

STUDENT
ACADEMIC
SHOWCASE

LINDENWOOD

U N I V E R S I T Y

Tuesday, April 9, 2024
12:30-4:00

The Student Academic Showcase is an event for students to display their scholarly and creative projects to Lindenwood University faculty, staff, and fellow students. Students' work will be featured in poster formats or as presentations in concurrent oral sessions.

The winner of this year's logo contest was Inés Camilleri Reche, an undergraduate student double majoring in Communications and Advertising with an emphasis in Media Arts and Production.

Welcome Letter

Welcome to the 2024 Student Academic Showcase!



This is a treasured event at Lindenwood where our students present their scholarly and creative projects to the campus community. Recognizing our students as future scholars and changemakers is central to our work in higher education, and we are all very proud of the students who are sharing their work here today. I am constantly impressed by our extraordinary faculty who create opportunities for our students to engage in scholarly inquiry and to demonstrate their knowledge and skills in different ways, including creative expression. As we know, the work of *creating and constructing* demonstrates sophisticated levels of learning and epistemological development. Today we will hear presentations, view displays, and see different ways in which this work aligns with our Lindenwood [Graduate Attributes](#) and our [RISE](#) framework for teaching and learning. Importantly, however, this day gives us a beautiful reminder of how we live out our mission through highly engaging learning and teaching experiences.

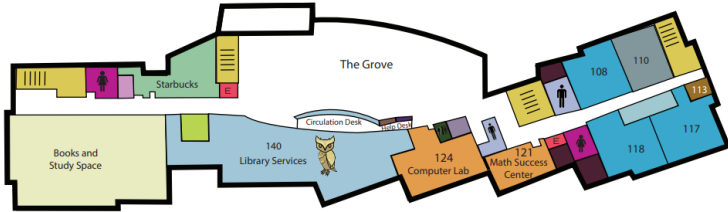
Enjoy this special day!

Dr. Bethany Alden-Rivers
Provost and Vice President for Academic
Affairs

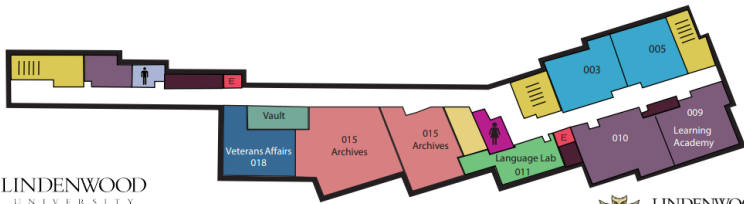


LINDENWOOD LARC

Main Floor



Lower Level

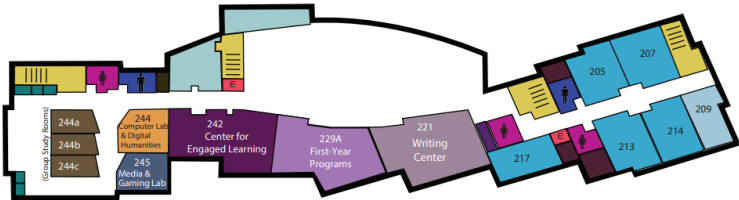


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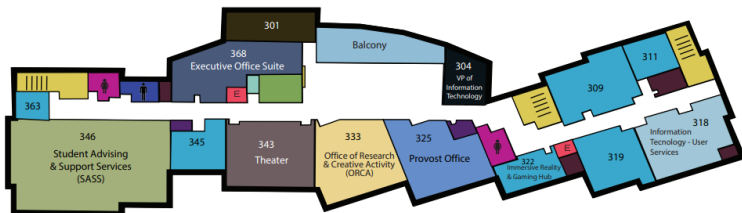
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LINDENWOOD LARC

2nd Floor



3rd Floor



Virtual Access

To access the Opening Welcome Session and Oral Presentations virtually, register through the Lindenwood Learning Academy: <https://student-academic-showcase-2024.training.lindenwood.edu/>

Snapshot of the Day

- 12:30-1 p.m. Opening Welcome Session in LARC Theater (3rd floor)
- 1-2 p.m. Poster Presentation Session 1 (19 Posters) in LARC Grove (1st floor)
- 1:30-2:30 p.m. Five rooms with 2-3 back-to-back Oral Presentations Session 1 (rooms vary)
- 2:30-3:30 p.m. Poster Presentation Session 2 (19 Posters) in LARC Grove (1st floor)
- 3-4 p.m. Four rooms with 2-3 back-to-back Oral Presentations Session 2 (rooms vary)



Opening Welcome Session (12:30- 1 pm)

LARC Theater- 3rd Floor

“Opening Message”

Shana Youngdahl, Chair of the Student Academic Showcase and Associate Professor of Writing

“Why Undergraduate Applied Research is Valuable: My Experience”

Julie Turner, Professor and Associate Director, Duree Center for Entrepreneurship

Poster Presentations: Session 1 (1 – 2 pm)



STUDENT
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#2: An Exploration of Companion Robots

Presenter(s): *Annelise Lockhart*

Faculty Sponsor: *Michiko Nohara-LeClair, Psychology*

Abstract: Japan and the United States have a drastically different view towards artificial intelligence and smart machines. Within my project, I did an exploratory analysis of robotics within the United States and Japan, and posed the question as to why Japan has substantially more robotics within their day-to-day life. I took an in-depth look at Japanese robotics that do not exist within the United States, as well as explored the biases behind smart machines in both cultures.

Judging Category: Exploratory Project

#4: Exploring the Impact of Mindfulness Practices on Positive Habit Formation and Individual Well-being: A Literature Review

Presenter(s): *Lori Barnes*

Faculty Sponsor: *Michiko Nohara-LeClair, Psychology*

Abstract: Mindfulness practices have been recognized as an important tool for cultivating positive habits and enhancing overall well-being. This literature review begins with a brief overview of what mindfulness practices are and explores a wide range of research demonstrating the effectiveness of mindfulness practices on personal growth and well-being. Furthermore, various aspects of well-being, including mental health, stress reduction, emotional regulation, and physical health are examined

in relation to mindfulness practices. Additionally, this review discusses the use of technology applications to facilitate mindfulness practices and explores the utility of mindful practices during high stress times such as during the COVID-19 pandemic.

Judging Category: Exploratory Project

#6: Artistic Identities in Japan and the United States in the 19th-20th Centuries

Presenter(s): *Mutsumi Yuki*

Faculty Sponsor: *Michiko Nohara-LeClair, Psychology*

Abstract: This project explores artistic identities in Japan and the United States in the 19th and 20th centuries. The main foci of this study are motifs and methodologies seen in paintings. In the 1800s, both countries transitioned to open their gates to the world, which greatly influenced their respective artistic cultures. Around this time, Japan continued to preserve its traditional techniques while actively adopting and trading styles and artifacts internationally. Meanwhile, in the United States, American realism and landscape paintings were established and advanced by paying homage to the natural environment of the country. My comparative study aims to deepen our understanding of the connection between social changes and artistic traditions.

Judging Category: Exploratory Project

#8: Language Acquisition: Which Factors Make It Easier to Learn Another Language?

Presenter(s): *Johanna Gref*

Faculty Sponsor: *Michiko Nohara-LeClair, Psychology*

Abstract: My presentation looks at factors influencing second language acquisition and whether they facilitate or hinder the learning process. I will begin by reviewing language acquisition theories applicable to infants and toddlers, providing a foundational understanding. As a key factor, I will examine age of acquisition in relation to successful second language acquisition. The role of intelligence on second language acquisition will also be discussed. Additionally, I will investigate whether certain languages are inherently easier to learn based on syntax, vocabulary, and one's native language. My discussion will extend to examining the ease of acquiring multiple languages after acquiring a second language.

