



# Research & Creative Activity Day

## Abstract Booklet

April 29, 2022

Office of Research and Sponsored Programs



Because West Chester University seeks to be a leader in local, regional, and global sustainability efforts, the Office of Research and Sponsored programs has collaborated with the Office of Sustainability to create a special designation for those Research and Creative Activity Day projects that perpetuate the health and welfare of people, economies, and the environment. Thus, all abstracts identified with *the Brandywine B* reveal the many ways that West Chester University faculty and students are helping to design, implement, evaluate, and improve a variety of environmental, social, and economic sustainability activities.

## ORAL PRESENTATION ABSTRACTS

### **Presentation #1 Using a Community-Based Participatory Research Approach to Evaluate the Impacts of Clean Slate PA**

**Presenter: Tekia Huger-Burton**

**Faculty Mentor: Dr. Mia Ocean**

**Department: Graduate Social Work**

In Pennsylvania (PA), an average of 200,000 criminal cases are initiated each year, and 91% of those released each year return to low-income neighborhoods. Unfortunately, criminal records can create and perpetuate poverty by creating barriers to gainful employment. PA was the first state to pass an automated record clearing law, Act 56 of 2018. PA has sealed more than 47.3 million offenses and 34.8 million cases to date. Although evaluation of PA's Clean Slate law is in its infancy, it is imperative to evaluate the legislation from the perspective of those directly and indirectly impacted to inform future iterations and amendments. Community-based participatory research is a type of research approach that engages the community members as partners in the research process; it helps to add balance to the power relationship that occurs with the interviewer/interviewee. This approach also adds depth to the knowledge pool by adding people with lived experience to the research process. Therefore, we are conducting community-engaged, participatory policy analysis. Within this brief presentation, we will detail our research method including the formation of our research alliance, who serves on the alliance, and their role in approving and providing guidance for our methods. Additionally, we will share preliminary findings from our data that is derived from paid surveys and interviews using a purposeful sample.

## **Presentation #2 Comprehension of Indirect Answers: For Preschoolers and Early Elementary Students**

**Presenter: Brigit Corej**

**Faculty Mentor: Dr. Timothy Huang**

**Department: Communication Sciences and Disorders**

Research in speech-language pathology attributes the core deficit in communication among children with autism spectrum disorder (ASD) to their comprehension of nonliteral language, such as sarcasm and metaphors. However, little is known about this population's development and ability to interpret indirect answers as another form of nonliteral language (e.g., interpreting "I have a test tomorrow" as a rejection to the invitation "Do you want to come hangout?"). This research was a pilot study to examine the ability of typically developing children to comprehend indirect answers. Fifty-two children with typical cognitive and language functioning between the ages of five and ten completed two experimental tasks designed to assess their comprehension and explanation of indirect answers. Their responses were scored based on accuracy and analyzed using a coding scheme adapted from Nippold and Martin's (1989) method for idiom interpretation. The study provided empirical evidence to the developmental trajectory of nonliteral language. Specifically, at the age of seven, children become more proficient in interpreting indirect answers. In addition, the results indicate a significant increase in metalinguistic growth between 6-7 years of age. Future studies may consider comparing performance across different neurodevelopmental conditions, such as developmental language disorder and ASD, with varying cognitive and language profiles, to determine if comprehension of indirect answers is more susceptible to a specific diagnosis, language profile, or cognitive functioning.

## **Presentation #3 Goats Die, Butterflies Fly: Portrayals of Dominican Dictator Rafael Trujillo (1891-1961) in Historical Fiction and Non-Fiction**

**Presenter: Jocelyn Brown**

**Faculty Mentor: Dr. Jason Bartles**

**Department: Spanish**

The dictator novel has become a staple of Latin American literature in the 20th century, known for its ability to portray the intimate lives of dictators and the effects of their regimes on the people. In particular, this project focuses on analyzing the rise and fall of Dominican dictator Rafael Leónidas Trujillo (1891–1961) as portrayed through literature. This project aims to compare the ways in which Trujillo and his regime (El Trujillato) are portrayed not only in historical fiction, but also in non-fiction. Trujillo was known for his cult of personality and rewriting the Dominican Republic's history to revolve around him. This project's corpus includes the novels *The Feast of the Goat* (2000) by Mario Vargas Llosa and *In the Time of Butterflies* (1994) by Julia Alvarez. Finally, the comparative non-fiction source is the biography *Trujillo: The Death of the Dictator* (1978) by Bernard Diederich. Comparing the nuances of how the three authors approach narratives in literature and history paints a more comprehensive picture of Trujillo's character. It also helps deconstruct Trujillo's "official historical narrative."

Keywords: Trujillo, Dominican Republic, authoritarianism, dictator novel, historical fiction

## **Presentation #4 Communicating Effectively: An Exploration of Communication Methods between Parents and Teachers with Mixed Methods**

