

CAPITAL

April 21, 2021

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Ask. Think. Lead.

25th Annual Symposium

on Undergraduate Research

5th Annual
Graduate
Research Forum

25th Annual
Capital University
Symposium on
Undergraduate
Scholarship

5th Annual
Graduate
Research Forum

Tuesday, April 20, 2021

7:00 p.m.

**The Marye J. '54 and Richard A. '51, H'84 Boyd
Undergraduate Research Symposium Virtual Keynote
Panel Discussion: Engaging Students Across the
Curriculum**

Wednesday, April 21, 2021

11:30 a.m. to 1:00 p.m.

Virtual Student Poster Sessions

1:30 p.m. to 4:00 p.m.

Virtual Student Oral Presentations

FROM THE PRESIDENT



The Capital University Symposium on Student Scholarship is a point of distinction for our learning community and a celebration of the engaged, experiential learning that is at the core of a Capital education.

We are a community of intellectual and creative connections, and research is a powerful part of the educational experience. Even during the pandemic, transformative learning has continued.

Together with their faculty mentors, our students have been encouraged to grapple with important questions and seek opportunities and solutions for bettering our world. To open their minds and challenge boundaries. To expand their thought processes, wrestle with puzzles, envision practical applications, and change global thinking.

Flip through the pages of this program and you will see the names and accomplishments of 210 undergraduate and graduate students who chose to engage in immersive learning. These students are maturing as thinkers and doers. They are learning to advocate for their work, becoming better communicators, clarifying career goals, and building confidence. And they are creating knowledge that will impact the world.

None of this would be possible without the faculty mentors who have shared their time, expertise, and commitment to creating a transformative learning experience for all Capital University students. Their synergy between teaching and scholarship exposes students to new ideas and new ways of thinking, making them part of a larger world of intellectual discourse.

I couldn't be prouder.

A handwritten signature in black ink, reading "Dall Kaufman". The signature is fluid and cursive, with a long horizontal stroke at the end.

David L. Kaufman
Interim President



FROM THE PROVOST

It is my privilege to welcome you to one of the most significant events of the academic year, the annual Symposium on Undergraduate Scholarship and Graduate Research Forum. The symposium illustrates the unique learning that occurs at Capital University. Students employ the skills and knowledge they have acquired inside the classroom, and beyond, to ask and answer their own questions, to apply their knowledge to the worlds of discovery and application, and to demonstrate their curiosity and competence across the natural and social sciences, the Humanities, and the performing arts. Capital University students truly are scholars.

For 25 years, our institution has paused to gather and celebrate the art, performances, and research of our students. This year's symposium begins with the Marye J. '54 and Richard A. '51, H'84 Boyd Undergraduate Research Symposium Keynote address, which will feature a virtual keynote panel discussion: "Engaging Students Across the University." Discover the meaningful and engaging work that undergraduate and graduate students do at Capital and learn how you can get involved. Panelists include student development professionals and faculty from education, nursing, Trinity Lutheran Seminary, and Capital University Law School. On the second day of the symposium, students present their independent research and creative products during the virtual poster sessions and virtual oral presentations.

The presentations you will see are the product of hours of student work and intense collaboration with staff and faculty mentors. This type of one-on-one interaction between student and mentor promotes a special type of learning – learning of the highest order that can only happen at a place like Capital.

Moreover, mentored student interactions are highly predictive of student persistence and success.

Faculty and staff, thank you for all you do to help our students achieve the type of transformative learning that leads and inspires students to perform at such high levels.

Students, congratulations on all of your hard work and success.

Sincerely,

Jody S. Fournier, Ph.D.
Provost

The James L. and E. Marlene Bruning Undergraduate Research Award

In May 2007, James and Marlene Bruning established an endowment to fund a student award to support undergraduate research and scholarly projects at Capital University. The intent of this award is to support high-quality undergraduate research and scholarly presentations at professional academic conferences.

SYDNEY SKEIE '21 and **ALYSA DURBIN '21** are the 2021 recipients of the James L. and Marlene Bruning Undergraduate Research Award. Their project, "Assessment of Gluten Contamination: Reliability of Labeled 'Gluten-free' Food Products in the US," was conducted under the mentorship of Dr. Kerry Cheesman (Biology). Sydney and Alysa found that individuals with gluten intolerance, especially Celiac disease, should be skeptical of "gluten-free" food labels. More than 13% of products certified as "gluten-free" by the Gluten-Free Certification Organization exceeded acceptable levels of gluten. More than 28% of non-certified products labeled as "gluten-free" exceeded acceptable levels. While results reveal that "certified gluten-free" products may be more trusted in their claim of being "gluten-free," contamination can still occur for those who receive an inflammatory response by gluten grains. Sydney is a senior Biology major. After graduation, she intends to work in clinical care before beginning medical school. Alysa is a Psychology major with a pre-med concentration and is enrolled in the Honors Program. After taking a gap year, Alysa plans to attend medical school.

Diversity and Inclusion Research Award

As an expression of Capital University's mission, the Diversity and Inclusion Research Award recognizes student scholarship that advances our understanding of issues of diversity and inclusion.

MAXWELL ZAWATSKY '22 is the 2021 recipient of the Diversity and Inclusion Re-search Award. His project, "In Pursuit of Identity: A Brief Survey of Contemporary Queer South Asian Artists," was conducted under the mentorship of Ramya Ravisankar (Art). Through in-depth art historical analysis of the work of queer artists from South Asia and the South Asia diaspora, including Salman Toor, Chitra Ganesh, and Bhupen Khakhar, Maxwell's project examines the impact that queer South Asian artists have on contemporary art. Maxwell's project aims to relay the importance of queer artists in the contemporary art world and bring diverse scholarship to the field of art and art historical research that privileges analysis of non-Western and non-heterosexual artists. Maxwell is a Studio Art major, focusing on painting and drawing, with minors in art history and literature. After graduating, Maxwell will pursue a Master of Fine Arts degree in art and a Ph.D. in literature. He plans to continue to advance inclusion of underrepresented individuals and topics in art and literature.

The Marye J. '54 and Richard A. '51, H'84 Boyd Undergraduate Research Symposium Keynote "Engaging Students Across the University"

Distinguished Capital University faculty and staff will share some of the engaging work that Capital students do.

Panel Discussion Participants

Jennifer Faison Kelly
Professor of Education

Daniel T. Kobil
Professor of Law

Deborah Shields
Professor of Nursing

Julie Hutson
Director of Contextual and Experiential
Formation, Trinity Lutheran Seminary

Abbey Rutschilling
Program Coordinator, Student
Community Engagement

PRESENTATION SCHEDULE

Student posters are available online at <https://www.capital.edu/research-symposium>. Poster presentations are 10 minutes long and consist of a brief synopsis of the students' work and then a question-and-answer period. Oral presentations are 20 minutes long and consist of a 15-minute presentation and 5 minutes for questions.

Zoom Poster Presentations 11:30 a.m.-11:40 a.m.

Social Media's Impact on Confidence and Active Listening Skills among College Students
Vanessa Martin, Sam Albright, Rylie Young,
Randy Nungester, Danielle Fiore
Zoom Room 1

Online vs Traditional: Relationship Satisfaction Among College Students
Jenay Kocsis, Francesca Baber, Kameron Lee,
Laura Metzinger
Zoom Room 2

Using Creativity in the Business Setting (Honors Capstone Project)
Paige Matuszynski
Zoom Room 3

Learning in the Time of COVID-19: A Comparative Analysis of Adopted Educational Practices in the Age of the Coronavirus
Caitlyn Hoffman
Zoom Room 4

Analysis of SARS-CoV-2 Antibodies and their Use in Treating COVID-19
Batula Musa, Mahum Mallick, Gareth Evans
Zoom Room 5

The Effects of Manuka Honey in the Inhibition of Commonly Found Bacteria in Hospitals
Maria Sadek, Summer Hamad
Zoom Room 6

COVID-19 Positivity Rates on College Campuses in Ohio
Bridget Mallin, Gabbi Viggiano, Mitchell Hughes
Zoom Room 7

Developing an eDNA and qPCR Protocol to Investigate Dam Impact on Common Mudpuppy (Necturus maculosus) Populations in Central Ohio
Taylor Perkins, Cassie VanDyke
Zoom Room 8

Zoom Poster Presentations 11:42 a.m.-11:52 a.m.

Art and Books: A Therapeutic Approach to Children's Librarianship
Mary Ann Smock
Zoom Room 1

Social Media Usage
Gracyn Hardin, Emily Pratt, Casey Miller, Jess Van Meter
Zoom Room 2

Self-care Using Art Therapy
Paige Matuszynski
Zoom Room 3

Building Instructional Effectiveness while Teaching Online
Cara Dovell
Zoom Room 4

COVID-19 Spread in Public vs. Private Universities in Columbus, OH
Griffin Doseck, Cole Baker, Mishraz Siddiqui,
Devin Saunders
Zoom Room 5

Difference between Antibiotic-Resistant Bacteria Found in Caribbean Soils vs. North American Soils
Maria Sadek, Karen Kanke
Zoom Room 6

Understanding a University Community's Environmental Consciousness
Kokila Varadarajan, Amma Dufie Karikari, Mariah Johnston, Trey Hunter
Zoom Room 7

Observations of Nesting Bald Eagle (Haliaeetus leucocephalus) Behavior at the Primmer Outdoor Learning Center
Stefanie Mazzeo
Zoom Room 8

Zoom Poster Presentations 11:54 a.m.-12:04 p.m.

Comfortability and Self-Esteem in Compliment Reception Method
Allison Roach, Hanna Pinkelman, Melanie Allen, Regan Morgan
Zoom Room 1

Fear of Missing Out: Does Use of Social Media Play a Role?
Poojya Bommannan, Carla Hedges, Spencer Towne
Zoom Room 2

Art Activities for the Elderly
Gabriella Engoglia
Zoom Room 3

Comparative Analysis of Direct to Consumer Genetic Testing Kits
Nathaniel Vance, Kristina Amos
Zoom Room 4

Does Season Affect the Number of COVID-19 Cases in Ohio?
Makala Cooper, Daryna Zaitseva, Stephanie Pina-Rivera
Zoom Room 5

Designing a Tree Guide for Capital University's Primmer Outdoor Learning Center
Nichole Hayes
Zoom Room 6

Arabidopsis Thaliana Growth Genes Help Identify Genes in Moso Bamboo (Phyllostachys edulis)
Karen Kanke
Zoom Room 7

The Impact of an Outdoor Creative Arts Project on an Individual's Nature Connectedness
Sydney Skeie, Emma Young, Charis Friend
Zoom Room 8

Zoom Poster Presentations
12:06-12:16 p.m.

Hyperactivity: The Imposition of Online Learning

Sierra Stant, Chloe Akins, Maddie Phillips,
Judah Bateman
Zoom Room 1

Enigma and Imagination: A Jungian Interpretation of Revelation

Finn Bohlen
Zoom Room 2

Increasing Student Involvement on Campus

Sophia Bucci, Austin Copley, Katlin Mott, Luci
Kanowsky
Zoom Room 3

Implications of Different Housing Types for COVID-19 Incidence and Outcome in Ohio's State Prisons

Jonah Tugaoen, Robbert Giancola, Jr., D.J.
Black
Zoom Room 4

Correlation of Polychlorinated Biphenyls and Reproductive Health of Women

Torie Cochran, Caroline Cramblit, Holly
Barlage
Zoom Room 5

Environmental Education: An Elementary Approach Using Varying Metropark Ecosystems to Connect to Nature

Kaela Folatko, Riley Hagy, Josephine McKean
Zoom Room 6

Repositioning to Prevent Pressure Ulcers

Hailey Perdue, Jenna Corsillo, Adrienne
Staley, Heather Bricker
Zoom Room 7

Behavioral Differences Between Captive and Wild Sea Otters (*Enhydra lutris*)

Emma Young
Zoom Room 8

Zoom Poster Presentations
12:18-12:28 p.m.

The Effects of Modern Media on News

Julia Sheppard, Bailey Alspach, Allison
Costanzo, Jennifer Host
Zoom Room 1

Phone Dependency in Socially Anxious Situations Based on Attachment Styles

Finn Bohlen, Joyce Barr, J'Lyn Branche, Taylor
Robinson
Zoom Room 2

Children Left Behind: How the Lack of School-based Mental Health Education Disproportionally Affects Rural Children

Carissa Wrobbel
Zoom Room 3

Relationship between Salivary Melatonin, Anxiety and Depression in College Students during the COVID-19 Pandemic

Austin Stewart, Lincoln Chifamba
Zoom Room 4

Comparison of Positive COVID-19 Cases Between Colleges in Urban and Rural Areas

Olivia Bongiovanni, Heather Fryman, Jessica
Gardner
Zoom Room 5

Comparing Vocalizations in Pet Parakeets (*Melopsittacus undulatus*) When Rap Music vs. Classical Music is Played

Emma Fain
Zoom Room 6

Implementation of a Perioperative Oncology Course in Undergraduate Nursing Curriculum

(Graduate Research Forum)
Taylor Mullin
Zoom Room 7

The Presence of Tick-Borne Pathogens in Mouse Reservoirs and Tick Vectors at the Primmer Outdoor Learning Center

Emma Young
Zoom Room 8

Zoom Poster Presentations
12:30-12:40 p.m.

Gender Differences in Maintaining Motivation for Learning in the Online Classroom Environment

Ethan Scheck, Gabby Fentress, Catherine
Hooper, Sophia Petrov
Zoom Room 1

Where News Meets Knowledge: How We Respond to Discrepancies between the News and Personal Experience

Asma Abukar, Nick Ferda, Anna Sciranka
Zoom Room 2

Self-Concept and Intimacy Through Social Media Representation (Honors Capstone Project)

Hanna Pinkelman
Zoom Room 3

Analysis of the Effects of Athletic Teams on COVID-19 Cases at Capital University

Camille Simpson, Addi Hasselbach, Bryce
McKinstry
Zoom Room 4

Comparing the Impact of COVID-19 at Large and Small Universities

Luke Atkins, Jack Shepard, Dylan Smith
Zoom Room 5

Elephant Allomothering and Herd Formation Behaviors

Gareth Evans
Zoom Room 6

Evidence Based Implementation Strategies to Improve Colorectal Cancer Screening in Community Health Settings (Graduate Research Forum)

Jessica Miller
Zoom Room 7

Assessment of Gluten Contamination: Reliability of Labeled "Gluten-free" Food Products in the US

Sydney Skeie, Alysa Durbin
Zoom Room 8

Zoom Poster Presentations
12:42-12:52 p.m.

The Evolution of Vaccines Throughout History
Anell Agyapong, Emily Pawlack
Zoom Room 5

Depression and Anxiety vs Class Year in Undergraduate Students (Honors Capstone Project)
Alysa Durbin
Zoom Room 6

What Is The Government Doing To Protect Our Coral Reefs?
Nichole Hayes
Zoom Room 7

Genetic Diversity of Declining Gray Fox (Urocyon cinereoargenteus) Populations in Ohio
Emma Young
Zoom Room 8

Zoom Oral Presentations
1:30-1:50 p.m.

Proximate Cause: A Campaign to Increase the Desirability of a Residential Education via Student Leadership
Liz Christian, Marshall Evans, Mareena Michael, Cha'Noah Powell, Juliana Rotolo
Zoom Room 1

Gender Roles in Politics: The Cases of Merkel and Bachelet
Hannah Barnard
Zoom Room 2

Grieving Daylight: Contemporary Poetry Inspired by Romantic and Transcendentalist Themes
Becca Barravechia
Zoom Room 3

The Language of Big Brother
Hannah Bottger
Zoom Room 4

Minorities in the Media
Gareth Evans
Zoom Room 5

The Effects of Timed Ethanol Injections on the Craniofacial Development of Pekin Ducks, *Anas platyrhynchos* (Honors Capstone Project)
Sydney Dion
Zoom Room 6

Creating a Sexual Renaissance: How William H. Masters and Virginia E. Johnson Brought Sex into the Public Sphere
Rocky Jorgenson
Zoom Room 7

The Need for Required Firearm Training Statutes and the Potential Constitutionality Under a Second Amendment Review (Graduate Research Forum)
Emily Asher
Zoom Room 8

Zoom Oral Presentations
2:00-2:20 p.m.

"Fake News" in a Pandemic: A Community-based Study of How Public Health Crises Affect Perceptions of Online News Media (Honors Capstone Project)
Marshall Evans
Zoom Room 1

Mountain Voter: Examining Election Swings in Appalachian Ohio, Pennsylvania, and West Virginia
Chance Conaway
Zoom Room 2

Light in the Darkness: Bringing Therapeutic Arts into Solitary Confinement (Honors Capstone Project)
Becca Barravechia
Zoom Room 3

Prejudiced Projections: Self-Identification in "Invisible Man" and "Go Tell it on the Mountain" (Honors Capstone Project)
Emily Dietz
Zoom Room 4

Interfaith Dialogue: An Unintended Consequence of the Commodification of the Camino de Santiago and Kumano Kodo
Nicky Gutierrez
Zoom Room 5

Effects of Alcohol on the Development of the Cardiovascular System in Pekin Ducks (*Anas platyrhynchos*) (Honors Capstone Project)
Josephine McKean
Zoom Room 6

Tools for the Trade: A Conversation about Employment for International Students, Immigrants, and Refugees
Keenan Russell
Zoom Room 7

Protecting the Miranda Rights of Vulnerable Suspects: A Proposal to Protect Individuals with the Hidden Disability of Language Impairment (Graduate Research Forum)
Lindsay Miller
Zoom Room 8

Zoom Oral Presentations
2:30-2:50 p.m.

