Journal of Scholarly Endeavor

2025
Symposium for Student Research, Scholarship, and Creative Achievement

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MESSAGE FROM THE PROVOST AND VICE PRESIDENT FOR ACADEMIC AFFAIRS

The **2025 SRU Symposium for Student Research, Scholarship, and Creative Achievement** is a celebration of the exceptional scholarly and creative work taking place across our campus. It reflects the vibrant intellectual community at Slippery Rock University and the outstanding mentorship provided by our faculty. The symposium also exemplifies our institutional commitment to **interdisciplinary inquiry** and **collaborative learning**, encouraging students to explore complex questions through multiple lenses. It directly supports **Pillar #1 of SRU's Strategic Plan**, which affirms our dedication to ensuring that all faculty, staff, and students have the resources and support necessary to **thrive academically and professionally**.

What distinguishes higher education—especially at a comprehensive university like SRU—is our dual mission of **creating** and **disseminating** knowledge. Faculty are not only educators but also scholars whose responsibilities include ongoing professional and intellectual growth. At SRU, we extend this mission by inviting students into the process of knowledge creation. Through hands-on research and creative endeavors, our students learn by doing—by formulating questions, designing studies, engaging in inquiry, and constructing new meaning alongside their faculty mentors.

The Symposium serves not only as recognition of these efforts, but also as a developmental milestone for our students. Their projects did not conclude when the data were collected or the artwork completed. The next step—synthesizing, refining, and presenting their findings—is where deeper learning occurs. As presenters, they now step into the role of **teachers**, offering new insights to their peers, faculty, and the broader SRU community. Whether through poster sessions, oral presentations, performances, exhibits or publication in the *Journal of Scholarly Endeavor*, our students embody the spirit of academic curiosity and intellectual courage.

In closing, I want to express my sincere appreciation to the **faculty mentors** whose guidance and expertise made these projects possible. Your mentorship is at the heart of this work. I also extend heartfelt thanks to the **Office of Grants, Research, and Sponsored Programs**, especially **Casey Hyatt and Rachel Seminatore**, for their tireless coordination and dedication to student success. And finally, to our student presenters—thank you for going beyond what was required, for embracing the challenge of original inquiry, and for demonstrating the power of learning through discovery.

Dr. Michael Zieg
Provost and Vice President for Academic Affairs

Biology

EVALUATING DRUG RESISTANCE OF INTESTINAL PARASITES OF WELL-MAINTAINTED HORSES AT THE STORM HARBOR EQUESTRIAN CENTER, SLIPPERY ROCK UNIVERSITY – A PRELIMINARY STUDY

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Poster

ABSTRACT:

A study was conducted to examine the worm burden of intestinal parasites in well-cared for horses at the Storm Harbor Equestrian Center, SRU. The McMaster technique was used to determine the number of eggs per gram (epg) in fresh fecal matter from each of eighteen (18) horses. Preliminary results indicated that many of these horses (sixteen) presented with small strongyles. Eleven of the 18 horses were potential high shedders (> 500 epg), while two were medium shedders (between 200-500 epg) and the remaining five were low shedders (< 200 epg). Despite being well-cared for horses, the presence of small strongyles highlights the need for continuous surveillance (observation and treatment) to assess any emergence of drug resistance while also monitoring parasite burden. Thus, further research will be conducted to examine any potential resistance of strongyles in the horses against ivermectin.

ESSENTIAL OILS AND ANTIBIOTICS PROPERTIES

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ABSTRACT:

This research is to study the antibiotic properties of essential oil and collect qualitative data to see if they have weak or strong antibiotics properties. The reason for this research is to collect a background on the 18 essential oils and their properties against 13 different strains of bacteria while also testing 11 different antibiotics for further experiments. This data will help students and faculty in future semesters of the BIOL114 (Biology II: Foundations of Molecules, Genes and Cells) class conduct a wide variety of antibiotic+oil synergy experiments. To do this the diameter of the zone of inhibition was measured and recorded and any anomalies like colonies that have formed resistance, evidence of probable synergy, or different phenotypic properties were taken note of.

INVESTIGATION OF THE HYPERGLYCEMIC STRESS RESPONSE IN CRAYFISH

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ABSTRACT:

Animals face diverse challenges to survival, commonly categorized as “stressors” due to their ability to disrupt homeostasis, from their interactions with other organisms or the environment. Increased glucose concentration in body fluids (hyperglycemia) is a well-established measurement of the metabolic stress response. In crustaceans, signaling via the neurotransmitter serotonin in response to stressors induces hyperglycemia and is commonly used as a positive control in studies of glucose regulation. We validated the use of Virile crayfish (*Faxonius virilis*) as a model for stress studies via serotonin stimulation. Further, we observed plasma glucose following exposure to environmentally relevant concentrations of the common aquatic contaminant, the neonicotinoid insecticide imidacloprid. The sublethal effects of environmental contaminants on invertebrate physiology remain underexplored, and crayfish could serve as valuable bioindicators of stressors and overall aquatic ecosystem health.

EXAMINING E-CIGARETTE CONDENSATE FOR IMPACTS ON HUMAN CELL VIABILITY

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ABSTRACT:

Electronic cigarette (e-cigarette) use has increased in popularity, but effects of the compounds at the cellular level remain widely unknown. Previous research has suggested that certain e-cigarette flavoring compounds, such as cinnamon, may contribute to cellular stress and death. This study was conducted to determine whether nicotine-free e-cigarette vapor condensate, specifically cinnamon-flavored and unflavored variants, affected the viability of cultured human cells. To assess cell viability, human breast cancer cells (MCF7) and human neuroblastoma cells (SHSY5Y) were exposed to varying concentrations of nicotine-free flavored and unflavored vapor condensate collected from a SMOK V2 Vape Pen from Crimzon Vapes (3ml, 0.5Ω). 3-(4,5-dimethylthiazol-2-yl)-5-(3-carboxymethoxyphenyl)-2-(4-sulfophenyl)-2H-tetrazolium (MTS) assay was used to measure cell viability. Untreated media served as the negative control, while hydrogen peroxide acted as the positive control to confirm cell death. A one-way analysis of variance (ANOVA) was performed to analyze statistical significance in differences in cell viability across exposure conditions. Each exposure condition was tested three times for each cell line, producing n=9. It was expected that cell viability would decrease as the concentration of e-cigarette vapor condensate increased, and that the cinnamon-flavored condensate would induce greater cell death compared to the unflavored condensate. The potential impact of these results lies in their potential contribution to understanding the impact of e-cigarette vapor on human health. This study could provide valuable insights into the underlying mechanisms of toxicity caused by e-cigarette use. These findings may help inform public health policies aimed at reducing the risks of e-cigarettes.

METAL TOLERANCE AMONG MICROBIAL COMMUNITIES IMPACTED BY ACID MINE DRAINAGE

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ABSTRACT:

Acid mine drainage (AMD) has been a significant concern due to the level of damage it can inflict on the environment. AMD can be produced in active or abandoned mining sites and is a major source of contamination for freshwater ecosystems worldwide. Briefly, AMD runoff is usually highly acidic and contains high concentrations of dissolved metals, caused by the oxidation of pyrite and other sulphidic minerals. While the unique environment provided by AMD is relatively unstable with varying pH, dissolved oxygen, and temperature, some acidophilic and metal-tolerant microorganisms are present in these environments. Microbial communities inhabiting sites impacted by AMD can display tolerance to high concentration of metals due to persistent exposure. In this study, soil was collected from a bank near a primary AMD source, serial diluted and plated on tryptic soy agar plates containing the following metals at concentrations generally considered toxic: Aluminum (5 mM $AlCl_3$), Chromium (0.5 mM K_2CrO_4), Cobalt (1mM $CoCl_2$), Copper (1.85 mM $CuCl_2$), Gold (0.25 mM $AuCl_3$), Lead (5 mM $Pb(NO_3)_3$), Manganese (25 mM $MnCl_2$), Nickle (2 mM $NiCl_2$), Selenium (1mM $HNaSeO_3$), Silver (0.05 mM $AgNO_3$), Tellurium (1mM K_2TeO_3), Zinc (2 mM $ZnCl_2$). Colonies were counted after 96h at 30^oC to determine cfu/mL and then compare to a control without metals. Members of the community did show tolerance to all metals tested, but the proportions varied greatly. Tellurium and Copper displayed the lowest community resistance (2.50% and 4.29% respectively). Lead, Manganese, and Zinc ranged from 10.26-13.65%, with the remaining metals ranging from 19.04-27.20%. Overall, this community does possess members with resistance to all tested metals, suggesting adaptation to this metal rich habitat.

A 2024 CAMPUS WIDE SURVEY ANALYSIS OF CLIMATE CHANGE UNDERSTANDING, PERSPECTIVE, AND OVERALL WILLINGNESS AT SLIPPERY ROCK UNIVERSITY

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ABSTRACT:

Climate change is one of the foremost issues facing humanity and twenty-first century conservation. As an issue that impacts all groups of people, it is timely to better understand how climate change will impact the Earth and how well people understand the issue. Climate change is defined as long-term changes in weather patterns of an area which can occur naturally or be human caused. The research conducted addresses the issue of human-caused climate change as an unnatural and worrisome occurrence. Education about climate change is one of the most powerful tools that we have at our disposal, but to educate effectively we must understand relationships between perspectives on the issue and the impact of education. In the spring of 2024, a voluntary, anonymous survey was administered to measure Slippery Rock University (SRU) students' understanding of climate change, their perspective on climate change as an issue, and overall willingness to participate in efforts to reduce carbon emissions (willingness). Utilizing an on-site intercept method, the survey was administered to 402 students at communal locations on campus. All data was analyzed in SPSS using a Confidence Interval of 0.95+/-. Significant gaps were found between student understanding about climate change and prior education received, with a MANOVA showing higher knowledge scores associated with prior exposure to a college class ($\alpha < 0.001$). Higher knowledge scores had a significant relationship to student willingness and an overall desire to learn more based on a regression model (Knowledge -> Willingness 0.579*, Desire to Learn -> Willingness 0.419*, R^2 = 0.269**). Based on our results, the research suggests that integrating more climate change education in courses on campus could be an effective tool to improve climate change understanding and encourage changes in behavior.

EFFECTS OF USING CARDBOARD AS BEDDING MATERIAL ON EARTHWORM FEEDING HABITS

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ABSTRACT:

During the last glacial period, earthworms native to the Eastern United States were extirpated from glaciated regions, leaving Eastern North American forests to develop in the absence of earthworms for the last 20,000 or more years. Now, non-native earthworms from Asia and Europe have been introduced to these forests. This introduction potentially affects ecosystem structure and function by changing soil composition, altering carbon:nitrogen ratios, and decreasing phosphorus abundance. Previously, we sought to examine the effect of non-native earthworm feeding habits on forest plant communities. Results from this study, while statistically insignificant, did show a clear trend of higher consumption of native *Impatiens capensis* (jewelweed) and *Quercus* sp. (oak) compared to the invasive *Reynoutria japonica* (Japanese knotweed) by the non-native earthworm, *Eisenia foetida* (red wriggler earthworm). However, these results may be confounded due to the use of cardboard as bedding material in the experimental mesocosms; cardboard may have acted as an additional food source for worms aside from the introduced litter. The present study examines the impact of cardboard presence/absence on earthworm foraging. To assess these impacts, 10 *E. foetida* individuals were placed into each mesocosm, with half the mesocosms containing cardboard lining the bottom (n=9) and half without (n=9). 1 g of *Quercus* leaf litter was placed in each mesocosm and weighed after drying at the end of 1 (n=3), 2 (n=3), and 4 (n=3) weeks for both cardboard treatments. These results are anticipated to provide quantification of the impact of our previous experimental methodology on the results as well as to establish best practices for future research.

DEVELOPING DNA PURIFICATION AND METAGENOMIC ANALYSIS TECHNIQUES FOR ACID MINE DRAINAGE MICROBIAL SOIL COMMUNITIES

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Oral

ABSTRACT:

Acid Mine Drainage (AMD) is a frequent occurrence in abandoned mines. AMD sites are characterized as being extremely acidic with high levels of dissolved metals, resulting in a shift toward more acid- and metal-tolerant microbes. Understanding the AMD microbial community will reveal the bioremediation capabilities the microbes may possess. A modern sequencing technique called metagenomics, which is the sequencing of all species in a community, will provide the best possible description of an AMD microbial community. This project will develop the DNA purification and analysis tools needed to carry out metagenomic sequencing of local AMD sites. We conducted studies to determine the best DNA recovery protocols for AMD soil, and found that commercial kits were unable to handle these samples. We adapted classical molecular biology techniques to successfully purify AMD DNA.

Metagenomics produces extremely complex DNA datasets. To validate the sequence analysis pipeline, we also conducted a pilot project, using commercial kits to purify DNA from a compost microbial community. This DNA was sequenced using next generation long-read and Illumina short read sequencing technologies, and analysis is ongoing during the spring semester. Individual chromosomes of each species within the compost microbial community will be assembled, and novel species may be revealed. This information will allow for the development of a targeted cultivation strategy for microbes of interest. In the future, AMD metagenomic analysis will be conducted using the DNA purification protocol we developed and with the bioinformatics developed with the compost trial run.

INVESTIGATION OF DRUG RESISTANCE OF SMALL STRONGYLES IN HORSES AT THE STORM HARBOR EQUESTRIAN CENTER, SLIPPERY ROCK UNIVERSITY

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ABSTRACT:

Currently, there are three major classes of anthelmintics that are used for managing equine parasites. These are the benzimidazoles, pyrimidines, and macrocyclic lactones, including ivermectin. Widespread resistance against small strongyles has been reported in the first two drugs, and more recently to a lesser extent, the macrocyclic lactones. A study was done to evaluate the efficacy of ivermectin against small strongyles in horses from the Storm Harbor Equestrian Center, Slippery Rock University, PA, USA. Horses with a fecal egg count (FEC) greater than 150 eggs per gram (epg) of fecal matter were selected and randomly assigned to a control group (n=5) receiving no treatment, or an experimental group (n=5) treated with ivermectin. FECs were collected using the modified McMaster technique before treatment (week 0) and at 2-, 4-, 6-, and 8-weeks post-treatment. Fecal egg count reduction (FECR) tests done at 2-weeks post-treatment showed an average reduction of 99.56%, confirming the efficacy of ivermectin. However, the egg reappearance period (ERP) was observed at 6-weeks post-treatment, indicating a potential trend of shortened ERPs. The underlying causes of shortened ERPs remains unclear and could hint at potential development of anthelmintic resistance against ivermectin. This highlights the importance of further research into ERP and effective parasite management strategies to mitigate the development of drug resistance.

TAXONOMIC DESCRIPTION OF *SERRATIA* SP. J2, WHICH POSSESSES METALLOPHORE ACTIVITY TOWARDS, AND RESISTANCE TO, THE RARE EARTH ELEMENTS

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ABSTRACT:

In the pursuit of advancing microbiological understanding and addressing critical issues in environmental science and healthcare, evolving biological research sets out to investigate and identify bacteria through techniques involving molecular biology and bioinformatics. Accurate identification of bacterial species is imperative for disease diagnosis and treatment selection in both plants and animals, as well as environmental monitoring. This study aims to provide a complete taxonomic description of isolate J2, a novel species belonging to the genus *Serratia,* isolated from the sediment of a stream impacted by acid mine drainage. What makes this bacterium unique is its production of metallophores, which are proteins that can bind metals, and in this case, the rare earth elements. As well, it also possesses a high level of resistance to these elements. A variety of biochemical, morphological, genetic, and physiological tests were carried out on this bacterium to differentiate it from its closest relatives. The outcome of this study will be to provide a complete and accurate species description, as to classify J2 for publication.