**Presenter: Melanie Solano**

**Faculty Mentor: Dr. Heather Schugar**

**Department: Literacy**

This explanatory sequential mixed-methods study explored the communication preferences of parents and teachers through both traditional and new technology-based communication modes. Participating parents ( $n = 34$ ) and teachers ( $n = 6$ ) were selected from a public elementary school in the northeastern United States. Both parties were administered Likert-type scales on the perceived connectedness of communication modes, as well as the Parental Academic Support Scale (PASS), the Importance of Supportive Behaviors scale, and the Satisfaction of Communication Tools Scale. The survey concluded with three open-ended questions on home-school communication preferences. Survey results indicated that parents ( $M = 17.61$ ,  $SD = 4.14$ ) and teachers ( $M = 18.33$ ,  $SD = 2.25$ ) perceived a higher rating of connectedness with traditional communication modes, as opposed to parents' ( $M = 13.38$ ,  $SD = 5.19$ ) and teachers' ( $M = 13.17$ ,  $SD = 2.48$ ) perceptions of newer communication modes. Additionally, results revealed that parents ( $M = 13.79$ ,  $SD = 3.66$ ) and teachers ( $M = 15.50$ ,  $SD = 1.22$ ) perceived stronger connections to warmer and richer modes, as opposed to parents' ( $M = 17.21$ ,  $SD = 5.66$ ) and teachers' ( $M = 16.00$ ,  $SD = 2.28$ ) perceptions of colder and leaner modes when analyzing the data through the lenses of Social Presence Theory and Media Richness Theory. However, the survey also indicated that parents and teachers have a strong preference for using e-mail, a cold and lean mode, to communicate all concern types. Subsequent interviews and artifact reviews determined that this preference was driven by the convenience that e-mail affords. Qualitative data provided additional insight into the benefits and drawbacks of each mode, as well as strategies for use. This research will contribute to the literature surrounding parent-teacher communication modes and strategies.

## **Presentation #5 Community Based Music Therapy for Medically Complex Pediatric Patients and Their Families**

**Presenter: Hannah Stevens**

**Faculty Mentor: Dr. Angela Guerriero**

**Department: Music Education and Music Therapy**

Music therapists working with families with young children who have experienced complex medical diagnoses and hospitalizations have addressed many areas in their treatment. These areas include positive parent-child interaction through developmentally appropriate practices and supporting childhood development (cognitive, sensorimotor, expressive, emotional) as it relates to varying diagnoses.

Few family music therapy studies exist in the literature (Nicholson, et al 2008, Pasiali, 2012), and a fraction of those studies address families involving children who have been hospitalized (Baron, 2017; Loewy, 2011). There is a need for additional research to determine the ongoing benefits of music therapy with the development of family disposition to engage in appropriate social settings once discharged from the hospital setting. This study will contribute to the literature by documenting how family music therapy supports positive parent-child interactions and overall child development.

## **Presentation #6 A Study of Sparse Modeling Method for High-Temperature Superconductors**

**Presenter: Matthew Toole**

**Faculty Mentor: Dr. Tianran Chen**

**Department: Physics**

Superconductors are a unique class of solids that conduct electricity perfectly given the proper conditions. To study them near these conditions, experiments have been conducted and calculations have been made using Quantum Monte Carlo Simulations. The experimental results are in real space while the calculations from the QMC Simulations are in imaginary space. The comparison between the two requires the conversion of the imaginary calculations into real space which is a process known as Analytic Continuation. This project involved the testing of Sparse Modelling (SpM), which is a numerical algorithm developed with the goal to conduct Analytic Continuation. The tests will be carried out using known data that is converted into imaginary space, then fed into SpM to convert it back into real space. Using this procedure SpM has proven to be able to recreate the data well.

## **Presentation #10 Factors Influencing Treatment Outcomes of Individuals with Total Laryngectomies:**

**Provider Identified Facilitators and Barriers**

**Presenter: Gretchen Frank**

**Faculty Mentor: Dr. Elizabeth Grillo**

**Department: Communication Science Disorders**

Laryngectomies are the standard of care for various forms of advanced laryngeal cancer (Galli et al., 2019). Literature has consistently reported reduced quality of life (QoL) in individuals with laryngectomies (IWLs) with regard to several aspects including voice handicap and various psychosocial factors (Evitts et al., 2011). Effective voice rehabilitation is one critical component to improving QoL for patients who have undergone laryngectomies. Various means of alaryngeal speech (esophageal speech [ES], electrolaryngeal speech [ELS], and tracheoesophageal speech [TES]) exist with the aim of restoring speech in patients who have undergone laryngectomies (van Sluis et al., 2017). Existing literature on the topic of post-laryngectomy outcomes focuses primarily on subjective patient outcomes. Limited information is available on provider perspectives regarding what factors providers identify as contributing to successful treatment outcomes. Obtaining provider perspectives on which factors contribute to successful outcomes in IWLs can provide a more holistic understanding of what factors influence treatment recommendations for IWLs. The purpose of this project is to obtain provider-identified facilitators and limitations of patient outcomes in IWLs. To achieve the aim of this study, speech-language pathologists who treat individuals with laryngectomies completed a short Qualtrics survey and participated in an interview via Zoom video conferencing. Results indicated various factors are important for patients and providers to take into consideration when selecting a mode of alaryngeal speech. Distribution of provider responses on the survey are discussed in comparison with the themes identified from the interview transcripts.

**Presentation #11 It Gives Them a Voice the Way They Want the Voice: A Qualitative Exploration of Clinicians Use of Storiez with Urban Youth**

**Presenter: Dr. Meagan Corrado**

**Department: Master of Social Work**

Trauma results in loss of control over one's safety and wellbeing, impacting how people view themselves, others, and the world around them. Urban youth are exposed to high levels of trauma. Trauma narrative creation is a part of trauma treatment best practices, however, there are conflicting perspectives about the process by which trauma narratives should be created. The Storiez intervention divides the trauma narrative process into nine steps with the goal of helping youth reflect on past experiences, organize memories, creatively express themselves, and develop a future vision. Master's level therapists (n=15) received Storiez training and supplemental materials for use with youth. Six to eight weeks after training, 12 of the 15 therapists (n=12) participated in qualitative interviews, responding to the study's main research question: Is Storiez a meaningful tool in helping urban youth talk about their experiences? Interviews were analyzed using grounded theory. Three final themes emerged: (1) It gives them a voice the way they want the voice, (2) It doesn't require a lot of fancy gadgets and gizmos, and (3) Trauma doesn't define them. The study's findings were corroborated by best practices of trauma treatment. Participant responses about the portability of Storiez, the inclusion of strengths in the trauma narrative, the simplicity of the intervention, and cultural competence highlighted a paucity in the literature. The study's findings preliminarily speak to the success of Storiez and point to the need for future research.

