regulated means that an individual sets goals, participates in behaviors that are geared towards meeting those goals, tracks progress toward those goals, and makes necessary adjustments in behavior to stay on track towards those goals (Terry & Leary, 2011). Individuals who exhibit high selfregulation are more successful in managing their health, achieving high academic performance, attaining personal goals, and engaging in quality social interactions. This study explores whether a simple timemanagement and planning exercise can teach self-regulation behaviors to individuals over time.

Exploring the Effects of Violent Video Games on Empathy

Andrew Peltier

Faculty mentor: Gregory Koop

>The last few decades have seen dramatic changes in the video game industry. Along with vast improvements to graphics that make characters look human, games have also become much more explicitly violent. Existing literature has supported the idea that exposure to violent video games raises one's aggression (Anderson et al., 2010, Greitemeyer & Mugge, 2014, Saleem et al., 2012). Although there is substantial research on the link between video games and aggression, there has been little work exploring empathy. Empathy is especially important to examine because it characterizes our ability to understand and connect with others' emotions. If exposure to violent video games has a negative effect on empathy, then the ability to emotionally understand others may be damaged. The present research attempts to explore whether individuals show a decrease in empathy after playing violent video games.

Wait, What Changed? Investigating Familiarity's Role in Choice Blindness

Anna Ressler

Faculty mentor: Gregory Koop

Choice blindness describes the finding that individuals often fail to notice when their choice is swapped out for another option. For example, in the choice below, the participant chooses the left option (panel A), but is then asked to explain why they chose the opposite picture (panel C). In this type of experiment, 60-80% of switches go unnoticed—that is, people are choice blind (Johansson et al., 2014). These results have been replicated with different types of choices ranging from pictures of faces (Johansson et al., 2014), to jam flavors (Hall et al., 2010), to political opinions (Hall et al., 2013). Although the phenomenon is consistently shown, many questions remain about how and why choice blindness happens, and what factors moderate the effect. One possible factor that has not been studied in a choice blindness experiment is familiarity. In this study, familiarity was operationalized as brief past exposure to specific choice stimuli. The research question was whether this familiarity led to lower rates of choice blindness.

Cross-Cultural Study of Comfort Food on Loneliness
Phoebe Swe
Faculty mentor: Gregory Koop

Consuming personalized comfort food when one is lonely, due to social exclusion, reduces the feeling of isolation (e.g., Locher et al., 2005; Scherschel, 2016; Troisi & Gabriel, 2011). The rationale is that the association between comfort food and positive relationships decreases the negative emotions of loneliness after consumption. However, this literature has not explicitly examined cultural differences in the effect of comfort foods. The present work seeks to replicate the comfort food effect on loneliness, but additionally examined culture and self-construal as moderators. Individualistic and collectivist cultures value things like self-control, choice, and interdependence differently (Lykes & Kemmelmeier, 2014). These cultural differences may moderate the use of comfort food such that it is more effective in reducing loneliness for those in individualistic cultures with independent self-construal compared to those in collectivist cultures with interdependent self-construal.

Vascular Flora of the Bergton and Criders Communities in Rockingham County, Virginia
Nidhi Vinod
Faculty mentor: Brinton Domangue

Bergton and Criders are two neighboring communities at the northern tip of Rockingham County, VA. This area is already a vital place for several EMU research projects, such as macroinvertebrate count and water quality testing, endangered species tracking, and streambed restoration projects. The site has also proven useful for field trips and educational demonstrations.

Since the area is continually used by students and professors, a well-documented flora would aid further ecological projects while also updating the list of known Virginia species. Primarily, the survey will add to the current floral distribution records on Digital Atlas of the Virginia Flora, a collaborative website dedicated to mapping the state's vascular and non-vascular vegetation. The survey may also aid further studies into topics like population and ecology dynamics, invasive species records, impact of climate change on morphology, phenology, native ranges, and more.

The Bergton/Criders survey started in April 2017 and is ongoing. Vascular plants were located at field sites, identified, collected, recorded, and preserved in the EMU Herbarium (HAVI). Currently, the survey identifies 376 vascular plant species. Of these, 28 are new county records including one new state record. The documentation and preservation of these specimens at HAVI will provide material information for study here at EMU, and for sharing across various fields of research and academics.

More than sound: The effects of music as a cue for autobiographical memory
Leah Wenger
Faculty mentor: Gregory Koop

Our senses can cue vivid memories from our past. There has been significant research into the differences between the effectiveness of different sensory cues. For example, music has been shown to be especially suited for evoking vivid memories. The current work draws upon previous research into Musically-Evoked Autobiographical Memories (Janata et al., 2007; Belfi et al., 2016; Cuddy et al., 2017). The present research h aims to collect data from a group of individuals that has a specific shared memory that can be measured for accuracy. I predict that participants receiving an audio cue will have a more vivid and more accurate memory of the event then those receiving a visual cue.