Judging Category: Exploratory Project

#10: BRIDGing Our Stories

Presenter(s): *Aniah Moore*

Faculty Sponsor: *Amy Estlund, Public Health*

Abstract: Academic disparities affect students from diverse socioeconomic backgrounds, races, and ethnicities, including LGBTQ students. The Webster Groves School District (WGSD) in Webster Groves, Missouri, is also confronted with these disparities. The BRIDGing our Stories project aims to foster diversity and inclusion, build relationships, and promote growth to advance health equity. The participants created and submitted projects that reflect various aspects of their lives. The submitted projects were showcased in a community art gallery, serving as a platform to celebrate diversity. In addition, staff members were offered the opportunity to attend a professional development training session to educate them on how art can be a powerful way for students to express themselves. The training session showcased student submissions that provided teachers with valuable insight into the lives of their students, enabling them to foster meaningful connections with their students while recognizing and respecting their unique perspectives and experiences.

Judging Category: Civic Engagement Project

#12: The Relationship Between Emotional Intelligence and Personality

Presenter(s): *Mandy Galli*

Faculty Sponsor: *Brittany Goodman, Psychology*

Abstract: The current project is a proposal for a study that will help clarify the relationship between the Big Five personality traits and trait emotional intelligence (TEI) and assess how achievement motivation relates to TEI. Participants will be adults recruited from social media and the Lindenwood Participant Pool. Variables will be measured through questionnaires on Qualtrics. Correlational analyses will be conducted to assess the relationship between personality traits and TEI as well as the relationship between achievement motivation and TEI. Additionally, t-tests will be conducted to evaluate the relationship between TEI and both exposure to childhood discussions of emotion and current comfort in discussing emotions. Understanding how personality relates to one's capacity to interact with others regarding emotions can be applied to

individual personal development. Identifying relationships between TEI and specific traits may clarify who interventions would most benefit and allow tailoring to those who are most in need.

Judging Category: Proposal Project

#14: Evaluating the Impact of Cyber Seniors on the Mental Health and Connection of College Students

Presenter(s): *Paige Julius*

Faculty Sponsor: *Catherine Shoff, Public Health*

Abstract: Mental health issues on college campuses have reached an all-time high. Intergenerational programs that facilitate interactions between aging adults and college students are a promising strategy to improve mental health of college students. This project evaluates the impact of an intergenerational technology program called Cyber Seniors at Lindenwood University. The mixed method evaluation analyzes changes in overall perceived wellness and social connectedness of college students. To date many studies have looked at the impact of intergenerational programs on seniors, but few have focused on college students. Results show a statistically significant improvement in overall perceived wellness and the subscale of intellectual wellness in students after participation in Cyber Seniors ($p < 0.05$). Qualitative data shows evidence of increased feelings of social connectedness among students, particularly among commuter students. This data supports the continued use and expansion of intergenerational programs as a method to improve college students' mental health and connectedness.

Judging Category: Original Research Project

#16: Pilot Project: Plant Hormones and Soil Bacterial Populations in Plant Growth Enhancement

Presenter(s): *Ada Sardana Sambola*

Faculty Sponsor: *Chad Welsh, Biology*

Abstract: The way microorganisms affect plant health, through the contribution of nitrogen or phosphorus fixation by bacteria to the growing plants, has been thoroughly studied. Commonly referred to as Plant Growth Promoting Bacteria (PGPBs), these organisms play a key role in enhancing plant growth by assisting in the production of indole acetic acid (IAA), facilitating the uptake of nutrients via mechanisms like phosphorus solubilization, and producing inhibitory substances that protect plants

from pathogens. However, the reverse of this phenomenon has not been studied as deeply. This study will focus on how the addition of plant hormones, more specifically, gibberellins, affects the soil bacteria population. Biolog EcoPlates will be used to analyze microbial communities and keep track of their growth. By analyzing various factors such as the selected hormone, concentrations applied, and other variables, we aim to discover whether alterations in bacterial population diversity correlate with plant growth, the introduction of exogenous hormone treatments, or a combination of both.

Judging Category: Proposal Project

#18: The Changes in Oral Flora After Oral Hygiene

Presenter(s): Brooklyn Bumbales

Faculty Sponsor: Chad Welsh, Biology

Abstract: The goal of this project is to study the changes in the oral flora of an individual's mouth pre-cleaning and post-cleaning due to everyday brushing. The oral flora comprises many microorganisms such as *Staphylococcus* and *Lactobacillus* that are constantly changing. In previous studies, the diversity and abundance of these microorganisms in the oral cavity are subject to change in the times following pre-cleaning and post-cleaning. This study will examine saliva samples from consenting individuals, will be collected pre-cleaning (brushing) and post-cleaning of the oral cavity. The samples will then be tested for the population size and diversity of different microorganisms in the oral cavity.

Judging Category: Proposal Project

#20: Research Proposal: Examination of Bacterial Communities in Soil Beneath Decaying Organic Matter and the Effect of Insect Succession

Presenter(s): Olivia Fotiadis

Faculty Sponsor: Chad Welsh, Biology

Abstract: Bacterial species of the *Proteobacteria*, *Acidobacteria*, and *Bacteroidetes* phyla are key components in decomposing organic matter by secreting specialized enzymes into decaying material, facilitating its breakdown and nutrient release. Diverse microbial communities in areas of decomposition are known for their efficiency in decomposition and nutrient cycling. Less is understood about the effect of insects introducing

unique microbes alongside initial soil bacteria, like *Bacillus subtilis*, in the decomposition process. Studying the decomposition of pork samples as a human analog will explore variations in bacterial populations in soil before and after the introduction of insect-mediated microbes and provide information on the efficiency and origins of microbial communities involved in decomposition. Microbial communities in soil beneath decaying matter not subject to insect succession and those subject to insect succession, will be compared.

Judging Category: Proposal Project

#22: Gibberellic Acid Influence on Mutant Millets: An Exploration of Effects

Presenter(s): *Fokam Felix Thierry Foading, Kennedy Femmer, Blake Reiger, and Matthew Turay*

Faculty Sponsor: *Joshua Neely, Biology*

Abstract: *Setaria viridis*, commonly known as green foxtail millets, exhibits diverse physical traits, including instances of dwarfism. Our study investigated the effect of gibberellic acid on millets, focusing on growth responses in normal and mutant plants, including dwarf variants. Gibberellic acid plays a vital role in stem elongation, and its deficiency may lead to hindered growth. We conducted experiments applying a gibberellic acid concentration of 0.5g/L to determine its impact on plant height. Two mutant types, *Setaria Viridis* 11970 Mutant 4 and *Setaria viridis* 03054 Mutant 6, were studied alongside the normal millet type *Setaria Viridis* A10.1 wild type. Results showed a significant increase in plant height with gibberellic acid application, indicating its potential for enhancing growth in both wild-type and mutant millets.

Judging Category: Original Research Project

#24: Crash Analysis for Lake St. Louis Police Department

Presenter(s): *Anna Carter, Melisa Murillo, Joseph E. Smith, and Mackenzie Holmes*

Faculty Sponsor: *Nick Wintz and Wojciech Golik, Mathematics*

Abstract: Lake Saint Louis is a small city of just under 17,000 people in the same county as Lindenwood University. Originally a planned community, it is easily accessible by Interstate 64 and Interstate 70. It also contains two large lakes and shopping centers that attracts visitors to the area. As a result, there has been a number of traffic accidents in the area.

The Police Department has requested that Lindenwood's PIC Math group review data from 2018-2023 to identify patterns. The group has reviewed the crash data at several locations and under multiple conditions and has uncovered some noticeable trends. The group also has insights that may result in changing driver behavior or provide an engineering solution that may reduce incidents.