**Presentation #13 App Design for Bilingual COVID-19 Vaccination Resource Accessibility**

**Presenter: Michaela Gormish**

**Faculty Mentor: Dr. Liz Wang**

**Department: Marketing**

The global need for vaccination against COVID-19 has led to an influx of information regarding vaccination throughout the internet, presenting those who wish to get vaccinated with the challenge of finding reliable, accessible information about vaccination information and available appointments to get vaccinated, should they wish to do so. This project focuses on an app design to alleviate the stress of information overload and appointment accessibility for COVID-19 vaccines, specifically for those who speak English and/or Spanish. The project has been completed with insights from Community Volunteers in Medicine (CVIM), a local healthcare clinic which specializes in free bilingual care, to learn how to develop the best bilingual design. The study employs user-experience (ux) design-based research within the creation of a Spanish/English bilingual app to efficiently show users CDC vaccine guidelines and to schedule vaccine appointments. The app is designed to empower users with the tools they need to make informed decisions about vaccination and to schedule and manage vaccination appointments for themselves and those who are important to them, all in one place.

**Presentation #14 Rituals, Traditions and the Contemporary Experiences of Greek Life Members here at West Chester University.**

**Presenter: Chelsey Moore**

**Faculty Mentor: Dr. Michael Di Giovine**

**Department: Anthropology and Sociology**

Based on ethnographic interviews with representatives from Greek Fraternities, Sororities and Honor Societies, this presentation analyzes the social transformations that have occurred in Greek Life, especially during the COVID-19 pandemic. It focuses on the contemporary experiences and motivations for joining Greek Life here at West Chester University. This is especially important given that Greek life is undergone significant transformations and has been criticized for enabling negative practices such as hazing, sexual abuse, drinking, and segregation.

**Presentation #15 COVID -19 Impacts on College Students' Basic Needs Insecurity**  
**Presenters: Dr. Megan Schraedley, Dr. Ashlie Delshad, Dr. Seth Jacobson**  
**Department: Communication and Media, Political Science, Director of the Center for Civic Engagement & Social Impact**



Research over the past decade has found that college students are at a substantially higher risk of lacking access to basic needs, including food and shelter, than the overall population. In recent years, colleges and universities have provided their students with basic needs resources, such as campus food pantries, free access to meals on campus, free or subsidized on-campus housing, and social workers to assist with applying for government programs. The spread of the COVID-19 pandemic meant that virtually all college campuses closed for significant lengths of time. For college students already experiencing basic needs insecurity, and many others on the fringe, this meant unemployment, an emergent need for new housing off-campus, and a lack of access to basic needs resources previously available on shuttered college campuses. In this study, we examined these effects more closely through a qualitative photovoice study with students at West Chester University.

Our specific research questions were: How are students managing basic needs during a national crisis (COVID-19)? What material challenges and emotions are students experiencing during the coronavirus pandemic? Our analysis of the data suggests students managed their basic needs during COVID-19 by changing their behavior to adapt to school, business, and other organizational closures, adapting new communication patterns and strategies, and leveraging creative methods to access new and existing resources. The data also indicate that students had high levels of basic needs insecurity, and heightened levels of emotions including stress, isolation, and feeling that meeting their basic needs was impossible.

**Presentation #16 The Importance of Early Childhood Development Programs for the Growth of Refugee Children**  
**Presenter: Sara Hassan**  
**Faculty Mentor: Dr. Zeinab Baba**  
**Department: Health**

This study was conducted to illustrate the benefits of early childhood development (ECD) programs for refugee children and how the implementation of these programs can support their socio-emotional growth. This study is critical because although research evidence has been presented to visualize the value in affective interventions and ECD programming, the humanitarian system has failed to include them as a core component in their response strategy. There is a need to examine implementation quality and the why and how specific aspects of interventions work. By delving into more context-specific research, ECD programs will have a higher implementation rate and provide more benefits to children. A systematic literature review was performed to identify conceptual frameworks of early childhood development programs for refugee children. A content analysis was carried out to identify the structure of ECD programs, what the outcomes are for refugee children, and how effective models can be replicated in the United States. The search results were narrowed down to select articles published between 2018-2022 focusing on programs targeting refugee children ages 2-18 in refugee-hosting countries. The results demonstrated the benefits of ECD programs and why they are crucial for the growth and development of refugee children. These programs must become widely available in all refugee-hosting countries to provide support to the positive wellbeing and development of refugee children.

## **Presentation #17 Integrating Computational Thinking Skills into Teacher Preparation**

**Presenters: Dr. Jacqueline Van Schooneveld, Dr. Jade Burris**

**Department: Early and Middle Grades Education**

Our West Chester University (WCU) graduates are required to solve increasingly complex problems when they enter the workforce. Now more than ever, the skills, knowledge, and competencies that beginning teachers need to be successful in their classrooms is evolving. For pre- and in-service teachers who work with young children (e.g., those in our Early Grades Preparation (EGP) and Early Childhood Education (ECE) programs), research suggests that exploration, exposure to basic skills, skill rehearsal, and practice with rich communication are critical to supporting learning and development (Ramey & Ramey, 1999). This project is an opportunity to invest in and integrate these competencies into two of our teacher preparation programs through faculty collaboration and targeted professional development. Using revised online learning modules candidates engage in the exploration and application of CT. This project shares the initial outcomes and next steps of integrating CT into teacher preparation.