Incinerators and Axe Wielding: A Rhetorical Analysis of the Morality of Zero Escape using Bandura's Social Learning Theory
Marshall Evans
Zoom Room 1

The Latin American Gender Paradox
Josie McAninch
Zoom Room 2

The Evolution of the Epicene Pronoun and Gender Inclusivity in the English Language
Abby Bebout
Zoom Room 3

Caricature to Character: Changing Depictions of Capitalism and Gender in Jane Austen's "Northanger Abbey" and "Pride and Prejudice"
Annie Davis
Zoom Room 4

Sarria to Santiago de Compostela: A Haibun Journey
Nicky Gutierrez
Zoom Room 5

The Role of the Primmer Wetland in Carbon Sequestration
Kory Roth
Zoom Room 6

Stalking Victims: Do Men Really Get Stalked Less Than Females?
Elizabeth Owens
Zoom Room 7

History and Evolution of the Found Footage Subgenre of Horror Films
Gage Surratt
Zoom Room 8

Zoom Oral Presentations
3:00-3:20 p.m.

#RollUpYourSleeve – Media Relations and Grassroots Marketing
Joshua Miller, Lauryn Collett, Lily Benedetti, Chloe Esposito, Aliyah Smith
Zoom Room 1

What Makes Minnesota Different Electorally?
Ethan Roberts
Zoom Room 2

"In a Forest Somewhere": Understanding and Writing the EcoGothic (Honors Capstone Project)
Sydney Dudley
Zoom Room 3

Roll Up Your Sleeves - Video Team Presentation
Jackson Nixon, Alayna Fuhs, Jordan Banks, Elia Schoonover
Zoom Room 4

Momoko Kuroda: Pilgrimage Haiku and Decentering the Male Gaze
Nicky Gutierrez
Zoom Room 5

Non-transitive Dice
Qais Sabarna
Zoom Room 6

Victims with Disabilities: Silenced by the Dark Figure of Crime
Lindsey Stumpp
Zoom Room 7

The Importance of Mental Health Awareness in Adolescents: How the Needs of Students Could be Met by the Implementation of Art Therapy and Other Mental Health Programs in Schools
Elyse Swihart
Zoom Room 8

Zoom Oral Presentations
3:30-3:50 p.m.

Jewish Perspectives on the Problem of Evil
Joshua Miller
Zoom Room 1

Reaching the Chilean Consumer in Times of Turmoil
Alyssa Zumpone
Zoom Room 2

In Pursuit of Identity: A Brief Survey of Contemporary Queer South Asian Artists
Maxwell Zawatsky
Zoom Room 3

The Essential Nature of Empathy in "Mob Psycho 100": Kindness as a Condition of Human Existence
Abigail Sweinhart
Zoom Room 4

Existential Genesis: A Discourse of Biblical Existentialism and Other Existential Thought: A Zine
Nicky Gutierrez
Zoom Room 5

The History of Respiratory Pandemics: Scientific and Medical Advancement
Sydney Skeie, Gareth Evans, Josephine McKean
Zoom Room 6

The Airline Industry: Tackling Crisis Communication in a Digital World
Lauren Cubberley
Zoom Room 7

Electronic Health Records and Healthcare: The Perspectives and Impacts Today
Kokila Varadarajan
Zoom Room 8

ABSTRACTS

Abstracts are listed in alphabetical order by the first author's name.

Where News Meets Knowledge: How We Respond to Discrepancies between the News and Personal Experience

Asma Abukar, Nick Ferda, Anna Sciranka

Poster Presentation // 12:30 p.m. // Zoom Room 2

Mentor: Nicholas Van Horn, Psychology

Even in a political climate driven by distrust and false claims, news media consumption is at an all-time high. This study examines how media observers react to discrepancies between information in the media and their own experiences in addition to their reaction style to the media (implementation). Survey respondents (n = 51) from Capital University were asked their opinions on the facticity of the news, as well as their style of implementation. Reaction style and propensity to choose either their own belief or the media placed each participant into one of four categories: (a) Installation-positive belief with active application, (b) Acceptance-positive belief with passive application, (c) Rejection-negative belief with passive application, and (d) Dissent-negative belief with active application. A goal of the study was to assess how gender, class rank, and political ideology affect category membership, as well as quantify where the majority of the population fall. Results revealed no significant connection between gender and category and political leaning and category. However, the data suggest that the majority of respondents are more likely to categorize in the dissent group. How news and media credibility are viewed is pertinent in an era of hyper-politicism and media scrutiny.

The Evolution of Vaccines Throughout History

Anell Agyapong, Emily Pawlack

Poster Presentation // 12:42 p.m. // Zoom Room 5

Mentor: Kerry Cheesman, Biological and Environmental Sciences

Vaccinations are an important part of our healthcare toolbox with a longer history than most people realize. Because infectious diseases have plagued human beings since the earliest times, vaccinations were, and continue to be, developed as a way to combat the spread of disease. Vaccines generally work by injecting either a killed or a disabled microbe into the host in order to stimulate the natural immune system response of the formation of antibodies against the microbe, thereby preventing the disease it causes. This project is exploring the origins, development, and progression of vaccine technology throughout human history. Starting with the Buddhist monks' use of snake venom to confer immunity from snake bites, moving to the variolations used in 17th century China for smallpox, and ending with the development of mRNA vaccines to the current COVID-19 pandemic, we explore the existing literature tracing the evolution of vaccines over time. Understanding how vaccines have been developed and employed over the ages, and the diseases they have helped us conquer, we gain a better comprehension of these marvelous tools and can help educate others about them.

The Need for Required Firearm Training Statutes and the Potential Constitutionality Under a Second Amendment Review (Graduate Research Forum)

Emily Asher

Oral Presentation // 1:30 p.m. // Zoom Room 8

Mentor: Professor Dan Kobil, Law School

The right to bear arms is a hot topic in policymaking and the legal world due to the increased gun violence in our society. The purpose of my project was to determine what firearms regulations have been upheld in the courts and to explore the need for required safety training regulations. My research focused on the jurisprudence of Second Amendment challenges to determine what firearms regulations have been upheld and what regulations have been deemed unconstitutional, as well as social science research to discover why firearms safety trainings should be a required part of obtaining guns. The research revealed that gun suicides are the leading cause of firearm deaths in the United States. Additionally, the research showed the prevalence of gun thefts in our country. This research is important to the legal world, and society, because policymakers are constantly debating what types of firearms regulations are imperative in keeping our citizens safe. Furthermore, the Supreme Court of the United States has left open the question of what test applies in analyzing the constitutionality of firearms regulations; a question that will inevitably be taken up by the Court in the next several years.

Comparing the Impact of COVID-19 at Large and Small Universities

Luke Atkins, Jack Shepard, Dylan Smith

Poster Presentation // 12:30 p.m. // Zoom Room 5

Mentor: Kerry Cheesman, Biological and Environmental Sciences

The novel coronavirus, SARS-CoV-2, has caused suffering globally since early 2020. Colleges and universities across the country have struggled to find solutions to keeping students and staff safe, and no single path forward has been universally employed. This research project is examining how large universities and small universities are responding to the pandemic, and how well these two types of institutions are managing COVID-19 on their campuses. Five large (>40,000 students) universities (Texas A&M, University of Central Florida, Ohio State University, University of Texas at Austin, and Liberty University) were compared to five small (<5,000 students) colleges and universities (Bowdoin College, Centre College, Davidson College, Pomona College, and Capital University), using data available on their COVID-19 dashboards. Overall, large universities have seen increases of 56% in COVID positivity over the first 21 days these universities allowed in-person classes. Conversely, small universities saw an increase of only 1.8% in the positivity rate during the same timeframe. Ongoing analysis of dashboard information for these two groups of universities can give insight into future ways to limit positivity rates on college campuses.

Gender Roles in Politics: The Cases of Merkel and Bachelet

Hannah Barnard

Oral Presentation // 1:30 p.m. // Zoom Room 2

Mentor: Stephanie Saunders, Languages and Cultures

Women in politics experience more criticism than their male counterparts even though they have similar successes. This project

examines the success of women politicians, specifically Angela Merkel and Michelle Bachelet, how the public perceived their policies, and the way the press represented their actions and policies. By using data on the role of women in positions of power and how they are perceived, along with international news sources reporting on women in politics, it is evident that there is an inequality in the way women politicians are perceived by the public in comparison to male politicians. Women in roles of power are assumed to be weaker, less decisive and more emotional than their male counterparts which causes the public to think that women are less effective in leadership roles, but as seen in the case of Merkel and Bachelet these assumptions are false. These findings are important because they show a systemic and ongoing inequality between men and women in positions of political leadership. These inequalities cause the underrepresentation of women in politics to persist, even though the gap in gender inequality is narrowing as the world continues to become more inclusive.

Grieving Daylight: Contemporary Poetry Inspired by Romantic and Transcendentalist Themes

Becca Barravechia

Oral Presentation // 1:30 p.m. // Zoom Room 3

Mentor: Kevin Griffith, English

Romantic and Transcendentalist poetry has many themes, but reverence for nature as a manifestation of divinity is one of the most central. According to these movements, to be inspired by nature is to be inspired by the divine, which can greatly benefit humankind and produce profound works of art. Witnessing natural beauty is the closest a person can get to heaven on earth. These sentiments are shared by myself and other contemporary writers. This project explores the Romantic and Transcendentalist themes of experiencing the divine through nature and upholding respect for nature itself. I summarize and discuss poetry from the aforementioned eras, as well as contemporary nature poetry. Then, I read my own poetry which is inspired by nature and was written during the summer of 2020 as a Summer Scholars project. This poetry serves to tie together the literary past and present through mutual respect for the natural world.

Light in the Darkness: Bringing Therapeutic Arts into Solitary Confinement
(Honors Capstone Project)

Becca Barravechia

Oral Presentation // 2:00 p.m. // Zoom Room 3

Mentor: Michaele Barsnack, Art

Decades of thoroughly vetted research have established that placement in solitary confinement often triggers or exacerbates symptoms of mental illness in prisoners (Reiter, 2020). Research has also demonstrated that therapeutic arts activities promote better behavior and reduce symptoms (Gussak, 2017). The purpose of this project was to learn about best practices for therapeutic arts programming in order to create a collection of directives intended for use in solitary confinement. A literature review was conducted in order to collect background information about the population and the value of therapeutic arts programming. Therapists and those with experience providing arts activities in prison settings were surveyed and their responses were summarized in a qualitative analysis. The analysis revealed some expected benefits of therapeutic arts in prison, as well as obstacles to providing this type of programming and considerations

regarding specific directives and materials. The findings of this project are essential because they shed light on an area where therapeutic arts have massive potential which has only begun to be explored.

The Evolution of the Epicene Pronoun and Gender Inclusivity in the English Language

Abby Bebout

Oral Presentation // 2:30 p.m. // Zoom Room 3

Mentor: Kevin Griffith, English

English lacks a non-gendered, third-person pronoun, also called an epicene pronoun. English speakers in the past used the singular “they” as an epicene pronoun, but 18th century grammarians sought to discontinue the word because of its grammatical incorrectness. Today, with the influence of gender non-conforming identities, the singular “they” is once again in the spotlight. In my research, I studied how the pronoun “they” has changed meaning from the 14th century novel *The Canterbury Tales* to the 2019 novel *I Wish You All the Best* by Mason Deaver, a non-binary author. Using the unique combination of literature and outside research on epicene pronouns, I mapped out the history of the pronoun “they.” Next, I focused on modern opponents of the singular pronoun “they,” including Abigail Shrier, a religious writer, and Jordan Peterson, a free speech advocate. Addressing both of their concerns, I countered by discussing the history of gender non-conforming people in religious traditions and the fallacies in the free speech argument. Ultimately, my research supports a well-rounded defense of gender-neutral pronouns, arguing for their normalization.

Phone Dependency in Socially Anxious Situations Based on Attachment Styles

Finn Bohlen, Joyce Barr, J'Lyn Branche, Taylor Robinson

Poster Presentation // 12:18 p.m. // Zoom Room 2

Mentor: Nicholas Van Horn, Psychology

Across the world, it is evident that phone use has become a part of everyday lives. It has interfered with people engaging in social situations and is often used as a means to reduce anxiety in social situations. This study investigated a relationship between phone habits and social anxiety, including the role that attachment style plays on dependency. Differences between women and men were also explored. We explored these questions with a survey that also estimated attachment style using the Adult Attachment Scale from Collins and Read (1990). The findings of this study supported the hypothesis that women are more likely to use their phones in uncomfortable social settings over men. Interestingly, women were found to be more attached to their phones than men, although both men and women showed similar scores of social anxiety. This study allows us to better understand the relationship one has with their phone, as well as determine the effect that attachment style has as individuals continue to embrace a technological culture.

Enigma and Imagination: A Jungian Interpretation of Revelation

Finn Bohlen

Poster Presentation // 12:06 p.m. // Zoom Room 2

Mentors: E. Wray Bryant, Sally Stamper, Religion and Philosophy

The book of Revelation has mystified and puzzled humanity ever since the text was created in the first century. The text of Revelation

is extremely enigmatic, and as such, endless interpretations have been offered up in order to find meaning in the images and symbols of John's Apocalypse. Although the narrative of Revelation, along with the cornucopia of images and symbols that line the book, have proven to be mysterious and difficult to discern, these images and symbols contain treasure troves of meaning and significance when analyzed and interpreted through a Jungian perspective. Interpreting the book of Revelation with a Jungian lens and through a psychodynamic paradigm manifests the Jungian path of individuation, along with an abundance of Jungian archetypes and categories. Jungian categories and archetypes inform the symbols and the narrative of Revelation in a fashion previously undiscovered. This interpretation opens up the enigmatic symbols of Revelation in a fresh, startling new way, and set the reader of Revelation on their own unique journey of individuation.

Fear of Missing Out: Does Use of Social Media Play a Role?

Poojya Bommanan, Carla Hedges, Spencer Towne

Poster Presentation // 11:54 a.m. // Zoom Room 2

Mentor: Nicholas Van Horn, Psychology

Many people have experienced a fear of missing out (FOMO). We live in a digital age where we make connections and have instant access to other peoples' lives with a tap of a finger. Exposure to this information about other people can instill fear of not getting invited to events or missing out on activities. Researchers have found that FOMO influences decision-making and anxiety. This study compared social media use and FOMO in order to see how social media use affects feelings of FOMO as well as the circumstances that make FOMO more prominent offline. We surveyed college students about social media use, their habits, and FOMO. Results suggest that while participants viewed social media as a means to stay connected, the more they engaged with these services the greater the risk of FOMO and social anxiety. FOMO is on the rise, contributes to negative health outcomes, and can be experienced by people of all ages. Increased use of social media can lead to higher stress rates and anxiety caused by FOMO; this study demonstrates this connection in the college population.

Comparison of Positive COVID-19 Cases Between Colleges in Urban and Rural Areas

Olivia Bongiovanni, Heather Fryman, Jessica Gardner

Poster Presentation // 12:18 p.m. // Zoom Room 5

Mentor: Kerry Cheesman, Biological and Environmental Sciences

The World Health Organization officially declared COVID-19 a pandemic in March 2020, the middle of the spring semester. Colleges and universities immediately faced a challenge about how they would counter this invisible attack. The goal of this ongoing study is to see whether the size of the city or town a school is in affects the total number of positive COVID-19 cases on campus. Colleges and universities across the nation have been updating their websites with their COVID-19 test results. Using these dashboards, data were collected for schools with populations similar to Capital University (2,504 students) located in rural locations (less than 2,500 citizens) and urban locations (more than 2,500 citizens). Statistical analysis was performed to determine whether there is a significant relationship between community size and positivity rates on campuses. Regardless of where their college is located, students should follow COVID-19 guidelines in order to stop the spread of the disease. Given this, there

should not be a significant difference in positivity rates in colleges in rural areas compared to urban. Any significant trends found in this study could be used by school administrations to determine the best actions for protecting students, faculty, and staff.

The Language of Big Brother

Hannah Bottger

Oral Presentation // 1:30 p.m. // Zoom Room 4

Mentor: Lisette Gibson, English

During the Cold War, the United States of America (USA) and the Union of Soviet Socialist Republics (USSR) were engaged in psychological warfare, generating anti-communist and anti-capitalist propaganda. The USA not only generated fresh propaganda, but promoted already existing literature as anti-communist, such as 1984 by George Orwell. By illustrating the relationship between the manipulation of 1984 during the Cold War and the distortion of language in the novel, my presentation demonstrates that the very promotion of 1984 is antithetical to Orwell's warnings against authoritarianism. During the research process, I uncovered scholarly articles pertaining to how and what propaganda was being used, Orwell's political affiliation, how Cold War anxieties in the USA affected what was being taught in schools, and the specific uses of political language. Through my findings, I deduced that the USA government, just like that of the USSR, was able to harness the power of language to manipulate the masses, thus stripping people of their autonomy and ignoring Orwell's stance as a Democratic Socialist who warned against authoritarianism. Ultimately, the message of 1984 transcends the Cold War, becoming increasingly relevant today as the USA is pushing boundaries that are causing its citizens to question if we are truly living in a democracy.