SELECTIVE FEEDING BY *LUMBRICUS TERRESTRIS*: IMPLICATIONS FOR NATIVE AND INVASIVE PLANT LITTER DECOMPOSITION

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ABSTRACT:

Earthworms directly alter key aspects of soil composition and litter dynamics in systems where they are present as a result of foraging and movement through the soil column. In areas devoid of native earthworms, such as much of glaciated eastern North America, the introduction of non-native earthworms is hypothesized to have profound impacts ecosystem processes and plant community development. In eastern deciduous forests, these non-native earthworms increase soil aeration, impact nutrient ratios, and process through litter detritus, all of which may alter ecosystem characteristics as these forests have developed without earthworms for at least the last 10,000 years. One common species introduced to these forests is *Lumbricus terrestris* also known as the common nightcrawler. Nightcrawlers favor detritus high in nitrogen and calcium, but their feeding preferences between native and nonnative plants remain unclear. This study seeks to investigate the feeding preferences of *Lumbricus terrestris* regarding native plants vs nonnative plant litter. We hypothesize that the nightcrawlers will preferably feed on the native plants over the nonnative plants. The experiment follows a set of trials over the span of four weeks, measuring the consumption of 1 g increments of invasive *Reynoutria japonica (*Japanese Knotweed*)* and native plant *Impatiens capensis* (Spotted jewelweed) along with a control of Oak (*Quercus sp.)* leaves. 100 worms were propagated prior to the start of trials. 27 mesocosms, lined with cardboard and containing a soil layer with one worm per tank, were constructed. Biomass consumption was measured at 1, 2, and 4 weeks. By directly enumerating feeding preferences of *L. terrestris*, we hope to better understand the effects of these worms on forest dynamics.

EVALUATION OF SUSTAINABLE SINGLE-USE HONEY PACKAGING

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ABSTRACT:

Honey has been a staple in human diets for centuries. However, the current widespread use of plastic packaging contributes to a growing environmental crisis. This is especially true for single-serve portions of honey, which are generally packaged in plastic straws. Finding alternative packaging solutions can reduce plastic waste and minimize the ecological impact of honey consumption. The present study aims to explore the viability of environmentally friendly straw options for packaging single-serve portions of honey. Straws must be easily fillable and sealable, maintain seals in a variety of temperature and humidity conditions, and maintain the original moisture level of the honey to prevent fermentation.

The viability of five biodegradable straw types (sugar cane, bamboo, PHA biopolymer, vegetable fiber, and agave) were evaluated as compared with traditional plastic straws (control). Straws were filled with honey (initial moisture 17%), sealed, weighed, and placed in one of 3 different environmental conditions (low temperature/humidity on a windowsill, low temperature/humidity in a dark cabinet, and high temperature/humidity in an incubator) within 2 different containers (unsealed glass jars vs sealed mylar food bags). Every other week, groups of straws were inspected for seal leakage, weighed, and opened to measure honey moisture levels. A total of 900 straws were tested (5 opening dates x 6 straw types x 5 straws per type x 6 environment/housing conditions).

Data analysis is aimed at evaluating differences in weight and moisture content of each straw type over time. Measurements taken over 5 different end points allow for examination of viability over time, illustrating whether viability begins to deteriorate at any timepoint. Comparing average changes in moisture and weight of each straw to that of plastic control straws will assist in determining which, if any, of the biodegradable straws are a promising alternative to traditional plastic.

TOXICITY OF THE RARE EARTH ELEMENTS TOWARDS BACTERIA ISOLATED FROM ACID MINE DRAINAGE

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ABSTRACT:

The field of microbe-metal interactions has been gaining significant attention. While studies have been carried out related to the direct impact of oxyanions of metals and metalloids on bacteria, a significantly lower amount of attention has been placed on the toxicity of the Rare Earth Elements (REE). With more products containing REE (ie. solar panels, electric motors, batteries), they are appearing in landfills/waste sites at a higher rate. The result is more of these elements entering the environment and thereby interacting with the microbial community. The trouble with this is so little is known regarding their toxicity to bacteria. We know that many other metals, and especially other heavy metals, (such as Lead, Silver, Mercury, and Copper) are highly detrimental to microbes, so it reasons that the REE will also be highly toxic. In this study, we looked at the effect of the REE on the growth of eight bacterial isolates which had previously been shown to possess metallophore activity towards the REE, suggesting that they may have some kind of innate resistance to these elements. Our findings indicate that this is somewhat true, with certain REE appearing highly toxic, while others not as much. It would appear that among all 16 of the REE tested, there is no common trend, with toxicity being more dependent on the individual element.

UTILIZING RNA-SEQ TO UNDERSTAND THE MOLECULAR EFFECTS OF SUBLETHAL CONCENTRATIONS OF IMIDACLOPRID IN THE HUMAN CELL LINES SH-SY5Y AND MCF7

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ABSTRACT:

Imidacloprid (1-(6-chloro-3-pyridylmethyl)-N-nitroimidazolidin-2-ylideneamine) is one of the most widely used insecticides globally. It functions by binding with high affinity to nicotinic acetylcholine receptors (nAChRs) in the insect nervous system, causing sustained muscle contractions, paralysis, and death. As a systemic pesticide, imidacloprid is absorbed by plants and moves into growing tissues to prevent insect herbivory. It is commonly applied via seed coating, soil drenching, and foliar spraying, leading to widespread environmental presence in soil, water, and food products. Although imidacloprid is considered more selective for insect nAChRs than mammalian receptors due to molecular structure differences, evidence suggests potential off-target effects in vertebrates. Studies indicate sublethal effects in human cells, including aneuploidy, DNA damage, lipid accumulation, and hormone dysregulation. Importantly, some affected cell lines do not express nAChRs, reinforcing the hypothesis that imidacloprid may exert effects beyond its intended targets. However, the molecular mechanisms underlying these sublethal effects remain largely unknown. To address this gap, we initiated a study using RNA-sequencing (RNA-seq) to examine the genome-wide transcriptional impact of imidacloprid exposure in human cells. We treated neuroblastoma (SH-SY5Y, nAChR-expressing) and breast cancer (MCF7, nAChR-negative) cell lines with four sublethal doses (0.1 µM, 1 µM, 10 µM, and 100 µM) for 24 hours, generating three biological replicates of RNA-seq libraries for each condition. Preliminary bioinformatics analysis has revealed differentially expressed transcripts between imidacloprid-treated samples and DMSO vehicle controls. In this study, we will discuss these findings, their potential health implications, and our plans to validate key observations. This research aims to provide a deeper understanding of imidacloprid's off-target effects and contribute to assessing its broader impact on human health.

EARLY-SUCCESSIONAL HABITATS: THE EFFECTS OF SELECT CUTTING ON SONGBIRD POPULATIONS IN MORAINE STATE PARK

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ABSTRACT:

The goal of this research project was to determine if the select cutting in Moraine State Park had any effect on the songbird population within certain areas of the park. For this research project there were five student researchers who, over a course of eight weeks, conducted nine data collections between February 27th and April 11th. These data collections took place at 7:00 AM each field day to maintain consistency with the temperature and the sunlight. The five researchers conducted the point counts within three plots (Plots 7, 8, and 0) that were given by a Moraine State Park manager. The five researchers would spend 10-15 minutes in each plot while recording and documenting bird calls and sightings. Each of the researchers had the *CornellLab Merlin Bird ID app* out, and at least two of the researchers had binoculars, and one researcher was designated to keep points on a record sheet. Each bird call heard was recorded as one bird unless it was clear and noticeable that there was more than one calling at the same time. Over the course of the 8 weeks the study counted a total of 746 birds. Of the three plots the student researchers observed, Plot 7 had the most birds recorded with a total of 442. Plot 0 had the next highest number of recorded birds with a total of 158 and Plot 8 followed closely behind with a total of 146 birds recorded over the 8-week period. After the data was collected, it was then compared to data from 2021. When compared to the data from 2021, it showed that there was an increase of 470 more birds in the area and 31 new species of birds were observed in the 2024 data.

INVESTIGATING THE MECHANISMS OF RESVERATROL-INDUCED HEAT STRESS RESISTANCE IN DROSOPHILA: THE ROLE OF HEAT SHOCK RESPONSE AND UNFOLDED PROTEIN RESPONSE

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ABSTRACT:

The heat shock response (HSR) and unfolded protein response (UPR) are essential cellular mechanisms that help counteract protein misfolding and maintain homeostasis. These pathways are activated by stressors that lead to protein misfolding in the cytoplasm and endoplasmic reticulum (ER), respectively. The HSR is primarily regulated by heat shock factor 1 (HSF1), while the UPR is activated by X-box binding protein 1 (XBP1). When misfolded proteins accumulate in the cytoplasm, HSF1 induces the expression of heat shock proteins (HSPs), such as Hsp70, to assist in protein refolding. Conversely, the UPR responds to misfolded proteins in the ER by activating XBP1, which enhances the expression of chaperones to alleviate ER stress. Both responses can elevate reactive oxygen species (ROS), leading to cellular damage. Cells counteract ROS through endogenous antioxidants and exogenous sources like resveratrol, a plant-derived polyphenol. The effects of resveratrol on stress resistance have shown mixed results. In our study, we investigated whether dietary resveratrol enhances heat stress tolerance in *Drosophila*. Flies treated with 100 µM and 400 µM resveratrol exhibited significantly improved resistance to heat stress-induced paralysis. We hypothesize that resveratrol enhances stress tolerance by modulating HSF1 and/or XBP1 activity. To test HSR involvement, we used confocal microscopy to examine GFP-tagged HSF localization at hsp70 loci and quantified Hsp70 protein levels via western blotting. Our results showed that resveratrol treatment did not promote HSF1 recruitment to hsp70 loci or increase Hsp70 expression, suggesting its protective effects are independent of HSR activation. Ongoing experiments aim to determine whether XBP1 activity is enhanced by resveratrol, providing insight into its role in stress resistance.

Career Education and Development

BUSINESS UNDECLARED FALL 2024 PERFORMANCE

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Oral

ABSTRACT:

The overall SRU freshman class is currently persisting to spring at an operational rate of 94.6%. Typically, business undeclared are at 82-85% going into spring.

Using a co-curricular approach, we retained 46 of the official original 51 students and all but 2 of those students remained in the *College of Business*. 38 of the 46 retained students remained in a *School of Business* major.

In my role as the Career Center & Academic Progress (CCAP) Intern, I had a caseload this semester of 35 students who were either exploratory or business undeclared. I met with almost all for their Exploratory Meeting 1 in which we sat down to discuss majors and programs they are interested in. I have the students tell me about different jobs they've had in the past, classes in high school they really excelled in, personal interests, and even hobbies they have to help collect some background information. After we decide on what departments/ majors they are going to visit, I give them the contact information and I send out an email helping get them connected to the chairs of the departments.

Raw Results of Native Business Undeclared FTIC 202409 Cohort

Left SRU	5
Continued at SRU	46
% Retained	90.20%

Chemistry and Environmental Geosciences

UNDERSTANDING THE GOOD FORTUNE OF STREAM RESTORATION AT SLIPPERY ROCK UNIVERSITY

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Oral

ABSTRACT:

Slippery Rock University contracted a stream restoration project in recent years. We are examining these events to better understand the process and provide a third-party analysis of its efficacy. The first task was to remove 6 low head dams on an unnamed tributary to Slippery Rock Creek. Like many in western Pennsylvania, these dams were largely decrepit. They were a public safety hazard. The decision was made to remove them in summer ’23. Work began in May. The crew started upstream. First, the dam pools were dewatered. Clear, unperturbed water at the surface was pumped downstream. More care was taken with the sediment-laden water and mud. The mixture was pumped through filter bags and rock filters to reduce turbidity. Once the dam and its footing were removed, the crew excavated the accumulated sediment to a rough grade. Work was strategically scheduled during fair weather to reduce erosion of the exposed fine-grained alluvium. Thorough stormwater management and erosion prevention plans were enacted in accordance with NPDES permits. Next, the intricate work of stream restoration began. GPS was used to place channel and bank features to mirror the engineering plans. These structures mimicked a natural meandering stream system. By law, 0.49 acres of wetland were added to offset the 0.201 acres of wetland permanently impacted by the construction. The project was completed by planting the wetland, stream bank, and riparian buffer zones with the appropriate native species. The project succeeded in returning this unnamed tributary back to some semblance of its natural state. Robert Frost, in his poem A Brook In The City, tells the all-too-common modern story of streams to never again see the light of day. The reach of stream rebuilt is the lucky one. Miles of other streams in the vicinity will remain entombed in sewers forever.

GEOLOGIC RECONNAISSANCE INVESTIGATION OF PENN'S CAVE - CANDIDATE FOR PROTECTION BY THE NATIONAL PARK SERVICE

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Oral

ABSTRACT:

At the request of the National Park Service (NPS), and having been vetted by the Seneca Nation of Indians, we contributed to a geologic reconnaissance of Penn's Cave for consideration of becoming a national park. Our first task was a literature review. Then, we made a site visit with several members of the NPS, US Congressman Glenn Thompson, and Tribal Historic Preservation Officer Dr. Joe Stahlman. We toured both the cave and the animal safari. We then rendered a recommendation for whether the cave might become a national park. Penn's cave is renowned for the unique opportunity that allows visitors to tour the cave by boat. Limiting visitors' reach to an arms-length from the gunnel vastly helps retain the caves elaborate speleothems in their high quality. In addition, the cave offers promise for the physically challenged to admire the cave just as any less challenged visitor would, as the boat provides safe and easy access. Indeed, the cave has long been a popular tourist attraction, opening to the public in 1885. Its present owners have acquired surrounding lands to provide source water protection for the cave. Even before the earliest record of ownership of Penn's Cave in 1773, however, it was accessed by Seneca Indians. Legends associated with the cave have provided the namesake of Penn State University's mascot, the Nittany Lion, as well as the geographic monikers Nittany Mountain and Nittany Valley. Since Penn's Cave offers unique features and a notable history, we supported Penn's Cave as a candidate for additional research and recommended its escalated consideration by the NPS.

PFAS CONTAMINATION IN THE ENVIRONMENT AND THE EFFECT ON HUMAN HEALTH: A COMPREHENSIVE LITERATURE REVIEW

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Poster

ABSTRACT:

Per- and polyfluoroalkyl substances (PFAS) are synthetic chemicals widely used in industrial and consumer products that have become persistent environmental pollutants with potential adverse impacts on human health. This literature review addresses the pressing issue of PFAS contamination by examining the environmental pathways that facilitate their persistence and bioaccumulation, as well as their associated health risks. A systematic analysis of current academic research is employed to delineate contamination sources, environmental fate, and toxicological impacts. Preliminary evidence indicates that PFAS resist degradation, accumulate in various environmental matrices, and correlate with an increased risk of adverse health outcomes. By synthesizing existing findings, this review supports the hypothesis that PFAS exposure is a significant public health concern and highlights critical gaps in current research. Ultimately, the study underscores the need for further investigation and informed policy-making to mitigate the detrimental effects of PFAS on human health and the environment.

UNIVERSITY SPECIMEN-BASED DATABASES: THE ESSENTIAL RESOURCE

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Poster

ABSTRACT:

University's rock and fossil collections are important resources for students studying Earth Systems. It is essential to use these specimen-based databases so undergraduate students can develop the skills needed to answer scientific questions regarding Earth's changing climates, paleoenvironments and the evolution of life. In particular, having paleontology collections with high quality, diverse specimens that are meticulously catalogued improves the student experience while meeting learning objectives related to the nature of science. Combining a paleontology collection with a good sedimentary rock collection also provides a more robust resource enhancing the student training to answer big picture questions. Case studies are easily developed from these extensive collections to address the fundamental as well as broad overarching questions in science, such as paleoenvironmental and tectonic changes over time and evolution of fossil fauna. Slippery Rock University received a mineral, rock and fossil collection that consists of reference material and numerous fossil faunal and floral assemblages from unique locations, many that are inaccessible today. Each sample is catalogued with a unique identifier tied to a corresponding ledger. Using these collections in paleontology, stratigraphy and other geology classes is invaluable to student learning as they develop both critical thinking and problem-solving techniques. Eventually the digitization of Slippery Rock University collection will allow students to gain access to a broad set of paleontological data remotely. This is a valuable tool that allows all students access, especially those who are unable to be in the classroom. Maintaining the collections and creating electronic databases will ensure a quality educational experience for students in the future.

Communication, Media, and Sports Management

PUBLIC RELATIONS CASE STUDY
INTEGRATED MARKETING COMMUNICATIONS, PEEPS

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Poster

ABSTRACT:

This project explores the 2021 integrated marketing communications (IMC) campaign created by Coyne PR for PEEPS. The campaign was made in response to a shortened Easter season as a result of the COVID-19 pandemic. The campaign's main goal was to increase awareness and sales January-April so PEEPS could maintain its spot as a holiday favorite.