## **Presentation #18 Yoga Stress in College Students During the COVID-19 Pandemic: A Mixed Methods Study**

**Presenter: Lori Klein**

**Faculty Mentor: Dr. Heather Schugar**

**Department: Literacy**



College students have experienced exponential increases in stress and mental health concerns that continued to rise during the global coronavirus pandemic. Given that yoga is well regarded for improving psychological wellbeing and is popular among students, universities may want to expand these supportive programs. This mixed methods study examined how a three-credit introductory yoga course impacted college students' stress management and wellbeing when returning to in-person instruction after a period of remote learning as a result of coronavirus restrictions. This study used an explanatory sequential mixed method design to first assess stress levels quantitatively with the Perceived Stress Scale (PSS), and then qualitatively explain changes in stress with students' experiences in the semester-long yoga course. College students (n = 121) enrolled in 8 sections of Yoga 1 completed the PSS during weeks 3, 7, and 11, and reported statistically significant decreases in stress between weeks 3 and 11 according to repeated measures ANOVA analysis. A stratified random sample (n = 27) of student cases were selected for qualitative analysis of reflective assignments. Qualitative data were analyzed in Dedoose using a constant comparative method. The main themes of students' experiences were finding a sense of ease, supercharging, holding opposing forces, and preparing to tackle the day. Results from data convergence indicated that the yoga classes supported psychological wellness among college students, while divergent findings demonstrated that self-report surveys may not accurately measure the interaction of stress and coping skills. Future research is recommended to expand approaches that improve college students' wellbeing.

## **Presentation #19 Understand Statistical Concepts Using Visualization and Interactive Learning**

**Presenter: Heena Begum**

**Faculty Mentors: Dr. Md Amiruzzaman & Dr. Stefanie Amiruzzaman**

**Department: Computer Science, Languages & Cultures**

Visualization is an important factor in learning as it enhances attention and keeps the audience focused on the subject. Interactive learning or, in simpler terms, ‘hands-on-approach’ helps learners engage in the topic and provides an opportunity to better understand the concepts. Combining these two techniques (i.e., visualization and interactive learning), we present an Interactive Number Line (INL) tool to help students understand mathematical concepts like mean, median, mode, range. This tool could prove useful for visual or new learners as it provides an activity-based learning environment and feedback. We have developed a web-based tool that will be available for learners to track their learning process based on accuracy and time taken to predict the correct answer. For future work, we would incorporate new features to learn other mathematical concepts.

## **Presentation #20 Developing an FFT-Accelerated High-Order Solver for Heat Equations in Irregular Domains**

**Presenter: Eric Boerman**

**Faculty Mentor: Dr. Chuan Li**

**Department: Mathematics**

In order to study how heat flows through the irregular shapes and materials of the human body, it’s necessary to be able to solve bioheat equations on irregular domains and interfaces. To that end, our group has worked to develop a numerical solver capable of accounting for these jump conditions and modelling how heat flows over time via approximation through a series of jump-corrected Taylor expansions. This solver has successfully displayed fourth order spatial convergence which enables us to perform numerical experiments to a high degree of accuracy, and this process is accelerated through the use of the Fast Fourier Transform (FFT) algorithm. FFT inversion allows us to transform a time-consuming series of matrix operations into a form that can be solved with a single multiplication; afterward, transformation back gives us the desired result. The high accuracy and fast operation of this solver can enable more precise calculations than were previously possible, expanding the degree to which mathematical modelling can be used in understanding real-world applications of bioheat flow in the irregular domains of the human body.

## **Presentation #21 Cardiac Action Potential – the Luo-Rudy Model**

**Presenter: Scott Moon**

**Faculty Mentor: Dr. Chuan Li**

**Department: Mathematics**

Action Potential is a brief reversal of polarity of cell membrane produced by voltage gated ion channels (Sodium, Potassium, and Calcium), which play a central role in cell-to-cell communication. In the Luo-Rudy 1991 model, action potential propagation in excitable tissue is modeled by a system of differential equations which can only be solved numerically due to the complexity of the model itself. To this end, a finite difference method is developed and implemented in MATLAB to solve the Luo-Rudy model. Numerical results will be presented as well to demonstrate the accuracy of the obtained results.

## **Presentation #22 Building an Urban Teacher Track with Supports for Graduates in their Early Years: A Review of the Literature**

**Presenters: Dr. Paul Sylvester, Emily Goldberg**

**Department: Early and Middle Grades Education**



In the Fall of 2022, the College of Education and Social Work will begin its Urban Teacher Track. The Urban Teacher Track (UTT) is a series of courses for Early Grades, Middle Grades and Special Education students who have an openness to teaching in urban, racially, economically, linguistically, culturally marginalized communities and for engaging with issues of equity, social justice, and racial justice in education. Teaching in urban high poverty schools presents special challenges—low funding, high rates of trauma among students due to toxic stress, environmental dangers of working in aging facilities and so on. With these challenges often come high teacher turn-over rates. This session is a literature review of the research on the factors that support retention of urban teachers, with a particular focus on the supports that other urban focused teacher education programs have for alumni in their early years of teaching.

## **Presentation #23 From the Shadows to the Spotlight: Centering the Experiences of Faculty with Invisible Disabilities**

**Presenter: Tiffany Gray**

**Faculty Mentor: Dr. Heather Schugar**

**Department: Literacy**

Centering and elevating the experiences of people with disabilities continues to be an under discussed and researched area. My research inquiry aimed to add to the literature and explored the experiences of faculty with invisible disabilities. More specifically, what factors contribute to disclosure and/or non-disclosure of an invisible disability? The layers are multifaceted for disabled faculty around institutional process, navigation, and range of decisions related to disclosure.