Increasing Student Involvement on Campus

Sophia Bucci, Austin Copley, Katlin Mott, Luci Kanowsky

Poster Presentation // 12:06 p.m. // Zoom Room 3

Mentor: Lois Foreman-Wernet, Media

At many schools, including Capital University, organizations and activities are one of the most important things for student growth. With the effects of COVID-19, involvement this past year has looked different. At Capital, a goal for many offices is to ensure the comfort and success of first-year students, as well as upperclassmen. We found through research and student discussion that it would be helpful to develop a campaign that promoted all the different organizations across campus (i.e., hobbies, professional, social, and Office of Diversity and Inclusion organizations). In addition to the initial research, our group is planning, implementing, and evaluating the success of this campaign. Working with Student and Community Engagement, we showcase the range of opportunities and interest areas available and to encourage students who are currently not involved to join an organization. We believe this campaign will result in students joining organizations and truly enjoying them, thus contributing to future success for the students.

Proximate Cause: A Campaign to Increase the Desirability of a Residential Education via Student Leadership

Liz Christian, Marshall Evans, Mareena Michael, Cha'Noah Powell, Juliana Rotolo

Oral Presentation // 1:30 p.m. // Zoom Room 1
Mentor: Lois Foreman-Wernet, Media

Capital University, in adapting to online and hybrid delivery for the COVID-19 pandemic, must share the spotlight with new competition in the form of Massive Open Online Courses (MOOCs). Through research, we determined that an awareness campaign aimed at the leadership opportunities unique to student organizations may serve to increase the competitiveness of in-person education and students' desire to return to campus the following year. Through the campaign, we call attention to the professional development that can come from being in a leadership position, as well as encourage students to seek out leadership opportunities that are offered at Capital University. A survey conducted allowed previous student leaders to share how the residential environment of Capital allowed them to develop professionally helpful skills. Of the 46 responses received, almost 74% said that their leadership experiences had "materially impacted" their professional development, and 72% said that their leadership positions incentivized either on-campus or nearby living. It is anticipated that the campaign will result in increased interest in residential education with leadership positions, as indicated by increased followership for Student and Community Engagement and select student organizations' social media accounts.

Correlation of Polychlorinated Biphenyls and Reproductive Health of Women

Torie Cochran, Caroline Cramblit, Holly Barlage

Poster Presentation // 12:06 p.m. // Zoom Room 5
Mentor: Kerry Cheesman, Biological and Environmental Sciences

Polychlorinated biphenyls (PCBs) are synthetic organic chemicals used in various industrial and commercial settings, including electrical equipment. Over many decades PCBs have found their way into the environment and have been shown to cause severe health defects in both animals and humans. Previous research indicates that PCBs have had adverse effects on the reproductive health of many organisms. This study is designed to examine correlations between PCBs and the reproductive health of women. The National Health and Nutrition Examination Survey (NHANES) is designed to assess the health and nutritional status of Americans. It combines interviews and physical examinations of millions of participants on a two year cycle, beginning in 1999. This study used the NHANES database to statistically analyze the PCB levels in human blood samples over twenty years and compare them to reproductive health of women, particularly menstrual patterns and rate of conception. This study will allow a further understanding of the impacts of PCBs on public health and help design further research.

Mountain Voter: Examining Election Swings in Appalachian Ohio, Pennsylvania, and West Virginia

Chance Conaway

Oral Presentation // 2:00 p.m. // Zoom Room 2
Mentor: Kevin Lucas, Political Science and Economics

In the 2016 election, Donald Trump amplified rural voter turnout to

carry key battleground states that won him the USA Presidency. Then, in the 2020 election, the incumbent President found himself defeated by former Vice President Joe Biden, the Democratic nominee. In many places across the country, Vice President Biden performed better than former Secretary of State Hillary Clinton did in 2016- but there were a few exceptions. Upon examining the margin "swing" in Appalachian counties of Ohio, Pennsylvania, and West Virginia, a stark observation was made: Appalachian Pennsylvania and West Virginia swung towards the Democratic Party from 2016 to 2020, whereas Appalachian Ohio did not. This study offers an explanation for how this electoral outcome occurred. After researching the differences between the three states' Appalachian regions, it was discovered that a more middle aged population, less college educated voters, campaign spending by both parties from 2012-2020, and the impact of Obama-era economic policies all resulted in Appalachian Ohio swinging towards Trump in 2020. This research is important to the field of political science because it provides insight into one of the most important questions political scientists pose: Why do people vote the way they do?

Does Season Affect the Number of COVID-19 Cases in Ohio?

Makala Cooper, Daryna Zaitseva, Stephanie Pina-Rivera

Poster Presentation // 11:54 a.m. // Zoom Room 5
Mentor: Kerry Cheesman, Biological and Environmental Sciences

COVID-19 officially reached Ohio on March 9th, 2020, with reports of the first known cases. The first death from COVID-19 happened just ten days later, and as of March 11th, 2021, there were 17,662 confirmed deaths from COVID-19 or associated complications. Scientific reports early in the pandemic suggested that Vitamin D (obtained from exposure to sunlight) and warm weather may combine to limit the positivity rate. In Ohio, this means the summer months. The new vaccines (first administered in December 2020) also should limit the positivity rate. The purpose of this research was to compare the cases of COVID-19 in Ohio during the summer months of 2020 (June-August) with the winter months of 2020/2021 (December-February) to determine possible effects of sunlight exposure. Information was gathered from COVID-19 dashboards, official websites from the Centers for Disease Control, the World Health Organization, and the National Weather Service, along with peer reviewed research papers. We expected to find that during months with high sunlight and Vitamin D uptake the COVID-19 positivity rate declined and that it also declined in the presence of vaccine administration. An understanding of seasonal effects on virus spread may be useful to both researchers and policy makers in the future.

The Airline Industry: Tackling Crisis Communication in a Digital World

Lauren Cubberley
Oral Presentation // 3:30 p.m. // Zoom Room 7
Mentor: Dan Heaton, Communication

Every day, the airline industry faces many crises, most of which are not brought to the attention of the public; however, the crises that do spark attention via social media often have a big impact on the airline industry. This project examines United Airlines' response to a recent crisis involving the airline's treatment of young girls wearing leggings and how social media influences their response to the crisis. This qualitative analysis applies Coombs' three step method for assessing best practices in crisis communication to how United

Airlines responded to the crisis. The findings from this investigation show that, although United followed many of Coombs' best practices in response to this crisis, they still failed at critical steps, overall negatively affecting the airline. Additionally, the findings display the importance of social media as part of a crisis communication response. This study updates and extends Coombs' best practices of crisis communication by incorporating social media into each part of the crisis communication plan.

Caricature to Character: Changing Depictions of Capitalism and Gender in Jane Austen's "Northanger Abbey" and "Pride and Prejudice"

Annie Davis

Oral Presentation // 2:30 p.m. // Zoom Room 4

Mentor: Liam O'Loughlin, English

Jane Austen's novels explore the very gendered and capitalistic society in which she lived, yet many critics leave this connection unexamined. This project explores the intersections of gender and capitalism in Austen's work by contextualizing her novels amidst the rise of the middle class and the creation of the sex/gender system in Regency era England. Methodologically, the project combines queer and Marxist theoretical frameworks with close textual analysis of key characters in Austen's early and late fiction. This research concludes that Austen's fictional societies reflect both the capitalistic and gendered expectations of Regency era England. Furthermore, this research identifies the maturation of Austen's authorship as seen through her transition from writing caricatured figures in her early novels to writing dynamic and developed characters in her later works. This project is important because few Austen scholars have taken the time to explore the intersection of the capitalist and gendered norms present throughout her works, and doing so produces a unique view of Austen's characterizations, satirical social commentary, and even the growth of her writing style.

Prejudiced Projections: Self-Identification in "Invisible Man" and "Go Tell it on the Mountain" (Honors Capstone Project)

Emily Dietz

Oral Presentation // 2:00 p.m. // Zoom Room 4

Mentor: Lisette Gibson, English

In 1952, Ralph Ellison published his first novel, *Invisible Man*; in 1953, James Baldwin's first novel, *Go Tell it on the Mountain*, was published. Ellison and Baldwin were acquaintances – they both lived and worked in New York City – but their novels treated differently the shared experience of being a Black man in America. As a literary theory, new historicism presumes that written texts and lived history are equally important and nuanced, and both should be studied and interpreted in the same manner. In this essay, I approach the conversation between *Invisible Man* and *Go Tell it on the Mountain* with a new historicist methodology, paying close attention to the religious themes of the novels. In *Invisible Man*, Ellison explores the ideologically-constructed nature of Black identity through the struggles of a man defining himself against the projections of prejudiced outsiders. Baldwin's *Go Tell it on the Mountain* is semi-autobiographical, using the fictionalized life experiences of a young gay man to explore the complexities of Black life – pertaining to religion, sexuality, colorism, and family dynamics – after the diaspora. Taken together, the two novels powerfully depict the conflict between self and external expectations.

The Effects of Timed Ethanol Injections on the Craniofacial Development of Pekin Ducks, *Anas platyrhynchos* (Honors Capstone Project)

Sydney Dion

Oral Presentation // 1:30 p.m. // Zoom Room 6

Mentor: Nancy Swails, Biological and Environmental Sciences

Fetal Alcohol Syndrome (FAS) is defined as severe birth defects classified under Fetal Alcohol Spectrum Disorders (FASD). Common FAS defects include facial abnormalities, central nervous system (CNS) deficiencies, impaired growth, and cardiac malformations. Common methods used to study FAS include avian models, due to cost efficiency, access, availability, and structural similarities to humans. Chicken (*Gallus gallus domesticus*) eggs are most commonly used, but Pekin duck (*Anas platyrhynchos*) eggs are larger, more durable, and developmentally similar to chicken eggs, making them a beneficial choice for sensitive procedures. The purpose of this study was to develop a protocol to assess the effects of ethanol-exposure during different stages of craniofacial development. In the early stages of development, the chicken and duck embryos are developing at similar rates, which allows for effective comparison of craniofacial development. This comparison becomes difficult when duck embryos begin to diverge from chicken embryos after 72 hours of gestation. The developed protocol allows for the better assessment of the effects of ethanol exposure in the duck embryo after 72 hours of development. This protocol establishes a standard method to study ethanol effects during later stages of development and assures the reliability of the duck embryo as a model.

COVID-19 Spread in Public vs. Private Universities in Columbus, OH
Griffin Doseck, Cole Baker, Mishraz Siddiqui, Devin Saunders

Poster Presentation // 11:42 a.m. // Zoom Room 5

Mentor: Kerry Cheesman, Biological and Environmental Sciences

In March 2020, the World Health Organization named the COVID-19 epidemic a pandemic. The pandemic has affected the lives of everyone, especially those in education systems and universities. Universities have implemented various protocols and guidelines to slow the spread of COVID-19 across their campuses. The goal of this study is to see if there is any difference in the way that private and public universities in Columbus, OH have contained spread of the virus on campuses. Since the pandemic began, universities have been updating their online dashboards with the numbers of positive cases and number of students in quarantine, among other data. We are analyzing these dashboards to identify possible trends among private and public colleges. Regardless of location or type, all universities have a large number of people on campus at all times, and these institutions play a major role in containing the spread of the virus. As the Centers for Disease Control updates guidelines on maintaining the spread of COVID-19, college students are expected to wear masks and stay socially distant, so positivity rates on public and private college campuses should not be very different from each other.

Building Instructional Effectiveness while Teaching Online

Cara Dovell

Poster Presentation // 11:42 a.m. // Zoom Room 4

Mentor: Carmen Dixon, Education

Through these unprecedented times, I wanted to demonstrate that online teaching can enhance test scores when a teacher practices

effective instructional methods. This project took place during the height of the COVID-19 pandemic and my teaching career, as I was participating in my pedagogical teaching course. Before I began teaching, I referred to Lev Vygotsky's Zone of Proximal Development. With this research, I knew to use various teaching methods to adequately scaffold the content by incorporating whole group discussion and online activities. The purpose of the project was to show that online learning can have a positive effect on student test scores when effective instructional methods are implemented. I conducted my science lesson with a pre-assessment, a six question multiple choice Google Form, on chemical and physical changes. With these data, I created lessons that scaffolded my students' prior knowledge to the current lesson. The pre-assessment scores averaged to 47.1% correct, while the post-assessment, which was similar to the pre-assessment in rigor and format, scores averaged to 92.15% correct. As the COVID-19 pandemic continues to shape our world, online learning is here to stay and becoming more prevalent. As educators, we need to establish best practices to be effective online teachers.

"In a Forest Somewhere": Understanding and Writing the EcoGothic

(Honors Capstone Project)

Sydney Dudley

Oral Presentation // 3:00 p.m. // Zoom Room 3

Mentor: Kevin Griffith, English

The ecoGothic is an underexplored subset of ecocriticism which analyzes the representation of nature in Gothic texts. While most view the ecoGothic as a form of criticism, this project proposes the ecoGothic as a literary genre. By researching the fields of ecocriticism, Gothic literature, and ecoGothic criticism—reading the works of Cheryl Glotfelty, Lynn White, Jr., Edgar Allan Poe, Charlotte Perkins Stetson, Joyce Carol Oates, Andrew Smith, Emily Carr, and more—I compiled a comprehensive criterion to be used in the writing of ecoGothic literature. This criterion thus informed my demonstrative ecoGothic short story, "In a Forest Somewhere," which shows how Gothic elements such as the supernatural can be used to address the ecocritical concern of anthropocentrism and the relationship between humans and nature. The purpose of my research and work was to contribute to the field of literature by expanding the potential of environmentalism, reviving the Gothic genre for the modern era, and demonstrating how a new literary genre like the ecoGothic could be a vital resource for 21st century writers who wish to use literature to enact environmental change.

Depression and Anxiety vs Class Year in Undergraduate Students (Honors Capstone Project)

Alysa Durbin

Poster Presentation // 12:42 p.m. // Zoom Room 6

Mentor: Kimberly Heym, Biological and Environmental Sciences

When students leave for college they experience a significant change in their routine. These new life changes can give rise to factors that contribute to signs of anxiety and depression. I correlate levels of depression and anxiety with specific class standing in college. A survey was used to determine whether depression and anxiety was different the four-year period of an undergraduate program and whether there were differences due to participant sex and status as a transfer student. I also examined the effect that the COVID-19

pandemic has had on depression and anxiety in college students. I conducted this survey with the expectation that depression and anxiety decrease when progressing through college, with the highest levels of depression and anxiety occurring among first year participants. In addition, I expected women and transfer students to report higher levels of depression and anxiety. Lastly, I expected students to report significant change in symptoms of depression and anxiety after the COVID-19 pandemic began. Due to the transition to college that first year students experience compared to stress that comes with preparing for a professional career at one's fourth year, it is important to note the prevalence of these two disorders across class years.

Art Activities for the Elderly

Gabriella Engoglia

Poster Presentation // 11:54 a.m. // Zoom Room 3

Mentor: Michaele Barsnack, Communication

Senior citizens experience a plethora of complications as they age. Whether living in a nursing home, retirement community, independently, or with family, their physical and mental health declines (Gould, 1971). Further complications may arise from their loss of independence and facing end-of-life. This project examines the art materials and Art Therapy methods used in senior facilities, hospitals, and hospice milieus for the elderly (Magniant, 2004). A literature review of the elderly, identified issues for the elderly, art materials, and Art Therapy methods with senior citizens were completed. Ten Art Therapy directives using ten different art mediums were selected from published sources. Selections were based on physical and mental benefits, the directive's expected outcome, and the art medium's inherent therapeutic qualities. The information was assembled into a collection of therapeutic art activities that address issues for the elderly. This research's culmination was a handbook of therapeutic art activities to benefit professionals who provide art services for senior citizens.

"Fake News" in a Pandemic: A Community-based Study of How Public Health Crises Affect Perceptions of Online News Media (Honors Capstone Project)

Marshall Evans

Oral Presentation // 2:00 p.m. // Zoom Room 1

Mentors: Lois Foreman-Wernet, Media; Stephen Koch, Communication

"Fake news" has magnified media credibility and utility as issues of the digital age. The COVID-19 pandemic, by presenting life-threatening uncertainty, has created new interest in online information and perceptions thereof. This study examines how the crisis and its political implications have affected college students' perceptions of online news media. A survey was administered to Capital University's undergraduate student body via email to gauge students' perceptions of online news media credibility and utility since the pandemic's onset. Other questions explored perceptions of "fake news," social media use, and the value of user comments. Descriptive and inferential statistics were used to draw conclusions about how perceptions of media credibility and utility are affected by the perceived presence of a crisis and its politicization. The study found negative correlations between a crisis's politicization and online news media credibility and positive correlations between the perceived presence of a crisis and online

news media utility. Understanding how college students consume and perceive online news media may provide insights into how crises affect the public's perceptions of online news media.