Judging Category: Civic Engagement Project

#26: The Conformable Information Filter

Presenter(s): *Sophia Hungerford and Joseph E. Smith*

Faculty Sponsor: *Nick Wintz, Mathematics*

Abstract: In this project, we construct an information filter associated with a linear continuous control system corrupted by some noise. Here, the system is defined in terms of a conformable derivative introduced by Khalil et al. in 2014. This time-weighted derivative shares many of the same properties as the classical derivative but lacks the usual semigroup property associated with the exponential. Mathematically, this conformable information filter is a backward-time counterpart of the recently constructed conformable Kalman filter. Here, the inverse of the error covariance associated with the Kalman filter becomes the information matrix for the information filter. The conformable information filter allows for smoothed estimates of the true state of our control system.

Judging Category: Original Research

#28: A Discrete Analogue for Jacobi Polynomials

Presenter(s): *Drew Barnes*

Faculty Sponsor: *Nick Wintz, Mathematics*

Abstract: Classical Jacobi polynomials are a family of orthogonal polynomial sequences that appear in numerous physical sciences. We investigate discrete analogues of Jacobi polynomials through their hypergeometric representation, resulting in "discrete Jacobi polynomials" that satisfy qualitatively similar properties to their continuous counterparts. A difference equation analogue of the classical Jacobi polynomial differential equation and an analogue of its three-term recurrence are derived. This expands the growing subject of discrete analogues of special functions. A crucial part of this work is to generalize the theory of discrete analogues of generalized hypergeometric functions:

in the current literature, finding analogues with monomial arguments of the classical hypergeometric has been solved, but we instead consider a linear argument for which existing methods fail. Our new technique can be applied to the existing discrete Legendre and discrete Chebyshev polynomials, which previously used a workaround that altered the final resulting formulas in an unsatisfying way.

Judging Category: Original Research Project

#30: Youth In Need Data Analysis

Presenter(s): Drew Barnes, Ryan Eckman, and Abi Waters

Faculty Sponsors: Nick Wintz and Wojciech Golik, Mathematics

Abstract: Youth In Need is a nonprofit that offers mental and physical health resources to kids under the age of 19 in the St. Charles area. They have been in operation for 50 years. Youth In Need is concerned that their services may have been negatively impacted by the pandemic. They have asked Lindenwood's PIC Math group to review their data over 2015-2023 and identify trends. Identifying these trends may help the client optimize their resources. So far, the group has identified trends when the intake of new clients occurs as well as trends between the counselors' client-scores and clients' self-scores at the beginning and end of treatment. The group has also identified improvements to the questionnaire used to determine the youth's risk score.

Judging Category: Civic Engagement Project

#32: Longitudinal Dynamic Strength Index Profiling in Collegiate Olympic Weightlifters Preparing for National Competition

Presenter(s): Jose Mostaffa

Faculty Sponsor: Patrick Harty, Kinesiology

Abstract: **PURPOSE:** Characterize DSI scores and evaluate longitudinal changes in DSI and its constituent variables in collegiate Olympic weightlifters. **METHODS:** Male and female weightlifters performed three trials of CMVJ and IMTP once per week during the final eight-week peaking period prior to competition. Mixed effects models were computed to identify week-to-week differences in DSI, CMVJ, and IMTP performance ($\alpha = 0.05$). Cohen's d effect sizes were calculated comparing between each week and baseline. **RESULTS:** Significant changes in CMVJ peak propulsive force, IMTP peak force, and DSI were not detected throughout the testing period. Effect sizes were small for

between-week comparisons in DSI, which decreased from baseline in Weeks 3, 5, and 7. CONCLUSION: DSI did not significantly change across the eight-week period, although small magnitudes of between-week change were detected. These results suggest practitioners can perform less frequent DSI tests and still capture relevant strength and power profiles of their athletes.

Judging Category: Original Research Project

#34: The Development of an Electrochemistry Experiment for Analytical Chemistry

Presenter(s): *Kaitlin Hickman*

Faculty Sponsor: *Ricardo Delgado, Chemistry*

Abstract: The analytical chemistry course at Lindenwood University discusses the use of electrochemistry as part of the course curriculum. Much of the course content has practical lab experiments that teach the students the skills that they need if they enter the workforce as analytical chemists. The current lab curriculum does not have an experiment in electrochemistry. Dr. Delgado and Ms. Hickman are working on the redesign of an experiment that was intended for a physical chemistry class as a new lab that uses available technology and analytical techniques that can be written for the use in future semesters of the analytical chemistry course. This presentation will detail the data collected and the redesign process that we are implementing.

Judging Category: Civic Engagement Project

#36: Satisfaction, Awareness, and Utilization of Tutoring at Lindenwood

Presenter(s): *Melissa Megathlin and Matthew Sherman*

Faculty Sponsor: *Robyne Elder, Academic Affairs*

Abstract: Our research focused on the satisfaction, awareness, and utilization of tutoring at Lindenwood. We surveyed with research questions about each of these categories. We advertised this survey in the library, Evans Common, Young hall, Romer hall, McCluer hall, Harmon hall, and by word of mouth. Our goal was to get students' opinions on tutoring in each of the categories. We will use this survey to improve Lindenwood tutoring as a whole. We plan on marking a tutoring map to show all the locations where there is tutoring. This will improve

awareness and utilization. We plan on interviewing all the different heads of the tutoring centers to learn more about their center.

Judging Category: Original Research Project

#38: The Innovation of Modern Technological App within Student Scholarships

Presenter(s): *Katt Mossinghoff, Kevin Miller, Brendan Schoeberl, and Sarah Ben Aba*

Faculty Sponsor: *Karolina Schneider, Business Administration*

Abstract: Our team has identified a common issue amongst future and current college students: completing scholarship applications due to their time-consuming complex nature. In response our team has developed a business plan for our company Scholarship Shopper which aims to help students gain scholarship opportunities effortlessly. Scholar Shopper is an easy solution for students who are facing scholarship applications. Our app helps simplify the application process and decrease the time and effort put forward into these applications. Furthermore, Scholarship Shopper goes beyond just submitting and creating completed essays on behalf of the students who use our app, but we ensure they never miss potential opportunities. Our app caters to students nationwide, providing access to a wide range of scholarships and financial aid options that best suit them. By maintaining active profiles and resumes within the app, users can continually receive tailored recommendations for new opportunities, maximizing their chances of securing funding for their education.

Judging Category: Creative Project

Oral Presentation: Session 1 (1:30- 2:30 pm)



Three 20-minute Oral Presentations in LARC 03

Moderator: *Idolina Hernandez*

Bureau of Indian Affairs and the Effects on Allotment Laws

Presenter(s): *Belle Biswell*

Faculty Sponsor: *Marcus Smith, History*

Abstract: My project will cover how the Bureau of Indian Affairs and American Indian Defense Association differed in their views of Native Americans and how that effected the implementation and continuation of the Allotment laws. I will be covering viewpoints from specific people in each organization and how those viewpoints affected the way federal law was enacted. This will be supported by looking at documents from the American Indian Defense Association, Commissioner Reports, and population documents as well as various secondary sources. My goal is to make the connection of the personal views from each organization and the effect those views had on federal law enforcement.

Judging Category: Exploratory Project

Mary Easton Sibley's Education and the Influence of 19th Century Social Movements

Presenter(s): Andrea Gentry

Faculty Sponsor: Marcus Smith, History

Abstract: Mary Easton Sibley, the founder of Lindenwood University, was an ambitious and strong-willed woman who promoted educational opportunities for women and minority groups. Biographers of Sibley tend to portray her promotion of education as an effort to empower (and equalize) women and minorities. In addition, they claim that Sibley expressed attitudes of education and society that were ahead of her time. However, while Mary promoted education for all, she did not promote the same education for everyone. Instead, she imagined education tailored to women, African Americans, Native Americans, and immigrants that would reflect what she considered the “proper” roles played by each in society. This research explores what elements of Sibley’s preparation of women and minorities for what she considered to be their proper roles in society display her being a product of her time.