Within society, being able-bodied and able-minded is often the default and assumed identity. Often the construction of visible or invisible disability reinforces a binary that does not leave space for the complexity, nuance, and range of disability identities and experiences. For people with disabilities and other intersecting social identities movement through the world may be across, within and/or outside of those constructs.

This social justice explanatory sequential mixed methods inquiry aimed to explore factors that contribute to faculty with invisible disability decisions around disclosure and/or non-disclosure in the workplace. A qualitative survey was introduced in phase one followed by follow-up semi-structured interviews with post survey participants in phase two. The third data point was the completion of a document analysis. The purpose of the document analysis was to review randomly selected college and university websites to gain a broader perspective of information communicated (or not communicated) as it relates to invisible disabilities and accommodation processes. After data collection and analysis, significant themes emerged from the survey, interviews, and document analysis.

\*Note: This study was not intended to reinforce a binary of disclosure or non-disclosure. The researcher understands and acknowledges the complexity of disclosure. Additionally, for some people disclosure is not always a “choice” because of access needs and/or because of lack of autonomy around their own agency.

## **Presentation #24 Mindfulness Services' Utilization on Post-Traumatic Growth**

**Presenters: Emma Harris, Carolyn Cusmano, Patricia Anderson**

**Faculty Mentor: Dr. Stevie Grassetti**

**Department: Psychology**

**Background:** Twenty-five to thirty percent of women who are diagnosed with breast cancer develop mental-health concerns (CDC, 2018; Fujimoto & Okamura, 2021). More information is needed about strategies to promote mental health, including posttraumatic growth (PTG), and mindfulness training may be a helpful approach (Fujimoto & Okamura, 2021; Ludolph et al., 2019; Hamidian et al., 2019; Stafford et al., 2013).

**Hypothesis:** This study examines the link between mindfulness and PTG among women with breast cancer. We hypothesize 1) a positive relationship between the number of mindfulness sessions attended and PTG and 2) group differences in PTG between women who participated or did not participate in mindfulness training.

### **Method**

**Participants:** Twenty-eight women with breast cancer completed electronic surveys in June and December 2021 to report on their service utilization, coping, and functioning.

**Measures:** PTG was measured via the 21-item self-report Post Traumatic Growth Inventory (PTGI) Scale (Tedeschi, 2020). The PTGI Scale measures positive responses to stressful events and has a good reliability with a range of .81 to .92 for negative subscales and a range of .75 to .86 for positive subscales (Park & Sinnott, 2018). An 11-item Service Utilization Questionnaire assessed which services were used and the frequency they were used.

**Planned Analyses:** A person's bivariate correlation will test the strength of the relationship between the number of mindfulness services used and PTG. An independent samples t-test will test previously hypothesized group differences in PTG between women who participated in mindfulness-based programs and those who did not.

## **Presentation #25 Utilization of Video Education to Improve Self-Care in Heart Failure Patients**

**Presenter: Dr. Adrienne Wharry**

**Department: Nursing**

**Background:** Heart Failure (HF) is a chronic and progressive disease that affects almost 6 million Americans. Currently, heart failure is one of the leading causes of hospital readmissions with 1 in every 4 patients being readmitted within 30 days of a previous hospital discharge. Patient self-care has proven to be essential to successful disease management. For the heart failure patient self-care includes: lifestyle modifications to prevent symptoms, strict adherence of medication regimens, recognition of symptoms, and early intervention for disease exacerbations. Heart failure patients have shown increased self-care with continued disease education after hospital discharge. This quality improvement project examined if heart failure patients in the Penn Medicine Home Health program who received weekly video education via Bluetooth tablet for period of thirty days after hospital discharge had increased self-care scores.

**Methods:** Data was collected using the Self-Care for Heart Failure Index (SCHFI), a validated tool used to measure 29 areas of care by the heart failure patient. The SCHFI was administered pre-and post-intervention in this pilot project. Data was examined using a Wilcoxon matched pairs test.

**Results and Conclusions:** A statistically favorable increase in self-care scores was found in 8 of the 29 items on the SCHFI (2 items in self-care maintenance, 4 items in self-care management, and 2 items in self-care confidence). Use of video education at home has shown to increase self-care knowledge of the heart failure patient.

## **Presentation #26 Oral Histories on Diversity at West Chester University**

**Presenter: Aaron Stoyack**

**Faculty Mentor: Dr. Michael Di Giovine**

**Department: Anthropology and Sociology**



As part of SURI grant-funded research I completed 27 oral history interviews with minority members of the campus community. I reached out to, elicited, edited, and displayed their stories on an interactive touchscreen in the WCU 150: History and Heritage Exhibition. Narrators were current and former students and faculty, each interview consisting of approximately one hour. The end product of my research, other than what was displayed in the exhibition, was an anthropological research paper titled Addressing Discrimination in Universities from all Institutional Levels. It uses WCU and these narrator's stories to highlight what they found the most beneficial to creating a more inclusive atmosphere. This was divided into actions from the administration, educators, and student groups. Outside research on enrollment, retention, and the effects of discrimination on academic success was consulted and incorporated as well.

**Presentation #27 Identifying essential behavioral changes for improving the mental and physical health of people through a thematic analysis**

**Presenter: Paul Yu**

**Faculty Mentor: Dr. Amir Golmohamadi**

**Department: Nutrition**

Based on the current literature from nutrition culture and anthropological studies, there is a potential relationship between behavioral change intervention programs and improvement of quality of life. The purpose of this qualitative research project is to systematically obtain the preliminary data, required for developing a survey that aims to reduce stress, anxiety, and depression levels in people and/or improve their quality of life. A thematic analysis of online forums, discussion boards, news, and social media will be used to determine common themes in these resources with NVivo, a qualitative data analysis software. This research project is the first step towards designing a nutrition/ behavioral change intervention, for the prevention of social, physical, and mental illnesses. Completing this project will develop my basic skills for conducting research and project development. It will also promote my critical and analytical skills for graduate-level studies, and a career in research.