Incinerators and Axe Wielding: A Rhetorical Analysis of the Morality of Zero Escape using Bandura's Social Learning Theory
Marshall Evans

Oral Presentation // 2:30 p.m. // Zoom Room 1
Mentor: Daniel Heaton, Communication

Most scholarly literature on video games is limited to questions about the relationship between video games and violence. This finding prompted my interest in what other player perceptions could be affected by video games. My experience with Kotaro Uchikoshi's Zero Escape series of visual novels incentivized me to pursue the question of how video games communicate ethics. For this study, I applied Albert Bandura's Social Learning Theory to the most prominent characters in Uchikoshi's *Virtue's Last Reward* (2016) and *Zero Time Dilemma* (2017). I operationalized Bandura's four conditions for social learning in defining characters as "symbolic models" based on their 1) screen time, 2) centrality to the game's plot (if not the series as a whole), and 3) popularity among fans. By these criteria, I define *Virtue's Last Reward's* Phi, Luna, and Akane and *Zero Time Dilemma's* Akane, Sigma, and Phi as Uchikoshi's primary models of moral behavior. I also argue that the consequences of the above models' actions reinforce messages about different ethical theories as the player observes and evaluates them. My study attempts to broaden the literature base on video games and demonstrate how the medium argues rather than simply affects.

Minorities in the Media
Gareth Evans

Oral Presentation // 1:30 p.m. // Zoom Room 5
Mentor: Drew Tucker, Campus Ministries

With a rising call for diversity in media like TV, books, and movies, characters and actors of minority communities have been used to increase representation, but it frequently comes at the cost of accurate depictions of minorities. Traditionally, Gay and Jewish representation is some of the most prevalent in visual media, specifically TV and Movies, but it is rare that these characters are authentically represented. Instead, stereotypes continue to drive minority imagery. LGBT+ and/or Jewish characters are commonly depicted as the comical relief side characters like Annie Edison in *Community*, Mateo in *Superstore*, or Damien in *Mean Girls*. Gay men also are consistently shown as oversexualized "players" with no interest in relationships. In 2018, GLAAD found only 20 films out of the 110 produced by the major studios included LGBT characters and only 10 showed an LGBT character for more than 10 minutes. In this presentation, I explore the misrepresentation of minorities including false tropes/stereotypes, the exploitation of minority characters, the inequality within LGBT+ representation, and the intersectionality of LGBT+ characters with Judaism and other minorities. While I point out misrepresentation, I do so in the hope for meaningful, authentic representation for visual media in the future.

Elephant Allomothering and Herd Formation Behaviors

Gareth Evans

Poster Presentation // 12:30 p.m. // Zoom Room 6
Mentor: Christine Anderson, Biological and Environmental Sciences

Zoos, and other ex-situ conservation projects, are designed to replicate original habitats and behaviors for animals in non-native environments to ensure conservation efforts are successful. This project aimed to study the elephant behaviors, allomothering, adult females' "motherly" behaviors toward kin and non-kin infant elephants, and herd formation, proximity to herd, in the wild and in captivity. The study took place through webcams at the San Diego Zoo, the Houston Zoo, and the South African Tau Waterhole. Ad Libitum observations, totaling approximately 3 hours, demonstrated allomothering as baby elephants moved throughout adult elephants' proximity and herd formation, consistently remaining in herds. Scan observations supported the hypothesis with herd formation behaviors between adult female and baby elephants from the San Diego Zoo and the Tau Waterhole. Scan observations also showed isolation of adult male elephants significantly more often at the Houston Zoo. The baby elephant's inclination to be near adults was evident during 72.5% of the observation. This supported the corresponding behaviors of allomothering and herd formation happening both in the wild and in captivity. This study's importance is to give information to ex-situ conservation efforts on population demographics to form herds for successful conservation.

Comparing Vocalizations in Pet Parakeets (Melopsittacus undulatus) When Rap Music vs. Classical Music is Played

Emma Fain

Poster Presentation // 12:18 p.m. // Zoom Room 6
Mentor: Christine Anderson, Biological and Environmental Sciences

Pet birds are often under stress because they are kept in cages, and they may lack the required mental stimulation as a result of limited interaction. When humans are under stress, music therapy has been shown to have a beneficial effect. Few previous studies have focused on music therapy for parakeets. However, it is known that parakeets tend to chirp and vocalize when they are relaxed. The focus of this study was to compare vocalizations in pet parakeets (*Melopsittacus undulatus*) when presented with different genres of music. Vocalizations were recorded in seconds and counts were made for eight 10-minute trials for rap music, classical music, no noise, and a white noise control with scan sampling. The parakeets spent significantly more time vocalizing when rap music was played as compared to classical music. There was no significant difference between the mean number of vocalizations when comparing the no noise and white noise control. If music could help benefit the pet bird's quality of life and lower their stress, then adding music would be an easy addition to their daily schedule.

Environmental Education: An Elementary Approach Using Varying Metropark Ecosystems to Connect to Nature

Kaela Folatko, Riley Hagy, Josephine McKean

Poster Presentation // 12:06 p.m. // Zoom Room 6
Mentor: Christine Anderson, Biological and Environmental Sciences

Research involving the impact of environmental education and connectedness to nature on children is imperative because educating

future generations will lead to a greater potential positive impact on the environment. In addition, art allows children to understand and engage with complex ideas and form better relationships with nature. The goal of this research was to see how participation in an environmental education activity impacts a child's attitude towards nature and their knowledge of two natural ecosystems (forest and prairie) at Glacier Ridge Metro Park in Plain City, Ohio. Participants included Girl Scouts in Troop 6134. The activity consisted of a pre-assessment, informational session, booklet craft activity, and post-assessment. Surveys assessed children's knowledge of ecosystems and connectedness to nature before and after completion of the environmental activity. Results showed that children had high preexisting knowledge of ecosystems and strong connectedness to nature, so most changes in survey scores were not significant. Nevertheless, there were some questions where an increase in score from pre-survey to post-survey was significant. Results illustrate the impact of nature-based environmental education activities on elementary students and how experiences with nature positively affect their attitude towards the natural world.

Interfaith Dialogue: An Unintended Consequence of the Commodification of the Camino de Santiago and Kumano Kodo

Nicky Gutierrez

Oral Presentation // 2:00 p.m. // Zoom Room 5
Mentor: E. Wray Bryant, Religion and Philosophy

Due to increased ease of travel, globalization, and exchange of information, tourism to pilgrimage sites has risen, leading to the commodification of pilgrimage routes. Examples of this commodification are the Camino de Santiago in Spain and the Kumano Kodo in Japan. These two pilgrimage routes are the only pilgrimages designated as UNESCO World Heritage Sites. The cities of Santiago de Compostela and Tanabe City created the Dual Pilgrim Program and labeled the Camino the "Pilgrimage of the Setting Sun" and the Kumano the "Pilgrimage of the Rising Sun." The purpose of this program was to increase international tourism and cultural exchange between the two countries. It was not originally designed with the intended purpose of advancing interfaith dialogue. Very little research has been done on the Dual Pilgrim Program. This is surprising given that this program could provide an extensive space in which interfaith dialogue could occur. By reviewing reports and interviews of dual pilgrims, this paper seeks to illustrate how this unique pilgrimage experience helps pilgrims understand and appreciate other faiths by providing a context for interfaith dialogue. This paper hopes to contribute to the narrow pool of research on the under-studied Dual Pilgrim Program.

Momoko Kuroda: Pilgrimage Haiku and Decentering the Male Gaze

Nicky Gutierrez

Oral Presentation // 3:00 p.m. // Zoom Room 5
Mentor: Liam O'Loughlin, English

Momoko Kuroda is a well-respected contemporary female Japanese haiku poet, yet only a little over one hundred of her haiku have been translated to English. In her translated work, *I Wait for the Moon*, Kuroda has a section of haiku she wrote during her ginkgo pilgrimages on Japanese pilgrimage routes. Kuroda is one of many who participated in the pilgrim poet tradition; however, the majority of pilgrim poets are

men who have also historically defined the tradition. Using feminist theory – the concepts of the male gaze/perspective, decentering from the male gaze/perspective, and the patriarchy – this paper argues how readers should view the text of pilgrimage haiku and the moments and landscape that inspired it from a feminist perspective. I also use structuralism – poetics and the system – to fit Kuroda in the tradition of pilgrim poets. These theories show how the male gaze/perspective systemically influences how one views a haiku experience in the pilgrim poet tradition. By looking at her work in English, the typical idea of the "canon" of Japanese haiku is broken to Western readers. This paper hopes to start a conversation on Momoko Kuroda and how the male gaze/perspective is systemically present in literary works.

Sarria to Santiago de Compostela: A Haibun Journey

Nicky Gutierrez

Oral Presentation // 2:30 p.m. // Zoom Room 5
Mentor: Sally Stamper, Religion and Philosophy

The Camino de Santiago is a Roman Catholic pilgrimage route in northwestern Spain that people have walked since the Middle Ages. Throughout the centuries, many pilgrims have walked the Camino de Santiago, including writers who documented their journeys through journals or poetry. This traditional travel literature from the West typically takes one literary form or the other; however, in Japan, some pilgrimage literature includes both poetry and prose, joined together in the literary form haibun. The famous Japanese haiku poet Bashō was a pilgrim poet and recorded his many journeys in haibun: haiku accompanied by prose reflections. This project combined walking a section of the Camino de Santiago with reflections in the haibun form. By doing traditional research on Bashō and the haibun form, walking the Camino de Santiago as a participant scholar, and reflecting on the experience using haibun, I demonstrated in this project that the use of a specific literary form influences the pilgrim's experience. The project culminated in a traditional research paper and a collection of haibun. This haibun collection takes the literary form into a new subject area. It is also the first traditional haibun written on the Camino de Santiago.

Existential Genesis: A Discourse of Biblical Existentialism and Other Existential Thought: A Zine

Nicky Gutierrez

Oral Presentation // 3:30 p.m. // Zoom Room 5
Mentor: Nate Whelan-Jackson, Religion and Philosophy

The book of Ecclesiastes is sacred to both Jews and Christians and is notorious for its depressing messages. Within it, core themes of existentialist philosophy are discussed, such as the meaning of life, choice, and responsibility. Dialogue between Ecclesiastes and other existentialist thought is needed. Thus, I created a zine called "Existential Genesis: A Discourse of Biblical Existentialism and Other Existential Thought" which tries to bring that existential lens to scripture. I used a "violent" reading of a text where one is aware of one's intentional and purposeful appropriation of a text. This appropriation in "Existential Genesis" creates an intertextuality between several texts and authors that span hundreds of years and places them in a dialogue. The appropriation of the texts is reminiscent of the poetry form "cento" where it is a patchwork of quotes that talk to each other. In the spirit of existentialism, the quotes that are connected are not explained but touch on similar themes where the

reader has to create the links between the texts. This zine hopes to create more dialogue on “Biblical Existentialism” and reading the Bible or other sacred scriptures through an existentialist lens.

Social Media Usage

Gracyn Hardin, Emily Pratt, Casey Miller, Jess Van Meter

Poster Presentation // 11:42 a.m. // Zoom Room 2

Mentor: Nicholas Van Horn, Psychology

Quarantine restrictions due to COVID-19 have led to an increased use of social media. These changes are accompanied by a variety of new online practices such as video chatting and increased rates of entertainment consumption. The goal of this study is to identify and understand the pandemic induced changes in online habits. An online questionnaire measured participant social media practices both prior to and during the COVID-19 pandemic. Results demonstrate the magnitude and type of change observed in college students, as well as the role that social distancing has played. Additionally, the contribution of mental health to these effects is considered. Results bring awareness to the use of social media during and after the global pandemic, allowing a better understanding of how users' habits have changed as a result of the current social environment. Further, this may also help identify risk factors associated with negative mental health outcomes.

Designing a Tree Guide for Capital University's Primmer Outdoor Learning Center

Nichole Hayes

Poster Presentation // 11:54 a.m. // Zoom Room 6

Mentor: Christine Anderson, Biological and Environmental Sciences

Previous research shows that people who feel more connected with nature are likely to take action to protect the environment. This can be accomplished through environmental education by promoting hands-on activities. Capital University owns a 74-acre property, the Primmer Outdoor Learning Center, in Hocking Hills, OH with multiple ecosystems. The goal of this project was to develop a tree guide for the two main trails along the front of the property to increase visibility, accessibility, and educational opportunities on site. Over the course of a year, all of the trees along the two trails were identified, and information on the environmental benefits, fun facts, and photos of each species of tree were added to the guide. Then, a draft of the tree guide along with a survey was sent to the members of the university. The results included 56 responses from Capital students, staff, and faculty. The guide was revised incorporating feedback from the survey for distribution to Capital students and faculty for coursework, research, and community engagement. The tree guide provides a valuable tool for others to learn about the importance of trees and the benefits they provide to wildlife on the property.

What Is The Government Doing To Protect Our Coral Reefs?

Nichole Hayes

Poster Presentation // 12:42 p.m. // Zoom Room 7

Mentor: Suzanne Marilley, Political Science and Economics

Climate change is on the forefront of political debate, but what is our government doing to protect the most sensitive and critical

environment, coral reefs? The goal of this project was to analyze government legislation that focused on coral reef protection and the surrounding waters to determine where there may be holes in protective legislation. The foundation of the investigation was Executive Order 13089 which established the United States Coral Reef Task Force whose goal is to preserve and protect coral reef ecosystems. This executive order and others prompted the investigation of rollbacks which lead to less environmental protection. While the Coral Reef Task Force has documented the importance of the issue regarding coral reefs and strategies to protect these ecosystems the Trump Administration made changes to several environmental policies that have destructive effects on these ecosystems. The results of this study found several legislative articles which act in protecting coral reefs and the surrounding waters however, over the past few years several of these actions have been revoked or loosened. The findings from this project will be available in a podcast for the public, politicians, and researchers discussing current legislation and where they fall short.

Learning in the Time of COVID-19: A Comparative Analysis of Adopted Educational Practices in the Age of the Coronavirus

Caitlyn Hoffman

Poster Presentation // 11:30 a.m. // Zoom Room 4

Mentor: Olga Shonia, Education

Due to the COVID-19 pandemic, schools around the state of Ohio and nationwide were forced to regroup to continue education of their students in online and hybrid formats. This paradigm shift of the current zeitgeist has left many stakeholders involved – teachers, administration, students, and their families – struggling to effectively adjust to the new reality, and let go of the traditional in-person practices and expectations (Gay, 2002; Noddings, 2003; Wolk, 1998). The purpose of this research case study was to examine challenges as well as opportunities of the hybrid/online models of learning that have become the alternative to traditional in-person delivery during the COVID-19 pandemic (March 2020 to present). I distributed a survey instrument grounded in the framework of the Ohio Standards for Teaching Profession (2005) to the identified key stakeholders (teachers and principals for this portion of the study) in two school districts in central Ohio, one urban, one suburban. I performed a qualitative analysis of the collected data, identifying major themes, and analyzing best practices and pitfalls to avoid (e.g., regarding student mental health, engagement, etc.) to make recommendations for educators as they navigate new instructional models of delivery moving forward.

Creating a Sexual Renaissance: How William H. Masters and Virginia E. Johnson Brought Sex into the Public Sphere

Rocky Jorgenson

Oral Presentation // 1:30 p.m. // Zoom Room 7

Mentors: Alexander Pantsov, Andy Carlson, History

William H. Masters and Virginia E. Johnson pioneered observational sexological science, bringing research about sex and gender into the public sphere. Beginning with their publication of Human Sexual Response in 1966, Masters and Johnson's research had significant effects on the modern ideas of female sexuality by placing it on the same level as male sexuality and debunking the most detrimental sexual misconceptions put forth by false experts. By analyzing the changing cultural norms of the 1960's through contemporaneous

publications it is clear Masters and Johnson sought to influence wider change, and were able to do so because of the social and ideological upheaval created by a rebellious youth. This paper explores the intellectual history which informed Masters and Johnson's research; and it argues that culturally, their research propelled both the Sexual Revolution and Second Wave feminist movement by providing scientific legitimacy within their own publications as well as magazines such as Vogue and Playboy.

***Arabidopsis Thaliana* Growth Genes Help Identify Genes in Moso Bamboo (*Phyllostachys edulis*)**

Karen Kanke

Poster Presentation // 11:54 a.m. // Zoom Room 7

Mentor: Jennifer Larson, Biological and Environmental Sciences

Bamboo is a woody plant from the grass family whose fast growth rate makes it an excellent renewable resource for construction material and the pulp and paper industry. Sequencing a genome is the first step in uncovering the genetic mechanisms of an organism. The bamboo genome was sequenced in 2013 and the next logical step is annotating its genes. Decoding genetic structures connects the molecular biology, ecology, and evolution of the plant with biotechnology to improve the sustainability of this valuable resource. The aim of this study was to characterize the shoot growth phenotype of two variants of the model organism *Arabidopsis thaliana* to suggest potential growth genes that may also be found in bamboo. Contrasting phenotypes were identified by mean height measurements of the *Arabidopsis*. The ecotype Lovik (Lov), (mean height 7mm, \pm 2.65) was statistically taller than Landsberg erecta (Ler) (mean height 1.33mm, \pm 1.53). Genes of interest were selected from *Arabidopsis* that were matched to proteins in bamboo through the Basic Local Alignment Search Tool (BLAST). As bamboo increases in importance ecologically and economically, its future viability becomes more essential. This research offers potential genes to target for modification to improve the growth of bamboo.

Online vs Traditional: Relationship Satisfaction Among College Students

Jenay Kocsis, Francesca Baber, Kameron Lee, Laura Metzinger

Poster Presentation // 11:30 a.m. // Zoom Room 2

Mentor: Nicholas Van Horn, Psychology

In the ever increasing use of technology, it is no wonder that 3 out of every 10 Americans report using a dating app, and nearly 50% of college students report the same (Vogels, 2020). Though some may argue in favor of its efficiency and variety, there are notable, and possibly detrimental, differences between online dating and traditional dating. This study explored the use of online dating, the satisfaction level of relationships cultivated through dating apps, and how these outcomes differed based on sexual identity and gender. To answer these questions, we created an anonymous survey with questions related to demographic information, relationship status, dating app usage, and satisfaction within relationships. The survey was completed by 48 undergraduate students through Capital University's SONA research system. The findings suggested that relationships that were cultivated online did not last as long as traditionally cultivated relationships, and gender and sexual identity were found to have no effect on dating app use. Findings from this study assist in understanding the long-term relationship success or failure for younger generations that increasingly use online dating technologies.