The study is justified because brands often fail to adjust their products and services to different holiday seasons, as well as adjusting to people's beliefs as they change. It is critical for brands to be able to adapt to consumers' ever-changing behavior. The primary questions to be addressed in this study are the effectiveness of the campaign and what tactics were most effective in helping PEEPS reach its goals.

The methodology used for this campaign was media placements, brand partnerships and social media postings. Brand partnerships were very effective for PEEPS in this campaign because they were able to extend their reach and visibility. The study found that PEEPS was successful and increased its sales by 18.2% and media placements by 112%. This study shows that it is important to listen to audiences and be able to adapt to a digital society especially when faced with challenges such as the COVID-19 pandemic.

THE UNTOLD STORIES OF WOLF CREEK

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Poster

ABSTRACT:

The Untold Stories of Wolf Creek is an interdisciplinary research project that I reinterpreted into a short-form documentary series. By harnessing research from various SRU departments—including the university archives, archaeology, geology, parks and recreation, and communication—the project seeks to substantiate the hypothesis that Indigenous communities utilize these areas in much the same way that they serve modern visitors today.

The documentary series was designed to engage multiple target audiences, ranging from the PA State Conservancy to students, residents, and enthusiasts of Native American culture and state parks. The four-part video series meticulously explores the evidence collected across various departments, showcasing findings such as radiocarbon dating, geographic data and diary entries that collectively weave a narrative of Native American practices.

The first video overviews how evidence from diverse disciplines supports the central hypothesis. Subsequent videos will focus on specific sites like Wolf Creek and its archaeological features, including storage and fire pits. First-hand journal entries and interviews with local experts support these features.

Key themes of the project include the seasonal use of parks as campsites and the similarities and differences between historical and contemporary land use. The final video encourages public participation in understanding and preserving these historical narratives through citizen science initiatives. A supplemental video additionally explores the process of maple syrup production, linking traditional practices to contemporary conservation efforts.

By illustrating these connections, the Untold Stories of Wolf Creek Series hopes to foster a deeper appreciation for the cultural legacy of Native Americans in Pennsylvania and encourage ongoing engagement with the natural landscape.

INTEGRATED MARKETING COMMUNICATION CASE STUDY: WISCONSIN CHEESE AND ITS ONE TRUE LOVE

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Oral

ABSTRACT:

In 2020 and the years that followed, marketing professionals faced the challenge of successfully reaching audiences in a way that was mindful of the COVID-19 pandemic. This research examines the success of the Silver Anvil Award-winning Wisconsin Cheese campaign #ForTheLoveOfCheese against the similar "got milk?" campaign by the California Milk Processor Board. This paper details the specifics of both campaigns and juxtaposes the tactics and strategies used within each. This comparison is used to assess the impact and influence of the Wisconsin Cheese campaign, a brand created by the Dairy Farmers of Wisconsin.

An analysis is provided of the impact of the 2020 pandemic on the Wisconsin Cheese campaign. Several suggestions to tailor the success of the campaign are provided and discussed as alternate routes. Recommendations include the timespan of the campaign as well as a shifted focus in communication tactics. This paper also evaluates the adherence of #ForTheLoveOfCheese to the PRSA Code of Ethics.

Professionals and students in the integrated marketing community can take note of the impact of this campaign and its unique nature. #ForTheLoveOfCheese is a significant case of success in a primarily digital marketing effort. This outstanding integrated marketing case is an example of substantive research and implementation of effective strategic communication.

PUBLIC RELATIONS CASE STUDY: MEDIA RELATIONS, CORPORATE SOCIAL RESPONSIBILITY AND ETHICS OF THE NATIONAL CATTLEMEN'S BEEF ASSOCIATION CAMPAIGN

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Poster

ABSTRACT:

This project examines the media relations, corporate social responsibility and ethics of the National Cattlemen's Beef Association's "Eating in the Early Years E-Vent" campaign. This campaign analysis will assess the success of the "Eating in the Early Years E-Vent" and offer recommendations for improvement. In exploring the campaign and assessing its various attributes, integrated marketing communication and public relations practitioners will learn practical tactics and strategies conducive to successful campaign development and implementation. Additionally, the campaign strategies and successes of the National Cattlemen's Beef Association and Chick-fil-A will be compared.

The ethics of the National Cattlemen's Beef Association are evaluated against the Public Relations Society of America's Code of Ethics, which emphasizes advocacy, honesty, expertise, independence, loyalty, and fairness within organizations.

The research will show that the National Cattlemen's Beef Association's "Eating in the Early Years E-Vent" campaign was largely successful in its strategy and efforts. However, it has seen consistent scrutiny from its industry of ranchers which should be addressed to repair trust and favorability with the National Cattlemen's Beef Association.

MENDED LITTLE HEARTS

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Exhibit

ABSTRACT:

Congenital heart defects (CHDs) are the most common birth defect in the United States. Nearly 1 of every 110 babies are born with a CHD. While there is advanced medical care and treatment available to individuals impacted by the disease, emotional and mental health can be affected. For some individuals with a CHD, they require life-long care, resulting in a journey both for the patient and family. The experience can be isolating and at times feel hopeless.

In 2004, a non-profit organization was founded known as Mended Little Hearts. The organization provides support to families who have a child (or children) with a CHD. Through peer-to-peer support, events, and digital information, the organization has developed local chapters for families to connect and not feel alone. In addition to providing support for families, Mended Little Hearts strives to increase awareness of congenital heart disease.

Utilizing audio-visual storytelling, this research examines the impact CHD has on patients and families. Using interviews, testimonials, and research statistics, the video provides an in-depth look into how Mended Little Hearts has created a support network for families. Additionally, the research also provides a call to action on how viewers can support the organization.

NCAA TRANSFER PORTAL ANTECEDENTS

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Poster

ABSTRACT:

The goal of this research project is to understand the reasoning behind NCAA athletes entering the transfer portal. As student-athletes enter the portal, the student enters into unknown territory on which colleges will or will not accept. When the student-athlete signs onto the portal, they are walking on thin glass with uprooting academics, financial aid, connection with the community of academics and sports teams. Student-athletes enter into the transfer portal for a multitude of reasons; play time, program administrative issues, name, image and likeness (NIL) deals, scholarship opportunities, coach-student dynamic, environmental factors, ect. However, joining the transfer portal can attach negative connotations to the student-athlete. Such as, breaking athlete-to-coach relationships, disrupting academic progress and breaking scholarship opportunities.

In 2022, the NCAA received nearly 21,000 student-athlete entries into the transfer portal which is 3,130 more by 2021 (Johnson, 2023). According to College NetWorth, the trend is largely due to increased player freedom and the desire for better opportunities, like playing time and coaching support. Additional reasonings include discovering schools that better align with the player, environmental factors and support for their academic goals. The NCAA transfer portal's growing popularity has been compared to professional sports free agency, underscoring the increasingly competitive and face-paced nature of collegiate athletics.

The research will analysis the subjects' experiences in the transfer portal as they take the risks of coming in fresh on new grounds in another institution. Student-athletes' responses will provide insights for positive and or negative impacts on the student-athletes, coaches, and organization as they officially transfer.

COLORS OF THE WORLD CRAYOLA CAMPAIGN

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Poster

ABSTRACT:

This project examines the community relations, media relations, diversity equity and inclusion, and communication ethics of Crayola's Color of the World campaign. The research uses communication tactics and best practices to assess the effectiveness of the campaign's public relations approach and suggests initiatives that can further be improved.

The in-depth research was conducted using multiple sources, including PRSA award documents, news articles, campaign launch resources and organizational owned media. A comparative analysis with Johnson & Johnson's OURTONE bandage campaign revealed shared practices. The Colors of the World campaign was evaluated against the PRSA Code of Ethics, examining its adherence to principles of advocacy, honesty, expertise, independence, loyalty and fairness.

The research shows that Crayola's campaign successfully integrated diversity, equity and inclusion principles into product development. The campaign demonstrated the creation of meaningful social dialogue through product design and balanced it with social responsibility.

METHAMPHETAMINE ADDICTION IN PIKE COUNTY, KENTUCKY

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Poster

ABSTRACT:

This study investigates the methamphetamine epidemic in Pike County, Kentucky, examining how it evolved from a marginalized drug to become the predominant substance of addiction. The research is justified by the urgent need to understand methamphetamine's dramatic rise in rural Kentucky communities from 9.4% in 2008 to 33.1% by 2020, as existing drug policies have inadvertently pushed users from opioids to methamphetamine. The study seeks to answer: What historical, socioeconomic, and systemic factors have contributed to methamphetamine's prevalence in Pike County? What barriers exist to effective treatment and recovery? And what comprehensive solutions might address the epidemic's root causes?

Methodologically, the research employs mixed-methods analysis of government reports, academic studies, local data, and expert interviews with healthcare providers like Roaring Brook Rehabilitation Center. The findings reveal that methamphetamine addiction in Pike County represents more than individual choice—it reflects systemic challenges including economic despair (23.9% poverty rate, 6.4% unemployment), sophisticated drug trafficking networks operated by Mexican cartels, limited treatment options, and inadequate healthcare infrastructure. The research demonstrates how legislative efforts targeting opioid abuse created a "substance whack-a-mole" effect, with individuals turning to methamphetamine to manage withdrawal symptoms from increasingly restricted opioids.

The paper concludes that effective solutions must move beyond punitive approaches to integrate comprehensive addiction treatment, mental health support, economic development, and community-based interventions while recognizing addiction as a treatable medical condition rooted in broader social contexts. This research provides critical insights for developing more effective strategies to support individuals and communities struggling with addiction in rural America.

THE SLIPPERY ROCK UNIVERSITY HEALTH CENTER RESEARCH STUDY

Abagale Stone

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Poster

ABSTRACT:

The purpose of this study was to investigate influences and attitudes regarding the utilization of the Slippery Rock University Health Center with a goal to understand the effectiveness of health communication in building trust and positive brand reputation.

To gather information about how the students at Slippery Rock University view the health center, we conducted a survey that was sent out to a variety of students. The survey was made up of 28 questions that asked students to share their opinions about how they view the health center, and their opinion of health center communications with students. The information that we have received could help the university improve the health center's communication with the students.

The data from the survey thus far concludes that a strong majority of students feel positively about the SRU Student Health Center and that 51 percent of students would like the health center to increase communication with them. Most students stated that to improve communication they would like to see more emails sent about the health center, more frequent utilization of social media, and enhanced messaging such as posters or flyers around campus. The findings of this study provide valuable insights into student perspectives. The recommendations provided help us to improve the health center's outreach and engagement with the students.

CRAYOLA'S COLORS OF THE WORLD: A DIVERSITY, EQUITY AND INCLUSION INITIATIVE

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Oral

ABSTRACT:

This project examines Crayola's 'Colors of the World' campaign, which utilized community relations initiatives to promote diversity, equity and inclusion. The objective of this project was to determine whether Crayola's 'Colors of the World' campaign was successful.

Diversity, equity and inclusion has become a growing focus for organizations across the United States. Crayola, a leading creative company, has long targeted children, without bias toward skin color or ethnic background. Timing plays a crucial role in diversity, equity and inclusion initiatives. As the population becomes more diverse and globalized, organizations aiming to expand their target audiences must recognize the benefits of meaningful and well-executed diversity, equity and inclusion campaigns.

This examination began with an overview of Crayola as an organization, followed by a detailed analysis of the 'Colors of the World' campaign using the Crayola website, press releases and news articles. Next, the study examined similar diversity, equity and inclusion initiatives released by brands like the Band-Aid and Doritos. Utilizing news articles and information from the Band-Aid and Doritos campaigns, the conclusion was that, compared to Crayola's 'Colors of the World' campaign, the Band-Aid and Doritos campaigns were unsuccessful. The examination concluded with a deep dive into Crayola's overall campaign, compared to a more successful diversity, equity and inclusion campaign launched by Fenty through press releases and case studies. Additionally, suggestions and how the campaign aligned with the Public Relations Society of America's code of ethics were discussed.

The conclusion of this examination was that Crayola's 'Colors of the World' campaign was a very successful reintroduction of a diverse range of crayons. By utilizing industry professionals like Viktor Casale and Golin, Crayola branded itself as an organization rooted in creativity, regardless of ethnic background, race or skin color.

Computing and Security

DESIGN AND DEVELOPMENT OF AN AUTHENTICATION METHOD FOR VIRTUAL REALITY

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Poster

ABSTRACT:

Extended reality technology (XR), more specifically virtual reality (VR) technology, is a rapidly advancing field within computer science with user interfaces constantly evolving and adapting to ensure a better overall user experience. As virtual reality environments evolve and become more complex, security-sensitive Virtual Reality (VR) applications that require the end-user to enter authentication credentials within the virtual space are essential processes in the VR environments. In this research, we discuss the privacy and security concerns of the VR environments and how users can store and access sensitive data using VR, requiring secure and usable authentication methods. Further, we provide various security interfaces to develop an understanding of the use cases for multiple designs and how to ensure user security is prioritized and adapted to the VR environments. To meet these requirements, our research methodology proposes developing VR authentications within the Unity environment and testing implementations of different authentication designs while interacting with these designs using a virtual reality headset. In summary, we implement predefined password combinations using an interface based on numeric keypad authentication, color-based keypad authentication, directional keypad authentication, and socket-based authentication, where objects are placed in sockets in a predefined order. Finally, we conduct usability testing procedures to extract critical design parameters to refine various design issues, which is essential to developing more practical, secure systems and incorporating the goals of the research. Thus, we expect that the identification of the parameters and the preliminary framework provided by the designed applications through our study can provide a foundation for further work to improve the quality of VR experiences provided to users of various abilities, as well as the study of multiple authentication models for different use cases.

Counseling and Development

LOOKING AT DISABILITY THROUGH A NEW LENS

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Poster

ABSTRACT:

According to the CDC, at least 70 million Americans struggle with a disability which is about 1 in 4 adults. Our understanding of disabilities is forever evolving, which leads to new developments in how we view them in models. As a result, the counseling community has developed several linear models for examining disabilities and illnesses. These models do not allow for an understanding of the fluidity throughout a person's lifespan. A person often has a more circular or fluid movement through their journey with disability. By examining the literature about the developed models, I have created a new model by combining aspects from three models: the illness identity model, The Gibson Model, and The Forber-Pratt and Zape model. My proposed model, based on theory and research, celebrates the fluidity of an individualized journey with disability and is aimed to help the counseling community have a more holistic and consistent way to view disabilities. My proposed model will not only help current practicing counselors but also future counselors to have a better grasp of how to handle someone's journey may look like as the models we have currently do not properly fit all aspects of a disability. To aid in this process my poster will have a case study on celiac disease to give a glimpse into what it is like for someone to go through the process of finding out they have a disability as well as if they identify with that label and how they come to accept that they have a disability. The case provides a framework for understanding how fluid the process can be rather than relying on linear models to look at how disability journeys unfold and how individualized they are.

Criminology and Criminal Justice

THE SOCIOECONOMIC IMPACT OF CASH BAIL

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Poster

ABSTRACT:

Cash bail systems in the United States have created significant socioeconomic disparities in the criminal justice system, causing pretrial detention to disproportionately affect lower-income offenders. This study examined the average cash bail amounts household incomes, and employment status across all Pennsylvania counties. Analysis of this county data shows that nearly 42% of counties have an average bail amount that meets or exceeds half of the average income. Further, research shows that even brief periods of pretrial detention can lead to job loss, housing insecurity, and family disruption within thirty days of detention. The findings suggest that the current cash bail system creates a self-perpetuating cycle of poverty and criminality by destabilizing the financial situations of low-income offenders before they can even be found guilty. This study contributes to our society's understanding of how criminal justice can exacerbate socioeconomic inequalities. Policy reforms will be discussed.

Curriculum, Instruction, and Educational Leadership

UNDERSTANDING FACULTY INVOLVEMENT IN MILITARY SUPPORT: A SRU STUDY

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Poster

ABSTRACT:

This research investigated the involvement of faculty members in supporting military-affiliated students (ROTC, Veterans, National Guard, etc.) in higher education. The collaborative faculty and student research examined the role of teaching faculty members in supporting the specialized needs of military-affiliated students. The study uncovered the extent of faculty engagement and understanding of the needs of military-affiliated students, as well as the mechanisms through which information about such services is communicated to faculty. Additionally, the research sheds light on the faculty's role in enhancing support systems for military-affiliated individuals on campus, contributing valuable insights for optimizing communication channels and fostering a more inclusive higher education environment.