## POSTER PRESENTATION ABSTRACTS

### **Poster #1 Child Stress Levels Help to Explain Change in Cognitive Functioning in Head Start Preschool**

**Presenter: Fola Shokunbi**

**Faculty Mentor: Dr. Eleanor Brown**

**Department: Psychology**

Stress levels help to explain the negative impact of poverty circumstances on children's educational outcomes. Chronic stressors associated with poverty can result in chronically elevated levels of stress hormones like cortisol, posing problems for brain areas like the prefrontal cortex, which is responsible for aspects of cognitive functioning thought to undergird school success. The present study examines aspects of cognitive or executive functioning across a year of Head Start preschool attendance and considers whether child cortisol levels predict change.

Participants were 310 children who attended a Head Start preschool. Mean age was 4 years, 1 month ( $SD = 6.71$  months), and 52% were identified as female, with 55% Black, 15% Hispanic, 10% Asian, 20% White, and 100% from households classified as poor or low-income.

Ethical standards were followed, and all procedures were approved by the WCU IRB. Caregivers provided informed consent and completed demographic interviews in September of the preschool year. Trained research assistants administered four standardized assessments of child executive functioning in October and May and collected samples of child saliva to measure stress levels at four times across the preschool day on two days in February.

Results of a MANCOVA showed that cortisol levels helped to explain change in executive functioning from start-to-end of the Head Start year. Implications concern the impact of poverty-related stress on child cognitive functioning, including within preschool intervention programs.

## **Poster #2 Cortisol Relates to Emotion Expression for Young Children Facing Economic Hardship**

**Presenter: Keara Hennessey**

**Faculty Mentor: Dr. Eleanor Brown**

**Department: Psychology**

Poverty-related stressors can overtax children's physiological stress-response systems, leading to dysregulated levels of stress hormones such as cortisol. Yet because cortisol responses to current stressors are imposed on baseline levels, the meaning of cortisol as measured on a particular occasion often is unclear: both elevated and depressed cortisol levels have been demonstrated to predict emotional difficulties for young children. The present study aims to elucidate how cortisol levels relate to expressed emotion for children attending Head Start preschool.

Participants included 74 children ages 3 to 5 years ( $M = 4$  years,  $SD = 6$  months) who attended a creative-arts-based U.S. Head Start preschool. By parent report, 41% were female, 59% male, 36% Black or African American, 19% Hispanic or Latinx American, 14% Asian American and 31% White or European American. All faced economic hardship.

Ethical procedures were used in the conduct of this study, and all were approved by the WCU IRB. Parents or caregivers provided informed consent at the time of preschool enrollment.

Child salivary cortisol was measured in duplicate at 4 time points across the day on 6 different preschool days. Trained Research Assistants coded videos for children's expression of emotion using a standardized measure.

Results of hierarchical linear modeling indicated that higher cortisol levels related to children's expression of anger. Zero-order analyses also suggested links between cortisol, crying, and defiance. Results suggest that for young children facing economic hardship, higher stress levels might relate to greater expression of negative emotion in preschool context.

### **Poster #3 Creative Arts and Child Stress Regulation: Should Teachers Guide or Get Out of the Way?**

**Presenter: Edith Tettey**

**Faculty Mentor: Dr. Eleanor Brown**

**Department: Psychology**

Early childhood music, dance, and visual arts classes have been linked to reductions in levels of the stress hormone cortisol. Such stress reduction benefits may matter particularly for children facing poverty, racism, and other adversity. Yet questions remain about the types of creative arts experiences that support stress regulation, and the role of adults. The present study explored how variation in teacher involvement related to stress levels for children in a creative-arts-based Head Start preschool.

Participants were 74 children ages 3 to 5 years ( $M = 4$  years,  $SD = 6$  months) who attended a creative-arts-based U.S. Head Start preschool. By parent report, 41% were female, 36% Black, 19% Hispanic, 14% Asian Heritage, and 31% White.

Ethical procedures were used, and all procedures were approved by the WCU IRB. Parents or caregivers provided informed consent at the time of preschool enrollment.

Child salivary cortisol was measured at 4 time points across the day on 6 different preschool days. Research Assistants coded videos of teacher involvement in creative arts activities using a standardized measure.

Results of Hierarchical Linear Modeling suggested that child cortisol levels were lower during teacher-directed creative arts activities than during child-directed activities ( $p = .027$ ). Teacher-child interaction was linked to lower cortisol at a level of  $p = .050$ . Results suggest that teacher guidance and engagement may facilitate the short-term stress reduction benefits of creative arts for preschool children.

## **Poster #4 Preschool Visual Arts Class Components Relate to Child Stress Levels**

**Presenter: Suzanne Varnell**

**Faculty Mentor: Dr. Eleanor Brown**

**Department: Psychology**

Visual arts classes have been linked to reductions in levels of the stress hormone cortisol. Such stress reduction benefits may matter particularly for children facing poverty, racism, and other adversity. Yet questions remain about what aspects of visual arts classes support stress regulation. The present study examines components of preschool visual arts classes that relate to reductions of the stress hormone cortisol.

Participants included 74 children ages 3 to 5 years ( $M = 4$  years,  $SD = 6$  months) who attended a creative-arts-based U.S. Head Start preschool. By parent report, 41% were female, 59% male, 36% Black or African American, 19% Hispanic or Latinx American, 14% Asian American and 31% White or European American.

Ethical procedures were used in the conduct of this study, and all were approved by the WCU IRB. Parents or caregivers provided informed consent at the time of preschool enrollment.

