Southern Connecticut State University

Undergraduate

Research & Creativity

Conference

Saturday, May 3, 2025

A letter from the Undergraduate Research and Creativity Conference Planning Committee:

The most beautiful thing we can experience is the mysterious.
It is the source of all true art and science.
– Albert Einstein

While science and art are said to activate opposite sides of the human brain, they ultimately share a key purpose in the human condition: to enlighten. Scholars from all disciplines within the arts, education, humanities, sciences, social sciences, and business set out to quantify the intangible, shine a light of understanding upon the unknown, and harness the mystery seeping deep into the corners of our very existence. Though these disciplines have varying degrees of creativity and logic, they all rely on observation, interpretation, and documentation in one form or another to share this enlightenment. We appreciate them all, hoping to gain knowledge, understanding, and appreciation of the world around us.

Scholarship and creativity act as the glue that binds humanity together, collecting us in the shared purpose of enlightenment. It is with respect to this purpose that we set out to gather and celebrate the scholarship and creativity of the students at Southern Connecticut State University. It is our honor as members of the organizing committee to welcome you to the 8th Annual Undergraduate Research and Creativity Conference, hosted by Southern Connecticut State University. This conference is a celebration of scholarship and creativity in all forms, as well as a showcase for the leading minds of today's undergraduate community. As an educational institution, Southern seeks to promote interdisciplinary academic careers and both logic and creativity are key components in individual, economic, and societal success. The posters, oral presentations, art installments, and other various exhibitions highlighted in this conference demonstrate the diverse scope of subjects engaged by students from many disciplines as well as illustrating the parallels between them. The Research and Creativity Conference is a celebration of our journey to enlightenment. It aims to not only encourage continued work by the undergraduate community, but also to awaken individual curiosity and purpose. So it is with great pleasure that we present the scholarship and creative activity featured this year and invite you to join in what promises to be an unparalleled demonstration of undergraduate accomplishment.

The Annual Undergraduate Research and Creativity Conference is proudly sponsored by

The SCSU Foundation
The Office of the Provost/Vice President of Academic Affairs
Division of Research and Innovation
The Research and Scholarship Advisory Committee
The Office of STEM Innovation and Leadership
The Art Department
The Office of the President

Conference Organizers
Listed in alphabetical order:

Charles Baraw
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Jonathan Wharton
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10th Annual Undergraduate Research and Creativity Conference

Saturday, May 3, 2025 | 9:00 a.m. – 3:30 p.m.

Southern Connecticut State University

9:00 – 9:30 a.m.	Check in Poster and oral presentation set-up	ASC 3rd floor
9:30 – 9:45 a.m.	Welcoming Remarks:	ASC Ballroom

Michele Thompson, Ph.D. | *Prof. of Southeast Asian History & Chair of the Research and Scholarship Advisory Committee*
Julia Irwin, Ph.D. | *Interim Provost & Vice President of Academic Affairs, Southern Connecticut State University*
Dwayne Smith, Ph.D. | *Interim President of Southern Connecticut State University*

10:00 – 12:00 p.m.	Senior Art Exhibition Artists' Talk	ASC Theater
10:00 – 12:00 p.m.	Organized Panel – Session 1 Organized Panel – Session 2 Organized Panel – Session 3 Oral Presentations – Session 4	ASC room 306 ASC room 308 ASC room 309 ASC room 311
10:00 – 12:00 p.m.	Studio Art Senior Exhibition	Buley Library Art Gallery
12:00 – 1:00 p.m.	Lunch Coffee and Dessert	ASC First Floor ASC Ballroom
1:00 – 3:00 p.m.	Studio Art Senior Exhibition	Buley Library Art Gallery
1:00 – 3:00 p.m.	Organized Panel – Session 5 Organized Panel – Session 6 Oral Presentations – Session 7 Oral Presentations – Session 8	ASC room 306 ASC room 308 ASC room 309 ASC room 311
1:00 – 3:30 p.m.	Poster Session and Musical Performances	ASC Ballroom
3:00 – 3:30 p.m.	Awards	ASC Ballroom

10:00 – 12:00 p.m. | Senior Art Exhibitions

ASC Theater

2025 SCSU Senior Art Exhibition Artists' Talk

AT.1 *Outlaw*
Author(s): Tyrese Abdul-Shakoor
Faculty Mentor: Jeremy Chandler
Abstract: As a photographer I find myself more immersed in the world of strangers than in my own mind, constantly scanning other people's lives and taking glimpses of their world to fill mine. With my camera I aim to tell stories that resonate with the lives I've spent so long infiltrating.
The series Outlaw is not just a photographic series but a mental representation of myself portrayed as the cowboy, a symbol that has become synonymous with freedom, isolation, and the idea of rebellion. Against the backdrop of the modern American city, the epicenter of progress, opportunity, and identity.
The cowboy is a figure of American legend destined to conquer the untamed frontier of the Wild West. My cowboy is placed in the heart of the new frontier, that is the American city, both out of place and exactly where he belongs- a representation of the duel for success in the modern world and the search for belonging. This is intended to be a visual exploration of self and society.

AT.2 *Senior Art exhibition*
Author(s): Yochanah Best
Faculty Mentor: Thuan Vu
Abstract: I will be giving an artist's talk and slide presentation about my work that appears in the 2025 Senior Exhibition. I will discuss how I came to Jewelry and how learning various techniques and processes have informed my art making.

AT.3 *2025 Senior Exhibition*
Author(s): Talia Lucibelli
Faculty Mentor: Gregory Cochenet
Abstract: An oral presentation accompanying a slide show featuring photos of previous work and exhibition work. Adding both old and current works will highlight my progression and learning of the craft. My focus is ceramic work, more specifically wheel thrown pottery.

AT.4 *Senior Art exhibition*
Author(s): David Lysak
Faculty Mentor: Terrence Lavin
Abstract: I will show some slides of my work at SCSU. I will give a very brief explanation of each slide.

AT.5 *My Central America*
Author(s): Daniel Ramirez
Faculty Mentor: Thuan Vu
Abstract: This artist's talk is an accompaniment to my senior exhibition installation: This collection of work exists within the themes of identity, including being unapologetically Central American. Deriving from architectural motifs and vibrant colors, in combination with lived experiences, familial histories, and personal artifacts that manifest as autobiographical documentation of My Central America.
The repetition and physical layering with my works on paper reference ironwork found throughout Latin America, as well as the imagined natural or domestic landscapes in which they exist. This work celebrates new perspectives on diasporic cultural heritage of a geographical region often hidden.

AT.6 *Plant or Animal*
Author(s): Sabrina Remette
Faculty Mentor: Mia Brownell
Abstract: my presentation will be on a series I created titled 'Plant or Animal' : Mimicry is when an organism superficially resembles another organism for survival purposes. An example of such things is the stick bug: an insect that resembles a stick, thus giving it protection from predators, like avians. The evolutionary advantage to mimic another organism allows for better survival and in turn strong chances to continue the species though procreation. My series of paintings Plant or Animal is inspired by mimicry found in nature. In some pieces I expand this idea with my own creatures based on research and imagination.

AT.7 *James*

Author(s): James Rogers
Faculty Mentor: Thuan Vu
Abstract: Artist Statement: My appreciation for photography was something that started fairly recently in my life. Growing up, I hated having my picture taken. I did not want to feign a smile for the sake of the photographer whether it was for family, school, or documentation. The catalyst for my interest was when I took my first digital photography class back in late 2022 where I would focus my lens towards architecture, objects, animals, family–essentially anything that did not put the focus on myself in a way that felt inauthentic. I enjoy both the serendipitous spontaneity and relaxed candidness that can occur through the photographic process, whether it involves snapping someone unwinding or capturing a specific moment in time. My fondness for capturing small events is magnified when the subject of the photograph is of something fleeting, occurring for either a few seconds or less. This is why I value the authenticity found in unposed snapshots of people or unalarmed animals. This allows me to avoid the tension that is inevitably created because the subject acknowledges that they will be the center of a photo, which removes any verisimilitude about depicting someone who is going about their day normally. That is my goal when it comes to photographing live subjects: to encapsulate the natural flow of an unguarded individual during their day-to-day life.

AT.8 *Senior Exhibition*

Author(s): Journey Schand-Harris
Faculty Mentor: Thuan Vu
Abstract: Artist talk for Art 493

AT.9 *Artist's talk for the senior exhibition*

Author(s): Mandy Sur
Faculty Mentor: Thuan Vu
Abstract: Artist's talk for the senior exhibition

AT.10 *2025 Senior Exhibition - "Inner Child"*

Author(s): Angelica Tiska
Faculty Mentor: Gregory Cochenet
Abstract: The smallest objects can create the biggest impact. This is the philosophy that has guided my ceramic works for the past year. In my sculptures, I scale up objects from my childhood bedroom. I do this to emphasize how, when I was young, my favorite toys and treasured objects loomed much larger in my imagination than their actual size. I want the sculptures to depict a strong, overbearing presence, which conveys their oversized role in my early life. The relationship to these objects and my treatment of them in clay is often attached to a multitude of memories. Nostalgic in nature, the details in the sculptures show the wear and tear of these beloved items, capturing a particular time in childhood, one that can be looked back upon fondly. Growing up happens quickly, but the items we once deemed precious continue to stick with us, keeping the inner child alive.

10:00 – 12:00 p.m. | Organized Panel – Session 1

ASC Room 306

Afterlives of The Scarlet Letter: Works-In-Progress

OP1.1 *Not Faithful but True: Film adaptations of "The Scarlet Letter"*
Author(s): Derek Banks-Nettle
Faculty Mentor: Charles Baraw
Department: English
Abstract: Film directors have been inspired in creating their own versions of Nathaniel Hawthrone's *The Scarlet Letter*. This paper explores how the 1926 silent adaptation directed by Victor Sjöström, and the critically divisive 1995 adaptation directed by Roland Joffé, are neither faithful adaptations to the original text, but both still remain true in the characterization of Hester Prynne. Neither film is faithful in that they both display how Hester and Dimmesdale got together, which the original text never delved into. The films also both create an interpretation of Dimmesdale, who explicitly loves Hester, completely changing what is described in the text. Changing the characterization of a key character creates films that have similar events taken from the book but have completely different meanings. Where the films shine, however, is that both films' characterization of Hester remains faithful to the source material. Hester displays independence from patriarchal Puritan beliefs through sexual defiance and motherhood. The Roland Joffé film shows Hester's independence by her being more forward with her feelings with Dimmesdale. The Victor Sjöström films show Hester's independence by subverting woman roles in early American society. Finally, I analyze new films with a specific gaze that have qualities that still remain true to the characterization of Hester. The 2019 film *Midsommar,* directed by Ari Aster, depicts the main protagonist, Dani, as a character that aligns with the characterization of Hester in the original text. Therefore, movies still being released today show how the characterization of Hester Prynne is still alive.

OP1.2 *Conversations from the Old Manse: Completing the Speech Circuit.*
Author(s): Joshua Dommel
Faculty Mentor: Charles Baraw
Department: English
Abstract: This paper establishes Mosses From an Old Manse and Hawthorne's subsequent work The Scarlet Letter as afterlife narratives, or literary re-imaginings that echo a previous cultural conversation, and subsequently expand its breadth. Specifically, Hawthorne's response repudiates the transcendentalist viewpoint Emerson presents in his essay Nature surrounding humanity's relationship to the normatively capitalized "Natural" world, compared to what is socially constructed or divinely ordained through what Sausseruan linguistics terms the "speech circuit." Put simply, regardless of canonization, no work can stand entirely on its own without being subject to the influence of contemporaries and, in turn, becoming the subject for future influence itself. This becomes evident with an examination of where the two men isolated themselves to write. A neatly carved wooden desk, perfectly painted and fit together with a heightened tabletop to fit Ralph Waldo Emerson's lanky six-foot frame stands, positioned firmly between its pointed view of the window overlooking the manse's garden and the second desk - this one belonging to Hawthorne; purposefully handbuilt to face the opposite wall as to not allow in any distractions during his process of composition. The "afterlives" of his aforementioned work manifest in the interplay of its author's role: a self-canonized, inserted, semi-autobiographical entity and the relationship he forms with his own work and the work of contemporaries. Through a detailed account of my literary tourism, I will seek to accomplish what Hawthorne does through his narration: Walk readers through the philosophical environment that his work can be interpreted as a response to.

OP1.3 *Seduced by Hester the Allure of the Wild Woman Archetype*
Author(s): Brianna Magnotti
Faculty Mentor: Charles Baraw
Department: English
Abstract: The Hester they fear is someone who does not run; rather, she stitches her fate with creative hands. The Puritans mark her with the letter A for shame, casting her out of society. This paper explores how Hester Prynne's character in The Scarlet Letter by Nathaniel Hawthorne seduces the minds of readers, not through sensuality, but through the strength and independent nature she exhibits as she embodies the Wild Woman archetype. Remaining unbroken, a wild woman in nature, "an archetype is an inimitable and ineffable force which carries a bounty of ideas, images and particularities for humankind" (Estes 26). After she is ostracized, Hester turns to spirituality and embroidery and is ultimately readmitted into the Puritan community for her charitable work. Hester also embodies the Witch archetype throughout the novel due to her inherently defiant nature of nonconformity. "The conventional

witch-family romance uses the witch to seduce the reader into acting out the passions that she represents, Hawthorne reveals these passions to be the result of the repressed desire which has historically underlain the witchcraft pattern" (Schwab181). I will argue that Hester is not a witch, but a woman who reclaims her truth by finding where she stands in the world around her. Readers are seduced by Hester as she reclaims the symbol of sin, her "A", transforming from Adulteress to Able by the end of the novel.

OP1.4 *Fallen Women, Tragic Men*
Author(s): Elizabeth Sarenas
Faculty Mentor: Charles Baraw
Department: English
Abstract: *The Scarlet Letter*, by Nathaniel Hawthorne, breaks gender stereotypes in literature. This paper explores how Hawthorne inverts the classic storyline of rebellious women coming to tragic ends and gives that conclusion to the male leads, Dimmesdale and Chillingworth. This paper will discuss the influence of *The Scarlet Letter* on gender stereotypes in modern literature, such as *Heste*r by Laurie Lico Albanese (2022). This book utilizes themes of the original text with a strong feminist protagonist but emphasizes the theme of witchcraft and the representation of the "beautiful, wild witch."