IMPACTS OF CO-TEACHING IN HIGHER EDUCATION

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Oral

ABSTRACT:

Co-teaching is an instructional method that originated in PK-12 public school settings as a direct result of federal and state special education mandates. With positive results and increased effects on student achievement, this method of instruction has proven to become a best practice in the classroom. Past research has focused on the effects in PK-12 school settings and higher education learning, where two professors/educators co-teach using the six models in the classroom. Our current study expands on the current research focusing on the co-teaching approach of a professor and an undergraduate peer leader in the university classroom. It was hypothesized that the professor and peer leader co-teaching approach would positively enhance students' understanding of the co-teaching model and course content. Our study was designed to pair two undergraduate early childhood/special education major senior peer leaders with two College of Education faculty members. The two teams collaborated to co-teach two junior-leveled courses utilizing the most current models of co-teaching. It was found that a professor and peer leader co-teaching approach within the higher education classroom had a positive impact on the students, supporting the study's hypothesis. The resulting benefits extended beyond those identified in the hypothesis. Our research showed the pre-service teacher participants' increased willingness to try co-teaching models in field experiences and student teaching as they experienced the model first-hand in the classroom**.** Our research also showed that participants received an increased amount of feedback, felt more comfortable asking questions in the classroom environment, and reported increased course communication. Based on the results, it is recommended that this strategy be implemented more frequently in higher education because of the positive impact it had on bolstering support and course achievement of pre-service educators.

ROBOTICS EDUCATION IN THE ELEMENTARY CLASSROOM

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Poster

ABSTRACT:

This qualitative case study explores how an elementary teacher with over 15 years of experience in educational robotics integrates robotics-based coding and programming activities into their classroom. The study examines effective pedagogical strategies and their impact on student learning. Data were collected through classroom observations, in-depth interviews, and document analysis to understand the teacher's instructional practices and decision-making process. Observations captured the integration of robotics-based coding and programming into lessons, while semi-structured interviews provided insights into the teacher's planning, perceived challenges, and successes. Lesson plans, activity guides, and student work samples were analyzed to contextualize the teacher's approach. Findings indicate that the teacher designed robotics-based activities that effectively motivated students to apply coding and programming concepts to solve real-world problems. The teacher employed scaffolded instruction, gradually increasing task complexity while aligning activities with science, technology, engineering, and mathematics (STEM) goals. Students collaborated on problem-solving tasks, enhancing their creativity and computational thinking skills while fostering a sense of accomplishment. This research contributes to the understanding of how robotics can be effectively integrated into elementary classrooms, offering practical insights for educators, teacher educators, curriculum developers, and policymakers. It highlights the need to equip teachers with resources and training to expand robotics-based STEM activities in elementary education, helping young learners develop the essential skills needed for future academic and career success.

Dance

FROM ITALY TO SLIPPERY ROCK:
HOW AN INTERNATIONAL EXPERIENCE TOOK THE STAGE

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Oral

ABSTRACT:

How can an international dance experience shape me as a dancer, choreographer, and teacher? This was the question I asked before traveling abroad to study in Italy at Orsolina28 and Dance Italia this past summer. Under the guidance of Professor Jennifer Keller, with funding from the Norton Undergraduate Research Grant, The National Honors Society for Dance Arts, and the Lucy Isacco Sack Scholarship, this research was developed. From June 29, 2024- July 27, 2024, I was in Italy studying under various dance professionals. Through performance and training experiences at the workshops, I was able to enrich my knowledge of a dance genre called contemporary partnering. Not only was I able to expand my vocabulary of contemporary partner movement, but I was able to analyze tactics for composing and teaching.

Following my return to SRU I began translating my experience and newfound knowledge into choreography. Through Slippery Rock Dance Theater, I was able to create both a group piece and duet that shared my research with my fellow students and the audience. Using compositional techniques demonstrated by the instructors in Italy, I could develop movement. Once the movement was developed, I could apply prompts I learned in Italy to add depth to the material. Finally, I could teach my dancers the material using language and methods I found effective when abroad.

On November 11, 2024, the pieces were performed in front of a panel of judges. Both pieces were selected for presentation in the Emerging Artists Dance Concert. These dances could not exist without the knowledge I gained in Italy. I will carry this information with me as I audition for companies that look for dancers specializing in partnering.

AN EXAMANATION OF MERCE CUNNINGHAM'S CHANCE PROCEDURE: IS IT STILL RELEVANT TODAY?

Kailey Fraer, Claire Decker, Gianna Dobrich, Abbey Dowler, Hanna Herrmann, Evie Hodge, Annalese Isenberg, Kendyl Kelly, Brooke McCarthy, Andrea Oakes, Ava Peters, Julianna Record, Maddie Smith, Norah Spradling, Mari Sprague, Ken Sprowls, and Kenzie Wolfe

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Performance

ABSTRACT:

In the mid-1950's, choreographer Merce Cunningham and musician John Cage introduced a compositional tool and concept to the world of choreography that was labeled *chance procedure*. This compositional tool revolutionized the way choreographers approached their artistic works. Dance's creative processes and culminating products never looked the same after Cunningham's *chance procedure* was shared with choreographers and dance students during the post-modern period of dance and beyond.

My preliminary examination of the compositional method, and its application to Cunningham and other choreographers' works, culminated in a written paper and an oral presentation in the fall of 2024 for a required Capstone course. This semester, I am translating the research findings into a choreographic work. I am in process of creating a dance piece that includes sixteen dance majors mainly using chance procedure to generate movement. This technique eliminates creative control commonly held by the choreographer and rather promotes randomization. In my creative process I have learned about effective versus ineffective ways to use chance. Through the SRU Research Symposium I would like to share my creative process that is based on *chance procedure* and have my dancers perform a segment of the full piece. The full-length work will be performed in the BFA Dance Concert on April 26, 2025.

BRING THE SHOWGIRLS IN:
THE EVOLVING ROLE OF DANCE IN MUSICAL THEATRE

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Poster

ABSTRACT:

My research focuses on the origins and evolution of dance in musical theatre. More specifically, it emphasized dance's purpose in musical theatre and the complementary relationship between them. This process started with a literature review, in which I read multiple journals, articles, and books about my topic. Once I had a base for my research, I viewed hundreds of videos of various musical theatre performances, dance numbers, and interviews. Combining this information led to an 8-page research paper and a 12-minute oral presentation on my findings. I found that there are six main functions of dance in musical theatre, and each is associated with a different "era" of theatre. These functions range from flashy transition scenes to complex, abstract metaphors. My research focuses on theatre from the 1940s through present day. Drawing the connections and fully understanding the purpose of dance in theatre is revolutionary; with modern minds, so much development can be done to improve and strengthen how these two subjects interact. The future of both dance and musical theatre is in the hands of students today, and only those who truly understand the background will find success in innovation.

Engineering

AIR PRESSURIZED BOTTLE ROCKET OPTIMIZATION AND RESEARCH

Jacob Cerra

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Poster

ABSTRACT:

The main objective of this research project is to refine the process of splicing bottles, to create larger pressure vessels for water rockets possible. Splicing two plastic bottles together successfully is vital for a rocket's performance, and reusability. Splicing two bottles involves cutting the ends of two bottles and putting them together to make one large bottle. Through preliminary research, Loctite PL Premium Construction Adhesive is the most promising adhesive tested so far based off results from Air Command Rockets. Air Command Rockets is a water rocket design group based in Australia. Expected pressure results using PL Premium adhesive are 180psi for 1-liter bottles, and 150psi for 2-liter bottles. While pressure testing these rockets, the rockets sit in a safe, advisor approved plywood enclosure, so they can explode in a contained area. More testing is required, specifically on 2 Liter bottles and the reusability of all rockets. The results produced by these rockets will allow for the building of larger rockets here at SRU and continuation of rocket projects.

TEMPERATURE MONITORING AND IMPLEMENTATION OF A HEATED CHICKEN WATERER FOR THE MACOSKEY CENTER

Jennifer Cichra, Nicole Planter, Isabella Henry, and Lucas Starcher

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Poster

ABSTRACT:

The Macoskey Center, a 70-acre research and environmental education facility at Slippery Rock University, is founded on the principles of sustainability in all aspects of the center, including the care of its poultry. In the cold, winter months, the chicken coop reaches freezing temperatures that result in frozen water lines to the automated waterers. This prevents the chickens from having access to fresh water. Currently, this issue requires workers to be on-site during academic breaks to routinely check the chickens' water supply. This project aims at finding a sustainable, reliable, and chicken proof solution to mitigate the effects of freezing temperatures around the water lines. Transient temperature data from Arduino-controlled thermocouples will be taken from five key locations around the chicken coop, including the water line, roof, and rain collection barrel. Additionally, 2-D temperature data will be collected with an infrared camera to identify areas of significant heat loss in and around the coop. Based on the collected data, solutions for the freezing water, such as stock tank heaters, turbines, and compost insulated barrels, will be investigated and evaluated for their effectiveness, sustainability, and safety. The project will conclude with an implemented design at Macoskey Center that will provide the chickens with year-round access to water and align with the center's mission.

DESIGN OF CONSTRUCTION MANAGEMENT LABORATORY ADDITION

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Oral

ABSTRACT:

Slippery Rock University (SRU) is expanding its engineering offerings with the introduction of a Construction Management program in fall 2025, supported by a state-of-the-art Construction Management (COMG) Lab. This project includes the planning, structural design, cost estimation, and environmental considerations undertaken for the lab's development, ensuring its feasibility within SRU's resources. Following site evaluations, the southern end of the Physical Therapy (PT) building was selected as the optimal location due to minimal infrastructure modifications and ample space. The proposed lab design includes flexible learning areas for material testing, fabrication, and tool storage, along with a forklift-accessible delivery route. Three layout options were analyzed, with the final layout choice emphasizing functionality, future expansion, and integration with existing campus infrastructure. The structural design phase utilized RISA software to develop and refine a steel structural model, optimizing load-bearing capacity and cost-effectiveness. Manual calculations validated the model's accuracy, ensuring compliance with engineering standards. The foundation design incorporated a pile-supported system aligned with the PT building's architecture, with pile caps strategically positioned to support axial and shear forces. Structural drawings were produced to guide construction, detailing material specifications and assembly methods. A comprehensive cost estimation accounted for site preparation, material procurement, and labor, ensuring financial feasibility. Additionally, environmental and sedimentation control plans were developed to mitigate ecological impact and comply with sustainability regulations. This report presents a rigorous approach to the COMG Lab's development, integrating engineering precision, economic viability, and environmental responsibility. The lab will enhance SRU's ability to train skilled construction managers, reinforcing the university's role as a regional leader in engineering and applied sciences education.

3D PRINTING SUSTAINABLY: COFFEE GROUNDS

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ABSTRACT:

This project aimed to develop an environmentally sustainable method for reducing the disposal of used coffee grounds while creating a practical application for this waste. The solution we proposed involved repurposed used coffee grounds into a 3D printable material, which was used to create flowerpots. One limitation of was the time factor, as plant growth requires several weeks, and the development of a usable mixture for 3D printing preceded plant testing. Consequently, we were unable to directly evaluate how the 3D printed material influenced plant growth within the scope of this study. The primary objective of this project was to explore the feasibility of transforming food waste into a stable, printable material, contributing to the broader field of food engineering and waste management. The successful transformation of such materials could promote environmentally responsible practices in academic settings and reduce food waste. The methodology involved collecting used coffee grounds from a local coffee shop, which were then dried over two to three days. Once dried, the grounds were ground into a fine powder to ensure consistency. We then experimented with different ratios of coffee grounds mixed with water, xanthan gum, and cellulose gum. Xanthan gum, commonly used as a thickening agent in bakery products, condiments, and toothpaste, and cellulose gum, a low-fat alternative used in products like ice cream, were incorporated to improve the printability and stability of the mixture. We optimized the composition of the mixture, testing how varying coffee ground concentrations impacted the material's printability and shelf life. Our findings indicate that a stable, printable compound can be created from coffee grounds, xanthan gum, cellulose gum, and water. The significance of this research lies in its contribution to more environmentally conscious manufacturing practices, highlighting the potential for recycling and reusing materials in the 3D printing industry.

BUCHANAN BRIDGE REPLACEMENT DESIGN

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ABSTRACT:

Our senior civil engineering capstone project is focused on the replacement of a local bridge. This is a two-semester senior project that employs nearly all the techniques and methods we have learned during the four-year civil engineering program at SRU.

The Buchanan Bridge carries state route 58 over the Clarion River just outside the town of Callensburg, PA. The piers and stone abutments of the bridge are original and date back to 1893. In 1973, the superstructure was replaced but only as a temporary solution. Like much of our aging infrastructure, the bridge is in poor repair today. As a result, our team has been selected to design a replacement.

Back in the Fall semester, our team analyzed options for replacing the bridge. This included comparisons of using steel versus concrete beams, whether to alter the existing roadway and approaches to the bridge and also how to manage the impact on the surrounding communities that rely on the bridge to navigate the area. Final designs were decided upon at the end of the semester.

The second phase of this project was spent calculating the loads and testing our structure's ability to bear them using computer programs like RISA to run simulations. Geotechnical data from the site was used to design appropriate foundations for all supporting structures. Scheduling the construction sequence, estimating costs and addressing environmental concerns were also a part of the project. The roadway design guidelines and best practices we used were sourced from manuals published by PennDOT and AASHTO. We will be presenting our final designs and supporting documentation and calculations at the end of the semester before graduation.

SR2002 BRIDGE REPLACEMENT

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ABSTRACT:

On SR2002 in Mercer, PA, commonly known as Leesburg Station Road, a bridge crossing Neshannock Creek requires replacement. The existing bridge, currently a single-lane structure on a local collector road with an average daily traffic (ADT) of 456, is set to be replaced with a cost-effective two-lane solution. The project's physical requirements include two 10-foot traffic lanes, a 10-ton weight limit and a single-span structure. The regulatory requirements include adequate environmental protection for the creek, a budget of $1.5–2 million, compliance with all PennDOT structural and traffic guidelines, and maintained access for vehicular traffic, Amish buggies, and bicycles.

The design approach was straightforward, primarily adhering to PennDOT DM-4 and FHWA guidelines while periodically referencing costs to optimize peak cost efficiency. Throughout the project, design loads were developed for live loading, dead loading, self-weight, and construction and demolition phases. Based on these initial loadings, structural design calculations were completed in sequence: first for the deck, followed by the steel beams, then the abutments, and finally constructability considerations.

This project serves as a valuable study in cost-efficient bridge design and construction, highlighting the benefits of a collaborative effort between the engineering and construction industries. Additionally, it provides students insight into real work experiences, complications and processes. The combination of skills and knowledge this project highlights is essential to engineering.

FLEXIBLE WEARABLE SENSOR FOR HIGH-PRECISION MOTION CAPTURE

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Poster

ABSTRACT:

Wearable sensor technology has advanced significantly, enabling high-precision motion capture for various applications. This study investigates the development and performance of a flexible wearable sensor designed for accurate motion tracking. The primary research question focuses on how flexible sensor materials can enhance motion capture precision compared conventional systems. The study employs fabrication techniques and sensor integration methods to achieve optimal flexibility and responsiveness. Experimental results demonstrate that there is true promise in optimizing sensors that provide improved accuracy and adaptability in motion tracking scenarios. The findings support the hypothesis that flexible wearable sensors can offer superior motion capture capabilities if studied further. This research contributes to the development of next-generation motion capture systems, with potential applications in healthcare, sports, and human-computer interaction.

DEWATERING AMD SLUDGE WITH DEWATERING CELL

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ABSTRACT:

Acid Mine Drainage (AMD) poses significant environmental challenges, degrading water quality, ecosystems, soil health, and human well-being. Effective mitigation and remediation strategies are crucial for minimizing its long-term impacts. This study investigates the development of an efficient greenhouse cover for a dewatering cell designed to treat AMD and recover rare earth elements and critical minerals from contaminated material. The research focused on materials selection and geometric design for a dewatering cell roof targeted for remote sites with no power and low maintenance needs. Two materials were tested: 6-mil Ethylene-Vinyl Acetate (EVA) film and Clear Twin Wall Polycarbonate Sheet, using a surrogate AMD sludge for simulation. Bench-scale testing was conducted with a control, 6-mil film, and twinwall replicates, evaluating temperature differences using thermocouples over 14 controlled and 10 outdoor nonconsecutive days. The twinwall material demonstrated superior heat retention and magnification, generating higher internal temperatures (avg. 29.4°C) compared to EVA film (avg. 27.5°C). Despite the twinwall's slightly better performance, its significantly higher cost ($3.8/ft²) compared to the EVA film ($0.10/ft²) did not justify the benefit. The greenhouse design was based on literature on solar incidence and dewatering cell constraints. Consequently, the EVA film was selected for the greenhouse cover, with a 30° angled “A-frame” design incorporating perforations and vapor removal features for optimal performance. Findings of this research will be implemented on the dewatering cell at a treatment station in Morganton, WV, this summer for large-scale testing.