Analysis of SARS-CoV-2 Antibodies and their Use in Treating COVID-19

Batula Musa, Mahum Mallick, Gareth Evans

Poster Presentation // 11:30 a.m. // Zoom Room 5

Mentor: Kerry Cheesman, Biological and Environmental Sciences

The first case of a novel coronavirus, SARS-CoV-2, was found in December 2019 in Wuhan, China. Over the past year, COVID-19 has spread around the world, causing a global pandemic and 2.6 million deaths worldwide. As known for other viruses, infection with SARS-CoV-2 causes the human immune system to develop both specific and nonspecific antibodies that circulate in the serum. The presence of these antibodies helps an individual to fight reinfection by the same virus (producing a natural form of immunization). Based on prior studies with other viruses, investigators in 2020 began using antibodies taken from patients who had recovered from COVID-19 to treat those who were severely ill. This study analyzed published research papers to determine what has been discovered about the use of SARS-CoV-2 antibodies and the treatment successes obtained. This study also analyzed reports about serological antibody tests (both laboratory-based and market-level) to compare their usefulness and levels of success in this pandemic. An understanding of the way in which naturally-produced antibodies can be used to treat COVID-19 may be useful to many healthcare workers and public health officials.

COVID-19 Positivity Rates on College Campuses in Ohio

Bridget Mallin, Gabbi Viggiano, Mitchell Hughes

Poster Presentation // 11:30 a.m. // Zoom Room 7

Mentor: Kerry Cheesman, Biological and Environmental Sciences

The novel Coronavirus that emerged at the end of 2019 has drastically affected the way that people have lived their lives. Specifically, the way that college students live and learn has been greatly impacted. Most students were forced to leave campuses in March 2020, and all classes were moved to a remote learning format through the end of the spring 2020 semester. The ways in which schools reopened for the fall 2020 semester varied greatly, and the operations and day to day life of college students for the 2020-2021 school year has been partly based on these differing protocols. It was hypothesized that these protocols may be specific to each school's division, size, location, and amount of resources available. To examine this question, COVID-19 dashboards for a variety of Ohio campuses were analyzed, specifically noting any variances in the positivity rates among NCAA Division I, Division II, and Division III schools throughout the state. By determining correlations between school size (division) and positivity rates we hope to be able to better understand how these various protocols may have influenced the spread of coronavirus on Ohio college campuses.

Social Media's Impact on Confidence and Active Listening Skills among College Students

Vanessa Martin, Sam Albright, Rylie Young, Randy Nungester, Danielle Fiore

Poster Presentation // 11:30 a.m. // Zoom Room 1

Mentor: Nicholas Van Horn, Psychology

Current empirical evidence supports the conclusion that too much time spent on social media negatively affects college students' mental health and academic performance (Hou et al., 2019). Addictive use of social media is related to lower active listening skills and lower

confidence levels (Andreassen et al., 2017). Confidence is partially associated with quality of mental health, and active listening of lectures is correlated with academic performance. A decrease in either or both characteristics can be indicative of an increased use of social media. This project studied the effects social networking sites (SNS) have on character traits, specifically, confidence and active listening. A survey regarding personal demographics, social media habits, and daily experiences and feelings was administered to Capital University undergraduates. Results are expected to reflect a negative correlation, with confidence levels and active listening ability decreasing as time usage increases. These results can be used to help inform students on how to develop new best practices regarding their media intake. Understanding that SNS's can be indirectly related to negative alterations in student mental health and academic performance, through decreases in confidence and active listening, can provide insights into how students can best manage their curricular and social lives.

Using Creativity in the Business Setting (Honors Capstone Project)
Paige Matuszynski

Poster Presentation // 11:30 a.m. // Zoom Room 3
Mentors: Nicholas Van Horn, Psychology; Michael Barsnack, Art

Pursuit of art and business oriented careers has been observed to be driven by different sources of motivation. For example, career satisfaction is often coupled with motivation, with intrinsically motivated individuals reporting greater job satisfaction. In contrast, business related careers can result in less satisfaction due to external motivations, such as financial compensation, driving career choice. The purpose of this project was to analyze the rate of burn-out within business settings, as well as tactics for increasing intrinsic motivation in these settings by applying creativity, art therapy, self-care, and valuing the individual. The methodology is a comparison of current scholarly resources, culminating in a meta-analysis investigating the motivational value of applying these practices in workplace-business settings. Quality of life is partially contingent on workplace satisfaction, and this project helps to identify and highlight best practices for optimizing individuals' personal investment in their careers. As a consequence, understanding methods for maximizing employee satisfaction indirectly provides a means for improving business productivity.

Self-care Using Art Therapy
Paige Matuszynski

Poster Presentation // 11:42 a.m. // Zoom Room 3
Mentor: Michael Barsnack, Art

Art therapy helps many populations. However, art therapy professionals rarely advocate for using art for their benefit, even though self-care is important for working in the therapeutic field (Bradley, 2013), especially when working with children with autism. Current research literature about the burnout of therapists who work with children with autism points to the potential of art as a self-care option. The literature also demonstrates how colors can help to express emotion through art. By analyzing artwork completed at the end of a day working with children with autism, I examined whether art is a valid form of self-care. I analyzed my work with children with autism and examined the benefits of art for self-care. The findings of this project include the art pieces produced and the emotions demonstrated through color. My

artwork was analyzed and compared to the research literature. This project contributes to art therapy as it examines art therapy being used by the therapist rather than how it is used with clients.

Observations of Nesting Bald Eagle (*Haliaeetus leucocephalus*) Behavior at the Primmer Outdoor Learning Center

Stefanie Mazzeo

Poster Presentation // 11:42 a.m. // Zoom Room 8

Mentor: Christine Anderson, Biological and Environmental Sciences

Bald Eagles (*Haliaeetus leucocephalus*) in Ohio reached a low in 1979 with only four nesting pairs. Since 2020, the population has been restored to 707 pairs through conservation efforts. Previous research studying aggressive interactions provided an overview on Bald Eagle behavior and time budgets. The goal of this study is to document the behaviors of a nesting pair of Bald Eagles located at the Primmer Outdoor Learning Center in Logan, Ohio. Fifteen minute sessions of focal continuous sampling of the nesting pair are being conducted in order to collect data on the frequency and duration of different behaviors, such as nest maintenance and grooming. A time budget was created from the data. Preliminary observations with ad libitum sampling in March 2021 noted behaviors of perching, wing flapping, and brooding. I expected that as nesting season progresses more time is spent in the nest tending to eggs. This is the first empirical study on observing the bald eagles' behavior at Primmer and it aligns with the learning center's goal of fostering creative biological research experiences. Information gained through this research can be integrated into academic activities as well as facilitate the planned installation of a livestreaming eagle camera.

The Latin American Gender Paradox

Josie McAninch

Oral Presentation // 2:30 p.m. // Zoom Room 2

Mentor: Kevin Lucas, Political Science and Economics

Latin America is a region characterized by a culture of machismo and patriarchal structure, yet it has also seen a significant number of women elected to the Presidency. My work explores this paradox by studying successful and unsuccessful female presidential candidates in Panama, Chile, Brazil, and Argentina since the year 1990. The emphasis of femininity on the campaign trail, the cultural importance of motherhood in the region, the Left's support for gender equality, and public attitudes toward women are variables that may help to explain this puzzle. By studying campaign speeches and documents, I analyze the influence of femininity and motherhood. By examining the implementation of gender quotas, I assess the Left's push for representation. Finally, by observing responses to women's achievements and reactions to women in the presidency, I review public opinion. These variables demonstrate if women have won the presidency by conforming to machismo and embracing traditional gender roles, or if Latin America has elected them to office because of a belief that both genders are equally capable of fulfilling the role.

Effects of Alcohol on the Development of the Cardiovascular System in Pekin Ducks (*Anas platyrhynchos*) (Honors Capstone Project)

Josephine McKean

Oral Presentation // 2:00 p.m. // Zoom Room 6

Mentor: Nancy Swails, Biological and Environmental Sciences

Fetal alcohol syndrome is a serious condition that affects the development of fetuses with irreversible effects that can impact individuals throughout their lives. The cardiovascular system is one example where ethanol is linked to abnormalities. The heart is one of the first structures to be formed, and heart development is highly conserved among amniotes. There are difficulties studying the effects of ethanol on human embryos due to ethical concerns; as a result, animal models, particularly avian models, are widely used. The effects of ethanol have not been widely studied on Pekin ducks, *Anas platyrhynchos*, and ducks offer advantages compared to other model organisms, such as their larger size and durability. The purpose of this study was to develop a method for testing the effects of ethanol on the development of the heart and cardiovascular system in ducks. The development of the cardiovascular system occurs over several stages of development, and treatment of ethanol at different stages leads to various potential abnormalities of heart structure and function. The developed protocol determines which stages of heart development are most sensitive to ethanol effects, and what anomalies may potentially occur after exposure to ethanol.

Evidence Based Implementation Strategies to Improve Colorectal Cancer Screening in Community Health Settings (Graduate Research Forum)

Jessica Miller

Poster Presentation // 12:30 p.m. // Zoom Room 7

Mentor: Deborah Shields, Nursing

Among cancers that affect both men and women, colorectal cancer (CRC) is the second leading cause of death. The American Cancer Society projected 147,950 new diagnoses of colon and rectal cancers in the US in 2020, and 53,200 deaths. Ohio ranked seventh among US states in projected CRC diagnoses for 2020. CRC screening is an effective method to prevent colon cancer. The Centers for Disease Control (CDC) identifies screening rates are low, especially among the under-insured and uninsured. Additionally, many CRC screenings in 2020 were postponed due to COVID-19. This capstone project aims to analyze the effectiveness of evidence-based implementation strategies to improve CRC screening in community health settings. A literature search of peer-reviewed academic journals was conducted using CINHALL's Health Sciences Database. Nine articles were chosen for appraisal. Evidence within the literature suggests implementing patient targeted evidenced based implementation strategies and reducing barriers to screening increases CRC screening rates. Additionally, home-based CRC screening methods such as fecal immunochemical tests (FIT) are an effective screening tool. This evidence was used to guide decision making in the implementation of CRC screening initiatives within a Columbus, Ohio community health center.

Jewish Perspectives on the Problem of Evil

Joshua Miller

Oral Presentation // 3:30 p.m. // Zoom Room 1

Mentor: Joy Schroeder, Religion and Philosophy

World religions have held a wide and divergent array of views regarding the topic of "evil," as they discuss its origins, meaning, consequences, and possible ways to overcome it. This paper examines this topic through the lens of the Judaic religion practiced by 14 million people worldwide. This paper examines Jewish perspectives on the topic of evil, particularly the origin of evil, the definition of evil, and the solution to evil. To build this understanding, this paper examines the Torah and other scripture, as well as writings by rabbis, Jewish philosophers, and other Jewish authors. Works from Talmudic literature as well as medieval and modern Jewish philosophers such as Maimonides (1138-1204) and Herman Cohen (1842-1918) are compared and analyzed to show a lineage and progression of Jewish thought on the topics. Specifically, the paper concludes that, according to many Jewish perspectives, God is the originator of evil and that, despite many suggestions, there is no solution to this dilemma. Additionally, the paper discusses the controversy that is created from the Torah's writings about evil and how leaders in the faith have look to resolve it.

#RollUpYourSleeve – Media Relations and Grassroots Marketing

Joshua Miller, Lauryn Collett, Lily Benedetti, Chloe Esposito, Aliyah Smith

Oral Presentation // 3:00 p.m. // Zoom Room 1

Mentor: Lois Foreman-Wernet, Media

COVID-19 has caused global destruction for the past year, but fortunately a beacon of hope shines through with production of the vaccine. Unfortunately, distributing the vaccine to everyone is no light task, especially to those experiencing homelessness. Across the state of Ohio 10,345 people experienced homelessness in 2019 alone. In a joint effort to help this population receive the vaccine in Central Ohio, our Client-Based Immersion class (PR 494) partnered with integrated communications firm Fahlgren Mortine and the Community Shelter Board to assemble student led teams. This team represents the Media Relations and Grassroots Marketing group, one of three in the class. We were tasked with developing a media and community-based outreach plan that targets both those experiencing homelessness and the staff that serves them. The team has prepared media releases, developed infographics, and assembled an influencer roster to help inform our target audiences and empower their decision to get the vaccine. In this presentation we discuss the process of research, campaign development and the results we've seen.

Protecting the Miranda Rights of Vulnerable Suspects: A Proposal to Protect Individuals with the Hidden Disability of Language Impairment (Graduate Research Forum)

Lindsay Miller

Oral Presentation // 2:00 p.m. // Zoom Room 8

Mentor: Scott Anderson, Law School

It is well-recognized that juvenile and adult defendants with communication disorders encounter linguistic obstacles in the justice system. Up to 80% of individuals who are incarcerated have a communication disorder affecting language, which is known as a

language impairment. Individuals with language impairment may have deficits in understanding vocabulary, answering questions, narrating their point of view, and interacting with individuals of authority within the justice system. These deficits impair these individuals' ability to understand their constitutional rights and when these rights are violated. Brendan Dassey from the popular Netflix series, *Making a Murderer*, is a classic example. Individuals with language impairment should have greater protection within the judicial system from the point of first contact with the judicial system. However, identifying these individuals can be a challenge. As a practicing speech-language pathologist and future attorney, I recognize this is an area of importance our society. After literature research analysis from the fields of speech-language pathology and law, I created a practical assessment tool that the Ohio Supreme Court can implement to afford greater protection to this vulnerable population.

Implementation of a Perioperative Oncology Course in Undergraduate Nursing Curriculum (Graduate Research Forum)

Taylor Mullin

Poster Presentation // 12:18 p.m. // Zoom Room 7

Mentors: Deb Shields, Julianna Campbell, Nursing

An aging workforce and the lack of perioperative clinical practice and theoretical content in nursing education programs are factors contributing to the current perioperative nursing shortage. In response to this need, baccalaureate nurse educators have attempted to reintroduce perioperative nursing into the undergraduate nursing curriculum. Nurse educators play a role in addressing the growing perioperative nurse shortage in the United States by developing strategies that may entice new graduates to consider practice in the specialty of perioperative nursing. One strategy is offering a perioperative course. With surgical cases on the rise across the United States, it is important to implement a not only a general perioperative course but also one that focuses on different surgical specialties (e.g., oncology, cardiovascular). A literature review was conducted to determine the benefits of providing an undergraduate perioperative oncology nursing course. Nursing students are becoming more interested in perioperative nursing. Participating in a perioperative course has been shown to increase students' knowledge, skills, and confidence in the operating room. Offering a perioperative oncology undergraduate nursing course is one strategy for attracting nurses to the perioperative area.

Roll Up Your Sleeves - Video Team Presentation

Jackson Nixon, Alayna Fuhs, Jordan Banks, Elia Schoonover

Oral Presentation // 3:00 p.m. // Zoom Room 4

Mentor: Lois Foreman-Wernet, Communication, Media

One of the largest stories in today's news cycle is the current COVID-19 vaccine rollout in the United States. While many acknowledge that mass vaccination is the best way to shift our society back to normalcy, there is still hesitation around partaking in the vaccine, particularly in minority and disadvantaged communities. With the help of integrated communications firm Fahlgren-Mortine, we are launching a social media campaign targeting individuals facing homelessness in Central Ohio as well as those who work in supporting agencies, persuading them to get vaccinated when they have the chance to. We are working closely with staff members at Community Shelter Board to launch the

#rollupyoursleeve campaign, which aims to safely get vaccine shots into the arms of our most vulnerable population. With three distinct teams, the students of PR 494 are banding together to get Ohio on the track to the other side of this paralyzing pandemic. This presentation focuses on the video team's work to execute a variety of assets to be used in the campaign.

Stalking Victims: Do Men Really Get Stalked Less Than Females?

Elizabeth Owens

Oral Presentation // 2:30 p.m. // Zoom Room

Mentor: Laura Boser-Kane, Sociology and Criminology

This paper investigates the crime of stalking. Often, when we think of stalking victims, we think of women being stalked by men. While this is the most common scenario, male victimization can be just as severe as female victimization and occurs more than is documented (Wigman, 2009). This paper focuses on men as victims of stalking and the scenarios under which they are stalked. I conducted a critical analysis of the stalking literature and found that men are stalked almost as frequently as women are; however, their victimizations are underreported. Typical reasons hinge on being afraid no one will take them seriously. I found that men are stalked in similar patterns to women are but are less likely to report to the police and are less likely to seek help or confide in someone else about their victimization. This is important because a lot more men experience stalking victimization than our current statistics indicate. Male victims need to be treated in the same way as female victims in the research literature. We should seek to understand male stalking victims as their needs for victim services and police protection may vary from their female counterparts.