OP1.5 *Matriarchal Geometry: Exploring the Angles of Love in American Literature*
Author(s): Wyatt Smith
Faculty Mentor: Charles Baraw
Department: English
Abstract: Love is not as simple as it is intricate. It is often not as straightforward as a line between two points. Love is a paradox that connects characters and weaves them together through a narrative. Their connections define the positions, purposes, and messages within all characters who find themselves in something as complicated as love. This paper will navigate the romantic, social, and personal upheaval of patriarchal positions within a matriarchal narrative. More specifically, it will examine the trends that male characters in love triangles fall into and how they are subverted. As it is in the novels The Scarlet Letter by Nathaniel Hawthorne, and Margret Attwood's The Handmaid's Tale, the men within love triangles are subverted in numerous ways. Some of those ways are how the men present themselves in their public and private lives socially, religiously, and emotionally. Their behavior can be a facade and their desires carefully hidden by societal norms, specifically in the love triangles of Offred, the Commander, and Serena, as well as Hester, Chillingsworth and Dimmesdale. This unveiling of the many deeper, greater, lesser, and more nuanced qualities within men will prove to serve, complement, and contrast the female protagonist and their associated events. Parallels to love will also be explored. Hatred often comes hand in hand with love, as they are not opposites but rather presented as an altered perspective. Through the inversions of the connections between men and women across a multitude of eras, a larger correlation will be made clear.

10:00 – 12:00 p.m. | Organized Panel – Session 2

ASC Room 308

Peru and Health

OP2.1 *The Effects of Malnutrition on Pregnant Peruvian Women and Children*
Author(s): Smith Nicole
Department: Honors College
Abstract: I went on Southern's nursing trip to Peru and was able to help take care of many individuals. My presentation aims to delve into how malnutrition or lacking certain vitamins and minerals negatively impacted the health of pregnant women and children.

OP2.2 *Exploring the Impact of Peruvian Agricultural Practices on Blood Glucose Levels*
Author(s): Delaney Cotter
Department: Honors College
Abstract: I had the wonderful opportunity to study abroad in Peru where I was able to learn and witness some of their agricultural practices. Agriculture is extremely important to Peruvians as they grow many types of crops and vegetables that are necessary to provide for their families. Alongside that I was able to participate in clinics in these rural locations. My job was to take blood glucose levels on adults to monitor for diabetes. In my project I am going to reflect on their agricultural practice and what foods they grow to nourish and feed their families, and look into the impact it may have on maintaining blood glucose levels. Examining if their foods have naturally remained low in carbohydrates, or if a high carbohydrate diet in a rural area can cause a high population of diabetics.

OP2.3 *From Cusco with Care*
Author(s): Kelsey Beas
Department: Honors College
Abstract: This project presents a scrapbook itinerary documenting a study abroad experience in Peru, designed to serve as a practical and engaging guide for future honors college nursing students. The scrapbook combines firsthand experiences, travel tips, cultural insights, and essential nursing-related information to help students navigate their trip with confidence.

OP2.4 *Nursing's Trip to Peru*
Author(s): Lauren Klemonski
Department: Honors College
Abstract: I had the opportunity to go to Peru with Southern's nursing program and I wanted to showcase my experience in a fun and easy to access manner to inspire nursing students in future classes to want to go on the trip.

OP2.5 *Caring Across Cultures: Ethnomedicine and Patient-Centered Nursing*
Author(s): Sada Mussa
Department: Honors College
Abstract: Last semester, I had the opportunity to study abroad in Peru through the nursing department. There, we had the chance to do clinical work in rural areas for the residents and perform checkups consisting of eye exams, vitals, dental checks, and medication dispensing. While on the trip, I learned about different traditional medicines that locals used and how heavily they are integrated into everyday life in Peru. With my major being nursing, nurses need to know about traditional medicines worldwide since we care for patients from all backgrounds and places. As nurses, it's essential to be culturally competent and adaptable to provide safe, respectful, and effective care to everyone. I wanted to create a course that focused on ethnomedicine worldwide, specifically for nursing students to gain more knowledge about traditional medicine and learn more about cultural competence and its importance to patient-centered care.

OP2.6 *"Pathways to Wellness: The Sacred Connection of Spirituality, Nature, and Health in Peru"*

Author(s): Marisa Howard

Department: Honors College

Abstract: During my study abroad experience, I had the opportunity to immerse myself in local cultures, learning from indigenous communities about their unique approaches to wellness. Through conversations with spiritual healers and observations of traditional practices, I discovered how deeply connected health is to the natural environment and spiritual beliefs. The use of sacred rituals, medicinal plants, and ancestral knowledge plays a crucial role in maintaining balance and well-being. I also saw how these practices are rooted in a worldview where nature is seen as sacred and health is about harmony between the mind, body, and spirit. My project highlights the importance of preserving these traditions while also considering how they might offer valuable insights into modern wellness. My time in Peru underscored the idea that true wellness is not just physical—it's spiritual and environmental as well. This project offers a fresh perspective on integrated health practices that could influence global wellness trends.

10:00 – 12:00 p.m. | Organized Panel – Session 3

ASC Room 309

Focus on the Students: Diversity, Access, Treatment, and AI in our Schools

OP3.1 *Automation of Thought and its Effects in Middle School Classrooms*

Author(s): Gianluca Del Mastro
Faculty Mentor: Andrew Smyth
Department: English
Abstract: As soon as ChatGPT was set free into the public, its effect on thought processes, content creation, and classwork have been at the forefront of possible consequences. Many administrators and teachers have adopted the idea of embracing AI due to it being new and not wanting to be left behind.
Many middle school English teachers believe that if AI isn't introduced to their students, then they will use it to complete assignments regardless. What this attitude fails to consider is that other types of technology created to assist thought processes (and other kinds of processes) don't automatically create the work for you. Tools such as calculators, typewriters, and even shovels are merely used as ways to assist an already accomplishable task.
Skills learned through reading and writing in middle school English class don't only apply to writing formal essays; they lay the foundation of properly processing thought and critical thinking skills. The age groups found in middle school are those that are just now starting to form critical thinking skills and understand how the world works. If the process of questioning the world around them, learning how to write, and finding solutions is automated for them, how can they ever be asked to work without such tools? Middle school English classes should focus on creating and improving literacy skills before the effects of AI automating those skills has been well-researched.

OP3.2 *Managing the Middle: Creating Structure and Support in a Middle School Classroom*

Author(s): Michelle Ober
Faculty Mentor: Andrew Smyth
Department: English
Abstract: Managing a middle school classroom effectively requires a balance of structure, support, and adaptability. My proposed presentation will explore research-based classroom management strategies through the lens of Robert Marzano's framework. Specifically, I will examine strategies that foster student engagement, reinforce positive behavior, and establish clear expectations—key elements in navigating the unique challenges of middle school instruction.
Drawing on my experience as a student teacher in a seventh-grade classroom, I will discuss the practical applications of Marzano's framework in real-time classroom settings. The school where I am student-teaching emphasizes Marzano's model as a tool for assessing teacher growth, allowing me to reflect on its effectiveness and areas for refinement. Through formal research, field experiences, and teacher surveys, I aim to share insights on which strategies have been most successful, what challenges remain, and how they can be adapted to meet the needs of diverse learners.
Transitioning into my teaching career, my greatest struggle has been classroom management. While I feel confident in my instructional and lesson-planning abilities, I have faced difficulties engaging students who demonstrate disinterest in learning. This presentation will highlight the strategies I have implemented from Marzano, the lessons I have learned, and the ongoing adjustments necessary for creating a structured and supportive learning environment in an ever-changing world. By critically examining Marzano's framework in practice, this presentation will offer practical takeaways for new and experienced educators alike who seek to refine their approach to middle school classroom management.

OP3.3 *Degrees Out of Reach: Exploring Barriers Preventing Low-Income Students from Succeeding in Higher Education*

Author(s): Yasieli Perez
Faculty Mentor: Jessica Kenty-Drane
Department: Sociology
Abstract: Higher education is a powerful tool, being used as a pathway to economic stability and upward mobility. However, low-income students in the United States deal with systemic and institutional barriers, which makes attaining/obtaining their degree more difficult than those from affluent backgrounds. This research examines how these barriers create inequities in educational institutions. By focusing on Southern Connecticut State University (SCSU), this study shows the lived experiences of low-income students going through higher education and the institutional support systems available to them while they obtain their degrees. Through qualitative research, this study collects data from interviews with 15 SCSU students, as well as from 5 university staff. Staff participants include academic advisors, deans, and directors of support programs. The interviews focused on the participants' lived

experiences through college. The data from this was analyzed through open coding to identify recurring themes, which show the barriers to success and achievement in higher education.

Low-income students face many barriers when accessing higher education and finishing their degrees. These disparities are rooted in financial issues, lack of preparedness from high school, and limited access to support systems. They are deprived of the opportunities gained from higher education. Past research shows that low-income students face a disproportionate disadvantage in balancing academics with work obligations, resulting in high stress levels and low academic performance. Food and housing insecurities increase these challenges, which leads to lower graduation rates. Institutional practices, such as lack of advising and underfunded support programs, limit the success of these students.

OP3.4 *Why Teacher Diversity Matters: Broadening Perspectives Within a School Culture*

Author(s): Alejandra Quinones
Faculty Mentor: Andrew Smyth
Department: English

Abstract: My proposal presentation will explore teacher diversity within school culture, focusing on how Connecticut and other states continue to experience de facto segregation. This de facto segregation, often driven by real estate, economics, and politics, limits students' learning experiences.

As an English student teacher working at a suburban high school, I am witnessing de facto segregation and how it is hindering students ' exposure to perspectives and real-world issues beyond their immediate environment. This observation led me to question what factors hinder students from broadening their understanding. Given that the school population largely centers around the same background, I want to address whether this lack of diversity among students and teachers restricts their learning. This experience has led me to question how, as educators, we can address this issue and create opportunities for students to engage with perspectives beyond their own.

OP3.5 *Evidence-based School SLP Practices; a Qualitative Study Investigating Aphasia Treatment Utilization for Expressive Language Development*

Author(s): Sarah Witteman
Faculty Mentor: Dr. Shawneen Buckley
Department: Communication Disorders

Abstract: Language disorders, whether acquired or developmental, share myriad clinical characteristics and therefore benefit from similar therapeutic interventions or approaches. Developmental language disorders (DLDs) in children and Broca’s aphasia in adults both impact expressive language function. Although treated in different settings, these diagnoses are targeted through similar interventions used to treat Broca’s aphasia, such as Semantic Feature Analysis(SFA) and Response Elaboration Training(RET). This study investigates whether school-based SLPs use therapies designed for Broca’s aphasia to support children with DLD. Focus group interviews with 13 participants revealed that SLPs employ aphasia interventions in their treatment for DLD. Findings suggest a shared therapeutic approach across settings, highlighting the potential for using similar methods in both medical and educational speech-language therapy.

10:00 – 12:00 p.m. | Oral Presentations – Session 4

ASC Room 311

OP4.1 *Precrastination – Cognitive Load Reduction or Self-Regulation?*

Author(s): Estela Baka & Michael Nizhnikov
Faculty Mentor: Christopher J. Budnick
Department: Psychology

Abstract: Precrastination – the opposite of procrastination – is the tendency to complete a task as soon as possible and regarded as the need to reduce cognitive load (CLEAR hypothesis). However, little is known about the relationship between precrastination and self-regulation or executive function. Across three studies (total n = 467), we investigated the relationship between precrastination, cognitive load, emotion regulation, executive function, and academic performance. No relationship was found between cognitive load and precrastination in Study 1 (n = 161), but there was a statistically significant relationship between precrastination and conscientiousness. This relationship was further confirmed in Study 2 (n = 148), along with precrastination's relationship with emotion regulation (affect and anxiety). Study 3 (n = 158) found a relationship between precrastination and executive function and inhibition, along with exploratory analyses confirming a relationship with motivation and time management. The relationship between precrastination and academic performance (GPA) was explained by high executive function. Overall, these findings indicate that precrastination may occur as a result of higher executive function and self-regulation. Further research may further explore these relationships and the explicit role of self-regulation in precrastination.

OP4.2 *Thinking Differently: Differences in Neurodiverse Traits between Philosophers and the General Population and Their Relationship with Thought Experiment Reasoning*

Author(s): Khaoula Boulhadi, Helena Weymouth & Thomas Nadelhoffer
Faculty Mentor: Paul McKee
Department: Abstract

Abstract: Recent discourse in neuroscience and philosophy has emphasized the significance of neurodiversity, conceptualized as natural variation in cognitive functioning rather than pathology. The present study examined whether neurodivergent traits are more prevalent among philosophers than in the general population, and whether such traits are associated with differences in moral and metaphysical reasoning. Participants (N = 1254), including professional philosophers and general population members, completed validated self-report measures assessing traits associated with autism spectrum conditions, attention-deficit/hyperactivity disorder (ADHD), aphantasia, anauralia, anendophasia, and internal mental representation. Participants subsequently responded to two canonical philosophical thought experiments: the trolley problem and the rollback universe scenario.

Results revealed that philosophers exhibited significantly elevated levels of internal verbalization, general internal representation, and ADHD traits, as well as significantly lower levels of visual imagery relative to the general population. Furthermore, these traits predicted systematic differences in philosophical judgments. For example, higher internal verbalization was associated with increased endorsement of deontological responses in the trolley dilemma, while greater general internal representation predicted stronger attribution of moral responsibility and free will in deterministic contexts. A machine learning classifier achieved 86 percent accuracy in distinguishing group membership, with bypassing and internal representation measures serving as the most predictive features.