Child salivary cortisol was measured in duplicate at 4 time points across the day on 6 different preschool days. Trained Research Assistants coded videos of visual arts classes, scoring child participation, activity types, and classroom quality using a standardized measure.

Results of hierarchical linear modeling indicated that children's active participation in a visual arts activity (as contrasted with passive observation) as well as overall ratings of classroom quality related to lower cortisol levels. Results suggest that for visual arts classes to maximize their impact, teachers might maximize children's active involvement as well as attend to aspects of classroom quality that matter for regular homeroom classes.

## **Poster #5 Flood Impact Analysis of Low-Income and Minority Communities in Philadelphia**

**Presenter: Amanda Bristowe**

**Faculty Mentor: Dr. Jongwoong Kim**

**Department: Geography and Planning**



This project will create a Flood Impact Analysis (FIA) model of Philadelphia and discuss its results using 2D and 3D Geographic Information Systems (GIS) methods. The discussion will focus on the disproportionate effects of flash floods on low-income and racial/ethnic minority populations who lack resources to recover from disasters such as Hurricane Ida. While flood management literature has focused on themes of vulnerability, it was not until Hurricane Katrina in 2005 that flooding was recognized from the standpoint of environmental justice. Flooding can be framed in terms of environmental justice, which recognizes people and communities as citizens with the right to be protected from flooding rather than potential victims. The impact of each flooding scenario (0.2 %, 1%, and 2% yearly likelihood of flooding) on roads and buildings will be studied on 2D maps, and each scenario will be displayed in 3D to better represent the impact of flooding on vulnerable urban populations. In fact, flood mitigation, management, and recovery strategies based on the FIA model can benefit vulnerable urban populations. The project will produce web-based interactive 2D maps of various flooding scenarios, as well as a GIS-based 3D model that can simulate and depict the various flooding scenarios in order to evaluate and discuss the disproportionate impacts on these communities.

## **Poster #6 Cultural Values in Institutional Messaging: A Qualitative Analysis of Higher Education**

### **Mission Statements**

**Presenter: Rineath Taing**

**Faculty Mentor: Dr. Janet Chang**

**Department: Psychology**

There have been some prior studies on mission statements in higher education, but there is a dearth of research on the cultural values they convey. This qualitative study analyzed mission statements from the top 50 liberal arts colleges, top 30 public universities, and top 30 private universities (institutions ranked by the 2021 U.S. News and World Report) to explore prevailing cultural values, including soft independence (e.g., personal achievement), hard independence (e.g., self-reliance), and interdependence (e.g., group harmony).

Two coding teams, each consisting of three research assistants and one internal auditor, created a codebook based on preliminary data and previous research. The data were coded by each team member, with triangulation used to ensure intercoder reliability.

Thematic analysis revealed four major themes: (1) universities and colleges emphasized collaboration and community to encourage soft independence, promote campus and global citizenship, advance knowledge, and foster belonging; (2) institutions encouraged students to become active members of the campus community; (3) there was a greater emphasis on personal achievement than group achievement; and (4) institutions relatively underemphasized hard independence values.

Our study contributes to extant research findings on the heavy emphasis of soft independence values in higher education. Lower emphasis on hard independence values also suggests institutional tendencies to focus on personal achievement and interests, which are in line with middle- and upper-class norms. Institutions may need to consider how cultural values impact different individuals, as students may struggle in institutions where their values are not fostered.

## **Poster #7 Improving a Mixed-Criticality Platform's Utilization by Co-scheduling Real and Non-Real-Time Tasks**

**Presenter: Harshavardhi Valmiki**

**Faculty Mentor: Dr. Ashik Ahmed Bhuiyan**

**Department: Computer Science**

Scheduling of Mixed-Criticality (MC) tasks for the sequential and parallel task model has been well explained, especially how a task will be scheduled and executed based on criticality levels. However, while analyzing the real-time MC scheduling of parallel tasks combined with the non-real-time tasks, many limitations exist. One challenge among that is the under-utilization of computing Power, i.e., idle cores. In an MC platform, real-time tasks with different criticality levels share a common computing platform. In an MC platform, a mode switch is not predictable, and after a mode-switch, some/all high-criticality tasks may need extra execution requirements. Such a mode change makes the scheduling decision challenging and makes the available idle time unpredictable. In this work, we will maximize the processor core utilization by considering both real-time and non-real-time tasks in the MC mode. To schedule non real time tasks, we calculate hyper period and available idle time after mode switch. We propose to mitigate the processor under-utilization by executing non-real-time tasks in the background while guaranteeing that overall system performance is not degraded.

## **Poster #8 Gender Differences in Past Experiences and Future Plans with Gendered Play**

**Presenter: Emma Harris**

**Faculty Mentor: Dr. Stevie Grasseti**

**Department: Psychology**

**Background:** Through play, parents socialize children into gender roles early in life. Research shows that parents play differently with boys and girls (Weisgram & Bruun, 2018; Caldera & Sciaraffa, 1998; Cunningham, 2001). For example, studies suggest that men hold more rigid gender stereotypes for children's play while women endorse higher egalitarian views and gendered play (Weisgram & Bruun, 2018; Caldera & Sciaraffa, 1998; Halpern & Perry-Jenkins, 2016; Bryant, 2003; Frieze et al., 2003; Loscocco & Spitze, 2007). Understanding these dynamics is important due to the impacts gender attitudes have on careers, relationships, marriages, and family planning (Askari et al., 2010; Fan & Marini, 2000; Kaufman, 2000; Kaufman, 2005).

**Purpose/Hypothesis:** The purpose of the current study is to examine potential differences between how young men and young women report 1) their experiences of childhood play with their parents and 2) their plans for play in the future with their own children. We expect men will report more experiences of past gendered play and more rigid stereotypes for play with future children.