LANDSLIDE SUSCEPTIBILITY ANALYSIS

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Poster

ABSTRACT:

Landslides, though infrequent, can have severe consequences if not properly mitigated. These natural disasters pose significant risks to communities, causing injuries, infrastructure damage, and transportation disruptions. Landslides occur when gravitational forces exceed the soil's shear strength, often triggered by fluctuations in water content, seismic activity, or human disturbances.

Assessing the soil's shear strength is essential to better understand landslide susceptibility. This strength depends on factors such as applied loads, particle friction, cohesion, compaction, and moisture content. Common methods for evaluating soil strength include the direct shear test and the triaxial test.

In this study, soil samples from a site near Slippery Rock, PA, were collected, classified, and tested for strength parameters. The analyses performed included sieve analysis (ASTM D6913), Atterberg limits (ASTM D4318), and direct shear testing (ASTM D3080). The soil was classified as silty sand, exhibiting cohesionless behavior (cohesion = 0 ksf) and a friction angle of 40°, consistent with values reported in the literature for compacted silty sands. Future research will involve triaxial testing to further refine soil strength characterization and compare the results with those obtained from direct shear testing.

DEWATERING PROPERTIES OF AMD PRECIPITATE TO IMPROVE RARE EARTH ELEMENT EXTRACTION AND ENVIRONMENTAL IMPACT

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Poster

ABSTRACT:

Acid Mine Drainage (AMD) is an environmental issue that comes from water draining out of mining sites, often carrying high levels of toxic materials and dissolved solids. The AMD precipitate contains valuable rare earth elements (REEs) and is often underutilized or discarded. REEs are important for modern technologies like electronics, renewable energy, and defense. However, extracting REEs from AMD precipitate is challenging, partly due to high water content, which makes transportation costly and inefficient. Optimizing the dewatering process can make REE recovery more feasible by reducing transportation costs and improving processing efficiency. Additionally, better dewatering methods can also help stabilize AMD precipitate stockpiles and reduce environmental risks. For this, the soil-water characteristic curve (SWCC) can be used to understand unsaturated soil behavior and predict how water moves and is retained in the precipitate.

This study focuses on using the filter paper method (ASTM D5298) to measure soil suction and develop an SWCC for AMD precipitate surrogate. The goal is to identify effective solutions to dewater and stockpile AMD precipitate, making rare earth element extraction more affordable while also improving environmental management.

A filter paper test was performed on a silty-sand soil sample collected near Slippery Rock, PA. Eight moisture content points were evaluated to generate a soil-water characteristic curve. Contrasting the generated SWCC with the literature, it was identified that the curve replicates the silty sand behavior, correlating with the soil classification, thus validating the experiment. The results from this experiment will be further used for dewatering analysis using finite element modeling software for an AMD precipitate stockpile.

Exercise Science

THE EFFECT OF LOW-INTENSITY BLOOD FLOW RESTRICTION RESISTANCE EXERCISE ON CARDIOVASCULAR FUNCTION IN NORMOTENSIVE COLLEGE-AGED WOMEN

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ABSTRACT:

Low-intensity blood flow restriction exercise (LI-BFR) is popular due to its ability to elicit comparable muscular size and strength gains to traditional high intensity (HI) exercise while using lighter loads. To determine the effect of an acute bout of LI-BFR compared to traditional low-intensity (LI) and HI protocols hemodynamic variables in normotensive, college-aged women. Participants completed a 3-5 repetition maximum (RM) test to estimate 1RM on the leg extension machine. Participants randomly completed 3 volume-matched training sessions: 4 sets, one-minute rest each of 1.) LI-35% 1RM for 16 reps, 2.) HI-70% 1RM for 8 reps, 3.) LI-BFR-35% 1RM with continuous femoral artery occlusion pressure for 16 reps. Rapid-inflation cuffs were used in LI-BFR and inflated to 50% of the pressure at which the tibial artery pulse was no longer audible using a Doppler device. Bilateral BP and Heart Rate (HR) measurements were taken pre-exercise, after each set, and 2 minutes post-exercise. A within-subjects, repeated measures ANOVA was used to compare variables across conditions. A time effect was observed for HR, BP, and Rating of Perceived Exertion (RPE) for each condition ($P<0.001$). Diastolic BP (DBP) remained elevated in LI-BFR at Set 4 ($P<0.05$) compared to HI and LI. Greater HR and RPE responses were observed in LI-BFR compared to HI and LI ($P<0.05$). Interarm differences in SBP and DBP were not observed ($P>0.05$). An acute bout of resistance exercise resulted in expected linear increases in HR, SBP, and RPE. LI-BFR resulted in greater hemodynamic responses compared to standard resistance exercises. To our knowledge, this is the first investigation to report simultaneous bilateral blood pressure response to acute exercise with blood flow restriction in college-aged women. The elevated DBP responses to LI-BFR may have implications for a clinical population with hypertension and peripheral artery disease.

A COMPARATIVE BIOMECHANICAL ANALYSIS OF THE FARMERS AND ZERCHER CARRY EXERCISES

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ABSTRACT:

The loaded carry is a movement pattern characterized by walking for a set time or distance with an externally applied resistance. The application of an external load alters the body's biomechanics, creating an environment for potential adaptation and performance enhancement. Load location may further implicate these variables, specifically through a comparison of side loading, as performed in the Farmer's Carry (FC), to anterior loading, as performed in the Zercher Carry (ZC). To investigate this, healthy, college aged individuals were recruited and their anthropometric data were captured. Surface EMG was administered on dominant side rectus abdominis, external oblique, multifidus, longissimus, upper trapezius, and middle deltoid. Maximal voluntary isometric contractions were performed to standardize muscle activation. Participants were subsequently outfitted with inertial measurement units for the trunk and lower limb to capture joint kinematics and gait. One counterbalanced 5-meter walk loaded with 100% fat free mass was completed for each exercise. A force plate was located at the midpoint to capture single step ground reaction forces (GRF). Data for all variables were compared utilizing a MANOVA. Comparisons between the FC and ZC revealed significant differences ($P < 0.05$) in muscle activation (e.g., multifidus: FC 12.0 ± 6.7 v. ZC 25.4 ± 13.0), joint kinematics (e.g., lumbar extension: FC -4.4 ± 4.1 v. ZC 2.0 ± 6.5), gait (e.g., stride length: FC 108.1 ± 9.4 v. ZC 101.4 ± 9.4) and GRF (e.g., anterior GRF: FC 22.3 ± 6.8 v. ZC 17.5 ± 7.4). The differences observed between the ZC and FC may implicate unique adaptation as a result of load placement and therefore influence how these specific movement pattern variations should be implemented in resistance training programs.

THE EFFECT OF HEAD-UP ORTHOSTATIC TILT ON INTER-ARM BLOOD PRESSURE AND HEMODYNAMICS

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Oral

ABSTRACT:

BACKGROUND: An inter-arm blood pressure difference of ≥10 mmHg in systolic and/or diastolic (IAD) at rest has been associated with cardiovascular diseases with unclear mechanisms. Previous research has shown that acute exercise can lead to a difference in blood pressure (+IAD), indicating that the underlying cause may be an autonomic nervous system (ANS) dysregulation rather than structural.

PURPOSE: This study aims to investigate the regulation of the hemodynamic measures, cardiac output (CO), and systemic vascular resistance (SVR) through the postural changes of the head-up tilt test and IAD status.

METHODS: In Visit 1, participants completed health screening and body composition assessments. Before Visit 2, participants fasted for 4 hours, avoiding exercise, caffeine, and alcohol for 24 hours. During Visit 2, baseline blood pressures, CO, and SVR were recorded after 15 minutes of seated rest and again after 30 minutes lying supine. Participants were then tilted to a head-up position (HUT) for 5 minutes and returned to a supine position (REC) for 5 minutes, with CO, SVR, and BP taken at minutes 1, 3, and 5.

RESULTS: Participants were categorized according to their IAD status, with +IAD indicating that they exhibited an IAD while tilted and -IAD signifying those who did not show a difference. There were no significant percentage changes between -IAD (n=11) and +IAD (n=9) in CO or SVR responses between the two groups and HUT or REC phases at any of the 1, 3, and 5-minute intervals.

CONCLUSION: The results indicate the head-up tilt test can induce an IAD. However, CO or SVR responses show no significant difference. Further research should explore additional autonomic nervous system control mechanisms, such as heart rate variability or deep breathing/Valsalva maneuver tests, to investigate possible ANS dysregulation concerning +IAD individuals, contributing to our knowledge of the IAD pathology.

COMPARISON OF TRAINED AND UNTRAINED INDIVIDUALS IN THE SUITCASE CARRY

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ABSTRACT:

Loaded carries have grown in popularity due to their use in augmenting strength and physical work capacity. The suitcase carry, where a resistance implement is held in one hand at the side of the body, is a common example. Strong lateral muscles are known to promote a safe, upright position in the suitcase carry task, however, there have been no prior data comparing trained and untrained individuals performing this task. Using healthy college aged participants and state of the art technology (muscle activation and joint angle measurement), we aim to pinpoint potential variations in form and capacity between groups based on their resistance training experience. The knowledge generated, when added to the scientific literature, may help to advance the safe and effective prescription the suitcase carry, a relevant, functional exercise from performance to rehabilitation.

VALIDATION OF WRIST-WORN HEART RATE MONITORING DEVICES

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ABSTRACT:

Wearable fitness devices make it more convenient for users to monitor heart rate (HR), with wrist-worn devices especially popular due to their affordability. This study aimed to investigate the accuracy of the Fitbit Inspire, Garmin Vivosmart, Xiaomi MI Band, and Amazfit Band 7. Specifically, the validity of the HR monitors was investigated at rest and in different exercise modalities. Thirty participants volunteered and consented to participate in cycling and treadmill exercise protocols. Both modalities followed the same protocol: 4 minutes of rest, 6 minutes of incremental warm-up, 3 minutes of maintained moderate intensity exercise, vigorous incremental exercise till fatigue, and a 5-minute cool-down. HR values were recorded every 15 seconds on all devices and the electrocardiogram (ECG, criterion measure) simultaneously. Validity was assessed using the Pearson Moment Correlation Coefficient, Bland-Altman analysis, and mean absolute percent error (MAPE). Both the Garmin and Xiaomi devices exhibited excellent correlation to the ECG during the cycling ($r = 0.95$; $r = 0.98$, respectively) and treadmill ($r = 0.96$; $r = 0.94$) exercise. For cycling, Garmin and Xiaomi both had a bias of 1.3 beats·min^{-1} with limits of agreement of -19 to 21 and -12 to 14, respectively. The Garmin outperformed the Xiaomi during the treadmill exercise, with a bias of 1.7 beats·min^{-1} with a limit of agreement of -18 to 21. The Amazfit and Fitbit devices had good correlation for both modalities. Amazfit had a mean bias of 2.9 beats·min^{-1} and 8.4 beats·min^{-1} for cycling and treadmill exercise, respectively, and 3.2 beats·min^{-1} and 9.1 beats·min^{-1} for the Fitbit. All devices had MAPE <10% during cycling, but the Fitbit had a MAPE of 11% during treadmill exercise. Overall, the Garmin was the most accurate device across modalities, followed by the Xiaomi. The Fitbit consistently performed the worst and exceeded the validity standard during treadmill exercise.

Health and Rehabilitation Sciences

PHYSICAL IMPACT OF CHIARI MALFORMATION TYPE I

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Poster

ABSTRACT:

Many factors of Chiari Malformation can impact the physical abilities of those with this diagnosis at any age. This diagnosis may possibly lead to other physical impacts, such as sleep disorders. The purpose of this study was to characterize and quantify the long-term physical impact of Chiari I (CMI) on adults through a large-scale, web-based survey comprised of validated, widely used self-administered assessments and patient provided imaging. This study used data from 130 patients diagnosed with Chiari from the Conquer Chiari foundation. Participants include non-surgical and surgical patients whose results are compared to one another. Subjects were asked to complete web-based surveys made in Qualtrics comprised of 11 Scales, plus a custom questionnaire for Demographics, CMI History, Orthopedic History. Survey participants were also asked to share structural MRIs for morphometric analysis. Survey scales include the use of NDI, QuickDASH, QBPDS, LEFS, ABC-6, TKS, SF-MPQ-2, PCS, PSQI, headache questionnaire, and EQ-5L. Data analysis consisted of inferential statistics regarding correlational analyses and significant differences via analysis of variance. Results showed 78.5% have moderate to complete neck related disability. 61% have a low level of physical function due to lack of balance confidence. 72.5% are at risk of falling as defined by the ABC-6. 89% are above the clinical cut-off score for kinesiophobia. 54% are above the clinical cut-off score for pain catastrophizing on the PCS. With this knowledge, we can quantify and document the issues that CMI patients live with, even after what may be considered successful decompression surgery. In the future, this data will provide a compelling argument for future lobbying and advocacy efforts.

Languages, Literatures, Cultures, and Writing

TWO LANGUAGES; TWO IDENTITIES? EXAMINING LOCAL BILINGUALS' SELF-PERCEPTION WHEN USING THEIR TWO LANGUAGES

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ABSTRACT:

In a research study conducted for a graduate TESOL course in sociolinguistics, seven bilingual adults representing five language backgrounds were asked to reflect upon how they perceived themselves when using each of their languages to communicate with others in their daily lives. Since the journey of an emerging bilingual involves not only the development of one's communicative skills using a new linguistic code, but also the reconstitution of one's identity as a bilingual individual as they learn to interact with others in a variety of social settings, this study explored whether the participants felt as if they experienced more than one version of themselves when they communicate in their languages as well as what effect this may have on their language performance and social interactions.

The open-ended nature of the interview questions allowed the participants to speak freely, and at times at great length, as they met one-on-one with the researcher. Although most participants could not claim that they felt as if they were a different version of themself when they speak their languages, their responses did reveal that having more than one language affects who they are and how they communicate in their languages. The results of the study also suggest a correlation between changes in self-perception and several sociolinguistic phenomena.

The significance of this research is that it highlights that these bilinguals were mindful of and responded to linguistic, cultural, and contextual differences that shaped their unique identities as speakers of more than one language. An awareness and understanding of this part of the bilingual experience can inform a TESOL educator's pedagogical approach, allowing them to be responsive and supportive to factors and events that may contribute to development of an English learner's emerging bilingual identity.

COMMUNICATION STRATEGIES AND INTERACTIONAL RESOURCES IN THE SPANISH CLASSROOM AT THE UNIVERSITY LEVEL

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ABSTRACT:

This qualitative teaching and language research project aims to enhance communication strategies and interactional resources among Spanish instructors at the university level. The project draws on findings from Davis, D. M (2023), which showed that comprehension checks, asking for repetition, and guessing were the most often used communication strategies in oral activities at the high school level. Boundaries, turn-taking, and sequences were the most often used interactional resources. Therefore, the author wants to teach and research specific communication strategies and interactional resources at the university level to generate insights by identifying the common communication strategies and interactional resources used by Spanish instructors and exploring factors that interfere with or assist their application at the beginner and intermediate levels of Spanish.

The methodology comprises lectures, classroom observations, and semi-structured interviews with participants from the institution that hosts this research. The project will last sixteen weeks of instruction, during which participants will learn and apply comprehension checks, turn-taking sequences, and circumlocution techniques in their teaching. The author provides a syllabus, lesson plans, and lecture materials. The purposeful sample will be the participants in the lectures of this professional teaching and research project. The setting will be the host university. Ethical issues will be considered. The first phase of data collection and analysis will include demographic information, observations, semi-structured interviews, reflective journals, thematic analysis, and member checking to ensure accuracy. The second data collection phase will comprise specific aspects from the lectures, observations, and interviews recorded in a reflective journal. Trustworthiness criteria and research strategies will be applied. Data analysis will include a coding process, typology, thematic analysis, triangulation, and cross-case analysis. Limitations and delimitations will be considered.