These findings provide empirical support for the hypothesis that philosophers differ cognitively from the general population and that neurodivergent traits may influence core philosophical intuitions. This research contributes to the emerging empirical psychology of philosophy and underscores the epistemic value of cognitive diversity.

OP4.3 *Dyslexia in the workplace*

Author(s): Ethan Coscia & Estela Baka
Faculty Mentor: Dr. Budnick
Department: Psychology

Abstract: Dyslexia is a neurodevelopmental learning disability that impairs word recognition, spelling, and decoding due to phonological processing deficits. In the workplace, it can lead to work errors, feelings of inadequacy, burnout, and reduced job satisfaction, in part due to insufficient employer support (Wissel et al., 2022). These challenges may negatively affect work relationships and perceived competence. H1: Individuals with dyslexia will report a) lower need fulfillment in work relationships and b) lower work perceived competence than those without dyslexia.

Text-to-speech (TTS) technology is an assistive technology that improves reading speed, accuracy, and comprehension in students with dyslexia (Bonifacci et al., 2021) and may offer similar benefits in the workplace. This study explores the impact of TTS on adults with dyslexia in work contexts. H2: Participants using TTS will show higher a) reading comprehension, b) speed, and c) accuracy.

Participants will complete a workplace reading comprehension test under one of two reading conditions. The first is self-paced reading and the second is the implementations of TTS. After, participants will then complete questionnaires assessing workplace competence, relationship need fulfillment, and psychological needs, followed by demographics. While there has been research on the use of TTS in K-12 students there has been virtually no research testing its efficacy for adults in a workplace environment. This study addresses the gap in the research on dyslexia in adult work environments and evaluates the underexplored use of TTS for adults in the workplace.

OP4.4 *Navigating the Consequences of Maladaptive Daydreaming*

Author(s): Heather Rae Gaydowen & Michael Nizhnikov
Faculty Mentor: Christopher J. Budnick
Department: Psychology

Abstract: Maladaptive daydreaming (MD) is a form of excessive and immersive daydreaming that disrupts an individual's life. Individuals typically engage in MD to escape stressful situations, making it an avoidant coping mechanism. However, many daydreamers struggle to control this urge, leading to increased shame, guilt, and distress, as well as decreased positive emotions. Additionally, MD takes time away from people's goals, potentially lowering perceived performance in the workplace, academics, and interpersonal relationships.

Most previous MD literature consists of qualitative studies with limited studies conducted in the United States. This study aimed to fill that gap by using a quantitative design and a United States sample. Participants (n= 109) completed an online questionnaire containing 8 scales. The sample was predominately white (45%) females (75.2%).

Through multiple bivariate correlation analyses, the study confirmed associations between high MD scores and high scores in shame, guilt, and counterproductive work behavior. Conversely, higher MD scores were correlated to lower self-regulation, academic self-efficacy, and wellbeing. These findings suggest that while MD may temporarily alleviate stress, it is not an adaptive coping mechanism in the long run. Further research should utilize more advanced designs to examine the direction of these relationships.

OP4.5 *Helping families of substances users: A proposed online-based intervention*

Author(s): Isaiah Grant
Faculty Mentor: Christopher J Budnick
Department: Psychology

Abstract: Approximately 48.5 million individuals aged 12 or older in the United States experienced a substance use disorder (SUD) within the past year, representing an estimated 17.1% of the overall population (US Substance Abuse and Mental Health Services Administration, 2019). Addiction contributes to numerous adverse life outcomes, including heightened anxiety and depression, various physical illnesses, economic hardship, and challenges in interpersonal relationships (Hasin et al., 2013). Affected family members (AFMs) often endure similar difficulties. Being an AFM is associated with increased rates of depression, anxiety, perceived stigma, physical ailments, economic stress, interpersonal conflict, and codependency (Ali et al., 2025; Di Sarno et al., 2020). Current interventions primarily address individuals with SUD through psychotherapy, residential treatment, and detoxification programs. These treatments adopt a reactive approach that focuses on the recovery of the person with a SUD, often overlooking the broader family system. In response to this gap, I will present a talk on my thesis proposal, which explores my proactive, feasible intervention for AFMs (Zhong et al., 2022). Specifically, I will outline the development of an online-based intervention grounded in Self-Determination Theory (SDT) and Positive Psychology. Given the limited literature on the use of SDT and positive psychology as interventions for AFMs, I will highlight the symptoms commonly experienced by AFMs and examine how SDT has been successfully applied to improve the well-being of comparable populations (Ryan & Deci, 2008).

1:00 – 3:00 p.m. | Organized Panel – Session 5

ASC Room 306

"Afterlives of The Scarlet Letter: Works in Progress"

OP5.1 *Don't Think of an Elephant: Puritanical Culture and Eroticism in The Scarlet Letter and The Handmaid's Tale*
Author(s): Cooper Allen
Faculty Mentor: Charles Baraw
Department: English
Abstract: When sexuality, in all forms, is repressed within a society, the repressed feelings still need to go somewhere. This paper will explore the relationship between sexual repression in Puritanical society and how it causes the mundane to become eroticized through the texts of The Scarlet Letter and The Handmaid's Tale. Sexual repression in Puritanical society is an extensive topic, ranging from rules for women's modesty to extreme methods to discourage men from finding sexual pleasure outside of the "correct" ways. In such a society, with such repression of base instinct and desire, everyday objects and actions that seem normal from the outside become, in and of themselves, sexual. This eroticization of mundane objects is a reflection of the human psyche; being told not to think of something only makes the thought ever more present. This phenomenon is reflected in moments both from The Scarlet Letter and The Handmaid's Tale, in which both the narrators and other characters subconsciously eroticize things that carry no traditional erotic connotation. In both of these texts, the narrative eroticism is a reflection of the Puritanical repression taken on by the narrators and characters.

OP5.2 *Duty and Desire: How Patriarchy Shapes Perceptions of The Female Role*
Author(s): Salene Herrera
Faculty Mentor: Charles Baraw
Department: English
Abstract: This paper examines the unconscious patriarchal narratives embedded in both men and women that impact their perception of heteronormative female duties and desires. Margaret Attwood's The Handmaid's Tale, following the story of Offred, and Nathaniel Hawthorne's The Scarlett Letter, following Hester Prynne, are two novels about women's obvious oppression within patriarchal societies. Offred is a Handmaid, one of many women forced by the Gilead, a religious group that infiltrated the US government, to bear children for the men in power. Hester Prynne has been shamed and outcasted, forced to bear the letter "A" upon her chest to reflect the adultery she committed. Yet, for all of Hawthorne and Attwood's blatant examples of women suffering under patriarchal oppression, these harmful beliefs remain in the subtext of moments that appear as free from this weight, providing equal impact and cause for concern because it represents the patriarchal framework that unknowingly exists in both men and women. Offred often reminisces on life before Gilead's rise to power, a life that reflects our current world, but within these moments, the subtext of patriarchal ideals emerge—moments when her language unintentionally alludes to her tangibility as a person only existing within the confines of her marriage. Similarly, when Hester escapes to the woods to be with her lover, a moment perceived to have freedom from her town's oppression, she still plays the expected patriarchal role of "female caretaker" and adopts Dimmesdale's suffering. This paper explores the patriarchal language, ideologies, and expectations that constrain female characters.

OP5.3 *That's Witchcraft! Reading, Embroidery, and the Subversive Power of Silence in The Scarlet Letter and The Handmaid's Tale*
Author(s): Olivia Just
Faculty Mentor: Charles Baraw
Department: English
Abstract: When women are denied societal power and voice, any expression of their individuality is by definition subversive. In this paper, I will examine the way that reading and the feminine art of embroidery are linked as means of promoting subversive thought and personal expression for suppressed female protagonists in The Scarlet Letter by Nathaniel Hawthorne and The Handmaid's Tale by Margaret Atwood. Then, I will look at the ways both Hester Prynne and Offred are silenced by the theocratic, patriarchal systems of power and explore the implications of silencing female voices. During the Salem Witch trials, one of the many indications that "a woman stood under the influence of the devil" was evidence of reading, as Gabriele Schwab discusses in her essay "Seduced by Witches: Nathaniel Hawthorne's The Scarlet Letter in the Context of New England's Witchcraft Fictions". Hester Prynne's rebellion against the Puritan society that punishes her for adultery is a silent protest carried out through her elaborate, deeply individual embroidery, a form of self-expression that she uses to subvert cultural expectations. In The Handmaid's Tale by Margaret Atwood, women are forbidden from reading because it might encourage deviant – and silent – thoughts. I will use Schwab's framework of the witch pattern as it appears in The Scarlet Letter and The

Handmaid's Tale as a lens to explore the idea of silent protest against the oppression of women in both Hester's embroidery in The Scarlet Letter and the prohibition of women reading in The Handmaid's Tale.

OP5.4 *Sticks And Stones And Storytelling: How Derogatory And Dehumanizing Language In Literature Perpetuates, Transcends, and Transmutes Stereotypes*

Author(s): Pem McNerney
Faculty Mentor: Prof. Charles E. Baraw
Department: English

Abstract: This paper examines The Scarlet Letter along with related texts including The Handmaid's Tale, The Red Letter Plays, and Blood & Guts in High School with an eye to when names hurt, and how. That raises the related question of when, and how, that harm can be transcended or transmuted by people targeted and their communities. In literature, as in life, dehumanizing and derogatory language gives bystanders permission to further dehumanize victims. It also affects the self-perception of victims, making them feel less like humans, and more like objects, increasing the potential for negative consequences. In these texts, in some cases, the dehumanizing language reinforces stereotypes. Sometimes these stereotypes relate to perceptions of purity or eroticism, or to the perpetuation of patriarchal authoritarianism. In other cases, the use of dehumanizing language ultimately transcends stereotypes or is offered in a way that exhibits the possibility of its transmutability into a source of power or agency for the intended target. One example is in theThe Scarlet Letter. The letter "A" is finally defined by Hester, the archetypal Wild Woman, and her community as standing for "able." The identification of such language in this paper provides a jumping-off point for my creative project, a short story that further interrogates contemporary examples of dehumanizing/denigrating language used to reinforce tired notions of sexual transgression as they relate to women.

OP5.5 *"Found" Narratives and the Effect of Fictional Frames in The Scarlet Letter and The Handmaid's Tale.*

Author(s): Ian Hugo
Faculty Mentor: Charles Baraw
Department: English

Abstract: This paper aims to look at frame narratives and the fiction behind "found" narratives, with an emphasis on the effect this "finding" has on the "finder." A prime example of this would be The Custom-House section of *The Scarlet Letter*: in it, Nathaniel Hawthorne— or, rather, a version of Nathaniel Hawthorne— "discovers" the story of the scarlet letter along with the letter itself, and it moves him so thoroughly that he drops it to the ground and clutches his breast, overcome with its power. This is purportedly the catalyst for the telling of *The Scarlet Letter*, which begs the question: why use a frame narrative in the first place? How does the frame narrative operate in *The Scarlet Letter*, and what effect does it have on its readers? Similarly, this paper aims to look at the "finding" of Offred's tapes in *The Handmaid's Tale*: how does the "Historical Notes" section shine a light on the narrative that has preceded it, how does it affect us as readers, and what does it tell us about the act of reading itself and the passing of judgement upon the past? *The Holder of the World* may also play a part in this essay, though it is too soon for this reader to tell. It would also be an interesting exercise to add a creative and/or reader response aspect as well: an account of myself (or a version of myself) coming across/encountering these texts in a way similar in motive to *The Scarlet Letter* and *The Handmaid's Tale*, as well as recording reader response to not only that piece but to other "found" narratives as well.

1:00 – 3:00 p.m. | Organized Panel – Session 6

ASC Room 308

Barcelona & Culture

OP6.1 *Advocating for Experiential Learning K-12: Fostering cultural awareness, practical application of knowledge, and community engagement.*

Author(s): Cole Brown

Department: Honors College

Abstract: I had the opportunity to study abroad in Barcelona during the summer of 2024, and from that experience gained practical knowledge and experience that can help inform my future as an elementary school teacher. Studying abroad taught me the benefits of real-world application of education and the importance it has on students' educational pathways. From experiential learning students can gain a comprehensive multitude of skills; most notably being social-emotional learning, cultural engagement, and practical application of classroom concepts. Additionally, student learning via field trips or other methods of learning outside of lectures in the classroom have shown positive growth in students' understanding of classroom concepts, higher test scores on average, a decreased likelihood for behavior infractions, and deeper connections with the community. My project will aim to create a presentation outlining research supporting my claim advocating for experiential learning in the form of field trips and similar methods of instruction, a brief sharing of my experiences in Barcelona, a series of 2 mock lesson plans for a science and social studies field trip for a third grade classroom, and an actual field trip plan I will be attempting to execute with an actual third grade class.

OP6.2 *"Barcelona or Die": Surviving Barcelona as an Immigrant*

Author(s): Berenice Giron

Department: Honors College

Abstract: Immigration is an ongoing movement in various countries. Many immigrants are looking for opportunities to thrive and live a better life. While having the opportunity to study abroad with the Honors College in Barcelona, Spain I was exposed to the reality of immigration in Barcelona, specifically Senegalese immigration. My research looks at the difficulty of immigration in Spain narrowing in on Senegalese immigration in Barcelona and examines the small number of outreach programs that there are to help immigrants thrive instead of just survive.

OP6.3 *Old Clothes, New Life: The Second-Hand Culture of Barcelona and New Haven*

Author(s): Citlaly Sampedro

Department: Honors College

Abstract: I had the opportunity to travel to Barcelona, Spain for two weeks during the Summer of June 2024 with other students from the Honors College at Southern Connecticut State University. This trip made learning exciting, blending academics with exploring Barcelona's parks, restaurants, cathedrals, basilicas, public transportation, and sustainable clothing stores.