Judging Category: Exploratory Project

Orthodox Help Orthodox, No Matter the Issue, No Matter the Cost

Presenter(s): Nemanja Medan

Faculty Sponsor: Marcus Smith, History

Abstract: My project will be about the understanding of the multiple cultures of Iraq, its history, religion, and some parts of entertainment. While, making a hypothetical situation of the Holy Trinity Serbian Orthodox Church in St. Louis, Missouri, helping the St. Thomas Orthodox

Church in Mosul, Iraq get back up to religious practice standards. The project will go into a deeper lens of understanding the differences between the Serbian Eastern Orthodox Church and the Assyrian Orthodox Church of the East. All these sections will be going through cleric titles, differences of language, and the contrast of important saints between both religions.

Judging Category: Exploratory Project

Three 20-minute Oral Presentations in LARC 118

Moderator: Dan Sweeney

The New Hierarchy of Needs

Presenter(s): *Seth Dillard*

Faculty Sponsor: *Holly Karraker, Education*

Abstract: Maslow's Hierarchy of Needs has been the constant basis of psychology for about 80 years. In the time that we have been using it, not many changes have been made to it. This model though has become outdated and has shown some flaws in its original design. I propose a new design, one that both incorporates Maslow's design along with some additions to further emphasize the changes that have come as well as acknowledging some of the flaws in the original hierarchy of needs. This model though doesn't add another layer to the hierarchy but rather further develops it into an hourglass, showing that the concept is correct in some sense but was missing a crucial part of the design to be fully understood.

Judging Category: Proposal Project

Opinions on Coaching Related to Gender

Presenter(s): *Katelynn Zucco*

Faculty Sponsor: *Michiko Nohara-LeClair, Psychology*

Abstract: In recent years, studies on coaching have focused on the most effective ways to coach, as well as how this is related to gender. Howell and Giuliano (2011) did a study on the relation between people's perceptions of coaches and inappropriate language, particularly looking at how these perceptions change for specific genders. They found that people perceived cursing to be ineffective when coaching for both genders but was even more so for women than men. Moreover, Theberge (1993) found that many women had to prove they were capable in their positions.

These studies focus on how women are perceived in sports and how that relates to coaching. This proposed study will focus on people's opinions on coaching style, how that may change based on gender, and if it should change for different genders. To do this, participants will take an online survey including questions related to the topic at hand.

Judging Category: Proposal Project

The Making of a Survivor: Chopin's Use of Identity and Rebirth in The Awakening

Presenter(s): Amber Budd

Faculty Sponsor: Justine Pas, English

Abstract: In recent research of American literature, many scholars have read Kate Chopin's *The Awakening* and construed the novel's ambiguous ending as an indication that the protagonist, Edna Pontellier, commits suicide after the ending. Scholars have developed this hypothesis due to contextual evidence, societal expectations at the time Chopin wrote the novel, and Edna's perceived development of identity over the course of the novel. In this paper, I analyze the popular theories arguing for Edna's suicide or survival and then examine those articles in conjunction with my own analysis of *The Awakening*. By doing so, I aim to prove that, contrary to popular scholarly belief, Edna Pontellier does not commit suicide after *The Awakening's* conclusion.

Judging Category: Exploratory Project

Two 20-minute Oral Presentations in LARC 124

Moderator: Barbara Hosto-Marti

Reformation or Execution: Healthcare Behind Bars

Presenter(s): Elijah Northcutt

Faculty Sponsor: Barbara Hosto-Marti, Political Science

Abstract: The American prison system has many flaws, with healthcare being a main concern. Research must be conducted on inmates to ensure that they are receiving humane treatment by being provided with adequate healthcare. Prisoners in all parts of the country should be able to share and give their opinion regarding their own health. To investigate their own opinion, research must be conducted on the inmates themselves. Through

anonymous polling, data will be collected and examined to determine an inmate's own perception of health care. The test must include demographics to address another issue regarding racism in the criminal justice system. Lastly, the experiment must be aggregated throughout various parts of America to address the issue and to ensure it is a nationwide concern rather than statewide. Compelling evidence should be found to support the theory that poor healthcare increases recidivism rates.

Judging Category: Proposal Project

Partisan Polarization in Congress: Unraveling the Impact of Affective Tribalism on Legislative Gridlock

Presenter(s): Taylor Dockins

Faculty Sponsor: Barbara Hosto-Marti, Political Science

Abstract: This proposal outlines research examining how growing partisan animosity has obstructed legislative compromise and governance in Congress over the last two decades. The literature review synthesizes evidence demonstrating increased polarization driven by partisan tribal identities and hostility. A hypothesis is derived proposing that districts with greater party homogeneity will display higher legislator partisan animosity. Variables are legislator partisan animosity measured via sentiment analysis of speeches and district partisan lean measured by vote margins. The research design utilizes regression analysis of these variables for House members over time. Barriers include data access, measurement validity, omitted variable bias, and limits of correlational findings. But a study like this could provide needed empirical evidence illuminating impacts of affective polarization on congressional dysfunction.

Judging Category: Proposal Project

Three 20-minute Oral Presentations in LARC 322

Moderator: Stephanie Afful

Impact of Media Representation on Self-Esteem and Identity Satisfaction

Presenter(s): Hailey Markowitz, Raphaëlle Margueron, and Lydia Jenkins

Faculty Sponsor: Stephanie Afful, Psychology

Abstract: This study looks at how exposure to diverse media representation affects an individual's identity and self-esteem. Previous research suggests that when people view media that is reflective of their racial identity, they have higher levels of identity satisfaction. This study goes further by also examining gender identity satisfaction and self-esteem. To examine the topic, we created an online survey through Qualtrics and recruited participants from social media and the Lindenwood Participant Pool. Participants were randomly assigned to view one of the three conditions featuring images from popular TV shows and movies. These conditions were: (1) Gender Diverse, (2) Racially Diverse, and (3) Control/Non-Diverse. After viewing images, participants were asked to complete a brief identity reflection and respond to questions from validated instruments assessing their identity satisfaction and self-esteem.

Judging Category: Original Research Project

Effects of Performance Anxiety on Athletic Identity in Diverse College Athletes

Presenter(s): Carina Chalmers

Faculty Sponsor: Stephanie Afful, Psychology

Abstract: This study looks at the effects of performance anxiety on athletic identity in a sample of racially diverse college athletes. Specifically, how fixed versus growth mindset affects performance anxiety and athletic identity as well as racial identity exploration. Comparisons among different races and sports will also be included. An anonymous survey was sent out on various platforms for this study. There were a total of 53 participants in which 59% were white, 39% were black, and 7% Hispanic. We performed a t-test between the three dependent variables (sports anxiety, athletic identity, and racial identity) and the independent variable (growth vs fixed mindset).

Judging Category: Original Research Project

From Your POV: Gender and Assertiveness as Predictors of Sexual Health Behaviors

Presenter(s): Zoë Sweaney

Faculty Sponsor: *Stephanie Afful, Psychology*

Abstract: How far would you go (or not go) to protect yourself from risky sexual behaviors? What influence do gender and socialized protective skills like self-assertiveness have on these decisions? This study is a follow-up to an original study exploring psychological correlates to sexual health and gender discrepancies in sexual health behaviors and outcomes. Previous research indicates that the inclusion of self-reporting questions provide a measure of efficacy for Choose-Your-Own-Adventure (CYOA) activities, like the one utilized in this research. SPSS data analysis was supportive of the main hypothesis that the CYOA risk index would be positively correlated to self-reported risky behaviors. In addition, this study replicated the same differences across genders as observed in the first study and identified further differentiation in self-reported behaviors. Implications of the negative correlation between relational assertiveness and both the risk index and self-reported risky behaviors are significant across gender and age.