PASSING IN PLAY: HOW INCLUSIVE REALLY IS BARBIE IN 2025?

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Oral

ABSTRACT:

After decades of prioritizing White beauty standards, Mattel's Barbie brand has recently expanded their inclusivity efforts. By designing dolls representing influential historical figures, people of color and marginalized communities, and of differing body types, hair textures, and facial features, it is clear that the brand is attempting to keep up with the diversity- and equity-focused concerns of the 21st century. However, while this seems progressive at first glance, a closer analysis of the dolls yields a more questionable version of "diversity" that leans heavily into stereotypes and pigeonholes. This begs the question: how inclusive really is Barbie in 2025?

To answer this question, every Barbie listing on the Mattel (and Mattel-affiliated) websites as of December 2024 was analyzed and categorized by race and, to account for personal bias, more broadly into "white-passing" or "not white-passing" for those that visually appear racially ambiguous. Additionally, it was noted which dolls were marketed as being "curvy." These findings were then synthesized with notable experiments focused on children's identification with their toys, such as Mamie and Kenneth Clark's 1940s "Doll Test."

After analyzing 609 Barbie dolls, it was found that over 67% of the dolls were white-passing. The 32% of dolls that were not white-passing seemed to have overly-exaggerated stereotypical facial and hair features. Additionally, non-white dolls were found to be 24x more likely to be curvy than white dolls, with only one white doll being advertised as curvy across all of their sales platforms. Through these results, it is clear that Barbie is making strides in the right direction towards inclusivity, but that their steps are upon a foundation still rooted in stereotypes and othering. This study emphasizes the significance of supporting smaller, minority-owned businesses whose core mission is to promote inclusivity by creating dolls that truly make children feel seen and represented.

DISMANTALING AND REBUILDING A CULTURALLY RESPONSIVE EDUCATION SYSTEM

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Poster

ABSTRACT:

The United States public education system was built on a foundation of racism, sexism, classism, etc., with very little changes to the policies, programs, and outdated regulations set in place a long time ago, this system needs more than a simple revision. Today's world has evolved and is more culturally diverse and integrated in ways we would have never imagined in the past; it is time that our education system reflects these changes. Culturally responsive teaching is a pedagogy that reflects the beliefs that should be standard in our classrooms. This approach considers all students, their individual and diverse needs, and implements best practices to meet students' needs. Through secondary library research conducted for a graduate TESOL course, I have learned more about the foundation our education system was built upon, the continuation of segregation internationally, examples of systems that have begun to dismantle and rebuild, and ways we can best serve our diverse student population.

The results of my research start with understanding Brown v Board of Education. This was the ending of legal segregation but resistance continues today with the different policies and laws that promote inequalities in our schools. With minority students mischaracterized by extreme groups, police presence is being justified in schools, diverse books are banned, and most recently DEI programs are being cut from schools. According to the Department of Education, students are entitled to a "free and full education" but is that the reality? The significance of this research is to understand the changes needed to ensure future generations receive the education deserved, a well-rounded culturally responsive education. The outcome for this research project is to bring awareness and hopefully start the changes needed to create a better education system. My role is the continuation of research while being an advocate for students in need.

TEACHING ENGLISH IN SPAIN:
YOUNG ADULTS EL IN A UNIVERSITY SETTING

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Oral

Abstract:

This research focuses on methodology in language teaching and originated as a project for a graduate TESOL course. The goal of this research project is to create English Language Learner (ELL) planned instruction using methodology and lesson planning appropriate for teaching English as a foreign language.

In this project, the focus is on a hypothetical situation to teach English Language in Spain through the North American Language and Culture Assistants Program (NALCAP) as a teacher assistant for ELL. During the span of eight months, intuition assigned the target focus group to work with late teenagers and adults in a language school in a university setting. The proficiency of English Language on the Global Scale of English (GSE) is B2 or intermediate level in which the students are able to have a collection of vocabulary words to express themselves in oral and written forms in a situational conversation. Upon taking the course, they will continue to expand their English Language knowledge and usage.

For this research topic, there will be an extensive exploration in designing lesson plans. The class sessions will be focusing on learning English as a second language as the lesson plans' objectivity is to teach vocabulary and grammar skills so the students can use and apply the language with further understanding. Speaking and writing skills will require the expansion of speaking and writing in the English Language. The significance of this methodological research is that it highlights a deeper understanding of English Language Syntax for ELL students.

CINEMASCOPE: THE INTERSECTIONALITY OF *PILLOW TALK* (1959-60) AND *THE BOSTON STRANGLER* (1968)

Jess Sentgeorge

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Oral

ABSTRACT:

CinemaScope is arguably one of the greatest innovations of widescreen film that revolutionized the world and history of filmmaking. 'Scope was a stylistically sound choice for Westerns, musicals, and sci-fi. 'Scope allowed filmmakers to experiment with both the frame in novel ways and push back against the strict regulations of the Hays Production Code (which was ultimately disbanded in 1968 and replaced with the MPAA film rating system used today). The use of CinemaScope in *Pillow Talk* (Gordon, 1959-60), and *The Boston Strangler* (Fleisher, 1968) allowed for directors to capitalize on the innovation of widescreen aesthetics to use techniques of split screen, outdoor and indoor space, and multi-paneling to obtain their goals.

The use of such techniques was integral in pushing back on societal norms and the Hays Production Code. The Hays Production Code was the mouthpiece of American purity and rape culture for decades by going as far as outright banning same sex couples on screen, premarital sex, on screen nudity, and even having stipulations like married couples not sharing the same bed on screen. Up until its disbandment, films had to have the Hays Production Code seal of approval to advertise in newspapers. These two revolutionary films employ film technique innovations to construct social critique and help shape societal attitudes surrounding sexually based content. My presentation illustrates how split screen, indoor and outdoor space, and multi-paneling aids in this reshaping.

EMERGING PATTERNS OF CONFIDENCE AND ANXIETY IN FOREIGN LANGUAGE CLASSROOMS

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Poster

ABSTRACT:

A common physiological factor that contributes to obstacles in classroom pedagogy is learner anxiety. Anxiety can be an indicator of lack of competencies, learning gaps, or a personality trait. Foreign language (FL) anxiety, however, tends to be an ongoing physiological event that's experienced in classroom settings where new linguistic code is being obtained. Field research on the topic of anxiety in Second Language Acquisition (SLA) is socially relevant to education systems looking to create awareness in cognitive linguistic development. Learner attitudes, gender, age of acquisition and target language all affect the onset of FL anxiety and were considered in this study. Research approaching Foreign Language Anxiety can positively impact curriculum, methods and the availability of student resources.

My research was completed for a graduate TESOL sociolinguistics class, and was designed and conducted in French and Spanish classes at a high school. Overall, there were 160 participants in the study. The students completed a questionnaire where they self-assessed their level of ease or anxiety when using input and output in the foreign language. The questionnaire contained general input and output scenarios that are widely known to create anxiety in language classrooms and analyzed the results across various demographics. Input covered questions like listening in class, while output covered examples like being called on. In addition, the research examined self-assessed study habits.

Each question was analyzed for a mode and an average. The data was evaluated based on age/grade, language and selected gender. The results indicated that students share a similar amount of anxiety across both languages and gain confidence as they acquire more linguistically sophisticated skills by grade level exposure. The significance of this research is to normalize FLA and guide curriculum accommodations that focus on addressing classroom concerns.

THE EFFECTS OF MULTILINGUAL TEACHING AND LITERATURE ON LANGUAGE LEARNING AND DEVELOPMENT

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Poster

ABSTRACT:

As part of my graduate work as a student in the TESOL program at SRU I had to create a critical annotated bibliography for my Principles of Language Learning and Teaching course. The paper looks into the effects of multilingual teaching on students across different environments, with a focus on literature. The project was completed through looking at recently published peer-reviewed articles to find the impact of translanguaging practices, like code-switching, on English Language Learners (ELLs) and multilingual students.

Across the ten articles consulted, it was found that the insertion of translanguaging allowed for students to express themselves freely, communicate their ideas and transition into new content with greater understanding. Best practices urge educators to use authentic text and empower students in their learning. The use of multilingual texts and code-switching allows students to not only retain the cultural authenticity of multilingual texts, but to also see themselves in their learning and learn about other cultures as they should be represented.

TRADWIVES: INFLUENCER CONNECTIONS TO ANTIFEMINISM AND WHITE POWER

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Oral

ABSTRACT:

The purpose of this research is to provide an exploration of tradwife culture as a digital manifestation of the conservative antifeminist movement, and its connection to the white power movement. Utilizing theoretical groundwork laid by Susan Faludi, Kathleen Belew, and Elizabeth Gillespie McRae, I will examine Hannah Neeleman or Ballerina Farm, and her repackaging of patriarchal ideologies in modern media. Antifeminist rhetoric utilizes the image of the white, nuclear family as a rallying symbol and entry point into white power narratives while simultaneously dividing women along race and class lines. This regressive roleplay is found throughout history, yet it is within this stereotype that Neeleman makes her living, thriving and encouraging other women to take up the same mantle.

Mathematics, Statistics, and Physics

NIGHT VISION GOGGLES

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Poster

ABSTRACT:

Night vision goggles (NVGs) are devices that enhance human vision in low-light conditions, which allows people to see in the dark. The goggles work by amplifying available ambient light, such as moonlight or starlight, using optoelectronic image technology. We will investigate the image intensifier tube that works by collecting photons and then converting them into electrons. This project will involve research on how modern night vision goggles include a digitalized version of optoelectronic image technology and the applications of NVGs.

ASTROBIOLOGICAL POTENTIAL OF MARS

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Poster

ABSTRACT:

Mars, often considered the “Red Planet,” has been a hot topic of research in the past few decades. Over the span of the last 30 years, we have reason to believe that Mars used to have shallow oceans over its surface, similar to Earth. Our project plans to examine the history of the Mars rovers and their contributions towards the discovery of potential Martian life. We will also dissect each individual rover and discuss the advancements in technology and their specific impacts towards the discovery of life. In addition, we will investigate plans for future technology with the hope of finding concrete evidence of past life, or else finding living organisms themselves.

THE EFFECTS OF MICROGRAVITY ON THE VISION OF ASTRONAUTS

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Poster

ABSTRACT:

Astronauts in microgravity can experience diverse harmful effects on the body. I will be researching one of the effects, the increases in intracranial (ICP) and intraocular pressure (IOP), and how it changes ocular structure. While in microgravity, astronauts' bodily fluids leave the state of equilibrium they experience when in standard gravitational pull, thus increasing head pressure. These changes in pressure are presumed to cause lessened visual capability in some astronauts. In my project, I will study the data and findings of the Journal of Applied Physiology and the Survey of Ophthalmology. Both journals discuss the effect of microgravity on visual function. Understanding these effects is vital to astronauts' health in the inevitable future of space travel.

GAMMA RAY NEUTRON SPECTROSCOPY

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Poster

ABSTRACT:

Gamma Ray Neutron Spectroscopy (GRNS) is a method used to analyze the composition and properties of materials. Gamma rays react with electrons in atoms, while neutrons interact with the nuclei of atoms. GRNS allows for the detection of trace elements, isotopic analysis, and the identification of material composition in complex samples, facilitating both qualitative and quantitative assessments. In our project we will study the principles, applications, and advancements in GRNS highlighting its increasing role in material analysis. We will also review its potential to address challenges in various scientific and industrial domains.

CMOS VS CCD IMAGE SENSORS IN CAMERAS

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ABSTRACT:

In modern imaging technology, the choice of sensor plays a critical role in determining the performance of digital cameras. The two primary sensor types – Complementary Metal-Oxide-Semiconductor (CMOS) and Charge-Coupled Device (CCD) each have unique characteristics that offer better performance in different applications. This research project analyzes the underlying physics of both sensor types along with an in-depth comparison of the strengths and weaknesses of each sensor type. In this comparison, the performance of each sensor will be evaluated under a variety of scenarios. Additionally, this project discusses the emerging innovations in sensor design, as well as the history of previous advancements.

EVTOLS FOR PLANETARY EXPLORATION

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Poster

ABSTRACT:

Electric vertical takeoff and landing vehicles or eVTOL have been used more frequently on Earth. Their uses are expanding with the proposition of the Dragonfly Probe preparing to be launched to explore the surface of Titan, the largest moon of Saturn. Dragonfly utilizes a four double rotor design, known as an octocopter. The objective of this project is to compare the dragonfly probe to the already existing Ingenuity helicopter used on Mars and an eVTOL aircraft used on Earth. The Ingenuity Helicopter was a small, solar-powered rotorcraft. It became the first aircraft to achieve powered flight on another planet. On earth, eVTOL helicopters are a topic of interest for many companies. The Archer Aviation Midnight is a four-passenger, 12 rotor, air taxi meant to transport passengers 60 miles in areas of high traffic. This research will compare the three eVTOL helicopters, number of rotors, energy production type, as well as other design factors.

EXPLORING EXOPLANETS WITH JWST

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Poster

ABSTRACT:

The James Webb Space Telescope (JWST) is currently the most powerful infrared telescope in operation on the planet. I will analyze the benefits of utilizing spectroscopy in infrared wavelengths because it offers a broad range of abilities in identifying different compounds of matter in varying states. To do this I will be focusing on Slitless Spectrograph (NIRISS), and Near-Infrared Spectrograph (NIRSpec) that can be used for exoplanet hunting and atmospheric composition reading. Additionally, this project will address the wide range of capabilities of JWST, as determined by the target of interest.

PSYCHE MISSION

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Poster

ABSTRACT:

NASA's Psyche spacecraft is journeying to a M type asteroid named Psyche. It is irregular in shape and is believed to be composed of 30-60% metal with the outer layer being completely stripped away. Our project is to research the literature to understand how this mission will determine if this asteroid is an exposed core of a planetesimal. It would also provide a unique opportunity to study the cores of rocky planets like Earth and get a perspective on the violent history of the solar system's formation.

QUANTUM REVOLUTION

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Poster

ABSTRACT:

This research project provides an in-depth exploration of quantum computers, examining the physical and theoretical principles that enable their unique computational capabilities. Unlike classical computers, which rely on binary bits, quantum computers use qubits that leverage superposition and entanglement, allowing for the simultaneous processing of multiple states and an exponential increase in computing power for certain tasks. We investigate the physics behind these quantum phenomena, including quantum coherence and decoherence, as well as the engineering challenges in building stable, scalable quantum hardware. Key algorithms, such as Shor's algorithm for factoring large numbers and Grover's algorithm for database searching, are analyzed to illustrate the potential applications and impact of quantum computing on fields like cryptography, materials science, and artificial intelligence. We will focus on a physics-driven perspective on the evolving landscape of quantum technology, highlighting the interface between quantum mechanics and computational advances needed for real-world quantum computing.

TESTING EINSTEIN'S THEORIES WITH GRAVITY PROBE B

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ABSTRACT:

In this project, I have researched the 2004 Gravity Probe B Spacecraft launched by NASA. The scientific phenomena studied by the space probe, namely, the Geodetic Effect and Frame-Dragging Effect, are consequences of Einstein's theory of relativity. I examined, in detail, the experimental design and how the space probe gathered precise measurements of these phenomena. Additionally, I compared the predicted and experimental results of the mission. Lastly, I justify the significance of the mission and its positive impact.

Music

MUSIC THERAPY FOR CANCER SURVIVORS: A QUALITATIVE THEMATIC ANALYSIS

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Oral

ABSTRACT:

The diagnosis of cancer can be overwhelming for patients, especially those that are not part of a cancer survivor program. Often, due to high levels of anxiety and high levels of recurrence of the cancer, patients with gynecologic cancers underutilize cancer survivorship programs. For this qualitative research study, we aim to better understand the experiences of ovarian cancer survivors receiving music therapy through the use of qualitative, semi-structured interviews. The following research questions will be addressed: (a) how do cancer survivors describe their experiences in music therapy?, (b) what factors impact cancer survivors' motivation to attend MT sessions, and (c) what needs or challenges did survivors experience when attempting to access the survivorship program? Data analysis will include a six-step thematic analysis (Braum & Clarke, 2022) of verbatim transcripts. Two music faculty worked collaboratively with music research students to assist them with the qualitative analysis of semi-structured interviews.