Walking through the streets of Barcelona, I noticed thrift stores on every corner. Whether it was a boutique that sold vintage clothing or a store called Humana that reminded me of Goodwill from back home, the city seemed to embrace second-hand shopping. Due to this discovery, I wanted to explore more thrift stores in Barcelona and compare them to the ones from New Haven, Connecticut. The thrift stores I visited in Barcelona were Humana, moda re-, Zoetrope, Vintage Store, and Mercat dels Enacants. I also visited Top Manta, a brand created to improve the living conditions of street vendors who make ethical clothing. I wanted to research how Barcelona promotes second-hand shopping, how locals can donate clothes, the stigma (if any) around using used clothing, and whether Barcelonians know that thrifting is a sustainable way to shop.

OP6.4 *Layers of Barcelona: Discovering History Through Art and Architecture*

Author(s): Emily Sartell

Department: Honors College

Abstract: I created an online portfolio through an interactive website to showcase my photographs. There are multiple points on the map that feature specific information and showcase the photos taken to provide geographical context and highlight significant locations in Barcelona. Once returning from my study abroad, I further conducted research on the historical and cultural significance of the places and events that I photographed.

OP6.5 *"Hues of Spain: A Journey in Blue, Green, Tan and Monochrome"*
Author(s): John (JT) Forgione
Department: Honors College
Abstract: This capstone project showcases 35mm film photographs taken in Barcelona, Spain, highlighting the city's greens and architectural details. Combining analog photography with some writing...

OP6.6 *Book of Trash*
Author(s): Anna Vilenski
Department: Honors College
Abstract: I flew home from Barcelona with a heaping pile of what many would refer to as “trash” in my suitcase. I collected napkins, wrappers, ticket stubs, and brochures to bring home and incorporate into an art book. I found that by transforming these pieces of "junk” into art I learned a lot about what we recognize as “art” versus what we recognize as “garbage". Can something be both art and garbage at the same time? How can trash tell an authentic story about an experience or place? How does this book of trash relate to Barcelona, Spain? These are questions I strive to answer through my Capstone Project.

OP6.7 *Barcelona Since Franco*
Author(s): Joe Chasse
Department: Honors College
Abstract: The suppression of Catalan culture during Francisco Franco’s time in power ironically made preserving Catalan culture and ideology more important for those in the region. Franco’s reign from 1939-1975 is marked by his radical conservative ideologies that suppressed many freedoms from Spaniards across the peninsula. Once Franco died and the country’s ideologies started to change, many members of the Catalonian community who protected their culture while it was being suppressed made an argument for Catalonian independence. While many freedoms were given back to the Catalonian community, there is still political turmoil in Catalonia today regarding how much autonomy the region should have. It is important to note that not all Catalonian citizens are in favor of becoming independent from Spain. However, many Catalonian citizens strongly believe that they should be independent from Spain because of sustainable features of the region as well as their progressive ideologies that makes Catalonia more economically and socially successful than the rest of Spain.

1:00 – 3:00 p.m. | Oral Presentations – Session 7

ASC Room 309

OP7.1 *Hexed Delights*
Author(s): Julia Castillo & Amaya Owusu
Faculty Mentor: Shelley Stoehr-McCarthy
Department: English
Abstract: Hexed Delights is a concept food truck inspired by Hex from Love in the Time of Global Warming. Through symbolic design, a themed menu, and curated music, the truck reflects Hex's identity, resilience, and mythological journey. Menu items and design honor key moments and traits like his trans identity and emotional complexity.

OP7.2 *Inventory for a Broken Heart*
Author(s): Essie Jean-Charles
Faculty Mentor: Shelley Stoehr-McCarthy
Department: Creative Writing
Abstract: While completing a routine inventory at work, a heartbroken young woman stumbles upon a strange list mixed in with her paperwork. Instead of the list of office supplies, it's emotions, each with a quantity, description, and instructions for processing. As she reads, it's like someone has mapped out her heartbreak before she even understood it herself. The list becomes both a guide and a mystery, forcing her to confront feelings she wanted to ignore.

OP7.3 *My book: Heart of a Monster*
Author(s): Luis Moquete
Faculty Mentor: Shelley Stoehr-McCarthy
Department: English
Abstract: I will be presenting the first five pages my work in progress book, Heart of a Monster. The story to summarize is about a human who was transfigured into a monster. It is his evolution from a naive and curious creature into a malignant evil deity that threatens the very existence of the world itself.

OP7.4 *Becoming Eh-vah: Poems on Identity, Healing, and Home*
Author(s): Eva Rodriguez
Faculty Mentor: Shelley Stoehr-McCarthy
Department: English
Abstract: In this collection of poetic excerpts, I explore identity, generational healing, and the growing pains of becoming. My pieces reflect the journey of a young Puerto Rican woman navigating college life, family dynamics, and the tension of feeling both Americanized and deeply connected to Puerto Rico—a place that is "unfortunately" a part of America. Through personal storytelling and vivid imagery, I touch on themes like self-love, emotional resilience, and the quiet rituals that ground us, like afternoon coffee with my grandfather. I write about what it means to hold softness and strength in one body, to unpack inherited trauma while pursuing higher education, and to balance my scientific curiosity with my creative heart. My writing questions norms, honors the voices of my ancestors, and reminds others (and myself) that survival is not the same as living. I'm no longer just surviving—I'm living now, with intention, with purpose, and with a deep loyalty to the woman I've become: Eh-vah, not Ee-va.

OP7.5 *A gift, a curse, and a Key to Redemption.*
Author(s): Dorian Moss-Clarke
Faculty Mentor: Corinne Blackmer
Department: English
Abstract: Wisdom: A gift, a curse, and a Key to Redemption explores how wisdom, originally an attribute of God, was bestowed upon humanity as a gift. Originally, wisdom was intended to foster faith and obedience to God. However, in the Garden of Eden, the exercise of human free will disrupts wisdoms original harmony—linking it to suffering and death. As a result, wisdom has now become repurposed and acquired through experience, testing, and trials. Ultimately, wisdom is redirected back to its original purpose: faith and trust in God.

OP7.6 *The Sanctity of the Divine, Value of Women & Violence of Rape*

Author(s): Arrie Lopez
Faculty Mentor: Corinne Blackmer
Department: English

Abstract: The following essay offers a different perspective on the tale of Sodom & Gomorrah in the Hebrew Bible. While the narrative itself is often used to justify controversial opinions such as homophobia, Sodom & Gomorrah is ultimately a commentary on hospitality culture and alienation in the ancient world, sexual violence used as punishment, the urge to corrupt the divine, and the barter of women's bodies. Instead of viewing the story as a condemnation of homosexuality, my research seeks to support the claim that the aforementioned sexual violence is the true reason that the city depicted in the text was destroyed.

1:00 – 3:00 p.m. | Organized Panel – Session 8

ASC Room 311

OP8.1 *Algal Bloom of Clear Lake, California*

Author(s): Grayson Afonso
Faculty Mentor: Miriah Kelly
Department: Environment, Geography and Marine Sciences

Abstract: Clear Lake is the largest body of freshwater in California and had been an extremely popular travel destination through the last century, known for its impressive clarity. According to the Centers for Disease Control and Prevention (CDC), the lake is plagued with such harmful algal blooms (HABs) that contact is unsafe, boating is often unadvised, a food advisory warning regarding fish consumption exists, and house water is often found contaminated. The primary of these halves is nutrient loading of phosphorus rich sediment and hazardous runoff from the Sulphur Bank Mercury Mine, located on the shoreline of Clear Lake. Residents in the Clear Lake region rely on fresh water reserves, connected to the lake's fresh water hydrologic system, and as such have been experiencing issues related to access to clean fresh water. This research reviews existing citizen science initiatives focusing on HABs from within the area as well as innovative science solutions from other geographic contexts to draw conclusions about how citizen science efforts can be utilized to address algal blooms in the Clear Lake region. Methods of citizen data collection, such as those used in the GLOBE Program, can be effective for innovating solutions to be applied to Clear Lake, as the citizen science efforts that are currently happening around Clear Lake but have not been effective in addressing the problem fully. As other regions also struggle with algal blooms solutions and climate change, learning how to apply multiple solutions through other contexts can help address these issues more efficiently.

OP8.2 *Therapeutic Horticulture Enhancing Wellness for Older Adults Through Plant Based Interventions*

Author(s): Vanessa Bunnell
Faculty Mentor: Erin Larkin
Department: IDS

Abstract: This presentation examines the design, implementation, and outcomes of specialized therapeutic horticulture sessions for older adults. Drawing from 25 years of professional experience in horticulture, recreation, and wellness programming, the project explores how structured horticulture-based activities can address specific wellness challenges faced by aging populations. The study focuses on four key benefits observed through ongoing therapeutic sessions: (1) enhanced memory and cognitive function, (2) increased physical activity and mobility, (3) strengthened social connections and purpose development, and (4) improved mood with measurable stress reduction. Case studies from community centers, senior living facilities, and private programs will illustrate evidence-based approaches to designing and delivering therapeutic horticulture interventions. The research contributes to growing scholarship on non-pharmaceutical approaches to geriatric wellness while highlighting practical applications that can be implemented across various care settings. Underpinning this research is an interdisciplinary approach that draws on principles from horticulture, recreational therapy, psychology, and gerontology to create accessible wellness opportunities for older adults.

OP8.3 *The Impact of Liquidity Risk on the Price Premium of Green Bonds in the Swedish Green Bond Market*

Author(s): Tristan Janning
Faculty Mentor: Prof. Samuel Andoh
Department: Economics

Abstract: The market for green bonds has been growing significantly in the last 10 years. This brings with it numerous important questions about its dynamics and whether it behaves differently than conventional bond markets. The goal of this paper is to examine the relationship between the liquidity of green bonds and the structural price difference to conventional bonds, called the green bond premium. The data is gathered for the Swedish green bond market, since it was the first one to develop and is one of the largest ones. This paper employs a matching-based regression approach. The two main regressions examine the correlation between liquidity and the green bond premium, and offer an insight into the determinants affecting the green bond premium. The expected results include a generally higher level of liquidity in the green bond market compared to the conventional one. Furthermore, green bonds are expected to carry a price premium, but its main influence is estimated to be the industry sector the bond's issuer operates in.

OP8.4 *The Accuracy of Using Floating-Point Operations as a Measure of Computational Performance*

Author(s): Astra Riznyk
Faculty Mentor: Therese Bennett
Department: Mathematics

Abstract: Floating point operations are often used in numerical analysis to measure how many resources an algorithm requires. These are easy to study in a abstract environment independent of the system the algorithms are running on. But often what matters more in practice is the computation time of an implementation of the algorithm. While we assume this is primarily influenced by the floating point operations, it could be influenced by other operations, such as memory reads, writes, or allocations. This paper investigates how closely correlated the number of operations is to the computation time of the algorithm. Multiple numerical linear methods were implemented and studied across two programming languages, Rust and Octave, to investigate this correlation.

1:00 – 3:30 p.m. | Poster Presentations and Musical Performances

ASC Ballroom

MUS1 **Performer:** Joshua Arizmendi
Instrument: Voice

MUS2 *"Deep Blue" (Ian Clarke)*
Performer: Catherine Sigg
Instrument: Flute

MUS3 **Performer:** Alanna Edwards
Instrument: Flute

MUS4 *"The Unveiling"*
Performer: Farah Hamada
Instrument: Oboe

P1 *From Quarry to Collection: Documenting the Discovery, Excavation, Preparation, and Study of Two New Aetosaur Fossils*
Author(s): Adé Ben-Salahuddin
Faculty Mentor: Jonathan Weinbaum
Department: Biology
Abstract: Aetosaurs are a clade of pseudosuchian archosaurs that were among the predominant terrestrial vertebrates of the Late Triassic Period (237-201 million years ago), and their heavily armored bodies were covered in an array of osteoderms that comprise the majority of their fossil record. Despite this anatomical disparity, these isolated armor plates can reveal much about the identity and biology of the animals from which they came. This presentation documents the discovery and collection (July 2022) and preparation (October-November 2024) of two new well-preserved osteoderms from the Jeffers Ranch Site (formally designated SCSU-1) in northeast Arizona by the SCSU paleontology program. Using standard paleontological practices, specimens were excavated and prepped using a combination of paint brushes, dental picks, acetone, and Paraloid B-72 glue. The larger and more complete fossil (A4-4) is identified as a left dorsal paramedian from the proximal caudal region (base of the tail), the other (A3-42) as a partial ventral abdominal osteoderm of uncertain placement with associated discontinuous fragments of osteoderm and possible gastralium. Both fossils are assigned to the species Typothorax coccinarum and await formal catalogue designations within the SCSU paleontological research collection. Planned directions for ongoing work on these and other isolated osteoderms from the site are also briefly touched upon, specifically histological determinations of the animals' ages, life stages, and growth rates, as well as stable isotope analyses to infer their diet, which has historically been unclear.

P2 *The Bioinformatic Annotation of Bacteriophages Pucara & Snakehole*
Author(s): Pirnaaz Mekael
Faculty Mentor: Nicholas Edgington
Department: Biology
Abstract: Bacteria-infecting viruses, also known as bacteriophages, are recognized as one of earth's most abundant biological agents. The focus of this study was to isolate, purify, characterize, and finally annotate bacteriophages, more specifically Pucara and Snakehole, in order to learn more about evolution and microbial ecosystems to build a database of known phages for future research. Both bacteriophages were found by students on Southern Connecticut State University's campus in New Haven, CT. Bacteriophage replication typically processes with a lytic or temperate life cycle. Snakehole presented as a lytic phage that utilized Microbacterium foliorum NRRL B-24224 as its host, while Pucara presented as a temperate phage that utilized Arthrobacter globiformis B-2979 as its host. Six teams consisting of two students each are working together to review previous and new gene annotations to improve those of both bacteriophages. The genome annotations so far have revealed a number of predicted genes that are associated with both temperate and lytic functions. These functions are consistent with the typical lifestyle and life cycle of these phages. Further gene annotation is ongoing and is expected to provide a more detailed understanding of Pucara's and Snakehole's evolutionary relationships within their clusters.