Repositioning to Prevent Pressure Ulcers

Hailey Perdue, Jenna Corsillo, Adrienne Staley, Heather Bricker

Poster Presentation // 12:06 p.m. // Zoom Room 7

Mentor: Taylor Mullin, Nursing

Pressure ulcer incidence and prevalence remain consistently high in healthcare facilities. Pressure ulcers are damage to the skin and tissue from prolonged pressure on a bony area. It takes 2 hours for this pressure to cause irreversible tissue damage and can ultimately lead to death. The primary focus of this literature search was to determine the effectiveness of repositioning to prevent pressure ulcers in head and neck oncology patients. We searched the literature on this topic by exploring the scholarly database CINAHL and using keywords such as "pressure ulcers," "pressure injuries," "pressure ulcer prevention," "repositioning," and "turning." All eleven of the research articles reviewed reported reduced prevalence of pressure ulcers after implementing repositioning in practice. We concluded that repositioning is highly effective in preventing pressure ulcers because it helps relieve pressure on the skin and maintain tissue viability. Additional findings were that there were greater outcomes with frequent skin assessments, incontinence care, nutrition, hydration and education. All interventions and frequency should also be based on the individual patient. Overall, prevention of pressure ulcers should continue to be a priority for all healthcare facilities to improve patient care, and repositioning is a key intervention in its achievement.

Developing an eDNA and qPCR Protocol to Investigate Dam Impact on Common Mudpuppy (*Necturus maculosus*) Populations in Central Ohio

Taylor Perkins, Cassie VanDyke

Poster Presentation // 11:30 a.m. // Zoom Room 8

Mentor: Christine Anderson, Biological and Environmental Sciences

The common mudpuppy (*Necturus maculosus*) is a sensitive and fully-aquatic salamander species that inhabit Ohio's streams, using large, flat rocks for dens and nest sites. A lack of recently updated records, their elusive nature, and year-round activity patterns make them an excellent candidate for environmental DNA (eDNA) survey methods. Previous studies on other aquatic species have found that dams can limit species movement, thus negatively affecting population abundance and persistence. The purpose of this study is to use newly developed sampling methods to determine if low-head dams influence mudpuppy distribution in central Ohio. Water samples are currently being collected upstream and downstream of the Alum Creek Dam and the Greenlawn Avenue Low-Head Reservoir. DNA was extracted from filters and amplified using conventional and qPCR. It is expected that results support our hypothesis that low-head dams are detrimental to mudpuppy distribution, by displaying lower mudpuppy concentrations below the dam. This project provides valuable information on how mudpuppy populations are impacted by low-head dams and shows whether eDNA is an appropriate sampling method for such species. Additionally, results contribute to the statewide mudpuppy population survey currently being conducted by collaborators at the Ohio State University.

Self-Concept and Intimacy Through Social Media Representation (Honors Capstone Project)

Hanna Pinkelman

Poster Presentation // 12:30 p.m. // Zoom Room 3

Mentor: Pamela Ellwanger-Schmidt, Social Work

The purpose of this research was to examine how young adults aged 18-24 at Capital University, a small Midwestern liberal arts institution, post items on Instagram with specific focus on the level of accuracy of their self-representations. Social media has changed the way that people communicate with each other, including changing the self-perceptions they project about their lives. Participants completed surveys that assessed the level of self-reported isolation; further, they reported how they view themselves through social media. Guided by both sociological and psychological theoretical frameworks, including Charles Horton Cooley's theory of the 'Looking Glass Self' and Erik Erikson's Psychosocial Theory of Human Development, the results support the need to test theories that have long influenced our understanding of the importance identity development and self-perceptions have within an ecological framework. Specifically, how can we use these theories to understand present day social media? Such studies can glean information about the role of social media young adult development, specifically within relationships.

Comfortability and Self-Esteem in Compliment Reception Method

Allison Roach, Hanna Pinkelman, Melanie Allen, Regan Morgan

Poster Presentation // 11:54 a.m. // Zoom Room 1

Mentor: Nicholas Van Horn, Psychology

The growing popularity of social media sites like Facebook, Instagram, and Snapchat have created an alternate way that users receive compliments. People often experience discomfort and have trouble choosing compliment responses based on societal expectations and face-protecting behaviors. This issue may have become more pronounced because of the increase in methods and circumstances in which a compliment is given. A survey regarding self-esteem and responses indicating comfortability was conducted with undergraduate students from Capital University ranging from ages 18 -24. The Rosenberg Self-Esteem Assessment was used for comparison in assessing participant self-esteem level. We hypothesized that participants feel more comfortable acknowledging a compliment online than in person and participants whose results indicate low self-esteem show more discomfort when receiving compliments both in person and online compared to those who show to have high self-esteem. The data provided by participants offer a better understanding of social media habits and the impact that compliment source and self-esteem have on recipients. This research provide insight into the increasingly complex role that compliments play in different social contexts.

What Makes Minnesota Different Electorally?

Ethan Roberts

Oral Presentation // 3:00 p.m. // Zoom Room 2

Mentor: Kevin Lucas, Political Science and Economics

The American Midwest is an area where politicians can either hit it big or see their fortunes dashed. Minnesota sticks out as a reliably blue state in a part of the country that is anything but reliable for the Democratic Party. Among all states, Minnesota has the longest streak of voting Democratic at the presidential level, having not been won by a Republican since Richard Nixon's landslide in 1972. One cannot help but wonder why this is so? A review of the scholarly literature has led me to believe that Minnesota's Democratic trend is best explained by the following three factors: Civic culture, education levels, and homogeneity. Using the comparative method, I analyzed data on these factors to find whether Minnesota has higher levels of civic culture (a culture marked by high participation in the public realm), education, and homogeneity (specifically racial and labor) compared to the nation as a whole. I think that in their own ways, each of these factors can explain why the state votes the way it does at the presidential level. My research matters because an explanation for this phenomenon could be useful to Democrats for future political success.

The Role of the Primmer Wetland in Carbon Sequestration

Kory Roth

Oral Presentation // 2:30 p.m. // Zoom Room 6

Mentor: Terry Lahm, Biological and Environmental Sciences

This project focused on the capacity of wetlands to stabilize climate variations from anthropogenic emissions of carbon dioxide. This research evaluated the ability of soil found in the Primmer Wetland to store carbon dioxide by examining the organic carbon concentration. This work relied on publications from Dr. William Mitsch of The

Ohio State University, and we worked to advance concepts from his research at the Olentangy Wetland Research Center (Mitsch et al., 2013; Mitsch, 2016). The methodology included collecting, describing, drying, and sieving the soil from various environments around the wetland and submitting them for analysis of Total Organic Carbon (TOC) concentration. Seven representative soil samples were collected from the Primmer Wetland located in Logan, Ohio, and were examined for texture, composition, color, and concentration of TOC (Range from 0.21% to 4.12%). Based on the analysis, the Primmer Wetland soils appear to have a limited capacity to store carbon dioxide. Previous research studies of similar temperate wetlands soils capacity show a strong potential to sequester atmospheric carbon in wetland ecosystems that results in minimizing the effects of Global Climate Change. Additionally, we examined the impact of glacial history and associated deposits on soil composition, texture, and related carbon sequestration properties.

Tools for the Trade: A Conversation about Employment for International Students, Immigrants, and Refugees

Keenan Russell

Oral Presentation // 2:00 p.m. // Zoom Room 7

Mentors: Jenny Vrobel, Eric Anderson, Career Development; Jennifer Adams, Global Studies; Jeremy Hollon, Community Refugee and Immigration Services

My project detailed some of the systemic barriers that international students, immigrants, and refugees face. I specifically analyzed how networking, resumes and applications, digital access/skills, and a general phenomenon known as “Brain Waste” constitute structural barriers to employment. I used my knowledge as a Capital University Peer Career Advisor, independent research on this topic, and consulting with Community Refugee and Immigration Services (CRIS), a non-profit organization within Columbus, Ohio. Through my work I found that many of the typical practices nationals and/or Americans are accustomed to can not only be unfamiliar to international students, immigrants, and refugees, but can also present legal, structural limitations that prohibit them from fully doing the things they did in their home countries and/or growing professionally. This topic is important due to continuous antagonism that international students, immigrants, and refugees face within our society, even though they play vital roles within our society and are rightly deserving of the same opportunities we reward ourselves.

Non-transitive Dice

Qais Sabarna

Oral Presentation // 3:00 p.m. // Zoom Room 6

Mentors: Jon Stadler, Paula Federico, Math, Computer Science, and Physics

Non transitive dice were first found by Bradley Efron and defined to be any set of dice that contains at least three dice, A,B, and C, with the property that A rolls higher than B more than half the time, B rolls higher than C more than half the time, and C rolls higher than A more than half the time. In this presentation, I give a brief introduction about non-transitive dice, I talk about the different games that can be designed using non-transitive dice, explain the mathematical background about the possible outcomes of these games, and finally show a method for constructing nontransitive dice sets.

Difference between Antibiotic-Resistant Bacteria Found in Caribbean Soils vs. North American Soils

Maria Sadek, Karen Kanke

Poster Presentation // 11:42 a.m. // Zoom Room 6

Mentors: Kerry Cheesman, Jennifer Larson, Biological and Environmental Sciences

Antibiotics are used widely to treat human infections. Their overuse has caused some bacteria to become resistant, causing major health concerns. US High Schools and Universities have been jointly working on project PARE, Prevalence of Antibiotic Resistance in the Environment, where soil samples are tested for antibiotic-resistant bacteria (ARB). This study was designed to look for ARB in soil samples from the Caribbean and compare them to the PARE database for North America. Standard PARE project methods were followed. Seven samples collected from various locations around the islands of St. Kitts and Nevis were analyzed. For each sample three sets of plates were tested in duplicate: no antibiotic, 3 µg/ml tetracycline (Tet3), 30 µg/ml (Tet30). Percent tetracycline-resistant cells were calculated for each sample. Three out of the seven samples showed resistance to the Tet3 and only one out of the seven samples to Tet30. The percentages of Tet3 were 0.59%, 7.9%, and 0.14%; the percentage for Tet30 was 0.0016%. The average percent of Tet3 from the North American database is 23.08% and 14% for the Tet30. Thus, the soils in St. Kitts and Nevis appear to be less contaminated with ARB than do many US soils.

The Effects of Manuka Honey in the Inhibition of Commonly Found Bacteria in Hospitals

Maria Sadek, Summer Hamad

Poster Presentation // 11:30 a.m. // Zoom Room 6

Mentor: John Mersfelder, Biological and Environmental Sciences

Manuka honey is a rare type of honey found in Switzerland and is significant for its antibacterial properties. The purpose was to analyze the antibacterial properties of manuka honey on *Escherichia coli* and *Staphylococcus epidermidis* to investigate if the honey can act bactericidal or bacteriostatic. Different dilutions were tested: 1:1, 1:3, 1:10, and 1:20. The bacteria were inoculated and grown in tryptic soy broth using the overlay method. The Standard Well Diffusion method was used and then the dilutions were inserted in the well. Zones of inhibition (ZOI) were measured for each sample in millimeters after 24 hours of incubation at 37 degrees Celsius. Preliminary results showed that the 100% honey, 1:1, and 1:3 dilution had the biggest ZOI for *S. epidermidis* and *E. coli*. *Staphylococcus epidermidis* had the highest inhibition zones compared to *E. coli*. Currently, results show that manuka honey is effective in stopping bacterial growth in both gram-positive and gram-negative bacteria. This can indicate that manuka honey is effective in inhibiting commonly found bacteria in hospitals.

Gender Differences in Maintaining Motivation for Learning in the Online Classroom Environment

Ethan Scheck, Gabby Fentress, Catherine Hooper, Sophia Petrov

Poster Presentation // 12:30 p.m. // Zoom Room 1

Mentor: Nicholas Van Horn, Psychology

Educational settings are a crucial aspect of students' learning experiences. Because online learning has become a shared experience

for many college students because of COVID-19, the impact of the virtual classroom has become more relevant than ever. A major difference from the traditional classroom is that there may be a greater perception of freedom which may lead to a decrease in motivation for male and female learners. Findings from participants completing the MUSIC classroom success inventory and reflecting on their virtual classroom experiences indicate a significant positive correlation between the perception of freedom and student's calculated motivational level ($r = +0.385$, $p = 0.00239$). It was found that when female students partake in online learning, they perceive their professors as more caring compared to males. This may cause females to have a higher amount of motivation and to be more successful in online learning environments. These findings contribute to our understanding of the impact that the online classroom environment has on a variety of students.

The Effects of Modern Media on News

Julia Sheppard, Bailey Alspach, Allison Costanzo, Jennifer Host

Poster Presentation // 12:18 p.m. // Zoom Room 1

Mentor: Nicholas Van Horn, Psychology

Fake news has become an increasing problem on social media and other news sites in recent years. Headlines alone are often responsible for misinformation and inducing reader confusion and uncertainty. This study was conducted to understand participants' impressions and opinions of fake news, and to determine how individuals manage misleading claims throughout their news consumption. A survey measured opinions and reactions to a sampling of news vignettes, as well as news consumption practices and preferences. Likert scales were used to gauge participant opinion on different aspects of fake news and how they are affected. It was hypothesized that while individuals question news source validity due to increased awareness in fake news, they still choose headlines that are more dramatic over those that favor information over emotionality. Further, results provide insight into online behaviors associated with fake news susceptibility. These results are important for spreading awareness and understanding of the vast array of fake news sources, the misconceptions they cause, and their infiltration into the media that is frequently consumed.

Analysis of the Effects of Athletic Teams on COVID-19 Cases at Capital University

Camille Simpson, Addi Hasselbach, Bryce McKinstry

Poster Presentation // 12:30 p.m. // Zoom Room 4

Mentor: Kerry Cheesman, Biological and Environmental Sciences

Since the COVID-19 pandemic was declared by the World Health Organization in March of 2020, the pandemic has caused many tragedies around the world (and continues to do so today). College athletics is just one of the many industries that has been negatively impacted by COVID-19, but most of it is being reinstated for the spring athletic season in 2021. This move may cause an increase in positive cases on campuses nationwide. With some athletic events promoting close contact between individuals, sports create an environment for the novel coronavirus to spread amongst athletes on a team and between athletic teams at different universities. Capital University's COVID-19 dashboard and other university-wide data is being used to determine whether or not there has been a significant increase in COVID positivity after athletic practices and competitions re-started

on campus. Statistical analyses of the number of positive cases before and after the reimplementation of athletic events at Capital University, including practices and competitions, is ongoing. This research will help Capital University's administration, and potentially other institutions, determine whether or not reimplementation of athletics at the collegiate level was efficient and effective in regard to COVID-19 safety.

The Impact of an Outdoor Creative Arts Project on an Individual's Nature Connectedness

Sydney Skeie, Emma Young, Charis Friend

Poster Presentation // 11:54 a.m. // Zoom Room 8

Mentor: Christine Anderson, Biological and Environmental Sciences

One's concern for other living organisms and their enjoyment of being out in nature is determined by how they view themselves in relation to the natural environment. Individuals who typically feel more connected to nature tend to engage in more sustainable behaviors and promote ecologically responsible behaviors. The goal of the study was to determine the relationship between nature connectedness and outdoor experience. Five volunteers participated in an outdoor creative arts project at Primmer Outdoor Learning Center in Logan, Ohio. An identical five-minute survey was distributed before and after completion of the activity to provide data for statistical analyses. Though there was no significant difference observed between the average scores of the pre-survey (4.6 ± 0.9) and the post-survey (5.2 ± 0.8), participants had felt highly connected to nature before and after the activity. Future work should evaluate if there is a correlation between participating in an engaging outdoor activity and nature connectedness. It is vital to promote nature connectedness to combat current environmental issues such as climate change, species endangerment, and habitat degradation.

Assessment of Gluten Contamination: Reliability of Labeled "Gluten-free" Food Products in the US

Sydney Skeie, Alysa Durbin

Poster Presentation // 12:30 p.m. // Zoom Room 8

Mentor: Kerry Cheesman, Biological and Environmental Sciences

Gluten is a protein complex found in wheat, barely, and rye, and even in foods that do not normally contain these grains. It is necessary for those with gluten intolerance, especially Celiac disease, to avoid gluten cross-contamination and be skeptical of the gluten levels in food products advertised as "gluten-free". The current study was designed to determine the reliability of "gluten-free" food labels in the consumer marketplace. A total of 222 samples labeled "gluten-free" were obtained from restaurants, grocery stores, and health-food stores in the US. A Nima Gluten Sensor (antibody-based colorimetric assay) was used to determine if gluten content was <20 ppm, the maximum allowed by US law for a product labeled "gluten-free". Of the samples tested, 98 were certified as "gluten-free" (<10 ppm) by the Gluten-Free Certification Organization (GFCO); only 13 of these (13.2% of samples) were found to exceed 20 ppm of gluten. By comparison, 115 samples were labeled "gluten-free", but did not indicate certification; of these, 33 (28.6%) contained more gluten than allowed by law. While results reveal that "certified gluten-free" products may be more trusted in their claim of being "gluten-free", contamination can still occur for those who receive an inflammatory response by gluten grains.