Psychology, Social Work, and Recreational Therapy

STRENGTHENING STRESS COPING SKILLS: OUTCOMES OF AN HONORS COLLEGE WELLNESS RETREAT

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Poster

ABSTRACT:

High-achieving college students often experience chronic stress, which harms their mental and emotional health and hurts their academic and personal lives. Students who are experiencing chronic stress struggle to balance their academic and personal responsibilities. Slippery Rock University Honors College developed a two-day wellness retreat for honors students to address these issues. The retreat, held in September 2024, incorporated workshops using evidence-based strategies to build stress resilience and promote well-being. Eight workshops focused on a variety of stress resilience topics: psychoeducation, breathwork, reflective journaling and gratitude practices, healthy eating habits, gentle movement exercises, time in nature, and cognitive reframing techniques. Thirty-six students participated in the wellness retreat and completed a pre-survey one week prior to the retreat, a post-survey completed immediately following the retreat, and a six-week follow-up survey. The surveys included the following assessments: Perceived Stress Scale (Cohen et al., 1983), Proactive Coping Inventory (Greenglass et al., 1999), and the General Well-Being Schedule (Grossi et al., 2006). These measures comprehensively assessed participants' perceived stress levels, their coping strategies—including proactive, reflective, and avoidant approaches—and key dimensions of their well-being, such as anxiety, cognition, emotion regulation, and positive mood. Results showed a significant increase in proactive and reflective coping strategies, suggesting a prominent improvement in participants' stress resilience regarding motivation and self-confidence. Participants' feedback indicated that students were exhibiting a sustained level of engagement while incorporating retreat strategies six weeks following the retreat. The workshops empowered students to manage stress more effectively and considerably increased their willingness to maintain the learned well-being habits.

ADAPTIVE RIDING:
EFFECTIVENENSS FOR FALLS PREVENTION IN OLDER ADULTS

Chase Decker, Emma Lemire, and Alyssa Snyder

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Poster

ABSTRACT:

More than 60% of individuals living with Parkinson's disease fall each year (Parkinson's Foundation, 2025). These individuals also experienced postural instability, gait changes, and fear of falling and had a much higher risk of falls (Chen et al., 2021; Mackay et al., 2021; Pelicioni et al., 2019). Due to both the human-animal bond and the three-dimensional horse movement activating the neuromuscular system, equine-assisted services (EAS) are an innovative approach for falls prevention. Over 8-10 weeks, both simulated horseback movement (Goudy et al., 2019) and groundwork (Berardi et al., 2022) improved balance in individuals with Parkinson's disease. No known research focuses on mounted EAS for falls prevention. This pilot waitlist control study measured the effectiveness of six sessions of horseback riding on fall prevention in 12 participants over 60 with Parkinson's disease. Outcome variables included: 1) Tinetti Balance and Gait, 2) Posture Screen app, 3) Adverse Events Questionnaire, 4) In-Session Observation, 5) Activities-Specific Balance Confidence Scale. Findings suggest improvements in confidence walking on different surfaces (e.g. ice, parking lot, mall), overall Tinetti score (M=22.6, SD=5.9 compared to M=24.2, SD=3.5), gait (path, trunk control, and walking time), and balance (chair stand, nudged, step continuity and steadiness). Participants improved in self-corrected positioning, maintaining ankle dorsiflexion in the saddle, and body control. Posture Screen comparison suggests improvement in alignment of the shoulders, hips, and knees. While further research on larger samples with randomized controls are needed, this research demonstrated feasibility and supported improvements from mounted EAS for older adults living with Parkinson's disease.

EVALUATING THE IMPACT OF SELF-CARE ACTIVITIES

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ABSTRACT:

While self-care is widely recognized as a tool for stress management, its immediate effectiveness in professional and academic settings remains under explored. This study examines the impact of self-care activities on stress levels among attendees at the National Organization for Student Success (NOSS) Conference.

A dedicated self-care room offers various stress-relief activities, including coloring, drawing, puzzles, journaling, fidget toys, art, stretching/yoga, listening to nature sounds, books, darts, making scented sachets, Play-Doh/clay, cards, inspirational quotes, and fact sheets/PowerPoint resources. Participants complete a pre-activity survey assessing their initial stress levels, engage in their chosen self-care activity, and then complete a post-activity survey to measure changes in stress.

By analyzing these data, this study seeks to determine which self-care strategies are most effective in reducing stress in a high-demand conference environment. Findings will offer insight into the role of structured self-care in professional and academic settings, informing future conference planning and institutional well-being initiatives.

This presentation will share results, discuss trends in activity preferences, and explore practical implications for integrating self-care into high-stress environments. By prioritizing well-being, organizations can foster more sustainable engagement and productivity among attendees.

SELF-CARE AND SUBJECTIVE WELL-BEING IN SLIPPERY ROCK STUDENTS

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Poster

ABSTRACT:

This study explores the relationship between self-care practices and subjective well-being among college students. A survey will examine students' beliefs about self-care, their regular self-care practices, and the duration of time spent on self-care practices as well as their happiness and resilience. Analyses will explore whether the frequency and type of self-care activities influence happiness and resilience. Given the unique academic, social, and personal stressors faced by students, self-care has been increasingly recognized as a crucial factor in supporting mental and emotional health.

Our anticipated sample is 150 -200 students. We are recruiting participants from Introduction to Psychology and two senior-level courses in psychology. This will allow us to compare knowledge about self-care and active self-care practices between lower and upper-level students. We expect to complete data collection in March 2025.

The study utilizes validated measures, including the Oxford Happiness Questionnaire, the Connor-Davidson Resilience Scale (CD-RISC-10), the Mindful Self-Care Scale (MSCS), and the Night Sky Connectedness Index (NSCI), to assess subjective well-being, resilience, and self-care behaviors. Additionally, open-ended questions will provide qualitative insights into students' perceptions of self-care and its emotional effects.

Qualitative analyses of open-ended responses will identify themes in participants' beliefs of self-care as well as their practices. Quantitative analyses will include linear regression and correlation analyses to examine the relationship between the independent variables, their interactions, and their effects on subjective well-being.

Findings from this study will contribute to the growing body of research on self-care and well-being, offering practical implications for developing wellness programs that foster resilience and mental health in college populations.

Social Sciences

HOW THE EMPLOYEE-MANAGER RELATIONSHIP AFFECTS SUPPORT FOR UNIONS

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Oral

ABSTRACT:

This study explores how employees' interactions with their managers influence attitudes toward unionization. Existing studies have talked about how an employee and manager's relationship affects the job itself but never have talked about how the managerial and employee relationship affects an employee's decision to support a union. Employee-manager relationship inform managerial strategies, significantly impacts employees' perceptions of workplace fairness, job satisfaction, and in collective bargaining. This research is grounded in the social custom model, which posits that workplace relationships are shaped by reciprocal interactions. The social custom model suggests that individuals' decisions, including whether to join a union, are influenced by prevailing social norms and peer behaviors rather than purely economic or individual considerations. In this model, if union membership is widely accepted and encouraged within a workplace, employees may feel social pressure to join, even if they are indifferent or hesitant. Employees assess their relationships with managers based on perceived fairness, support, and trust. Positive managerial interactions may foster loyalty and reduce the perceived need for union protection, while negative interactions can lead employees to seek collective representation as a safeguard against managerial exploitation. To test this hypothesis, data will be collected through an anonymous cross-sectional survey distributed via social media platforms. The survey assesses the quality of managerial interactions and union support among respondents. The study employs quantitative statistical analysis using JASP software, incorporating descriptive statistics, chi-square tests, and logistic regression analysis to examine the relationship between managerial relationships and union support. The findings on managerial behaviors influencing employees' inclination toward unionization, contributing to labor relations literature workplace policies aimed at improving managerial-employee relationships. Given the ongoing debates on labor rights and unionization in various industries, this study provides timely insights into the role of management in shaping workers' support for unions.

UNDERSTANDING POLITICAL MISINFORMATION ON SOCIAL MEDIA

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Oral

ABSTRACT:

Political misinformation spreads rapidly on social media, shaping public opinion and influencing elections. Existing research suggests that people often rely on cognitive shortcuts rather than fact-checking, leading them to accept false information. However, media literacy's role in limiting misinformation has not been adequately explored. This study investigates how media literacy affects belief in political misinformation on social media. Using the Cognitive Misers Theory, which explains why people accept misinformation due to limited cognitive effort, this study hypothesizes that individuals with lower media literacy are more likely to believe and share false political information. To test this hypothesis, a cross-sectional survey will be conducted through Qualtrics, targeting social media users. The survey includes demographic questions, media literacy assessments, and a misinformation evaluation task where participants will judge the accuracy of a real and fictional media headline about a political leader's death. ANOVA will be used to compare the average belief in misinformation scores across different levels of media literacy. Findings from this study will help determine whether improving media literacy can reduce the spread of misinformation. By identifying key vulnerabilities, this research may contribute to the development of better digital literacy programs, helping people better evaluate political content online.

TRUST IN STATE GOVERNANCE AND SUPPORT FOR RESTRICTIVE ABORTION POLICIES IN PENNSYLVANIA

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Oral

ABSTRACT:

Polices on abortion has been and will remain one of the most controversial issues in the United States. Existing research has largely focused on legal and ethical debates, yet little is known about how public trust in state governance influences support for abortion policies. This study addresses this gap by examining how trust in Pennsylvania's state government relates to support for a restrictive abortion policy.

Drawing on policy feedback theory, which proposes that existing policies shape public attitudes and engagement in politics, I am investigating how the effect of an abortion law in Pennsylvania may reinforce or weaken trust in the state government. I hypothesize that individuals with higher trust in the Pennsylvania state government are more likely to support a state-level constitutional abortion ban for twelve weeks and beyond.

To test this hypothesis, I will conduct a survey targeting Pennsylvania residents across political and demographic groups. The online survey will measure trust in state government, perceptions on abortion access, and the key control variables such as political ideology, party affiliation, and other demographics.

I will utilize a regression analysis to assess the relationship between trust in Pennsylvania's government and perceptions on abortion policy, while controlling for additional variables. Descriptive statistics and contingency tables will help identify patterns and interactions across demographic groups.

The findings will provide insight for policymakers seeking to understand public confidence in legislative actions and will advance the political trust literature, specifically within the context of reproductive rights debates.

CULTURAL MODERNIZATION AND GENDER DISPARITIES IN INDONESIA'S LABOR MARKET

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ABSTRACT:

Indonesia's female labor force participation (FLFP) rate has stagnated at approximately 51% for the past two decades, despite continued economic growth and modernization. While existing studies examine national-level trends, little research explores variation at the regency level, where socio-cultural factors and economic conditions differ significantly. Previous research has linked religion to FLFP, showing that Indonesia's predominantly Muslim regions tend to have lower participation rates compared to those with higher shares of other religious groups

This study builds on these findings by examining the relationship between broader self-expression values and the gender gap in labor force participation (LFP) across all of Indonesia's 514 regencies. Drawing on Inglehart and Welzel's Theory of Modernization and Emancipative Values, it hypothesizes that social and demographic indices serving as proxies for self-expression values—such as lower fertility rates, higher divorce rates, greater educational attainment, and varying religious compositions—will be correlate with smaller FLFP gaps, reflecting greater gender equality.

Using data from Indonesia's 2022 census and government statistical publications, this study constructs a composite index of self-expression values through a factor analysis, incorporating religious composition, total fertility rates (TFR), divorce rates, and mean years of schooling (MYS). In addition, a multiple linear regression for each predictor variable will assess its relationship with LFP disparities while controlling for Gross Regional Domestic Product (GRDP) per capita and unemployment rates, which is consistent with existing literature.

Findings are expected to show that higher self-expression values correlate with smaller FLFP gaps, supporting the role of cultural norms in shaping women's labor market participation—an outcome consistent with Inglehart and Welzel's theory of economic modernization. However, results could find little to no relationship between greater self-expression values and gender disparities in FLFP at the regency level, suggesting that other structural or cultural barriers may be at play.

THE EFFECTS OF TIKTOK USAGE ON COLLEGE-AGED VOTERS

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Oral

ABSTRACT:

'How Does TikTok Increase Voter Turnout Among Young People?' Existing literature studies this question with Facebook or Twitter, but their work is conducted on TikTok. TikTok is a popular social media platform among Generation Z, specifically college-aged individuals, and can effectively disseminate engaging political content that resonates with this demographic. Regarding theories pertaining to this issue, the Social Processing Theory which outlines that individuals learn through social interactions, conversations, and behaviors of mutual friends. The entertaining and relatable nature of TikTok videos can enhance awareness and understanding of voting issues, making the process feel more accessible and relevant. Exposure to political content on other social media sites has led to higher voter turnout amongst the same demographic. Additionally, the influence of peers and popular creators on the platform may create a social norm that encourages voting, motivating users to participate. This study tests the hypothesis; '**Increased exposure to political content on TikTok correlates with higher self-reported voter turnout among college-aged individuals**' Now, turning toward data collection within this study. I will conduct a cross-sectional survey with a convenience sample. The survey will ask a range of questions from demographic information to reported frequency of TikTok usage and if the respondent voter in the 2024 Presidential election. I will analyze these responses using a self-report survey for respondents. First, starting with the IRB consent form, then moving towards short demographic questions to ensure respondents are comfortable answering the questions and allow them to become immersed in the study, reducing the likelihood they discontinue their answers. Then, the researchers will collect provided data and input data into their calculation table. Ultimately, the data will allow the researchers to see if their hypothesis has either been proven or disproven through this method. To analyze the data collected, I will run a Spearman Correlation Test to identify the relationship between TikTok usage and college-aged voters' participation in elections.

HOW DOES AMERICA'S FREEZE ON FOREIGN AID AFFECT INTERNATIONAL RELATIONS?

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Poster

ABSTRACT:

The ninety-day freeze on U.S. foreign aid is a monumental executive order that has proven to impact humanitarian efforts all around the world. In recent history, countries such as the UK and Norway reduced their foreign aid, but this does not compare to a complete halt of over 70 billion dollars from the planet's main source of aid. This project aims to examine how other countries are responding to this recent shift in foreign affairs. This requires an investigation of three components: the reaction of those who are no longer receiving it, the actions of those capitalizing off this decision to freeze aid, and what this means for U.S. foreign relations. Approaching this topic requires understanding the principles of social sciences, as there will be much skepticism and consideration of trade-offs while studying the data behind this current political issue.

EXAMINING BELIEFS ON LIFE AND JUSTICE: A STUDY ON ABORTION AND CAPITAL PUNISHMENT

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Oral

ABSTRACT:

This study examines why some individuals who identify as pro-life also support the death penalty, despite the apparent contradiction between protecting innocent life and endorsing capital punishment. Pro-life beliefs emphasize the sanctity of life, while support for the death penalty assumes confidence in the justice system's ability to fairly determine guilt and impose the ultimate penalty. This research explores whether confidence in legal institutions helps reconcile these views. Using institutional trust theory, which suggests that trust in institutions influences policy preferences, this study hypothesizes that individuals with high confidence in the justice system are more likely to support both pro-life and pro-death penalty positions. The hypothesis being tested is that stronger institutional trust correlates with this dual stance, as individuals may believe the legal system effectively distinguishes between innocence and guilt. To examine this relationship, an online survey will be conducted among U.S. adults, measuring views on abortion, capital punishment, and confidence in the justice system. Data will be analyzed using descriptive statistics, t-tests, and ANOVA to assess whether variations in institutional trust predict support for both policies. This study acknowledges limitations such as self-reported bias and sampling constraints but aims to provide insight into how moral and political beliefs interact with trust in institutions. The findings will contribute to political science research on institutional confidence, public opinion, and moral reasoning, clarifying how individuals justify seemingly contradictory policy positions.