P3 *Discovery and Analysis of Skelbel, a Novel Arthrobacter Phage*
Author(s): Safeya Abdulla
Faculty Mentor: Nicholas Edgington
Department: Biology
Abstract: Viruses are non-cellular infectious agents capable of infecting all life forms. Bacteriophages, viruses that specifically infect bacteria, play a crucial role in microbial ecology and evolution. Understanding phage diversity enhances our knowledge of viral-host interactions and potential biotechnological applications. Skelbel, a temperate bacteriophage, was isolated from soil on the Southern Connecticut State University campus using Arthrobacter globiformis NRRL B-2880 as the host. It produced medium-sized, cloudy plaques, indicative of lysogeny. A high-titer lysate (~6.7×10^9 PFU/mL) was obtained through serial amplification. Transmission electron microscopy (TEM) classified Skelbel as a Siphoviridae, characterized by a long, non-contractile tail. The genome, sequenced using Illumina technology, is 43,602 bp with a GC content of 66.7% and an 11-base 3' sticky overhang (CGAAGGGGCAT). Comparative genomic analysis is ongoing to determine gene functions, regulatory mechanisms, and evolutionary relationships within Cluster AZ1. This research expands knowledge of bacteriophage diversity and evolution, with implications for microbial ecology, genetic variation, and potential biotechnological applications.

P4 *Studying the Mechanisms of Pathogenicity in Microbacterium nematophilum, a Natural Pathogen of C. elegans: Comparative Genomics, Complete Genome Assembly, and Host-Pathogen Dynamics*
Author(s): Trinidad Rodriguez Ricchiuti
Faculty Mentor: Nicholas Edgington
Department: Biology
Abstract: Microbacterium nematophilum, a natural pathogen of Caenorhabditis elegans, offers a valuable model for studying host-pathogen interactions and innate immunity. This research aims to conduct a comprehensive genomic analysis of both pathogenic and non-pathogenic strains of M. nematophilum. We performed a complete genome assembly of the wild-type strain 'CBX102' using quality-filtered Illumina short-reads and Oxford Nanopore long-reads with the 'Unicycler' program, revealing a ~2.88Mb circular chromosome and a ~55kb linear plasmid. To confirm these findings, we utilized the 'Hybracter' program, including 'plassembler,' for precise plasmid assembly.
Comparative genomics will identify mutations associated with pathogenicity by comparing the pathogenic CBX102 strain with non-pathogenic variants (CBX102/S1 and UV336). The non-pathogenic CBX102/S1 strain, exhibited five spontaneous mutations. We will sequence strain UV336, produced by UV light induction, using MinION and Illumina short-read paired-end technology. Comparative genomics of these strains will give insights into the genetic basis for pathogenic traits.
Additionally, we will perform genome annotation of the phage Min1 and the bacterial host using the 'Patric' program. This will reveal gene functions involved in infection and host manipulation. The complete genome of Min1, 46,365 base pairs long with a GC content of 68.31%, contains 77 predicted open reading frames (ORFs).
Our findings suggest that the Min1 prophage is integrated into the bacterial chromosome rather than an extrachromosomal plasmid, necessitating further investigation to clarify Min1's genomic organization and its role in pathogenicity. The expected outcomes include a complete genomic sequence of M. nematophilum, identification of pathogenicity-related genes, and comprehensive annotation of phage and bacterial genomes.

P5 *Catalina Divina*
Author(s): Catalina Espinosa
Faculty Mentor: Frank Bevvino
Department: Business
Abstract: Catalina Divina is a developing makeup/skincare brand. My poster will display its core concepts including natural beauty, Mexican heritage, Catholicism, and inclusivity. I will include my concept sketches and mockups.

P6 *Petasis Reaction with 1,2- and 1,3-Amino Alcohols*
Author(s): Cameron Barnes & Todd R. Ryder
Faculty Mentor: Dr. Todd R. Ryder
Department: Chemistry
Abstract: The Petasis reaction is a multicomponent process that yields functionalized substituted amines by coupling an amine, a carbonyl compound, and an organoboron reagent. It is widely used in organic synthesis for creating complex, biologically active molecules such as amino acids and heterocycles. The reaction is typically carried out in a one-pot process under mild conditions without catalysts, but it has mostly been limited to aldehyde substrates. Our work aims to expand the reaction's scope by investigating the use of ketone substrates as the carbonyl component with various 1,2- and 1,3- amino alcohols.

P7 *A Study Examining the Home Literacy Practice of Children with Cleft Lip and Cleft Palate.*
Author(s): Kelly Chmielewski & Dr. Kelly Mabry
Faculty Mentor: Dr. Richard Zipoli
Department: Communication Disorders
Abstract: Cleft lip and palate are birth defects that impact feeding, ear function, speech, and communication. Children with these conditions are at higher risk for delayed reading and vocabulary skills, with 30–40% at risk of developing a reading disability in comparison to their non-cleft peers. In order to better support the craniofacial population in their reading skills, it is necessary to examine the practices implemented at home prior to children starting school. Parents/guardians play a vital role in emergent literacy, but their awareness and engagement in effective literacy practices may vary. This study explored how parents support reading development through phonological awareness, print conventions, vocabulary building, expressive language, comprehension, and narrative skills during the preschool years.
Findings revealed that parents most frequently engaged in phonological development and print conventions, while practices related to oral language, vocabulary, narrative, and comprehension were reported at much lower rates (18–30.6%). Additionally, parents who introduced reading at an earlier age were more likely to engage in advanced literacy practices, such as vocabulary and narrative development. However, no early literacy skill was practiced more than 71% of the time.
With these findings in mind, it is recommended that methods be established to further educate parents and professionals working with the craniofacial population in how to more thoroughly and systematically promote the development of emergent literacy skills at home under parent/guardian guidance.

P8 *AI and the SCSU Community: An Investigation into Artificial Intelligence Sentiments in Higher Education*
Author(s): Kaye Feinberg
Faculty Mentor: Dr. Winnie Yu & Dr. Heidi Lockwood
Department: Computer Science
Abstract: This thesis explores the climate surrounding artificial intelligence (AI) at SCSU. AI and its impact have been a prominent topic across much literature particularly with a focus on its effect in the workplace, although studies involving its impact in education are developing. Additionally, there have been many efforts across Connecticut, from the “DRAFT: Use of Generative AI for Administrative Purposes at CSCU” circulated by the Connecticut State Colleges & Universities (CSCU) Chief Information Security Officer (CISO), to the legislative attempts to pass the CT 2024 Senate Bill 5, to set forth guidance and legislation related to AI. As such, this thesis replicates the Stevens Institute of Technology “2024 TechPulse Report” on a local level by surveying SCSU students and faculty to gauge the local climate on campus as well as creates a website to visualize the findings. This thesis finds that the SCSU community is generally more knowledgeable and aware about AI compared to the findings in the Stevens Institute of Technology "2024 TechPulse Report", as well as echoing feelings of concern and skepticism about AI, particularly its misuse and capacity to be used for harm. This thesis also finds that the SCSU community strongly believes in the importance of AI education and incorporation in the classroom. These findings may help enrich and inform the conversations around local AI policy so hopefully policy developments will be beneficial for the SCSU community.

P9 *Quantifying Swimming Efficiency: A Data-Driven Approach to Visualizing SWOLF, Stroke Rate, and DPS*
Author(s): Gaelen Rhoads
Faculty Mentor: Prof. Winnie Yu
Department: Computer Science
Abstract: This project presents a data-driven system for analyzing swimming performance based on three key efficiency metrics: Stroke Count, SWOLF (stroke count combined with time per length) , and Distance Per Stroke (DPS). The system generates performance reports for both individual workouts and longitudinal trends, helping swimmers visualize how their technique evolves.
A custom efficiency calculation drives personalized insights by identifying which of the three core metrics each swimmer should prioritize. This recommendation system is entirely data-driven, transforming raw swim data into targeted, actionable feedback.
To maximize accessibility, the platform supports workout data from both FORM Swim Goggles and COROS watches. It is designed as a plug-and-play interface, allowing users to upload files and generate visual dashboards. Built using Python and modern data visualization libraries, the system is intuitive and scalable, offering practical use for both athletes and coaches.
By combining metrics, visual storytelling, and device flexibility, this work provides a proof of concept for integrating swim analytics into performance training. The project highlights the potential of personalized feedback in enhancing athletic development through clear, data-driven visualizations.

P10 *Feasibility of an Automatic Strike Zone in MLB*
Author(s): Brian Stoller
Faculty Mentor: Winnie Yu
Department: Computer Science
Abstract: The implementation of an automated strike zone in Major League Baseball (MLB) has gained traction as the sport seeks greater accuracy and consistency in pitch calling. Currently, pitch decisions are made by human umpires, whose subjective judgment can lead to inconsistencies and controversial outcomes. This project evaluates the feasibility of an automated strike zone system using machine learning (ML) and Statcast pitch-tracking data. Using features such as plate_x, plate_z, sz_top, and sz_bot, which represent the horizontal and vertical location of a pitch relative to a batter's strike zone, five classifiers were implemented: K-Nearest Neighbors (KNN), Support Vector Machine (SVM), Logistic Regression, Random Forest, and Gradient Boosting. The models aimed to classify pitches as either strikes or balls. Gradient Boosting performed the best, with 84.32% accuracy, 0.85 precision, 0.77 recall, and 0.81 F1-score for strikes. Random Forest followed with 83.86% accuracy, 0.83 precision, 0.90 recall, and 0.86 F1-score. KNN achieved 81.36% accuracy, 0.77 precision, 0.81 recall, and 0.79 F1-score. Logistic Regression struggled, with 53.86% accuracy, 0.41 precision, 0.16 recall, and 0.23 F1-score. SVM was the weakest, with 57.05% accuracy and 0.00 across all strike metrics due to class imbalance. These results suggest that machine learning—particularly Gradient Boosting and Random Forest—can serve as a reliable foundation for developing an automated strike zone. Future work could explore how such a system might impact scoring and gameplay compared to traditional umpire decisions.

P11 *Detecting Malicious Traffic using Neural Networks*
Author(s): Hugh Carlson
Faculty Mentor: Hrvoje Podnar
Department: Computer Science
Abstract: Through the use of a dataset of network traffic we will use Neural Networks to train the model to effectively differentiate malicious traffic from normal traffic. The dataset includes a variety of simulated network connections labeled as either normal or belonging to one of several attack types. One such being denial-of-service (DoS) as one of the more common occurring malicious traffic examples. To develop this model first involves the preprocessing of data and feature selection on which to train the model on prior to testing. Once training is complete the model can be tested on an unseen portion of the dataset. Once run we can see how the model performs via certain metrics like accuracy, f1 score, and more to determine its effectiveness as an IDS.

P12 *Assessing the Risk of Small Dam Removal in the Long Island Sound Watershed*
Author(s): Katelyn Alix, Gary Hoehne, Jam Hayton, Kayla Balbachan & Vincent Breslin
Faculty Mentor: Nicholas Fedorchuk
Department: Earth Science, Environmental Geography and Marine Sciences, Chemistry
Abstract: Urban and industrial wastewater discharge, road runoff, and domestic sewage discharge results in the accumulation of heavy metals in river systems. Dams can disrupt the ecosystem by modifying the biological and physical characteristics of rivers. Sediments trapped behind these dams often contain anthropogenic trace metals. This project focuses on three dams to be removed in the Long Island Sound Watershed: the Patchogue River Dam in Westbrook, CT, the Bladens River Dam in Seymour, CT, and the Wards Millpond Dam in Branford, CT. Cores were collected from above these dams. To assess the risk of downstream contamination after dam removal, we analyzed the heavy metals in dam impoundments. Sediment characteristics were acquired using loss on ignition to determine organic content, sieving and laser analysis to determine grain size, acid digestion of sediments using EPA Method 3050B, followed by flame atomic-absorption-spectroscopy to measure metal concentrations. GIS analysis of the watersheds showed a similar land-use profile, although the Branford River Watershed contains more developed area. We observed a covariance in metals, organic matter, and grain size. Cores from Westbrook and Branford show higher concentrations in surface sediments, while Seymour shows peaks in metals at depth. Concentrations are highest in the Branford River, with zinc exceeding the probable-effect-level (PEL) threshold and copper exceeding the threshold-effect-level (TEL) in surface sediments. Peaks in zinc, and mercury from the Westbrook and Seymour Watersheds exceed the TEL. Developing a methodology for testing these sediments aids in identifying dams for removal and restoration of the Long Island Sound Watershed.

P13 *Grain Size Analysis and Spatial Distribution of Heavy Metals within the Bladen's River Dam Impoundment (Seymour, Connecticut)*

Author(s): Gary Hoehne, Dr. Nicholas Fedorchuk, Dr. Vincent Breslin, Katelyn Alix, Jam Hayton & Kayla Balbachan

Faculty Mentor: Nicholas Fedorchuk

Department: Earth Science, EGMS, Earth Science, EGMS, Chemistry

Abstract: Small legacy dams, such as the Bladen's River Dam in Seymour, Connecticut, are being considered for removal by the non-profit Save the Sound due to their disruption of animal migration and sediment transport, as well as their potential to cause flooding. However, remobilizing legacy sediments trapped behind dams poses potential risks to downstream ecosystems. This study investigates the spatial distribution of metals; arsenic, cadmium, copper, iron, lead, and zinc in surface sediments from the Bladen's River Dam impoundment, so any potential hazards can be uncovered before the dam is removed and sediments are flushed into downstream ecosystems. Sediments were evaluated based on grain size, loss on ignition (LOI), and metal concentrations. The results revealed spatial variations in sediments, with finer grain sizes and higher organic content positively correlated with elevated metals in the impoundment areas behind the dam, while areas upstream and downstream contained coarser sediments and lower levels of metals. Particularly, the SEY-4 sample collected behind the dam impoundment stood out, exhibiting significantly higher cadmium concentrations (1330 µg/kg) compared to SEY-5 downstream (198 µg/kg), suggesting potential accumulation of metals due to the sediment's composition and organic matter content. This sample exceeded the Probable Effects Concentration (PEC) for all measured metals, emphasizing the need for detailed spatial analysis of metal distribution. However, no sites surpassed the Threshold Effects Concentration (TEC) levels, suggesting limited immediate ecological risk. This underscores the importance of considering both the sediment characteristics and their spatial distribution when evaluating the risks associated with dam removal.