Judging Category: Original Research Project

Three 20-minute Oral Presentations in LARC Theater (3rd floor)

Moderator: Shana Youngdahl

Elsewhere: A Millennial Travel Memoir

Presenter(s): *Michelle Trantham*

Faculty Sponsor: *Shana Youngdahl, Creative Writing*

Abstract: Elsewhere explores the concept of traveling from a young millennial's perspective. In a world often full of terror, fear, and pessimism, the optimistic pursuit of travel is at odds with the average young person's ability, attention, and means. However, world and domestic travel has proved essential to my mental and physical health. I recount in my MFA thesis, which is a draft of a full-length travel memoir, my experiences with travel and how they have shaped me as a human being looking forward to the future. In my work, I explore the concept of going elsewhere, road trips, different cultures, public transportation, resting, buying souvenirs, and returning home, and how travel is a cultural and individual necessity. I combine personal, literary, and academic

research in exploring these themes all in support of the compelling journey elsewhere.

Judging Category: Creative Project

Behind the Novel: The Legend of the Draconian Caves

Presenter(s): Hanna Hollis

Faculty Sponsor: Shana Youngdahl, Creative Writing

Abstract: This presentation will be a discussion about the making of my MFA thesis project and novel-in-progress, tentatively titled *The Legend of the Draconian Caves*. You will learn about the novel's origins and its evolution over the course of my development as a writer, as well as my personal writing process in which the background work that goes into a novel is interwoven with the act of writing. This dynamic approach allows for the creation of lush worldbuilding, well-rounded character creation, and surprising plot development. This discussion will be followed by a reading of an excerpt from the beginning of the novel.

Judging Category: Creative Project

Leaps and Bounds

Presenter(s): John Malnor

Faculty Sponsor: Shana Youngdahl, Creative Writing

Abstract: *Leaps and Bounds* is a Middle-Grade short story about Anders, a twelve-year-old boy who is bullied into a dangerous stunt that ends with his death. He continues as a ghost, thinking about his life and watching as his body is recovered from a river. He plans revenge on the bully, but another ghost helps him to see things differently. Anders realizes that anger and vengeance won't help anything and chooses to change. This choice helps Jennifer move on and leaves Anders ready to help the next ghost in their journey. *Leaps and Bounds* is a story of depression, forgiveness, and second chances, set along the Pulteney Weir in Bath, U.K. The story will be read with some discussion points.

Judging Category: Creative Project

Poster Presentations: Session 2 (2:30- 3:30 pm)



#1: To What Extent Did Karl Marx's Political Thought Influence the Occupy Wall Street Movement in the 21st century?

Presenter(s): Madalyn Schroeder

Faculty Sponsor: Barbara Hosto-Marti, Political

Science

Abstract: The research will investigate the influences of Karl Marx's political thought and the Occupy Wall Street movement in the 21st Century. The study looks to measure the depth and significance of Marx's influence on a modern sociopolitical movement driven by economic inequality and social justice concerns. By taking a multidisciplinary approach that combines political theory, social activism analysis, and historical context, this investigation shows the extent to which Marx's ideas informed the ideological foundation and strategies of the Occupy Wall Street movement. By looking through primary sources, protest literature, and the discourse of the movement, this research provides a varied understanding of how Marxist political thought, originating in the 19th century, is seen within a 21st-century movement, contributing to a broader comprehension of the dynamic relationship between historical ideas and contemporary activism. The findings work to create an understanding of Marxist thought in economic and social justice.

Judging Category: Exploratory Project

#3: The Influence of Social Media on the Political Identification of Generation Z

Presenter(s): Addison Cates

Faculty Sponsor: Barbara Hosto-Marti, Political Science

Abstract: The purpose of this research is to determine the impact that social media plays in people's political identification. Today, children have access to politics through multiple social media platforms. While this could be a good way for children to grow into mature, individualistic adults, it could also expose them to aspects of politics they may not yet understand. Generation Z is the first adolescent generation to navigate social media as a source of political knowledge. It has been previously found that, yes, people usually follow in their parents' footsteps when it comes to politics. However, with the recent surge of politics in social

media, people can have easy access to all political identifications. By re-modeling past studies, we can see if parents still have a hold on their children's political opinions, or if that grip has loosened.

Judging Category: Proposal Project

#5: Hester Prynne: The Angel Pioneer of Sin & Punishment (A Poetry Collection Inspired by "The Scarlet Letter")

Presenter(s): Raya Kruger

Faculty Sponsor: Justine Pas, English

Abstract: This creative research project is in the form of a poetry collection including 11 poems inspired by Nathaniel Hawthorne's novel *The Scarlet Letter*. This project includes research on the novel itself, but research also conducted on Puritan poet Anne Bradstreet and her ideas on womanhood. Through poetry, I present my thesis as Hester Prynne being an "Angel Pioneer"; as Hester is forced to journey into an unexplored world of sin and punishment within the events of the novel. With my project, I aim to convey Hester Prynne's character transformation from a sinful woman to an angelic figure full of mercy and strength. Overall, this project explores how womanhood is challenged and transformed in the face of sin and punishment through the fictional character Hester Prynne.

Judging Category: Creative Project

#7: Translating Poetry as a Poet through the Lyrics of Hermann Hesse

Presenter(s): Ethan Plate

Faculty Sponsor: Justine Pas, English

Abstract: In translating Hermann Hesse's lyric poem "Ravenna (1)," I have used an approach that tries to balance maintaining the spirit of the original while also engaging with the work as an essentially creative process. I have gone against the precedent set by previous English translator James Wright by maintaining formal elements, such as rhyme scheme, at the price of some literal exactness. On the other hand, I have also detailed the ways that I have built into the translation some of my own interpretations of the poem as well as Hesse's overall body of work. I have justified this extension of myself into the work as well as my sacrifice of some literal translation using the ideas of translation scholar Reinhold Grimm and translator Idra Novey.

Judging Category: Creative Project

#9: Tracing the Path: Exploring the Drivers Behind Venezuelan Migration Waves

Presenter(s): Sofia Hernandez

Faculty Sponsor: Justine Pas, English

Abstract: This research project investigates why Venezuela, once a wealthy nation, has experienced one of the world's worst humanitarian crises, causing many people to leave in large numbers. By examining the reasons behind these waves of emigration and the specific characteristics or backgrounds of the people leaving, we aim to understand the factors driving this mass exodus. Through studying the demographics of each wave, including factors like age, socioeconomic status, and education level, we seek to gain insights into the diverse experiences of Venezuelan migrants. By shedding light on these aspects, the research aims to provide a clearer understanding of the complex situation in Venezuela and the challenges faced by its people, ultimately contributing to efforts aimed at addressing the root causes of this crisis.

Judging Category: Exploratory Project

#11: A Comparison of Japanese and American Tattoos

Presenter(s): Zachary Martin

Faculty Sponsor: Michiko Nohara-LeClair, Psychology

Abstract: In the Japanese culture, tattoos began as a form of punishment for criminals, while tattoos in the American culture began as a display of one's title as sailor. Throughout time, tattoos in Japan became more synonymous with pride and loyalty, albeit still being primarily used by criminals and members of Japanese gangs. In American cultures, tattoos shifted from a sailor's declaration and pride towards a personal statement by the individual wearing the tattoo. This presentation investigates the similarities and differences in Japanese and American tattoos through their uses in history and present day, as well as the symbolisms and meanings tied to the tattoos of both cultures.

Judging Category: Exploratory Project

#13: Gaining Cultural Competency Through Partnering with the University of Mosul

Presenter(s): Kara Kimery

Faculty Sponsor: Marcus Smith, History

Abstract: My project is a proposal outlining the steps to take in order to build a partnership between a team from Lindenwood and a team from Mosul. In my project, I use the Lindenwood field hockey team and a Moslawi women's team. The project outlines how the partnership will help the women gain insight into women's experiences at university in Iraq and in America, as well as build cultural competency for the teams. It discusses the barriers to international partnerships and how to navigate through them for the most successful outcomes.