SOCIOECONOMIC STATUS AS A DRIVING FACTOR OF PARTISAN POLARIZATION

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Oral

ABSTRACT:

Do people with a higher socioeconomic status display lower partisan polarity compared to people who have a lower standard of living? This question matters practically because partisan polarization is a serious issue in the United States, and has been consistently increasing over the past twenty-five years according to multiple studies done across the country. Existing research has been done in Europe, with countries like England and France on this particular study, under different forms of government and cultures. Studies in the United States have addressed other factors such as locationary bias, inequality, social media, and controversial issues such as abortion, or immigration. This study specifically looks at standard of living within the United States. Drawing from the 'Social Polarization Theory', this paper argues standard of living is a driving factor in segregating the United States politically. If individuals who possess a higher standard of living display a lower 'amount' of partisan polarization compared to those who have a lower socioeconomic status, this would allow researchers to identify a large driving factor in partisan polarization. The Hypothesis is individuals with a lower socioeconomic status will exhibit a much larger amount of partisan polarization than people with a higher socioeconomic status. If correct, people are acquiring higher polarization for the opposite party they affiliate with due to their socioeconomic status, and shows researchers an issue that can possibly be solved. Data will be collected with a cross-sectional survey of individuals. The statistical method that is being used to analyze and confirm or fail to confirm the hypothesis is the ANOVA. This is the most appropriate because it will determine significant differences between groups of people such as Republicans compared to Democrats, or low-income versus high-income households.

SOCIAL ATTITUDES AND PARENTHOOD: HOW SOCIETAL STATISTICS IMPACT THE DESIRE FOR CHILDREN

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Oral

ABSTRACT:

How do social attitudes toward children impact an individual's desire to have children? This study explores how societal levels of reproductive regret may impact perceptions and decisions regarding parenthood. This is a crucial question given shifting demographic trends in the U.S., where birth rates continue to decline. Overall, this research examines a largely unexplored topic and addresses how broader societal trends influence reproductive decision-making.

This research is grounded in the risk aversion theory, which explores how individuals avoid risks to minimize negative outcomes. This theory is relevant because it suggests why a participant's desire to have children might change based on the statistic.

Participants will be randomly assigned to one of three groups receiving fictional information about societal reproductive regret. Treatment one will receive a statistic and graphic indicating high regret, treatment two will receive a statistic and graphic indicating low regret, and the control will receive a neutral question. Participants will then indicate their awareness and rank their desire to have children and the preferred number of children. This survey experiment tests two hypotheses: when informed about high regret, desire to have children will decrease; and when informed about low regret, desire to have children will increase. High regret may signal that parenthood is risky, causing a reduced desire for children, while low statistics may have the opposite effect.

An ANOVA test will compare group means to evaluate the determinants of reproductive desires. Following this, a Post Hoc Tukey test will assess differences in means and whether the information impacted participants.

EXAMINING PEER EFFECTS ON CRIMINAL WILLINGNESS

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ABSTRACT:

Does association with criminal peers increase an individual's willingness to commit petty crimes? Sutherlands Theory of Differential Association regards crime as learned behaviors that are the product of influence from close friends and family members. Research and experimentation surrounding these topics of crime and human behavior greatly contribute to our knowledge and understanding of the causes of crime, and the effectiveness of practices in combatting it. I will test the hypothesis that those who associate with criminal peers are more likely to express a greater willingness to engage in petty crime. A cross-sectional survey will be conducted to collect data on the respondents. Key variable questions recording presence of criminal peers and their degree of influence will be presented. Questions will present hypothetical scenarios for participants, allowing them to gauge their likelihood of engaging in the described petty crimes. This line of questioning and data collection is applicable because it is designed to observe exactly what is being questioned. Upon the completion of data collection, survey results will be examined through the process of statistical analysis. An ANOVA test will be the primary method to test the hypothesis. Its ability to compare data means between groups will be essential. Furthermore, this test will allow me to isolate variables, as well as examining any correlations they might share. The relevance and provisions of this research to the fields of Criminology and Social Sciences are vital, as it contributes to the body of knowledge surrounding crime and human behavior.

BIAS IN HEALTHCARE POLICY: HOW FRAMING SHAPES PUBLIC SUPPORT

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ABSTRACT:

The Affordable Care Act (ACA) is a highly politicized policy, often shaping public opinion along partisan lines despite certain provisions receiving widespread support. This study examines how personal healthcare experiences and policy framing influence public attitudes toward these protections. Specifically, it explores how individuals' interactions with the healthcare system and the way policies are framed impact support for pre-existing condition protections. Grounded in Policy Feedback Theory, which suggest that direct experiences with policies shape public attitudes, this study hypothesizes that individuals with more frequent or positive healthcare experiences will be more likely to support these protections. Framing Theory further argues that the way a policy is presented influences perception, leading to the prediction that neutral framing excluding references to "Obamacare" or the ACA will reduce partisan divides in support. To test these hypotheses, this study employs a survey experiment using Qualtrics, where participants are randomly assigned to either a partisan or neutral framing condition. Data will be analyzed using ANOVA to assess the effects of framing, personal healthcare experiences, and political affiliation on policy support. By investigating these factors, this research provides insights into how policymakers can frame healthcare policies to foster great public support, reduce partisan resistance, and improve policy communication.

ELECTION OUTCOMES AND ABORTION POLICY EXPECTATIONS

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ABSTRACT:

How did the outcome of the 2024 U.S. presidential election influence partisan perceptions of future abortion access? Existing research suggests electoral outcomes shape public expectations of policy changes, particularly on polarized issues. This study addresses a gap in research by focusing on how voters interpret election results before policies are enacted. Given the polarized nature of the 2024 election, this study can examine the first presidential election- and how it influenced abortion perceptions- following Roe V. Wade.

Policy Feedback Theory suggests that electoral outcomes can shape expectations by signaling future policy directions; in the case of Trump's victory, this may prompt states to tighten abortion laws, anticipating favorable judicial rulings or political support. Although abortion is regulated at the state level, his administration could potentially reinforce anti-abortion trends through conservate judicial appointments, restrictive federal funding policies, and executive influence, shaping perceptions of abortion access through the broader political climate.

I hypothesize that Trump supporters will express increased confidence in abortion restrictions, while Harris supporters will express heightened concerns regarding diminished access. To test this, I will conduct a survey on Pennsylvania voters and analyze how partisan media coverage and voter ideology moderate perceptions. This study will improve our understanding of how elections, despite their lack of direct policy impact, shape expectations and reinforce state-level policy shifts.

GENDER BIAS IN JUDICIAL APPROVAL: THE INFLUENCE OF BIAS ON PUBLIC TRUST IN FEMALE JUDGES

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ABSTRACT:

Research shows that gender stereotypes shape perceptions of leadership and decision-making, often placing women at a disadvantage in positions of authority. However, what has not been sufficiently studied is how these biases influence public evaluations of judicial impartiality towards women and whether demographic factors shape these perceptions. This gap raises an important question: "Does the gender of a judge influence public perceptions of fairness in criminal cases?" Public trust in the judiciary is crucial for its legitimacy, and if female judges are perceived as less fair, it could undermine confidence in the justice system. To explore this question, I adopt the Role Congruity Theory, which suggests that women in leadership positions face prejudice for violating traditional gender norms. Judges must exhibit assertiveness and decisiveness, traits often associated with masculinity, making female judges vulnerable to negative evaluations. Using this theoretical reasoning, I hypothesize that female judges will be perceived as less fair than male judges in criminal cases due to implicit gender biases. I conduct a survey experiment in which participants are randomly assigned case scenarios where the judge's gender varies and then rate their perception of fairness. Because random assignment ensures differences in perceptions can be attributed to the judge's gender rather than confounding factors, this design allows for causal inference. I will analyze my data with ANOVA tests to determine significant differences in perceptions of fairness and perform a Tukey post-test to identify group differences. By identifying how gender biases influence public perceptions of judges, this research provides insights for policymakers, legal professionals, and scholars working to enhance public trust and equality within the judiciary.

Theatre

FINDING FANTASY IN A WORLD AT WAR: AN *ALICE BY HEART* SOUND DESIGN

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Poster

ABSTRACT:

For my design of *Alice by Heart* I had to create three separate worlds of sound. The initial world of sound is set in reality. This is to cement the world into the setting and the period. This world intensified feelings of dread and sadness that are caused by war. The second world is an altered reality reflecting the moments Alice believes she is in Wonderland. The sounds from this world were purposely over-exaggerated and distorted to instill a sense of fear. The intent was to make the audience feel unsettled and depressed. The final world evoked a childlike whimsy to remind the audience of the innocents and innocence that had been casualties of war. This juxtaposition increased the dramatic tension between the fantasy and reality of the piece.

I achieved this by researching and curating a collection of sounds ranging from period accurate World War 2 sounds to more whimsical, happy sounds. The more realistic, unaltered sounds of the time created the first aural world, consisting of sounds like bombs, planes, tanks, radios, and rumblings that let the piece settle into the London Underground tube station. Due to the subterranean setting, most of these sounds were edited to sound muffled. With the second world being set in Wonderland, the audio effects primarily consisted of realistic sounds altered to the point of fantasy using audio engineering software. Finally, sound effects for the third world had more peaceful elements like chirping birds, children laughing, and a music box. These elements were used only in moments with the characters of Young Alice and Alfred to be a reminder of what was lost.

CHILDHOOD NOSTALGIA REIMAGINED: SOUND DESIGNING *JUNIE B. JONES THE MUSICAL*

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Poster

ABSTRACT:

Junie B Jones is an iconic childhood book series my generation grew up with. The lighthearted, inspirational stories, and nostalgia are quick ways to describe this series, and I want to convey that feeling through my design.

Although this musical can be presented through a very realistic soundscape, with traditional school environments, bus sounds, and bells, I decided that going a cartoonish route better conveys that nostalgic fun that we grew up reading. The license for this production provided several sound effects for use with the show, however I felt those effects relied too heavily on realism and did not fit my design aesthetic. When researching audio, I took inspiration from Looney Toons and other similar cartoons, getting inspiration from those dramatic crashes and goofy bus horns. One of the things I found the most interesting in this research was the timing of the sounds. Our script lays out suggested timing for the provided cues, but creating my own audio effects allowed me the freedom to adjust the timing or add additional sounds to further benefit the production, so I focused on comedic timing as well as curating an effects library.

The main challenge I faced was trying to align my design concept with the artistic vision of the director. I ultimately resolved this by balancing the more cartoonish effects that I curated with the more realistic sounds designated by the production. This was important to be mindful of, as going too far into the cartoon effects, the design could become overly slapstick and unamusing and too far into the realism would rob the piece of its lighthearted, nostalgic fun. This collaboration provided me with the opportunity to find a happy medium within the effects and allowed me the ability to focus on emphasizing the timing of the cues.

THE ASTRONOTS SOUND DESIGN

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Poster

ABSTRACT:

The Astronots puts a crew of ordinary people into an unexpected space adventure with an eccentric billionaire. The title is a play on the word “astronaut” as the crew is woefully underequipped for the rigors of space travel. As the sound designer for this production, my goal was to create an immersive soundscape to bring the audience into the world of the ship and the minds of the titular Astronots. The VALOR is a reflection of Alston, flashy and futuristic, and the design should reflect this. Most importantly, both Alston and the ship are incredibly constrictive. As a manned spacecraft capable of travelling to Mars currently does not exist, I was able to act as a composer rather than a curator. By keeping a continuous soundscape, the audience experiences both the initial wonder of the ship and the eventual monotony of constant noise from the console. Putting the audience into the world of the ship rather than being observers also serves to create more effective action sequences.

While the ship can be used as a base for the soundscape, its constant presence also allows for it to take on its own voice, chirping into conversation at some points and becoming a sort of instrumentation in others. Whether incorporated in the open or more subtly, this allows the sound to be far more dynamic and creates the sense that the VALOR is its own character.

REBUILDING HOPE: THE STORY OF THE WHITE HORSE INN

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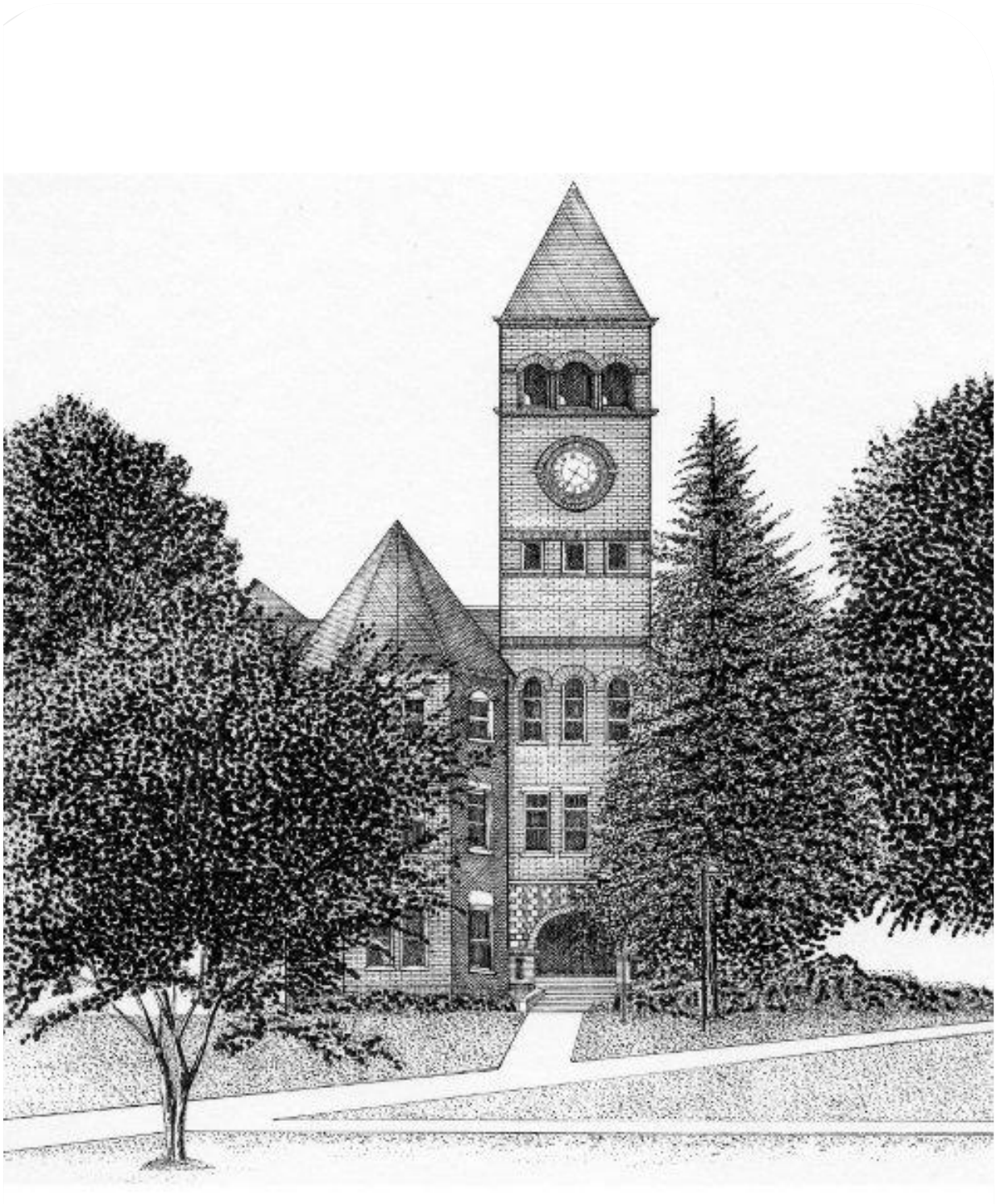
ABSTRACT:

The White Horse Inn, one of Shanghai's most significant pieces of WWII history, played a huge role in the lives of Jewish refugees. The White Horse Inn was established in 1939 by Viennese refugees Rudolf Mosburgh and his wife who fled from Vienna, Austria, to Shanghai. Seeking to create a sense of home and familiarity, the inn was built with an Austrian style, which brought comfort for European Jews which had fled from Nazi persecution. The inn served as a gathering space and hosted social events and musical performances, and many memories were created. It was a place for Jewish refugees to have a space to connect and preserve their culture (SISU). They were able to connect with each other since they were all going through the same circumstances. This gave the refugees a sense of normalcy in a world filled with chaos. Many years later in 2009, the White Horse Inn was demolished. After locals realized the historical and cultural significance, the inn was rebuilt in 2015 near its original location, retaining some of the building's original components. Now, it is a part of the Shanghai Jewish Refugee Museum, and people can appreciate the rich history that once was the present ("About the Museum-Shanghai Jewish Refugees Museum"). It is important for students today to learn about places like the White Horse Inn because they hold lesser-known pieces of WWII history. The White Horse Inn was not only a piece of history, but it was a reality that shaped many people's lives at the time, and it demonstrates how people support each other in times of crisis. Places like the inn provided not just an escape, but hope and belonging in an uncertain world.



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