P14 *"Navigating the Plastic Tide: Sharks' Struggle with Polluted Prey"*

Author(s): Julia DePonte

Faculty Mentor: Miriah Kelly

Department: Environment, Geography & Marine Studies

Abstract: Plastic pollution is a growing problem in our oceans, seriously affecting marine life, including sharks. This study explores how plastic waste impacts shark feeding habits and health.

Sharks often mistake plastic items for food and eat them. This can cause internal injuries, blockages in their digestive systems, and exposure to harmful chemicals released by plastics. For example, a study Conducted by the research team at Exeter found that 67% of 46 analyzed sharks had microplastics in their stomachs, highlighting the true scale of this issue.

Plastic pollution also affects the prey that sharks rely on. Many small fish and other marine animals consume microplastics, which can lead to health problems or death. As these prey populations decline or become unhealthy, sharks may struggle to find enough nutritious food, leading to changes in their natural feeding behaviors.

To protect sharks and keep our oceans healthy, we need to reduce plastic pollution. This study will explore our options in battling plastic pollution. One way is to improve how we handle waste by boosting recycling programs and cutting down on single-use plastics. Another way would be through education programs teaching people about the harm plastic causes and help to encourage more eco-friendly habits. Another way would be creating laws that ban certain plastic products and promote better alternatives. This method can significantly decrease the amount of plastic waste in our oceans. By taking these steps, we can help preserve shark populations and ensure our ocean ecosystems remain balanced.

P15 *Investigation of biodiversity threats from incoming fish farms in fjords of eastern Iceland*

Author(s): Payge Lenhart & Emma Cross

Faculty Mentor: Emma Cross

Department: Environment, Geography & Marine Studies

Abstract: The village of Seyðisfjörður, Iceland finds its fjords being targeted as a potential site for new finfish farms. As climate change continues to alter natural conditions, relatively untouched places like these fjords are developing suitable conditions for fish farming. These farms pose great threats to the environment through the introduction of excess organic material, proliferation of disease, and impacts to natural fish populations. In an effort to clearly determine the impacts that these farms have on local biodiversity, baseline data and trends are being collected pre-installment. To collect this data, GoPros were deployed at several sites around the fjord. Five sites were selected, including one reference site in a neighboring, northern fjord. At each site GoPros were positioned, one facing down and one facing out, at depths of 2m, 7m, and 20m, reflecting the typical range of depth of fish farms. Some preliminary results from this data find that video taken at 20m depth has more consistent presence of marine life than other depths. At this depth, large groupings of sea stars have been recorded, as well as groups of flounder and sea urchins. With the threat of fish farms looming over this site, a unique opportunity to record data pre and post installation has presented

itself. In a time where anthropogenic influence is becoming increasingly popular in arctic environments, this study will help provide solid information about the impacts of such influence and allow for more informed and mindful action to be taken in the future.

P16 *Bio-Adhesive Interfaces for Marine Sensors on the Veined Squid (Logilo forbesii)*
Author(s): Alexandra de Andrade
Faculty Mentor: Miriah Kelly
Department: Environment, Geography & Marine Studies
Abstract: Tracking marine wildlife with slippery, fragile skin has proven challenging in the adhesion of marine sensors. Bioadhesives -natural polymers or bonding agents suited to stick to animal or plant tissue - are a gentle approach for the attachment of marine tracking devices to animals with unique epithelial tissues. Organisms such as squid, jellyfish, lobsters, and horseshoe crabs that have soft, squishy skin or hard, protective shells may not be suited for sensors that need to be anchored into their skin to last. Biologically sourced adhesive compounds can become a primary source of attachment for marine sensors in a gentle manner that will maintain the integrity of animal tissue. A meta-analysis observing the results from studies focusing on bioadhesives for medical and marine use was used to determine the potential success of new marine sensor interfaces. The studies analyzed revealed both the benefits and setbacks of using bioadhesive materials for adhesion of damaged skin and attachment to wet skin. The challenges faced during the curing of these materials can prove difficult to maintain longevity in sensor adherence underwater. Future research opportunities in the field of bioadhesion in marine tracking methods can provide a gentle and safe manner for organisms with compromised tissues that require tracking for populations around the world ocean.

P17 *Enhancing Marine Protected Areas: Best Management Practices for Conserving Closed Marine Systems*
Author(s): James Duda
Faculty Mentor: Miriah Kelly
Department: Environment, Geography & Marine Studies
Abstract: Marine Protected Areas (MPA's) are vital tools for conserving marine biodiversity and ensuring the health of our oceans. However, the effectiveness of MPA's can vary widely depending on their design and management. This study is going to identify solutions for best management practices of closed marine systems within MPA's. Closed Marine systems such as coral reefs, estuaries, and deep-sea vents, are particularly vulnerable to human impacts due to their limited connectivity and unique biodiversity. The solutions for protecting these systems are establishing no take zones which prohibits all extractive activities which allows marine life to recover and thrive. Another solution is having a larger area, this will allow MPA's to be more effective in protecting the closed systems and the animals inside of them. The third solution is addressing external threats such as pollution, climate change, and invasive species that can impact the closed system within the MPA's. Engaging local communities, this is important because the success of the MPA's is dependent on the involvement and support of local communities who often rely on marine resources for their livelihoods. The last solution is utilizing innovative technologies. Advanced monitoring and enforcement technologies can help ensure the effectiveness of MPA's. By implementing these solutions, we can enhance the protection of closed marine systems, safeguarding their biodiversity and ensuring the long-term health of our oceans.

P18 *Observing the Behaviors of Different Fish Species Through Their Interactions with Shellfish Aquaculture Cages*
Author(s): Olivia Vallejo & Dr. Emma Cross
Faculty Mentor: Dr. Emma Cross
Department: Environment, Geography & Marine Studies
Abstract: Shellfish aquaculture is a rapidly growing field that provides environmental benefits, as shellfish help to improve water quality through filter feeding. Additionally, shellfish farms contribute to local biodiversity by creating habitats that attract various marine species. In this research, the behaviors of different fish species interacting with shellfish aquaculture cages is being analyzed. Fish behaviors were observed using GoPro footage collected from two sites: Cottage City Oysters shellfish farm, located in Martha's Vineyard, Massachusetts, and a control site with no aquaculture equipment. Preliminary findings have shown that Scup (Stenotomus chrysops) exhibit "station-keeping" behaviors where the species remains within or around the cage with neutral behaviors. It has also been observed that Black Sea Bass (Centropristis striata) frequently enter inside of the cage and feed on the microalgae growing on the exterior of the cage. These early observations indicate that fish are attracted to these cage structures and utilize them as both a shelter and feeding area. By examining these interactions, this behavioral analysis contributes valuable data to ongoing research at the Milford NOAA Research Lab, helping to build a better understanding of fish-aquaculture interaction. As the footage undergoes further analysis, additional behaviors such as territoriality, courtship, nursing, and spawning are expected to be seen. The study also anticipates identifying more consistent species-specific behaviors and increased interactions between different fish species. Understanding these behaviors will help to inform

future aquaculture practices, which could potentially enhance habitat design to support both sustainable shellfish farming and marine biodiversity.

P19 *Investigating Sustainable Solutions to Fast Fashion Consumption*
Author(s): Casandra Sapia
Faculty Mentor: Miriah Kelly
Department: Environment, Geography & Marine Science
Abstract: Fast fashion and consumerism continue to grow in the Western world creating a rise in waste and emissions from excessive manufacturing of low-quality garments. Some fast fashion industries are experiencing massive growth as demands for trendy low-cost items persist. Fast fashion industries are faced with issues of supply and demand, greenhouse gas emissions, water pollution, labor laws, including child labor, and general lack of company transparency. If this model of manufacturing continues, our natural resources will be depleted, unsafe working conditions will continue, and society will be faced with the repercussions of unchecked consumption and waste. To this end, this research seeks to answer questions about what can be done to combat fast fashion consumption. A thorough analysis of existing literature reveals that there are many solutions being presented to address this growing issue, including: 1) Creating a circular economy manufacturing approach 2) Having proactive policies in place for factories to resolve issues of sustainability before they become outsized issues, 3) Promoting conscious consumer behaviors, such as supporting "slow fashion" brands, 4) looking into alternative fabrics, 5) buying secondhand and pre-loved items and 6) purchasing fewer clothing items in general. If these solutions are implemented, not only can manufacturing processes for fashion items improve overall, but new sustainable industries and economies can be created.

P20 *Barriers to Scaling Nuclear Fusion Technology*
Author(s): Jillian Zitofsky
Faculty Mentor: Miriah Kelly
Department: Environment, Geography & Marine Sciences
Abstract: Nuclear fusion energy is a rapidly developing clean, zero waste, and renewable form of energy. This form of energy fuses hydrogen isotopes together and releases an extensive amount of energy in the process. More research is needed for this topic because a fusion reaction can only happen in very strict operation conditions that scientists have not yet been able to produce for a significant amount of time. Current nuclear reactors use fission energy that splits the nucleus of an atom and produces radioactive waste. Fusion offers a pathway to resolve energy security and the unequal distribution of energy. Some barriers that inhibit the scaling of fusion energy include plasma and magnetic containment, material development, cost, and scale of operation. There are over 50 countries currently working on advancing new technologies for fusion energy production with a focus on the best way to keep a reactor up and active generating sustained energy production. However, challenges related to achieving net positive energy, along with the development of materials that can withstand extreme conditions, remain significant obstacles. In this paper, barriers to advancing fusion energy are explored and conclusions are drawn in ways to address these barriers to maximize use of this clean energy.

P21 *Spatial Trends in Sediment Copper and Zinc Concentrations in Black Rock and Bridgeport Harbor*
Author(s): Autumn Smith & Vincent Breslin
Faculty Mentor: Vincent Breslin
Department: Environment, Geography & Marine Sciences
Abstract: Located in southern Connecticut along the northern portion of central Long Island Sound, Black Rock and Bridgeport harbors have a rich industrial history, and multiple known point sources of heavy metal contamination. This study determined mercury concentrations of 39 surface sediment samples collected across the two harbors during 2022-2023. Samples, collected by boat at predetermined sites using a ponor grab, underwent sediment loss on ignition (LOI) tests to determine the organic carbon content of each sample. A Horiba Particle Size Analyzer LA-950VZ was used to determine the median grain size of each sample. Mercury concentrations were quantified on freeze-dried sediment samples using a Milestone Direct Mercury Analyzer 80 (USEPA Method 7473). Spatial trends of each harbor's mercury contamination were determined, and the NOAA Effects Range Low (ERL) and Effects Range Medium (ERM) thresholds helped identify areas that pose a threat to aquatic life in each respective harbor.

Sediment in both harbors exhibited a wide range of mercury concentration, most of which exceeded its crustal abundance (85 µg/kg). The lowest mercury concentrations (48.5-436 µg/kg) were found in the outer (southern) portions for the harbors, where there is typically less industry and urbanization; the highest (101-1225 µg/kg) were mostly confined to the inner (northern) inland portions of each harbor close to industry. Sediment metals also varied with sediment organic carbon content and sediment grain size. Results of this study and previously reported mercury

concentrations in these harbors (1973-2023) will be used to determine temporal trends in sediment mercury contamination in these harbors.

P22 *Electron Diffraction Patterns and Parameters in a Tecnai 120 kV BioTwin Transmission Electron Microscope*
Author(s): Maggie Blanchard
Faculty Mentor: Christine Broadbridge
Department: Physics
Abstract: The ongoing advancements in renewable energy technologies have significant implications for sustainability and environmental protection efforts. In many applications, understandings of the crystal nature, symmetry, lattice strain, and phase of a material are crucial in identifying material limitations. Electron diffraction in transmission electron microscopy (TEM) serves as a cornerstone for understanding material structures at the atomic scale, offering insights into crystallography and phase identification. This study explores the parameters for electron diffraction of the Tecnai 120 kV BioTwin TEM, a versatile instrument optimized for high-contrast imaging of beam-sensitive biomaterials. An understanding of the role these parameters play in material characterization is developed using reference materials including silicon, molybdenum, and aluminum Findings underscore the critical role precise tuning of these parameters to achieve optimal diffraction patterns, particularly for nanostructured and renewable-focused specimens. By integrating these optimal insights into the Center for Nanotechnology, the applications for sustainable innovations in material characterization will be heightened. As part of this presentation, we will outline the key initial findings of this optimal parameter investigation as well as begin to touch on high-level applications to sustainable materials analysis.

P23 *A Comparative Analysis of DC Performance of Surface Modified MnO_2-Biochar Composite Electrodes*
Author(s): Michael Hernandez
Faculty Mentor: Christine Broadbridge
Department: Physics
Abstract: Lithium-ion batteries, which are widely used in modern electronics, pose significant environmental challenges due to their limited lifespan, toxicity, and the extraction of materials that often lead to human rights violations, habitat destruction, and pollution. Supercapacitors are viewed as an attractive alternative, as they can be fabricated from materials that are less problematic from these perspectives. Among this class of devices, so-called hybrid architectures are of particular interest due an increased energy density arising from combined electrostatic (electric double-layer capacitance, EDLC) and electrochemical (pseudocapacitance) charge storage mechanisms. Using MnO2 and biochar as the pseudocapactive and EDLC elements, respectively, affords the opportunity to fabricate devices from naturally abundant materials that present with low toxicity and generate fewer emissions. Produced from the pyrolsis of biomass, biochar possesses a porous microstructure and a high theoretical surface area. In practice, the pore structure in as-produced biochar is highly contaminated, as confirmed by previous studies which have found the electrochemical performance of untreated biochar electrodes is quite poor. In this study, the electrochemical performance of washed biochar in hybrid supercapacitors with MnO2 is investigated. Washing the biochar before electrode fabrication has been shown to enhance electrochemical performance by reducing impurities that hinder charge transfer, thus leading to improved conductivity and stability. Results indicate that through the use of Cyclic Voltammetry (CV) and Galvanostatic Charge-Discharge (GCD) measurements, washed biochar exhibited a larger current response and a more extensive area under the curve, indicating a higher specific capacitance.