Judging Category: Exploratory Project

#15: Using GIS Applications to Monitor Post Ohio Train Derailment

Presenter(s): *Lillian Nix*

Faculty Sponsor: *Tara Vansell, Geography*

Abstract: This research investigates the multifaceted impacts of the East Palestine, Ohio train derailment on February 3rd, 2023, with a specific focus on utilizing GIS applications for post-event analysis. The study aims to analyze the locations of soil, sediment, and water samples in relation to the landscape, as well as the potential effects on agricultural land use in the vicinity during the year prior to the accident and the year of the accident. Employing GIS overlay and spatial analysis techniques, the research constructs a visual representation of the data. This research aims to offer a comprehensive spatial approach and visual understanding of the impacts of the Ohio train derailment, contributing valuable insights for post-disaster analysis.

Judging Category: Exploratory Project

#17: ADHD

Presenter(s): *Katherine Kellner and Cory Fagyas*

Faculty Sponsor: *Rebecca Panagos, Education*

Abstract: This team project for Education of the Exceptional Child studies ADHD (attention deficit hyperactivity disorder) the ways this exceptionality impacts learning, and ways for educators to promote academic success for those with ADHD. This research was done through literature review with references that can be found in the QR code below. The included simulations allow viewers to empathize and begin to experience some of what those with ADHD experience. Along with the simulations, we found advice for educators and ideas for ways to help

students with ADHD succeed in math. The images included are examples of fidgets that students can make that also provide helpful math tricks.

Judging Category: Exploratory Project

#19: Effect of Weekly and Triweekly Application of Growth Hormone Gibberellin on Dwarf Millet Plants

Presenter(s): Holly Harding, Kendall Klewer, DeLanee Miller, Therie Moore, and Clara Gallapoo

Faculty Sponsor: Joshua Neely, Biology

Abstract: Plant biology students teamed up with statistics students to examine the effects of the plant growth hormone gibberellin on mutant millet plants. Dwarf mutant millets exhibit stunted growth either because they do not produce gibberellin on their own, or because they lack the mechanisms to effectively use gibberellin. By growing some of these mutants in the greenhouse, applying a gibberellin solution to them, and observing their growth response, we can identify which kind of mutant the plant is. We are also examining the importance of frequency of gibberellin application, with some plants receiving one application of gibberellin per week, and some receiving three.

Judging Category: Original Research Project

#21: Mechanisms of Genetic Dwarfism in Dwarf Millet Genotypes

Presenter(s): Holly Willett, Savannah Jones, Rashmi Aryal, Therese West, and Maddelyne Wright

Faculty Sponsor: Joshua Neely, Biology

Abstract: The goal of this project was to study and determine the different forms of genetic dwarfism in millet plants. This was done by creating three different types of millet samples using two different forms of mutant seeds and also normal seeds. 6 plants of each of the three varieties were sectioned into separate pots, and then given different treatment levels of gibberellin. Two plants in each group were given no gibberellin, two were given gibberellin once a week and two were given gibberellin daily Monday-Friday. The height of each plant was then recorded once a week throughout the trial period. Using these heights the genotypes of the two mutant types were identified.

Judging Category: Original Research Project

#23: Growth in Response to Gibberellin in Setaria Viridis Mutants

Presenter(s): *Jayla Hampton, Rain Hongsermeier-Baxter, Joesph E. Smith, Seth Baur, and Brooke Gawlick*

Faculty Sponsor: *Joshua Neely, Biology*

Abstract: Gibberellin is a plant hormone that promotes growth in plant organs. Issues arising with the production and process of the hormone result in the mutation dwarfism. In this experimentation, the effects of gibberellin on dwarf *Setaria viridis* are isolated by controlled growth environments and treatments. The effects of the hormone treatment are measured manually over the period of growth so that the data may be analyzed and determine the cause of dwarfism in our species. In conclusion, this study offers important insights into the mechanism underlying dwarfism mutation, providing potential direction for future research and understanding plant physiology.

Judging Category: Original Research Project

#25: Effects of Gibberellin on Stem Elongation

Presenter(s): *Annamarie Busch, Bryce McQuerrey, Guillermo Bilbao Olarreaga, Duncan Krige, and Eduan Van Herden*

Faculty Sponsor: *Joshua Neely, Biology*

Abstract: Plant growth hormones are widely used in the agricultural industry to manipulate the growth of crops. Dwarf mutant variants of plants have been found to have a variety of mutations that inhibit the synthesis and metabolism of gibberellin, a major plant growth hormone (Phinney 1956). Observing the effect that the application of gibberellin has on the growth in 2 types of dwarf mutant millet variants will allow us to determine the type of mutation present. Applying a gibberellin solution is expected to increase the rate of stem elongation in variants with the mutation that inhibits the production of gibberellins. If there is no significant difference in the rate of stem elongation between treatment levels, then the mutation is deactivating gibberellins produced by immediately binding to a hydroxyl group (Bilova et al. 2016).

Determining the mutation that is resulting in dwarf mutant types will assist in proper usage of plant growth hormones in the field of agriculture.

Judging Category: Original Research Project

#27: Unraveling Gibberellic Acid's Impact on Plant Growth: Insights from Dwarf Millet Varieties

Presenter(s): *Brandy Miskell, Jacob Campagna, Alyssa Lambert, Dean Palmer, and Bruno Ninez*

Faculty Sponsor: *Joshua Neely, Biology*

Abstract: Gibberellic acid (GA), derived from the *Bakanae* fungus *Gibberella fujikuroi*, acts as a plant hormone with various functions. This study compares the growth of *Setaria viridis* (millet) wild type with two dwarf mutant varieties (mutant 11970 and mutant 03054) to understand genetic dwarfism and GA's role. Thirty seeds of each variety were planted, with biweekly GA treatments given to four pots and two serving as controls. Results show significant differences in leaf growth, indicating GA's role in regulating plant height. However, the exact mechanisms of GA transport within plants remain unclear, warranting further research to understand its implications for plant growth and development.

Judging Category: Original Research Project

#29: Effect of Sleep Duration and Quality on External Workload in Women's Collegiate Lacrosse Athletes

Presenter(s): *Paige Sutton*

Faculty Sponsor: *Kyle Sunderland, Kinesiology*

Abstract: **PURPOSE:** Determine the relationship between self-reported sleep parameters and measures of external workload during training. **METHODS:** Twenty NCAA DI women's lacrosse athletes participated in this study. Athletes wore Polar Team Pro monitors during off-season training and completed a morning sleep questionnaire for four weeks. Workload was evaluated via total distance (TD), high-speed distance (HSR), rate of distance (rDIST, m/min), and relative high-speed distance (rHSR, %TD). Self-reported sleep duration (SD) was recorded in hours and sleep quality (SQ) on a 5-point scale. Linear regression analysis evaluated the relationship between sleep and workload measures while adjusting for training sessions. **RESULTS:** SD did not significantly predict TD ($p = 0.467$), HSR ($p = 0.058$), or rDIST ($p = 0.117$). However, SD had a significant relationship with rHSR ($p = 0.012$). SQ did not significantly predict TD ($p = 0.963$), HSR ($p = 0.515$), rDIST ($p = 0.106$), or rHSR ($p = 0.412$).

Judging Category: Original Research Project

#31: Peak Match Running Demands in Collegiate Women's Soccer Athletes

Presenter(s): *Katelyn McGrail*

Faculty Sponsor: *Kyle Sunderland, Kinesiology*

Abstract: The purpose of this study was to quantify peak match running demands for varying time durations in collegiate women's soccer matches and compare demands between positions. Twenty collegiate women's soccer athletes participated in this study. GPS data were collected across an entire competitive season. Data were included in athletes who played for >10 minutes in a match. Individual GPS files were analyzed to determine maximum relative speed ($\text{m} \cdot \text{min}^{-1}$) covered over rolling durations lasting from 30s to 5 minutes. There was no significant position by time duration interaction and no significant differences between positional groups. The average peak match running demands significantly decreased as time duration increased. Understanding peak match demands in collegiate women's soccer will allow practitioners to develop appropriate training and conditioning drills for the demands of competition. These results also suggest that practitioners do not need to alter these drills based on the position of the soccer athletes.