The History of Respiratory Pandemics: Scientific and Medical Advancement

Sydney Skeie, Gareth Evans, Josephine McKean

Oral Presentation // 3:30 p.m. // Zoom Room 6

Mentor: Kerry Cheesman, Biological and Environmental Sciences

A pandemic is a disease outbreak that spreads to multiple geographic areas at a faster rate than a traditional infectious disease. The earliest recorded Pandemic was in 430 B.C., believed to be an early outbreak of either smallpox or typhoid fever, and pandemics have continued to the present-day coronavirus pandemic. Respiratory diseases and viruses have been some of the worst organisms, and they have been the cause of several pandemics in the past century, including the Spanish Influenza H1N1 and the current SARS-CoV-2. Many of the past pandemics have been caused by influenza viruses and coronaviruses. They are spread through droplets caused by sneezing, coughing, and heavy breathing, but they can also be spread when other people come in contact with pathogenic particles left on surfaces. Common symptoms of respiratory diseases and viruses include difficulty breathing, coughing, and congestion, but more severe symptoms can include hypoxia, respiratory distress, and cardiac failure. Through the development of sanitization and sterilization techniques, antibody therapy treatments, vaccines, and other advances in the medical field, scientists have been able to control and limit pandemics. Understanding respiratory diseases allows scientists and the general public to better prepare for and prevent future outbreaks.

Art and Books: A Therapeutic Approach to Children's Librarianship

Mary Ann Smock

Poster Presentation // 11:42 a.m. // Zoom Room 1

Mentor: Michaele Barsnack, Art

Bibliotherapy is a branch of art therapy. It can be used with children to encourage self-understanding and personal insight. A complimentary relationship exists between public librarianship and bibliotherapy (Doll & Doll, 1997) which can be beneficial to inner-city youth who face especially challenging circumstances (Camilleri, 2007). The purpose of this project is to examine how art/bibliotherapy are used with inner-city youth; how public libraries serve as an accessible therapeutic space; and how library staff are (and are not) able to support therapeutic programs in their workplaces. This project is conducted through extensive research of bibliotherapy, art therapy, and public librarianship and how these disciplines work with and relate to inner-city youth. This research led to the development of a 12-week therapeutic program designed for a public library setting. This research shows that urban public libraries are in a unique position to serve the most vulnerable youth in their community (Apetekar, 2019). It also shows that libraries can benefit from having social workers and/or mental health professionals on staff (Zettervall & Nienow, 2019). The results of this project demonstrate a unique, creative approach to the professions of public librarianship and art therapy.

Hyperactivity: The Imposition of Online Learning

Sierra Stant, Chloe Akins, Maddie Phillips, Judah Bateman

Poster Presentation // 12:06 p.m. // Zoom Room 1

Mentor: Nicholas Van Horn, Psychology

The emergence of Coronavirus has required unexpected adaptations to daily living, one of which includes the transfer of traditional education settings to an online environment. This online environment requires students to attend class from behind a computer screen, using both a camera and microphone to participate. While this change is both necessary and preventive of illness, it also impacts the way in which students learn. A short survey measuring ADHD-like (Attention Deficit Hyperactivity Disorder) symptoms such as disruptions of memory, attention, time-management, distractions, and participation, was administered to undergraduate students with the purpose of investigating a possible correlation between these symptoms and online learning. Gathered results were used to assess if and how online learning mirrors ADHD-like symptoms. An increase in hyperactivity for students not previously diagnosed with ADHD may ultimately disrupt student success across a broad range of classroom outcomes. This study seeks to reveal potentially hidden learning costs imposed on undergraduate students. Results could be used to help educators understand what students are experiencing and how to help alleviate some of the problems to improve future learning.

Relationship between Salivary Melatonin, Anxiety and Depression in College Students during the COVID-19 Pandemic

Austin Stewart, Lincoln Chifamba

Poster Presentation // 12:18 p.m. // Zoom Room 4

Mentors: John Mersfelder, Christine Anderson, Biological and Environmental Sciences

Disruption of circadian rhythm patterns has been linked to psychological disorders, including anxiety and depression, which is common in college students. Melatonin, a hormone produced in the pineal gland, is a biomarker related to sleep circadian rhythm. The COVID-19 pandemic has contributed to stressors that influence mental health. This study tested whether salivary melatonin concentrations were associated with depression and anxiety. Salivary melatonin samples of 19 college students were collected during the daytime and nighttime. Three questionnaires were scored to measure sleep quality, state anxiety, and depression using the Pittsburgh Sleep Quality Index, the State-Trait Anxiety Inventory, and Self-Rating Depression Scale, respectively. The results indicated a negative relationship between salivary melatonin levels and sleep quality. Daytime and nighttime salivary melatonin levels were found to be lower in those with disrupted sleep. No correlation was found between salivary melatonin and anxiety. Depressive-related scores were higher in participants with lower salivary melatonin concentrations. COVID-19 was found to have a strong, positive relationship with depression and anxiety-related scores. These findings suggested a significant influence on psychological stress due to pandemic complications. The importance of this study was to raise awareness on the influence of the COVID-19 pandemic on mental health in college students.

Victims with Disabilities: Silenced by the Dark Figure of Crime

Lindsey Stumpp

Oral Presentation // 3:00 p.m. // Zoom Room 7

Mentor: Laura Boser-Kane, Sociology and Criminology

Individuals who have a disability (intellectual or physical) are at an increased risk for victimization (McMahon et al., 2004). Due to an increased level of vulnerability, the rate of serious violent crime is more than three times the rate for people with disabilities than without (Muller et al., 2019). Unfortunately, their victimization goes highly unnoticed due to both under-reporting and under-recording. I conducted a critical analysis of the literature to discover why there is a lack of statistics regarding disabled persons' victimization. Studies find that individuals do not report their victimization primarily out of fear of the repercussions. After reporting, authorities often fail to follow up; unintentionally contributing to the 'dark figure' of crime. Additionally, major datasets do not adequately include persons with disabilities, thus creating a skewed representation of victimization rates. Obtaining a better representation by reforming reporting processes helps criminologists to better understand the severity of the issue and increase reporting. Solutions may include an increase in third-party reporting agencies, amendments to previous acts, support for new acts, and specialist policing units.

History and Evolution of the Found Footage Subgenre of Horror Films

Gage Surratt

Oral Presentation // 2:30 p.m. // Zoom Room 8

Mentor: Sharon Croft, Communication

The Paranormal Activity franchise (2007 – 2015) revived audience interest in “found footage” horror films, a cinematic subgenre earlier popularized by *The Blair Witch Project* (1999). This subgenre found and continues to find a wide audience, despite being panned by some as a short-lived fad and a mere marketing gimmick. In my presentation, I share my genre analysis (Bywater and Sobchack, 1989) of notable films within this subgenre. Beginning with exploitation mondo-documentaries in the 1970s (e.g., *Faces of Death*, 1979) through recent releases (e.g., *V/H/S*, 2012), I trace the evolution of the subgenre and examine the unique characteristics of “found footage” horror films. Building on the work of David J. Skal and Sean Watson, I argue that the appeal of this subgenre is linked to two factors. First, “found footage” horror films subvert many of the established features of the horror film genre. Second, this subgenre plays with the notion of authenticity, an element integral not only to “found footage” horror films but also to early horror literature, such as Mary Shelley's *Frankenstein*. My investigation into the found footage horror film subgenre reveals a unique insight into the cultural anxieties that give rise to the subgenre.

The Essential Nature of Empathy in “Mob Psycho 100”: Kindness as a Condition of Human Existence

Abigail Sweinhart

Oral Presentation // 3:30 p.m. // Zoom Room 4

Mentors: E. Wray Bryant, Religion and Philosophy; Liam O'Loughlin, English

Within the study of moral philosophy, the question of right and wrong is held in undiminishable dispute. Narrowed and framed by culture,

circumstance, and one's own creativity, analyzing a work of literature for its ethic temperament encompasses each of these three factors. “*Mob Psycho 100*” by ONE, serialized in Shogakukan's *Ura Sunday* from 2012-2017, tells its audience first and foremost to be a good person, though not without challenge to what it means to be a person, in addition to what it means to be a good one. The philosophy *Mob Psycho 100* establishes empathy as a precept for human life that suggests we live a conditional existence reliant on one's ability to connect to others. The series' exploration of the afterlife and its tangential attachments to the living world connect this theme to further the argument that empathy is a function of the human soul, a soul that does not diminish after death. By combining facets of literary and philosophical study, *Mob Psycho 100* is found to be an ethical text, demonstrative of how alternative media, such as the graphic novel, are incorporated into the literary tradition and appraised for ethical meaning as a work of fiction.

The Importance of Mental Health Awareness in Adolescents: How the Needs of Students Could be Met by the Implementation of Art Therapy and Other Mental Health Programs in Schools

Elyse Swihart

Oral Presentation // 3:00 p.m. // Zoom Room 8

Mentor: Michaele Barsnack, Art

Many students have demographic characteristics that historically have been associated with poorer academic outcomes. This can be because of poverty, race, ethnicity, sexual orientation, gang activity, or any combination of these categories and others (Nelson, 2010). These adversities increase students' risk of mental health struggles that can develop into life-long concerns. Every student has the capability to be mentally healthy despite adversities, and research shows that when schools implement mental health programs, improvements are made (Stephney, 2017). This literature review is a combination of sources that stress the need for a mental health services in schools as well as highlighting different populations of students are at the most risk for poor mental health. One of the mental health services covered in this project is Art Therapy, which combines various approaches to wellness (e.g., humanistic, psychodynamic, cognitive-behavioral) and allows for physical expression in a way that is not always attainable in other mental wellness programs (Stephney, 2017). The promotion of mental health services requires more research in order to overcome funding barriers and in order to show the need of these services to the education system. This project highlights the need to show the benefit of educational mental health programs.

Implications of Different Housing Types for COVID-19 Incidence and Outcome in Ohio's State Prisons

Jonah Tugaoen, Robbert Giancola, Jr., D.J. Black

Poster Presentation // 12:06 p.m. // Zoom Room 4

Mentor: Kerry Cheesman, Biological and Environmental Sciences

Incarcerated individuals have historically been at greater risk of contracting contagious diseases, particularly those associated with viral respiratory pathogens. Close and overcrowded quarters, poor ventilation, and inadequate sanitation in these settings are often intersectional with comorbidities, substance dependencies, old age, and other risk factors among the imprisoned population itself. Several of the most concerning clusters of coronavirus disease 2019

(COVID-19), the highly contagious respiratory disease associated with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), were identified in custodial settings in early 2020. Although recommendations for detention facilities by the Centers for Disease Control and Prevention include social distancing and restrictions on congregation, these and other measures can be challenging depending on the type of housing available. The objective of this investigation is to determine whether the use of three different housing types within the Ohio Department of Rehabilitation and Correction (ODRC) – celled, open bay, or a combination of the two – is associated with differences in COVID-19 incidence and outcome between populations incarcerated at different ODRC facilities. A statistical analysis of variance (ANOVA) was performed to this end using reported counts of ODRC populations, COVID-19 related deaths and recoveries among these populations, and currently positive COVID-19 cases within the ODRC.

Comparative Analysis of Direct to Consumer Genetic Testing Kits
Nathaniel Vance, Kristina Amos

Poster Presentation // 11:54 a.m. // Zoom Room 4
Mentor: Kerry Cheesman, Biological and Environmental Sciences

Direct to consumer (DTC) genetic testing kits are becoming increasingly popular; as a result concerns about what results mean for consumers are showing up in the media. The purpose of this study was to evaluate DTC genetic testing kits to determine inter-test reliability. The companies of interest included Ancestry.com, 23andMe, and MyHeritage. Twenty-two participants, 12 women and 10 men representing a variety of ethnic groups, took the three independent DTC tests for ancestry lineage. Collection procedures specified by each company were used. Results for each participant were compared across companies, with similarities and discrepancies in identical categories being noted. Of the 22 participants in the study, 21 had a significant discrepancy in at least one category, and 8 had large discrepancies in two or more categories. For example, 23andMe reported 40.4% Native American ancestry for one participant while MyHeritage reported 4.2%. This creates an impression of unreliability, and may create complications for individuals who assume that the singular DTC test they used is an accurate portrayal of their ancestry, and therefore, their identity in one or more ethnic groups. Work needs to be done to ensure that consumer DNA reports are indeed accurate reflections of genetic ancestry.

Electronic Health Records and Healthcare: The Perspectives and Impacts Today

Kokila Varadarajan
Oral Presentation // 3:30 p.m. // Zoom Room 8
Mentor: Kerry Cheesman, Biological and Environmental Sciences

Electronic health records (EHRs) contain patients' medical information. EHRs were created to enhance medical security, efficiency, improving the overall quality of healthcare. According to The Commonwealth Fund, the USA and India have had slow adoption rates in practice, leading to consistently poorer ratings of overall healthcare than European countries. An anonymous questionnaire was circulated to healthcare workers, students, and consumers. Results from 454 surveys were received, 389 from USA and 65 from India; 58 physicians, 132 other healthcare workers, 120 students, and 144 consumers. Results show inconsistent knowledge about EHRs among

most groups. On a scale of 1-10, nursing students (n = 34) scored an average of 5.61 in familiarity, while pre-medical students (n = 70) scored 2.77 (p < 0.001); nursing students are required to perform clinical charting, while pre-medical students are not. Physicians in India (n = 12) scored an average of 6.33 (out of 10) in familiarity while physicians in USA (n = 46) scored of 8.39 (p < 0.001). Most physicians and nurses in the USA enter their own data, while in India most hire others to do this job. Consumers were concerned they did not have access or ownership of their records, making these difficult to retrieve for a second opinion.

Understanding a University Community's Environmental Consciousness
Kokila Varadarajan, Amma Dufie Karikari, Mariah Johnston, Trey Hunter
Poster Presentation // 11:42 a.m. // Zoom Room 7
Mentor: Christine Anderson, Biological and Environmental Sciences

Minimal research has studied college students' environmental awareness as a way to improve environmental education. Through quality, innovative resources, educators can integrate environmental education into the classroom, raising awareness about its issues' impacts, and inspiring solutions for student action. The research project aimed to understand the University community's perspective regarding environmental concerns, environmental education, and the University's sustainability efforts. We hypothesized that science majors would be more knowledgeable than non-science majors. An interactive environment-focused infographic, pre-infographic, and post-infographic anonymous surveys were designed. The surveys assessed participants' recycling tendencies and environmental attitude. The initial survey indicated that 95% of biology majors scored as knowledgeable while 82% of non-biology majors scored as knowledgeable. Significantly fewer first-year participants (73%) scored as knowledgeable, compared to upper-level students (85%). The second survey found that 46 out of 53 (87%) participants wanted environmental education to be included in the curriculum. The knowledge gained from the project will be used to develop sustainability strategies for the University and propose incorporating environmental education classes in the signature learning curriculum. Future research could study the motivations behind recycling patterns of certain majors or age groups at the college or public setting.

Children Left Behind: How the Lack of School-based Mental Health Education Disproportionally Affects Rural Children
Carissa Wrobbel

Poster Presentation // 12:18 p.m. // Zoom Room 3
Mentor: Robert Bennett, Social Work

Children's needs have been neglected through the lack of school-based mental health services. The poster's purposes are to analyze House Bill 123 for responsiveness to poverty as a factor in mental health issues and to advocate for effective mental health services in schools. One-in-six children experience mental illness, and social and financial barriers prevent more than half from receiving treatment. Every 33 hours a young person dies by suicide in Ohio, with the highest rates of suicide in rural areas. The current social-worker-student ratio in Ohio is 1:501, which is up to ten times greater than the National Association of Social Workers' (2012) recommended ratio. The research question that guided this project is: How does the policy respond to mental health issues made worse by income poverty? I implemented the Choices

Framework and the Poverty-Aware Paradigm to resolve this inquiry. Preliminary results indicated that the policy is not poverty-aware, nor does it allocate for sufficient mental health services. I propose an increase in school social workers and a prioritization of school districts with the highest rates of suicidality. This abridgment advances the intersectional and social justice goals of the social work profession.

Genetic Diversity of Declining Gray Fox (*Urocyon cinereoargenteus*) Populations in Ohio

Emma Young

Poster Presentation // 12:42 p.m. // Zoom Room 8

Mentor: Christine Anderson, Biological and Environmental Sciences

Gray fox (*Urocyon cinereoargenteus*) populations have been in severe decline over the past 20 years in Ohio. This decrease was likely due to an invasion of coyotes as competitors, and an increase of raccoons which carry canine distemper. The goal of this study was to determine if Ohio gray foxes were experiencing an inbreeding depression from a decline in population sizes, which could increase susceptibility to environmental pressures. A total of 53 extracted gray fox DNA samples from 21 Ohio counties were obtained and amplified in multiplex reactions at six different microsatellite loci using Qiagen's Multiplex PCR kit. The products were confirmed on 3% agarose gels and then genotyped in a DNA sequencer. Results to date showed that observed (HO) and expected heterozygosity (HE) were 0.708 and 0.739, respectively, and the level of inbreeding (FIS) was 0.037. These preliminary findings suggest that genetic variation is moderate to high and inbreeding is low. In the future, the samples will also be amplified at six additional microsatellite loci. This will provide a better understanding of the status of *U. cinereoargenteus* populations in Ohio and make it clear if a management plan is necessary to conserve the species.