P24 *Novel recycling Extraction Method For Lithium Ion Batteries*
Author(s): JR Nguema Nsegue, Dr. Christine Broadbridge, Stephen Swirsky, Thomas Sadowsky, Richard Peregrino, Thomas Madden & Nicholas C. Anderson
Faculty Mentor: Dr. Christine Broadbridge
Department: Physics
Abstract: The increasing demand for lithium-ion batteries (LIBs) in electronics, electric vehicles, and renewable energy systems underscores the urgent need for sustainable recycling solutions. Conventional pre-treatment and conditioning processes for recycling LIBs are both cost-prohibitive and environmentally harmful, often exceeding the expense of manufacturing new batteries. This research utilizes a proprietary chemical solution combined with an electrochemical method aimed at extracting NMC materials from spent LIBs, while simultaneously stabilizing copper to prevent contamination. The proposed process offers a promising pathway to reduce environmental impact and enhance the sustainability of LIB recycling.

P25 *Investigating pH and Voltage Effects on NMC 532 Recovery from Lithium-Ion Batteries*

Author(s): Ingrid Pomaquiza

Faculty Mentor: Christine Broadbridge

Department: Physics

Abstract: Traditional recycling methods such as hydrometallurgy and pyrometallurgy have been investigated as viable recycling methods for Lithium-Ion Batteries. However, these methods are not economically feasible nor environmentally friendly. A promising avenue of recycling is electrochemical separation due to its efficiency, cost-effectiveness and ease of access at either a large or small-scale. This is essential as it lowers maintenance costs, avoids production of harsh chemicals, and results in less air and water pollution overall. In this study, a proprietary extraction solution was used to remove lithium, nickel, manganese, cobalt (NMC) from cathode active materials (CAM) in the presence of copper foil simulating an NMC 532 lithium-ion battery. The impact of varying pH's and voltages was investigated to determine conditions for optimal extraction. The efficacy of this approach was quantified using the Shimadzu UV-3600 NIR Spectrophotometer for absorbance values of the extraction solution. Samples were taken at 20 minute and hour intervals. Preliminary findings suggest that electrochemical methods can effectively shield NMC from the extraction solution while enabling the selective removal of copper from the battery.

P26 *Prenatal Effects of THC Exposure on the Behavior of Rattus Norvegicus*

Author(s): Ethan Boehm, Kani Abdulla, Ethan Boehm, Khaoula Boulhadi, Maya Brehon, Felicity Keyworth, Abigail Nolan, Eva Rodriguez, Sofia Shubin & Ivan Teplyakov

Faculty Mentor: Kelly Bordner & Rachel Jeffrey

Department: Behavioral Neuroscience

Abstract: Maternal cannabis use during pregnancy is increasing, particularly in the first trimester, yet the long-term consequences of in utero cannabinoid exposure remain poorly understood. Our lab uses a rodent model to examine how early exposure to delta-9-tetrahydrocannabinol (THC), the main psychoactive component of cannabis, influences behavioral development in offspring. Pregnant Sprague-Dawley rats were administered THC (5 mg/kg) or vehicle on gestational days 1–5, 16–20, or not at all, and allowed to give birth naturally. Offspring were weaned and assessed for social behavior and anxiety-related responses during adolescence and adulthood using validated behavioral assays: the Social Approach test (SA), Elevated Plus Maze (EPM), and Light/Dark box (LD). Our findings suggest that prenatal cannabis exposure—even during the earliest stages of pregnancy—may lead to subtle yet lasting behavioral changes. Work investigating the impact of this exposure on the brain is ongoing. We hope these insights will highlight the potential risks associated with recreational THC use during pregnancy and ultimately help inform public health guidelines and clinical counseling for pregnant individuals during a time of increasing cannabis availability.

P27 *Sleep, Dreams, Nightmares, and Mental Health Distress: A Cross-Cultural Longitudinal Comparison of Argentina and the United States of America*

Author(s): Khaoula Boulhadi, Marina Trakas, Agustina Laura Lo Celso, Imad Antonios, Salvador Guinjoan, Cecilia Forcato & Walter Sinnott-Armstrong

Faculty Mentor: Paul Mckee

Department: Psychology

Abstract: This longitudinal cross-cultural study investigates whether the frequency of bad dreams and nightmares predicts symptoms of depression and anxiety in non-clinical populations from Argentina and the United States. While nightmares are increasingly recognized as potential indicators of psychological distress, few studies have examined their predictive validity across culturally distinct populations over time. Building upon previous research linking distressing dreams to mental health symptoms, this study assesses whether such associations generalize beyond pandemic-specific contexts and whether dream-related variables can inform early mental health screening practices.

Participants (N ≈ 1,500) from Argentina and the United States completed monthly online surveys over five months (March–July 2024), reporting on sleep quality, bad dream and nightmare frequency, and symptoms of depression and anxiety using the PHQ-9 and GAD-7. Linear mixed models evaluated associations between dream frequency and mental health symptoms, while machine learning models, including random forests and support vector machines, were used to predict depression and anxiety class membership based on dream-related variables.

Preliminary results indicate that higher frequencies of bad dreams and nightmares are significantly associated with elevated symptoms of depression and anxiety across both countries. Machine learning classifiers achieved strong predictive performance, with feature importance analyses highlighting dream-related variables as robust predictors of mental health distress.

These findings suggest that bad dreams and nightmares may serve as accessible, non-invasive early indicators of psychological vulnerability, with consistent effects observed across culturally distinct contexts. The study underscores the importance of integrating dream-related assessments into routine mental health screening practices.

P28 *Job Insecurity: Shaping Work-Life Balance, Social Connection, and Sleep Quality*
Author(s): Kelly Kalonji & Michael Nizhnikov
Faculty Mentor: Christopher J. Budnick
Department: Psychology
Abstract: This study explores the complex relationship between job insecurity, work-life balance, social connection, and sleep quality, shedding light on its detrimental impact on the well-being of working individuals. The study was conducted using Qualtrics XM, with participants recruited through flyers, social media platforms, or course credit offered by professors. It examines the correlation between job insecurity and its association with individuals' relationships, social connections, and the role of sleep quality in buffering the impact of these variables. Preliminary analysis highlights job insecurity as a significant work-related stressor that can be harmful to an individual's psychological well-being, job attitudes, and behavior. These findings underscore the need for further exploration and targeted interventions to better support employee well-being by addressing concerns about job stability.

P29 *Why settle for less? Examining of the relationships between attachment styles, self-esteem, the fear of being single, and relationship expectations*
Author(s): Giuliana Robles & Dr. Michael Nizhnikov
Faculty Mentor: Dr. Christopher J. Budnick
Department: Psychology
Abstract: Expectations towards romantic relationships (ETRR) are the beliefs and mental representations which impact how people interpret information and behave in romantic interactions. Rooted in attachment theory, preliminary research on ETRR suggests that individuals with insecure attachment, particularly anxious attachment, expect lower stability and caregiving with heightened levels of conflict in romantic relationships. These negative, or lower expectations, may therefore be classified as settling for less. To ensure validity, Hypothesis 1 will reassess whether anxious attachment is predictive of lower relationship expectations. Additionally, we hypothesize that (H2) low self-esteem and (H3) high fear of being single will predict lower relationship expectations, and that (H4) those two variables (self-esteem and the fear of being single) will moderate the relationship between attachment style and relationship expectations. Using a cross-sectional design, data will be collected via survey from participants aged 18-25 with either previous or current relationship experience. This study aims to replicate and extend prior findings by examining the interactions between these variables throughout a United States college sample, expanding the understanding of how psychological and social factors shape romantic relationship expectations. Further research utilizing this information may even potentially contribute to the literature on abuse and patterns of mistreatment within relationships as well.

P30 *Reading Attitude Changes after a Cross-age Dialogic Reading Intervention in Elementary Students*
Author(s): Eily Smith, Kristina Cooper & Ethan Coscia
Faculty Mentor: Dr. Durwin Dr. Moore
Department: Psychology
Abstract: Between 2022 and 2024, three studies were conducted with first and fifth grade students at a local elementary school to assess the effectiveness of a shared-book reading approach called Dialogic Reading with Integrated Vocabulary Enrichment (DRIVE). In these studies, fifth graders (Big Buddies) are trained to use the intervention with first graders (Little Buddies). Previous analyses of the DRIVE intervention have examined treatment effects on both vocabulary and reading comprehension scores showing positive effects for both first and fifth graders. However, attitudinal data from these studies which evaluates enjoyment of reading with a buddy, self-perception of reading abilities, and overall engagement with the reading buddy program have not yet been analyzed. Across three completed studies, a total of 56 students participated in the intervention ranging from 4 to 10 weeks. Analysis of the pre- and post-survey responses reveals positive shifts in reading attitudes across both Big and Little Buddies. The data showed high levels of enjoyment, particularly among Little Buddies, as well as a notable improvement in self-perception of reading skills. The overall trend indicates that the DRIVE intervention positively influenced students' reading attitudes and desire to continue reading. These findings underscore the importance of addressing reading attitudes in literacy interventions, as positive shifts in enjoyment and self-confidence contribute to improved reading outcomes and increased vocabulary acquisition.

P31 *Year 2 Replication of Treatment Fidelity of a Cross-Age Dialogic Reading Intervention*
Author(s): Ethan Coscia
Faculty Mentor: Dr. Durwin Dr. Moore
Department: Psychology
Abstract: During the 2023-2024 academic year, a replication study was conducted with first and fifth grade students at a Title I school in which fifth graders were trained to use an approach called Dialogic Reading with Integrated Vocabulary (DRIVE) and used strategies within the approach (summarized by the acronym EMPOWERED) to create

a dialogue while reading with first graders. This study assesses the treatment fidelity of the 10-week DRIVE intervention that implements the EMPOWERED strategies: Encourage Vocabulary, Make it fun, Prompt frequently, Open ended questions, Wh-Questions, Expand the child's responses, Encourage Repetition, Evaluate the child's responses, Distancing prompts. Treatment fidelity is how often fifth graders ("Big Buddies") implement the strategies of EMPOWERED when reading to a first-grade student (known as a "Little Buddies"). Before working with first grade students, eleven fifth grade students were first given four to eight brief training sessions lead by research assistants (RAs) on how to implement the DRIVE intervention with RAs recording the EMPOWERED strategies used. Then Big Buddies read to first graders in 10-minute sessions over 8 weeks using the training book and several other picture story books. Results suggested general fidelity to the DRIVE approach. Big Buddies were strong in implementing Encourage Vocabulary, Prompt frequently, Open ended questions, Wh-Questions. However, results yielded a lower usage in the strategies Make it fun, Expand the child's responses, Encourage Repetition, Evaluate the child's responses and Distancing. Results will be discussed in the context of previous treatment fidelity research and implications for future research.

P32 *Gender Identity and perception of in-game behaviors in Videogames*
Author(s): Jacob Scataglini
Faculty Mentor: Dr. Gayle Bessenoff & Dr. Kelly Stiver
Department: Psychology
Abstract: Social conditioning based on gender may shape the expression and interpretation of social behaviors and actions. For example, men and women have been found to engage in different types of aggressive behaviors (e.g., relational vs physical). Similarly, they may have different interpretations of aggression in social contexts. The current study examined gender differences in the interpretation of in-game behaviors in the competitive fighting game Super Smash Bros. Melee. Participants provided numerical ratings on their perception of several in-game behaviors as pro- or anti-social. We compared survey responses based on self-reported gender identity (male (N = 243) versus non-male (N = 43; non-binary and female, collapsed due to low sample size).

P33 *"Unhealthy Obsession." Perceptions of Stalking by Undergraduates*
Author(s): Michael Astram, Kevin McGuire, Phillip Rao & Hanna Zebdi
Faculty Mentor: Dr. Jessica A. Suckle-Nelson
Department: Psychology
Abstract: The concept of stalking has evolved over the past 20 years due to the advent of social media and the normalization of such behaviors in everyday media. The lines between "crushes," "stalking," and "cyberstalking" often appear blurred, and defining the differences between these concepts can be difficult.
These results are based on the preliminary qualitative analysis of responses to open-ended questions about the definition of and reasons for stalking. While the emerging categories are not necessarily surprising, most illustrate how closely these behaviors mimic the romantic behaviors that typically occur when people first become interested in someone. Comments about the victims and perpetrators revealed more sympathetic responses towards those who experience stalking, but more disparaging responses towards the stalkers.
Preliminary results have also indicated several cross-categorical themes that represent overall perceptions of stalking regardless of the behavior that is occurring. Awareness of the stalker and nonconsensual victims appeared regardless of which of the 4 original questions were being examined. The level of harm that can be inflicted also appears to be thematic but is likely influenced by the modality of the stalking (on- vs. offline).

P34 *The Effect of Self Affirmation on Linguistic Properties of Self-Narratives*
Author(s): Neesha Melendez, Viktoria Biblekaj & Ashley Harris
Faculty Mentor: Dr. Patricia Kahlbaugh
Department: Psychology
Abstract: College students (n=177) were randomly assigned to self-affirmation or control groups and wrote two self-descriptions; when I have been or will be my Best Self and "Who Am I." Using LIWC (Pennebaker, 2011), Best Self narratives contained more drive and achievement, and "Who Am I" had more affiliation. Best Self narratives in self-affirmed group had more drive, achievement, and affiliation than control. Findings suggest the value of LIWC in differentiating narratives and validating self-affirmation interventions.