Judging Category: Original Research Project

#33: Lack of Asymmetries in Collegiate Male Volleyball Athletes During Bilateral Athletic Shoulder Test

Presenter(s): *Leah Allen*

Faculty Sponsor: *Kyle Sunderland, Kinesiology*

Abstract: The Athletic Shoulder (ASH) test was developed to measure shoulder girdle force for assessing isometric strength in athletes. This study compared force production between dominant and non-dominant arms in two positions. Participants performed three bilateral maximal contractions at 180° ("I") followed by three maximal contractions at 135° ("Y") of shoulder abduction. Peak force was measured for each trial with maximal peak and mean force of the three trials calculated for analysis. No significant main effects were observed between positions or arms for maximal or mean peak force ($p > 0.05$). Mean peak force for both arms in the "I" and "Y" positions ranged from 95N to 107 N. The findings suggest collegiate male volleyball athletes exhibit no detectable isometric force imbalances between their arms, regardless of position.

Judging Category: Original Research Project

#35: Optimal Control for Delayed Nanoparticle Dosing Models Using Conformable Derivatives

Presenter(s): Drew Barnes, Micah Duffield, and Abi Waters

Faculty Sponsor: Nick Wintz, Mathematics

Abstract: Previously, a research group used a theoretical state-space framework to study the effects nanoparticles had on cancerous tumors in mice. Since sensors are used to determine the number of nanoparticles found in the bloodstream, it is natural for a time delay to occur when making adjustments to the dosage. Here, an equal time delay has been put on the state and control to study the effects of multiple dosage strategies. However, these researchers did not consider how the absorption of these nanoparticles would affect treatment. In this project, we construct a model using a conformable derivative first introduced by Khalil et al in 2014. This time-weighted derivative has many of the same properties as the classical derivative but lacks the semigroup property for the exponential. Here, we find an optimal control that minimizes a given cost. This control is propagated by a pseudo-Riccati equation, which itself includes a time delay.

Judging Category: Original Research Project

#37: Understanding the Relationship Between Choice of Pet and Priorities in an Intimate Relationship - A Research Proposal

Presenter(s): Katlyn Guthrie

Faculty Sponsor: Michiko Nohara-LeClair, Psychology

Abstract: This proposed research study aims to see if an individual's choice of pet reflect the things that they value most in an intimate relationship. Pets have become more popular over the years, and a common theme for choosing a pet is whether or not the animal will be a good fit for the individual's lifestyle. Since dogs are known to be social and affectionate creatures, I believe that individuals who have pet dogs may require more physical affection and a sense of togetherness in an intimate relationship in order to feel satisfied. I believe that individuals who own cats, though they may enjoy physical closeness to their partners, do not need an abundance of it in order to feel fulfilled in their relationships and that cat owners may also be more likely than dog owners to want more alone time in a relationship.

Judging Category: Proposal Project



Oral Presentations: Session 2 (3-4 pm)

Three 20-minute Oral Presentations in LARC 03

Moderator: Kris Smith

Lucy Wortham James and the Gospel of Wealth: A Case Study of Philanthropic

Attitudes and Endeavors in Rural Missouri

Presenter(s): *Jacob Rinehart*

Faculty Sponsor: *Marcus Smith, History*

Abstract: Various historical scholars have examined the role of Andrew Carnegie's Gospel of Wealth on philanthropic attitudes and endeavors of affluent Americans during the Progressive Era. Modern developments, driven by post-structural feminist theory, have shown that rural-born Missouri women, exemplified by Phoebe Apperson Hearst, acted as complementary equals to Carnegie through their humanitarian efforts by uniquely interpreting and implementing his social doctrines. However, the existing scholarship has focused substantially on coastal developments, neglecting the role of this benevolence in rural Missouri communities. By examining the philanthropic endeavors of Lucy Wortham James, both during her life and post-mortem through her endowment of the James Foundation of the New York Community Trust, I will demonstrate how her philanthropic endeavors classify her as a complementary equal to Carnegie and that the Gospel of Wealth Ideas prominent on both the East and West coasts during the Progressive Era were made relevant, by James, to her rural hometown of St James, Missouri.

Judging Category: Exploratory Project

Mary Sibley: Female Activism and Self-Worth in an Evangelical Protestant Context

Presenter(s): *Yamilet Bravo-Ayala*

Faculty Sponsor: *Marcus Smith, History*

Abstract: Scholars have examined the attraction of middle and upper-class women to the evangelical protestant movement in the second quarter of the nineteenth century, arguing that it seemed to offer women the worth, significance, self-expression and autonomy denied to them by mainstream culture but ultimately failed to deliver on this promise. However, the life of Mary Sibley as seen through her diary paints a

different picture. This research paper demonstrates that Mary Sibley, through her leadership of prayer groups and meetings, her correspondence with pastors, and the founding of Lindenwood College, exercised a complex role in the evangelical protestant movement that she found fulfilling in a variety of ways.

Judging Category: Exploratory Project

Stuck in the Middle: A History of Lesbians in St. Louis

Presenter(s): *Madelyn Augustine*

Faculty Sponsor: *Marcus Smith, History*

Abstract: Queer history in the Midwest has often been examined at a national level. Those that choose to dive deeper will pick a coast city, New York or San Francisco, and examine the history of gay rights and Gay Liberation within the confines of a city already famous for its outspoken queer rights movements. Scholars have neglected to examine the presence of LGBT history within the confines of the Midwest. In my paper and research project, I examined the feminist queer history of St. Louis, and analyzed the trajectory and unification (or lack thereof) of the gay rights movement in St. Louis.

Judging Category: Exploratory Project

Three 20-minute Oral Presentations in LARC 118

Moderator: Melissa Qualls

Exploring Eyewitness Testimony

Presenter(s): *Allyson Phillips*

Faculty Sponsor: *Michiko Nohara-LeClair, Psychology*

Abstract: This presentation explores eyewitness testimony, highlighting its significant role in the criminal justice system and navigating the complex nature of its reliability. It will examine the factors that influence the accuracy of eyewitness testimony. Additionally, the procedural aspects of eyewitness testimony will be discussed including potential limitations and recommended reformations aimed to enhance reliability. The strengths and deficiencies of eyewitness testimony implications will be unveiled through an in-depth literature review. This presentation aims to foster a deeper understanding of significant challenges, explanations,

and potential solutions encompassing eyewitness testimony and its role in the criminal justice system.

Judging Category: Exploratory Project

Deaf Culture in Japan versus the United States

Presenter(s): Sarah Jungmeyer

Faculty Sponsor: Michiko Nohara-LeClair, Psychology

Abstract: Deaf culture in both Japan and the United States are very rich in culture yet, very different. They are very similar in ways like culture, education, the way that society looks upon their cultures, and the way that hearing society looks at and approaches deafness. Deaf culture in Japan and the United States also differs a lot from each other, with how their sign languages function as languages, the ways that communication with deaf people developed, and the history of how their separate cultures and languages developed. However, regardless of where people live, Deaf people all share the experience of being Deaf and sharing Deaf culture.

Judging Category: Exploratory Project

Mental Health of University Students in Japan and the United States

Presenter(s): Mary Fitzgerald

Faculty Sponsor: Michiko Nohara-LeClair, Psychology

Abstract: This research paper focuses on the mental health of individuals in Japan and in the United States. The project examines both countries' adolescent and adult populations and their university students. Subjects include prevalent mental illness diagnoses as well as stigmas around utilizing counseling services, and the potential impacts of cultural norms. Results show that while the two countries share common diagnoses, the rates of depression, anxiety, and suicide are higher in Japan than in the United States. Results also show that Japanese students face specific struggles that students in the United States do not, most notably the struggle of student apathy. Several factors of culture that may affect mental health trends in Japan and in the United States are discussed.