The Presence of Tick-Borne Pathogens in Mouse Reservoirs and Tick Vectors at the Primmer Outdoor Learning Center

Emma Young

Poster Presentation // 11:18 p.m. // Zoom Room 8

Mentor: Christine Anderson, Biological and Environmental Sciences

White-footed mice (*Peromyscus leucopus*) are significant host reservoirs for *Borrelia burgdorferi* and *Rickettsia rickettsii*. These bacteria are responsible for the tick-borne illnesses Lyme disease and Rocky Mountain spotted fever which infect Ohioans annually. The goal of this study was to test white-footed mice and ticks for *B. burgdorferi* and *R. rickettsii* at Capital University's Primmer Outdoor Learning Center located in Logan, Ohio during the summer of 2020. Blood samples were collected from mice over the span of six live-trapping sessions in a woodlot and along a fencerow on the property. Ticks were also collected from the mice and from the environment using the drag-cloth method. Only American dog ticks (*Dermacentor variabilis*) were found during the sampling period. DNA was extracted from the blood samples (N= 18) and ticks (N = 16) and tested for the presence of *B. burgdorferi* and *Rickettsia sp.* using conventional PCR and agarose gel electrophoresis. *Borrelia burgdorferi* was not detected, while *Rickettsia* was confirmed for one mouse and fourteen ticks. In the future, the *Rickettsia* species present will be sequenced and samples will be tested for the presence of *Francisella tularensis*. This work can inform agent-based models to simulate tick-borne pathogen dynamics in southeastern Ohio.

Behavioral Differences Between Captive and Wild Sea Otters (*Enhydra lutris*)

Emma Young

Poster Presentation // 12:06 p.m. // Zoom Room 8

Mentor: Christine Anderson, Biological and Environmental Sciences

Life in captivity has been recognized to alter behaviors in different animal species. These behavioral discrepancies vary across species yet are the result of environmental factors such as lack of stimuli, increased human presence and activity, or shortage of adequate space for movement. The goals of this study were to create an ethogram describing sea otter (*Enhydra lutris*) behaviors and to determine if captive sea otters displayed abnormal behaviors compared to their wild counterparts. An ethogram was developed for the captive sea otters at Monterey Bay Aquarium after two ad libitum observational periods. In addition, time budgets were created for the captive sea otters after six one-hour observational periods, using the scan sampling method. The most common behaviors that captive and wild sea otters engaged in were resting, grooming, and feeding. There were no significant differences between captive and wild sea otters for resting, grooming, or feeding behaviors. However, there was a significant difference in the amount of time captive and wild sea otters spent playing, swimming, diving, pulling/jumping, and walking. Further studies should evaluate behavioral differences amongst captive and wild sea otters to determine how captivity impacts sea otters' health and wellbeing to determine how to care for them.

In Pursuit of Identity: A Brief Survey of Contemporary Queer South Asian Artists

Maxwell Zawatsky

Oral Presentation // 3:30 p.m. // Zoom Room 3

Mentor: Ramya Ravisankar, Art

Since 1947, when the British relinquished rule of the Indian subcontinent, artists have experimented with new practices, allowing for more self-exploration in their artwork. Nationalist discourse emerged and thrived in South Asian art practices after the end of British rule. Additionally, questions arose about how artists should depict South Asian culture, with progressive ideas and traditional practices being prominent options. This self-exploration not only questions the importance of the "nation," but it allows for an exploration of individual subjectivity as well. Queer artists from South Asia and the South Asian diaspora such as Salman Toor, Chitra Ganesh, and Bhupen Khakhar explore sexuality, vulnerability, and loneliness that emerge in contemporary society. Through in-depth art historical analysis of each artist's work, I delve into the impact that queer South Asian artists have on contemporary art. This project aims to relay the importance of queer artists in the contemporary art world and bring diverse scholarship to the field of art and art historical research that privileges analysis on non-Western and non-heterosexual artists. Exploring diverse contributions to contemporary art is an important task as the contributions of these artists add much-needed nuance to the landscape of art today.

Reaching the Chilean Consumer in Times of Turmoil

Alyssa Zumpone

Oral Presentation // 3:30 p.m. // Zoom Room 2

Mentor: Stephanie Saunders, Languages and Cultures

In October 2019, a rise in the price of public transportation led to a period of social outbursts and demands for change in Chile. The streets were littered with graffiti and with protesters daily. Aside from the clear issues with the political climate, this kind of turmoil affects the ways businesses reach their consumers. The intent of this presentation is to identify the advertising methods that best reach consumers in Latin America. Then, observe the ways these strategies are altered as citizens react to the changing socio-political environment of their country, specifically Chile. This was achieved by researching the marketing history of Chile amid varying socio-political climates, as well as referencing other Latin American countries and their experiences with marketing in times of turmoil. Following this investigation, a conclusion was made that there is a change in the marketing trends and strategies of a country during times of turmoil, however, these changes can't be specified because they rely on the country and the unique needs of their citizens. This work is important because it is an issue that is still being faced in all parts of the world: How to maintain a consumer/producer relationship amidst other issues in society.

NCUR PARTICIPANTS

The following Capital University students were accepted to present their research at the 35th National Conference on Undergraduate Research to be held virtually, April 12-14, 2021

Abby Bebout

Mentor: Kevin Griffith

The Evolution of the Epicene Pronoun and Gender Inclusivity in the English Language

Orion Brock

Mentor: Jennifer Larson

Using Scientific Teaching Principles to Teach Genetic Modification

Bree Chambers

Mentor: Wray Bryant

Bridging the Gap: Potential for Incorporating Music Therapy with Traditional Black Church Worship

Nicole Coleman

Mentor: Nick Van Horn

Musical Effects on Individual Time Perception

Nicole Coleman

Mentor: Nick Van Horn

Effects of Presentation Styles and Personality Traits on Cyberbullying

Caroline Cramblit, Torie Cochran, Holly Barlage

Mentor: Kerry Cheesman

The Effects of Polychlorinated Biphenyls on Reproductive Health

Sydney Dion

Mentor: Christine Anderson

*Detection of a Pathogen (*Batrachochytrium dendrobatidis*) Impacting Amphibians Using Real-time PCR and DNA Sequencing*

Nicky Gutierrez

Mentor: Wray Bryant

Interfaith Dialogue: an Unintended Consequence of the Commodification of the Camino de Santiago and Kumano Kodo

Nicky Gutierrez

Mentor: Liam O'Loughlin

Momoko Kuroda: Pilgrimage Haiku and Decentering the Male Gaze

Hanna Pinkelman

Mentor: Pam Ellwanger-Schmidt

Self-Concept and Intimacy Through Social Media Representation

Maria Sadek, Karen Kanke

Mentors: Kerry Cheesman, Jennifer Larson

Difference Between Antibiotic-Resistant Bacteria Found in Caribbean Soils Vs. North American Soils

Maria Sadek, Summer Hamad, David Hamad

Mentor: John Mersfelder

Effects of Manuka Honey in the Inhibition of Commonly Found Bacteria in Hospitals

Sydney Skeie, Alysa Durbin

Mentor: Kerry Cheesman

Gluten Contamination: Prevalence and Risks Associated with Foods Labeled "Gluten-free"

Julie Smallsreed

Mentor: Liam O'Loughlin

Satire in the Trump Era: A Marxist Critique on Resisting the Status Quo

Bri Smith

Mentor: Christine Anderson

The Prevalence of Sulfur-Reducing Microorganisms at the Primmer Outdoor Learning Center

Abigail Sweinhart

Mentors: E. Wray Bryant, Liam O'Loughlin

*The Essential Nature of Empathy in *Mob Psycho 100*: Kindness as a Condition of Human Existence*

Nathaniel Vance, Kristina Amos

Mentor: Kerry Cheesman

Comparative Analysis of Direct to Consumer Genetic Testing Kits

Kokila Varadarajan

Mentor: Kerry Cheesman

Electronic Health Records: Understanding Their Role in Healthcare

Emma Young

Mentor: Christine Anderson

*Genetic Variability and Inbreeding in Gray Fox (*Urocyon cinereoargenteus*) Populations in Ohio*

STUDENT VOCAL PERFORMANCES 2020-2021

Roksalana Antonyuk

Mentor: Chad Payton

National NATS Vocal Semifinalist (2nd Year Classical Treble)

Charlotte Brown

Mentor: Jackie Barlow-Ware

Performance at Ohio NATS Vocal Competition, 2nd Place (Upper Musical Theater Treble)

Grace Bumgarner

Mentor: Lynn Roseberry

Performance at Ohio NATS Vocal Competition, 3rd Place (1st Year Classical Treble)

Faith Fullen

Mentor: Lynn Roseberry

Performance at Ohio NATS Vocal Competition, 1st Place (Upper-Musical Theater Treble)

Performance at National NATS Vocal Semifinalist (3rd and 4th Year Musical Theater Treble)

Treston Haines

Mentor: Dione Bennett

Performance at National NATS Vocal Semifinalist (1st Year Classical TBB)

Christopher Jacky

Mentor: Chad Payton

Performance at Ohio NATS Vocal Competition, 3rd Place (1st Year Classical TBB)

Alex Lynch

Mentor: Chad Payton

Performance at Ohio NATS Vocal Competition, 2nd Place (2nd Year Classical TBB)

Jace Nguyen

Mentor: Chad Payton

Performance at Ohio NATS Vocal Competition, 1st Place (3rd Year Classical TBB)

Performance at Great Lakes Regional NATS Vocal Competition, 2nd Place (3rd and 4th Year Musical Theater)

Performance at National NATS Vocal Semifinalist (3rd Year Musical Theater)

Performance at National NATS Vocal Semifinalist (3rd & 4th/5th Year Classical TBB)

Siri Nilsen

Mentor: Chad Payton

Performance at Ohio NATS Vocal Competition, 1st Place (3rd Year Classical Treble)

Performance at Great Lakes Regional NATS Vocal Competition, 2nd Place (3rd Year Classical Treble)

Performance at National NATS Vocal Semifinalist (3rd Year Classical Treble)

Olivia Roberts

Mentor: Chad Payton

Performance at Ohio NATS Vocal Competition, Honorable Mention (1st Year Classical Treble)

Izzy Rothenfeld

Mentor: Chad Payton

Performance at Ohio NATS Vocal Competition, Honorable Mention (1st Year Classical Treble)

Robin Terschak

Mentor: Lynn Roseberry

Performance at Ohio NATS Vocal Competition, 3rd Place (4th and 5th Year Classical Treble)

STUDENT ENSEMBLE PERFORMANCES 2020-2021

Big Band

Katie Katicich, Gunnar Broglin, Ernesto Dividu, Isaiah Miller, Troy Meister, Andrea Olson, Matt Miller, Brandon Ising, Joey Soto, Joshua Hamrick, Daniel McPherson, Douglas Harvey, Noah Davis, Kendall Bayer, Satch Garlock, Matt Persaud, Jonathan Hartman, Andy Jacobs, Eric Nungester, Will Mayer, Ayman Abi Kheir

Director: Zach Compston '10

JEN Conference Jenerations Jazz Festival

Jazz Consort

Nick Weber, Danny Burke, Carter Griffin

Director: Roger Hines

JEN Conference Jenerations Jazz Festival

Jazz Percussion Ensemble

Ethan Glasgow, Pat Richard, Lana Hill, Emil Miller, Ayman Abi Kheir, Brandon Doeringer, Jackson Barnes, Eli Shapiro, Boyd Landis, Carter Griffin, Michael Vlack, Mackenzie Click, Destin Ramos, Jake Kundu, Evan Mendez

Director: Eric Paton '89

JEN Conference Jenerations Jazz Festival

World Music Ensemble

Lis Harvey, Pat Richard, Will Mayer, Jack Tucker, Nate Kalnitz, Aidan Cunningham, Troy Meister, Carter Griffin, Samantha Reeves, Lucas Selby

Director: Eric Paton '89

JEN Conference Jenerations Jazz Festival

STUDENT PEER-REVIEWED PUBLICATIONS 2020-2021

Trinity Langbein

Mentor: Kevin Griffith

Big Brother's Only Just Begun: A Foucauldian-Feminist Perspective on

Todd Haynes's film Superstar: A Karen Carpenter Story

Published in *Queen City Writers*

STUDENT RESEARCH GRANT AWARDS 2020-2021

Emma Young

Mentor: Christine Anderson

*Genetic Variability and Inbreeding in Gray Fox (*Urocyon**

cinereoargenteus) Populations in Ohio

Grant Awarded from Beta Beta Beta Foundation Research Scholarship

STUDENT PROFESSIONAL CONFERENCE PRESENTATIONS 2020-2021

Nichole Hayes

Mentor: Christine Anderson

Development of a Tree Guide for Capital University's Primmer Outdoor Learning Center

Presented at Ohio Chapter of The Wildlife Society Conference

Sydney Skeie, Alysa Durbin

Mentor: Kerry Cheesman

Analysis of Gluten Contamination in Foods Labeled "Gluten-free"

Presented at National Association of Biology Teachers Annual Meeting

Sydney Skeie, Alysa Durbin

Mentor: Kerry Cheesman

Prevalence and Risks Associated with Foods Labeled "Gluten-free"

Accepted for Presentation at Council on Undergraduate Research Posters on the Hill

Sydney Skeie, Alysa Durbin

Mentor: Kerry Cheesman

Reliability of "Gluten-free" Labels Found on Food Products in the United States (finalist in undergraduate research competition)

Presented at American Association for the Advancement of Science Annual Meeting

Nathaniel Vance, Kristina Amos

Mentor: Kerry Cheesman

Analysis of Ancestry Reports Generated from Various Direct to Consumer Testing Kits

Presented at American Association for the Advancement of Science Annual Meeting

Nathaniel Vance, Kristina Amos

Mentor: Kerry Cheesman

Comparison of Ancestry Reports from Direct to Consumer Genetic Testing Kits

Presented at National Association of Biology Teachers Annual Meeting

Emma Young

Mentor: Christine Anderson

The Detection of Tick-borne Pathogens in Mice and Ticks at the Primmer Outdoor Learning Center

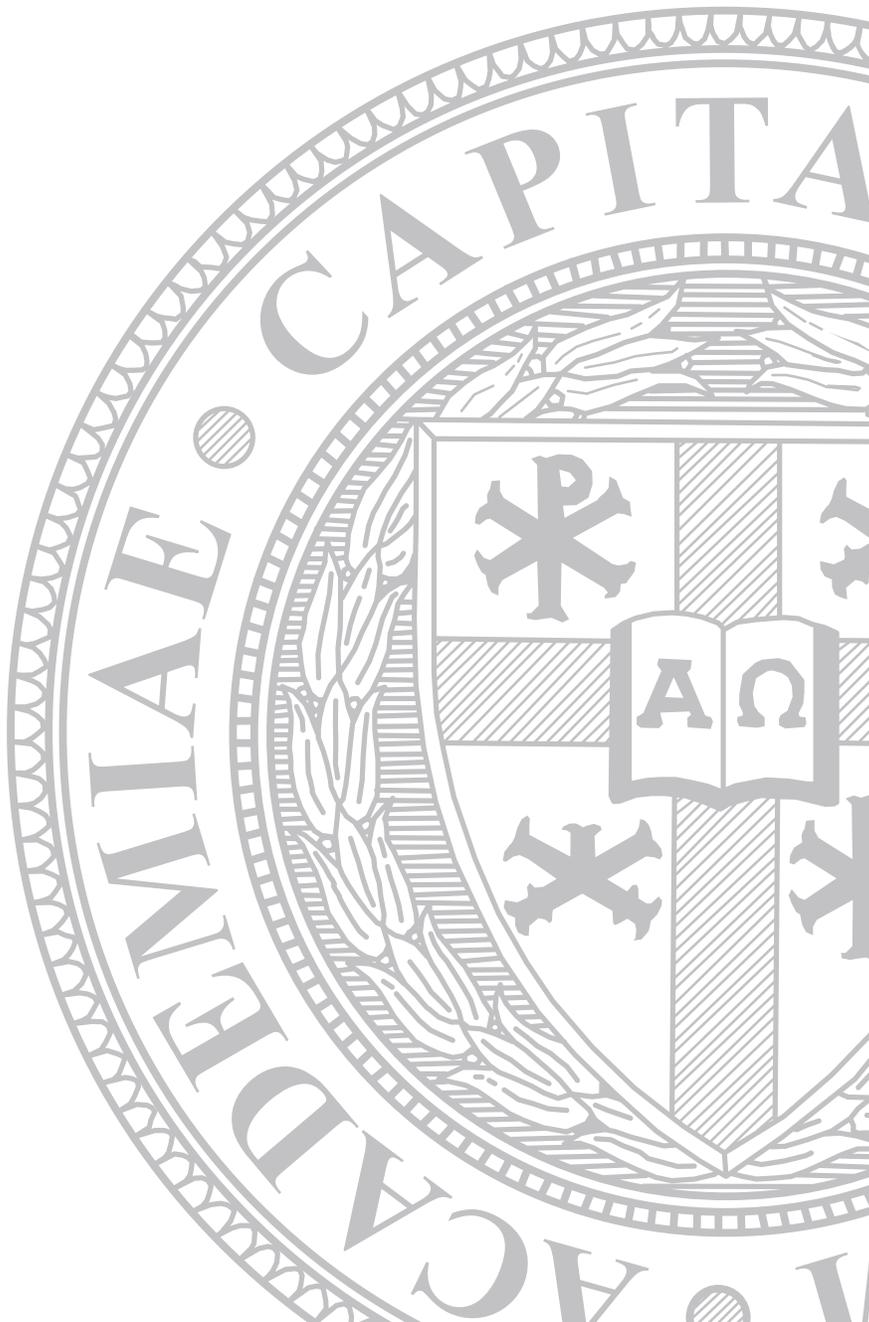
Presented at Ohio Chapter of The Wildlife Society Conference

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Symposium on Undergraduate Scholarship Planning Committee

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