P35 *Pro- & Anti- Social Melee*
Author(s): Haylee Kilfeather* & Daila Smith*
Faculty Mentor: Gayle Bessenoff & Dr. Stiver
Department: Psychology
Abstract: We conducted a study to examine the extent to which players of Super Smash Brothers Melee (SSBM) exhibit quantifiable pro- and anti-social behaviors in online play. Utilizing a survey, we assessed in-game behaviors among competitive SSBM players. We analyzed qualitative responses regarding participants' perceived prosocial and

antisocial behaviors, comparing these perceptions to the original coding framework of the survey. We will present our re-coding and refining of the behavioral classifications, discussing the challenges we encountered in the process of re-coding and providing examples of the categories we identified.
*Haylee Kilfeather and Daila Smith are equal co-authors of this poster.

P36 *Intermittent reinforcement and attachment styles*
Author(s): Catriona Solomita
Faculty Mentor: Patricia Kahlbaugh
Department: Psychology
Abstract: Intermittent reinforcement (or variable reinforcement) is a reinforcement schedule that delivers rewards irregularly based on time or behavior. Variable ratio (intermittent reinforcement) schedules underlie the addictive properties of gambling. Could they also play a role in addictive qualities of insecure attachment in relationships? Participants (n=34) were recruited from SONA and were presented with two scenarios (one discussing a romantic relationship and the other a platonic relationship) where the object of the relationship responded to the main character either with fixed/continuous reinforcement or variable reinforcement. Next, participants were asked to complete an 18-item measure of attachment, a 10-item measure of FOMO, a 20-item measure of Nomophobia, and lastly a demographics form. This is an ongoing study; however, preliminary findings indicate that in the romantic scenarios, participants were more likely to pursue the connection when they are under the intermittent reinforcement scenario, $F(1,33) = 8.9$, $p < .005$. Regardless of reinforcement schedule, participants were more likely to check if the person texted them in the platonic scenario, $F(1, 33) = 33.30$, $p < .001$. Also regardless of the reinforcement scenario, participants were more likely to think about if their person texted them in the platonic scenario $F(1,3\ 3) = 41.96$ <.001. These findings may suggest why some people find it difficult to end romantic connections in which they are being given mixed signals. As this study continues, I will be examining these findings further along with possible mediations of this effect based on attachment styles, levels of FOMO, and Nomophobia.

P37 *The Effects of Music Genre and Tempo on Cognitive and Emotional Processes*
Author(s): Connor Corrente, Ashley Womack & Catriona Solomita
Faculty Mentor: Patricia Kahlbaugh
Department: Psychology
Abstract: Music is a cornerstone of many of our daily lives, often while we perform other tasks. It can enhance cognitive performance; for example, stimulating background music compared to relaxing music can benefit episodic memory and enhance visually driven study material. Our question centers on whether certain genres and tempos could be distracting or disruptive to cognitive & emotional processes. This study investigates the effect of instrumental music from two genres (hymn vs. metal) and three variations in tempo (slow, medium, or fast BPM) on cognitive and emotional processes. Participants (n=33) listened to one of the music tracks while solving four puzzles (Cattell Culture Fair) as well as completing measures of inner peace (Immanuel, 2022) and arousal (Svebak & Murgatroyd, 1985). No effects of genre or tempo on cognition were found, but hymns and slower-tempo music produced greater savoring. Metal music resulted in greater arousal and less peace, and arousal was associated with lower cognitive performance and less peace, suggesting a possible mediation. These findings are consistent with existing research; fast-paced music resulted in greater physical arousal levels than slow-paced music, and hymns resulting in greater peace could be connected to participants assessing happy life episodes. Future research with a more expansive sample size or implementing a personal stress measure could unearth more significant effects.

P38 *Effect of music tempo*
Author(s): Kayla Landry & Conner Corrente
Faculty Mentor: Patricia Kahlbaugh
Department: Psychology
Abstract: The study investigated stress levels in relation to arousal experienced when different types of music (metal vs. religious) are played at different tempos (fast, normal, slow). We predict that people who are experiencing higher levels of stress will feel more aroused when listening to metal music compared to religious and that cognitive performance will be impaired when listening to metal music played at a tempo either faster or slower than normal. Participants (n= 40) were given the DASS-21 questionnaire to assess stress levels and then completed a test of fluid intelligence (Cattell Culture Fair), and a measure of arousal while listening to music (metal vs. religious) that was played at one of three tempos (fast, normal, slow). Preliminary analysis suggests that people reporting higher levels of stress experienced greater arousal when listening to metal music than religious and performed more poorly while listening to music played at a slower than normal tempo. These findings suggest certain learning environments can be counterproductive for those experiencing higher levels of stress. Implications for therapeutic interventions are also considered.

P39 *The Insanity Defense: Misconception and reality*

Author(s): Kristian Williamson

Faculty Mentor: Sydney Nelloms

Department: Psychology

Abstract: The insanity defense is one of the most misunderstood aspects of the criminal justice system, often perceived as a loophole for criminals to escape punishment. However, in reality, it is rarely used and even more rarely successful. This presentation examines the legal standards for the insanity defense, including the M'Naghten Rule, the Durham Rule, and the Model Penal Code test, while analyzing the role of forensic psychologists in determining a defendant's mental state.

A major focus of this research is the public's misconceptions about the insanity plea. Many believe that it is frequently used, leads to acquittal, or results in immediate release. However, statistical data shows that the insanity defense is invoked in less than 1% of felony cases and succeeds in only a fraction of those. High-profile cases such as John Hinckley Jr. and Andrea Yates further demonstrate how media portrayals shape public opinion and fuel misunderstandings.

Additionally, this study explores the psychological disorders most commonly associated with successful insanity defenses, such as schizophrenia and bipolar disorder, and discusses the challenges forensic psychologists face in conducting competency evaluations. The implications of these evaluations extend beyond the courtroom, influencing sentencing, treatment, and public policy.

By addressing these legal and psychological complexities, this presentation aims to clarify the reality of the insanity defense, debunk popular myths, and highlight the critical role of forensic psychologists in ensuring fair and just legal outcomes.

P40 *Crazy for Caffeine: Caffeine Dependence and Consumption Habits Among Undergraduate Students at Southern Connecticut State University*

Author(s): Abiba Biao

Faculty Mentor: Jean Breny

Department: Public Health

Abstract: Valued for its taste and stimulant abilities, caffeine is a popular substance found in many beverages and food items. Caffeine consumption amongst college students has become a widespread common practice. With the rise of energy drinks in the 1990s, current students have access to more caffeinated options on the market than ever before. Using a qualitative case study design, this study examines the perceptions, attitudes, and beliefs around caffeine consumption in college students in a convenience sample of five undergraduate students at Southern Connecticut State University, ranging from 19-21 years. Data collection methods consisted of participants attending two focus group sessions and completing two weeks of online food diaries. Findings from these focus group sessions and online food diaries were framed under the socio-ecological model to categorize influences that promote and deter caffeine usage on an individual, interpersonal, and community level.

P41 *Gendered Pathways to Substance Use & Criminal Behavior during COVID-19 among Justice-Involved Women Who Use Drugs*

Author(s): Sophia Acevedo

Faculty Mentor: Amy Smoyer

Department: Social Work

Abstract: During the COVID-19 pandemic, there was a decrease in the number of people who were incarcerated in U.S. correctional facilities (Carson, 2022). This decrease reflected changes in criminal-legal practices: Police officers were arresting fewer people, judicial proceedings were delayed, and people were placed on community supervision to allow for social distancing in correctional facilities (USA Facts, 2022). These unique circumstances raise questions about the experiences of justice-involved people during COVID-19. How did these criminal legal changes impact their lives? This analysis contributes to answering this question by examining the intimate relationships of justice-involved women who used substances during the pandemic. Using qualitative data from the SHAWN project led by Dr. Amy Smoyer, this study explores women's relationships, substance use, and criminal behaviors during COVID-19. Interviews were recorded, transcribed, uploaded to Dedoose, and then coded for intimate partner relationship patterns, substance use, and criminal behavior. Participants' relationships fell into three categories: intimate partner relationships (romantic partnerships), pragmatic material cooperation (resource-based exchanges), and solitude (singleness). Findings suggest that women's intimate partners provided support during the pandemic and that solitude was associated with higher levels of substance use and criminal behavior. In terms of relationships characterized by an exchange of resources, substance use and criminal behavior varied, reflecting the complexity of these relationships. In conclusion, the findings suggest that in some cases intimate partner relationships may offer protective factors against substance use and criminal behaviors, while "solitude" can exacerbate such behaviors, emphasizing the importance of healthy and multifaceted social support systems.

P42 *Older People's Lived Experiences of Incarceration and Reentry: A Qualitative Exploration*
Author(s): Nelly Birmingham
Faculty Mentor: Smoyer, Amy B.
Department: Social Work
Abstract: People impacted by criminal-legal systems experience accelerated aging due to chronic stress, housing and food insecurity, healthcare barriers, social isolation, and interpersonal and structural violence. While research has begun to unpack the challenges faced by justice-involved older adults, the experiences of older people with criminal-legal systems remain underexplored. To address this gap in knowledge, this poster presents a thematic analysis of qualitative interviews with formerly incarcerated people. The data comes from SHAWN, a NIDA-funded study about the impact of criminal legal changes during COVID on the HIV risk of justice-involved women who use drugs (Smoyer, 2024). In total, 25 people participated in the study. This analysis examines data collected from the five SHAWN study participants who were age 50 or older at the time of their interview. All interviews were transcribed, uploaded to Dedoose, and coded by the first author and her faculty mentor. Analysis identified 4 key topics participants' narratives about incarceration and re-entry: housing, mental health, coping mechanisms, and employment.

P43 *Zero Waste Strategies and the Global Waste Problem*
Author(s): Crystal Golias
Faculty Mentor: Dr. Miriah Kelly
Department: Environment, Geography & Marine Sciences
Abstract: Landfill waste management poses environmental challenges due to methane emissions and landfill space. Methane emissions are causing climate change, and the world is running out of landfill space. The UN says global Municipal Solid Waste generation will reach 3.8 billion tons by 2050 without urgent action. The goal of this project is to find ways to reduce waste in communities. Recycling, composting, and reusing are important, but so are reducing single-use plastics and a circular economic model like Kate Raworth's Doughnut Economics. Making products more durable and reusable will also help reduce waste going to landfills. We did a meta-analysis of zero waste habits that shows what habits can be implemented at the household level. Challenges include non-renewable resource extraction, production and consumption, and environmental burdens. In multi-unit residential buildings, lack of convenience, unclear signage, high resident turnover, and anonymity can be barriers to zero waste. This study will identify zero waste actions that can be implemented. For each, ways to limit barriers to action are also discussed. Zero waste strategies can help reduce GHG pollution, but it will look different depending on the type of establishment and the policies involved.

P44 *Pirandello's Henry IV*
Author(s): Michael Dinuzzo
Faculty Mentor: Giuseppina Palma
Department: World Languages & Literature
Abstract: This poster presentation will take a play read in my Italian theater class, Henry IV, and elaborate on the key points, themes, and concepts that Pirandello displays throughout this play. Pirandello's Henry IV presents many ideas on concepts of identity, societal perception of our identity, as well as toying and experimenting with the idea of sanity and madness.
Through this presentation, I will explore these ideas present in Henry IV by pinpointing specific instances in the play that demonstrate themes such as insanity vs sanity, the fluidity of identity, and the fluidity of reality.

P45 *Coca: A Historical Remnant of Indigenous Culture in Perú Implications for Holisitc and Transcultural Nursing*
Author(s): Ayden Van Deusen
Department: Honors College
Abstract: For thousands of years, coca has been integral to indigenous culture, medicine, and identity in Perú; however, stigma and criminalization follow the leaf despite its importance. This paper aims to explore how coca's negative connotation came to be, its effect on the quality of healthcare the indigenous population of Perú receive, and implications for culturally sensitive care. First, the prevalence and importance of coca in indigenous culture, belief, and work is identified through historical and scientific review, reinforced through observations on a study-abroad service trip. Secondly, the history of stigmatization and subsequent criminalization of coca is explored in relevance to subjugation of the indigenous peoples in Perú. Thirdly, conclusions from previous sections are applied to provide individualized, patient-centered nursing care to indigenous communities in Perú, illustrated through examples from literature and travel-abroad experience. The results from this paper demonstrate the importance of coca to better understand the indigenous patient in Perú, which when applied, promote more respectful and equitable nursing practice and policy.

P46 *A Comparative Study of Educational Systems: Barcelona and New Haven*
Author(s): Jenna Joyce
Department: Honors College
Abstract: As a student who has visited schools in New Haven and Barcelona, I saw firsthand how a city's values are reflected in its educational system. I was impressed by Barcelona's system, which offers students flexible courses while embracing multilingualism, cultural pride, and practical training for a students future. On the other hand, I compared this to New Haven schools which place a lot of emphasis on college readiness and standardized testing. Yet, from what I saw, and researched there is frequently disparity in access to resources like AP courses. I've witnessed firsthand how test-based learning restricts creativity and how it puts pressure on students. I learned how policy, and culture influence impact education by comparing these two different cities systems of education. This motivated me to look into how every approach to education helps, or doesn't help their students.

P47 *Exploring Sense of Place while Abroad*
Author(s): Natalie Weier
Department: Honors College
Abstract: This project combines personal reflection, visual documentation, and cultural immersion to explore the meaning of "sense of place" while abroad. I will use a scrapbook as a medium to showcase my experience of being in Italy for July 2024. The project is a blend of photographs, journaling, and ephemera collected abroad and demonstrate a timeless souvenir that reveals the impact of a place on one's worldview and emotional journey.

P48 *Tuscany: a Culinary Journey*
Author(s): Alexa Iassogna
Department: Honors College
Abstract: During the entire month of July in 2024 I studied abroad in Tuscany, Italy. In this project I highlighted some of my favorite recipes and dishes I ate/ cooked while I was traveling, along with lessons I learned along the way.

P49 *Diet and Exercise: Spain vs the USA*
Author(s): Delanie Fresco-Hawes
Department: Honors College
Abstract: I compared my experience with food and exercise in Spain for 2 weeks with my experience as an SCSU student here on campus. I kept track of everything I ate and the number of steps I took each day for two weeks in Spain and the US. I then explored why there were such differences between the two countries and how I could adjust my campus life to be more like that in Spain.

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