Judging Category: Exploratory Project

Three 20-minute Oral Presentations in LARC 124

Moderator: Sara Bagley

Pizza Night

Presenter(s): Arianna Amann

Faculty Sponsor: Melissa Elmes, English

Abstract: Pizza Night is a short contemporary romance that follows two characters as they overcome a battle of wills. Vanessa is a hardworking woman who has a lot on her plate. Sam is an accomplished older man who is willing to help her. Pizza Night explores the complexities of modern life, focusing on two young adults who are both from struggling backgrounds. The purpose of this project was to write a modern love story. Pizza Night achieves a believable romance between two young adults who are doing their best in a world not designed for them. The author will read this story during her presentation.

Judging Category: Creative Project

Sensation and Perception Illusion: Fractal St. Louis Skyline

Presenter(s): Matthew Sherman and Mutsumi Yuki

Faculty Sponsor: Sara Bagley, Psychology

Abstract: This project is a hand-drawn visual illusion that utilizes multiple different visual principles of sensation and perception including relative size-distance, linear perspective, partial occlusion, and texture. These effects combine to play with the figure-ground relationship that governs perceptual processes which creates the fractal effect. The presentation of the project will begin with an overview of visual sensory processing including the anatomy and physiology of the structure, optical components, and neural components of the eye. This will be followed by an overview of the brain pathways that further process the visual sensory input along with an explanation of the perceptual processes that occur along those pathways.

Judging Category: Creative Project

Creating the Illusion of Spiral Betty

Presenter(s): Charlie Ray

Faculty Sponsor: Sara Bagley, Psychology

Abstract: Illusions are something where there can be multiple perceptions of the same thing. This multiple understanding of the same

stimuli can produce varied individual experiences. We created an illusion of a Spiral Betty as part of a group final project for Sensation and Perception. The presentation will discuss key visual processing concepts create the sensation and other information-processing aspects that make the illusion function as multiple perceptual capabilities. The principles that will focus on include attention control, depth perception, and object recognition. Come see how there really isn't a face in the spiral, yet specific cues create the illusion that there is.

Judging Category: Creative Project

Two 20-minute Oral Presentations in LARC 322

Moderator: Wendi Price

Food Preference of Discoid Roaches

Presenter(s): *Claire O'Brien and Thierry Foeding*

Faculty Sponsor: *Joshua Neely, Biology*

Abstract: *Blaberus discoidalis*, commonly known as discoid cockroaches, inhabit tropical South America, foraging on forest floors amid leaf litter and fallen fruit. Despite extensive research on German and hissing cockroaches, there is a notable dearth of studies on discoid cockroaches. This experiment aims to investigate the impact of food preference on *Blaberus discoidalis*. Following a period of starvation, individuals are introduced to a four-choice chamber and monitored every 2 minutes to assess their preference for different food sources: peanut butter, leaf litter, vanilla extract, and banana. Determining their food preference will enhance our understanding of their dietary habits, facilitating further research based on the data collected in this study.

Judging Category: Original Research Project

Speeding Towards Disaster: Participating in Advanced Coursework and Early Onset Burnout

Presenter(s): *Faith Salamone*

Faculty Sponsor: *Colleen Biri, Psychology*

Abstract: This research investigated the possible relationship between being labeled as an advanced student and academic burnout. Participants ($N = 33$) were given a Qualtrics survey with ten questions about previous

schooling experience, ten questions from a preexisting burnout survey (Copenhagen Burnout Inventory [CBI]), one standalone burnout question, and three demographic questions. The results that were collected have been applied to test four hypotheses; Individuals who participated in accelerated coursework will have higher rates of burnout as compared to those who did not, earlier participation in accelerated coursework will be associated with earlier onset burnout, individuals who identified as female during their academic career will report higher levels of burnout to males, and retrospective academic confidence reports will be negatively correlated with burnout ratings.

Judging Category: Original Research Project



Judging Award Categories

Alpha Chi’s People’s Choice Award

Based upon the votes of attendees, the overall top presentation will receive this award. One poster or oral presentation will be awarded. Please use the QR code below to vote!



Top Original Research Project

This award is given to the presenter(s) who has conducted original research that includes data collection, analysis, and implications for the field of study. The highest scoring poster and the highest scoring oral presentation in this category will be awarded.

Top Creative Project

This award is given to the presenter(s) who demonstrates creativity in the form of visual art, physical expression, literary innovation, and/or aural composition. The highest scoring poster and the highest scoring oral presentation in this category will be awarded.

Top Exploratory Project

This award is given to the presenter(s) who provides an in-depth exploration of a topic with attention to effective analysis and/or synthesis of information. The highest scoring poster and the highest scoring oral presentation in this category will be awarded.

Top Proposal Project

This award is given to the presenter(s) who has suggested research or another innovative project in the form of a proposal that outlines what is to be done, but the project has not been conducted. The highest scoring poster and the highest scoring oral presentation in this category will be awarded.

Top Civic Engagement Project

This award is given to the presenter(s) who has implemented a project focused on connection with and/or service to the campus and/or the community at large. The highest scoring poster and the highest scoring oral presentation in this category will be awarded.

*If a category does not have multiple presentation modalities, the top two presentations in a single modality will be awarded.

Special thanks to our Award Sponsors:



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Acknowledgements

The Student Academic Showcase Committee is grateful for the generous amount of time and energy the Lindenwood community has invested in supporting students for this event. We extend a special thanks to President Dr. John Porter, Provost Dr. Bethany Alden-Rivers, and Associate Provost Dr. Mark Valenzuela for their continued support of this event.

We thank the many faculty members who nominated students and assisted with their projects/presentations. Your work ensures the high quality of the showcase, where amazing student work from across campus is displayed and celebrated today. We thank the faculty and staff who volunteer as judges, you allow students to receive feedback on their presentations making this a day of Real Experience, Real Success.

We send our gratitude to the wonderful staff throughout the university who assisted with planning, arranging rooms and schedules, helping with publicity, and so many other tasks to make this showcase a success.

Thank you to Brandon Perkins and his team for their work printing student posters for the conference. Virginia Hazelwood-Gaylor and the Lindenwood Learning Academy for providing the option to present and attend some presentations virtually. Paul Huffman for coordinating publications of abstracts and posters to Digital Commons.

We thank the Lindenwood chapter of the Alpha Chi Honor Society for generously funding the Alpha Chi People's Choice Award. Additionally, we would like to thank the Enterprise Holdings Foundation for sponsoring the other Judging Category Awards with monetary contributions.

Finally, thanks to the many students who have continued to demonstrate rigor, collegiality, and innovation at Lindenwood University and their willingness to share with the community at the 2024 showcase. We look forward to next year's event!

2023-2024 Student Academic Showcase
Committee Members



College of Arts and Humanities

Shana Youngdahl, Associate Professor,
Writing (Chair)

Sharmani Nair, Assistant Professor, Political Science

Plaster College of Business and Entrepreneurship

Gaurango Banerjee, Professor of Finance

Daniel Sweeney, Associate Professor, Sports Management

College of Education and Human Services

Robbie Hanson, Assistant Professor, Behavior Analysis - BCBA

Jill Hutcheson, Associate Dean and Professor of Curriculum and
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College of Science, Technology, and Health

Sara Bagley, Professor, Psychology

Kyle Sunderland, Associate Professor, Exercise Science

Center for Engaged Learning (CEL)

Wendi Price, Manager, Service Learning and Responsible
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Lindenwood Library Services

Leah Rosenmiller, Manager, Reference Services (Vice Chair)

Information Technology/Lindenwood Online

Whitney Woltman, Office Manager Information Technology

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Allyson Phillips, College of Science, Technology, and Health

Ernesto Gomez, College of Arts and Humanities, MFA in Writing