**Methods:** Participants are 1,500 college students who completed the 88-item Child-Gender-Socialization Scale (CGSS) twice to report on their past experiences and future plans with gendered play. We will test our hypotheses with multivariate analysis of variance (MANOVA) that compare men and women on two outcome measures—past gendered play and current views of gendered play.

**Implications:** The study will update outdated literature on gendered play and enhance understanding of gender socialization.

## **Poster #9 Contractor/consultant Onboarding into Client Organizations: A Qualitative Study**

**Presenters: Arielle Smith, Caylee Thomas**

**Faculty Mentors: Dr. Jacqueline Zalewski, Dr. Johnna Capitano**

**Department: Sociology, Management**

The research poster co-authors are assisting faculty mentors in their analysis of the broad research question: How are non-standard employees—i.e., contractors and consultants—socialized into client organizations? Faculty mentors used a snowball sampling method to interview two types of subjects: 1. Contractors/consultants and 2. Managers of contractors at client organizations. The student researchers have analyzed interviews with 10 professionals: 5 contractors/consultants and 5 managers in client organizations. The industries that employ non-standard, contingent workers in this sample include: health and healthcare, pharmaceuticals, oil and gas, media, manufacturing, and management development. If accepted to the WCU Research and Creative Activity Day, in a research poster the student co-authors will report on: who is represented as part of the non-standard, contingent workforce; the demographics of those workers; and how those workers are prepared and socialized for their roles on their first day at client organizations. Specifically, what information do client organizations provide to non-standard employees to prepare them for their role and tasks on the first day of work; and what information do non-standard employees proactively seek?

## **Poster #11 How Influential Were U.S Political Parties on Voters in The Most Recent Presidential Elections?**

**Presenter: Elizabeth Seravello**

**Faculty Mentor: Dr. Ashlie Delshad**

**Department: Political Science**

Party identification has been a part of how we run our elections for more than 100 years, and it has been a steady solid influence on who voters decide to elect in U.S presidential elections for just as long. My research specifically examines how party identification affected vote choice in the most recent presidential elections and how that relationship either changed or did not change in the last four presidential election cycles, with the recent polarization of the parties. I compared what party voters were registered under in that election to who voters voted for in each election, with the Democratic candidate, the Republican candidate, and third-party candidates for the full picture. Using cross tabulations analysis, I tested the hypotheses that whichever party voters are registered for, the votes for the candidate in that party will increase. Which would help to show the polarization. My findings indicate that party identification has remained an influence that has not had any major change happen in connection with the vote choice for president, so the influence between party identification and vote choice in the most recent presidential elections stayed steady as compared to past elections.

**Poster #12 Study Design: Exploring the Effects of a Spanish-Delivered Stress Reduction Mindfulness Program Among Latina Immigrants**

**Presenter: Sarah Ramirez**

**Faculty Mentor: Dr. Michael Gawrysiak**

**Department: Psychology**

This presentation will summarize the protocol development and research methodology for an ongoing research study intended to reduce distress among Latina immigrant women.

Latinos face many struggles in response to immigrating which can vary from physical/sexual assault to adjusting to a new culture. As a result, Latino immigrants may face numerous mental health struggles that are unrecognized and largely untreated. However, there is very little clinical research investigating the effectiveness of programmatic support efforts delivered to Latino populations facing immigration stressors.

Prior research has demonstrated the utility of MBSR in reducing anxiety, stress, depression, and PTSD symptoms. However, this approach has only been minimally adapted and disseminated to Latino populations. The present presentation summarizes a recently developed adaptation of a Mindfulness-Based Stress Reduction (MBSR) program delivered in Spanish to Latina immigrant women to support their mental health. In the present study, MBSR has been adapted and integrated with Amigas Latinas Motivando el Alma (ALMA). The overarching aim for the MBSR-ALMA program is to increase stress management through systematic training in awareness, mindful movement, self-compassion, and compassion for others. Through a series of one hour long, eight weekly group sessions via Zoom, participants will receive guidance in the practice of meditation skills that foster greater awareness in the present moment while also providing a safe space to discuss culturally specific topics.

The present proposal will outline the rationale for the development of MBSR-ALMA program and will detail the research methodology currently employed to evaluate its effectiveness.

## **Poster #13 Reading Disabilities and Anxiety, Stress, Depression, and Stigma among College-age Adults**

**Presenter: Hannah Crespy**

**Faculty Mentor: Dr. Michael Gawrysiak**

**Department: Psychology**

**Introduction:** Prior research indicates that children who struggle with a learning disability are at increased risk for comorbid anxiety and other mental health issues (Undheim & Sund, 2008). However, there is limited research examining adults with reading disorders, and their relationship with anxiety, chronic stress, depression, and stigma. This study examined college students with reading disorders (n=115) in comparison to those without reading disorders (n=77). This study aims to determine the extent to which reading disorders (RD) and anxiety, chronic stress, depression, and stigma continue into adulthood.

**Methodology:** All participants completed a demographic questionnaire, Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995), Learning and Study Strategies Inventory (LASSI; Weinstein et al., 1988), PROMIS Mental Health (PMH; Lapin, Thompson, Schuster, & Katzan, 2019), and the NSASA Task Load InteX (TLX; Windell, 2006). Both groups also completed the Stigma Consciousness Questionnaire–Learning Disabilities (SCQ-LD; Daley, Rappolt-Schlichtmann, 2018) and Stigma of Support Systems Questionnaire (SSSQ; Self-Generated). Both the SCQ-LD and SSSQ were adapted for the control group, who do not have a learning disability.

**Research:** Study hypotheses are that adults with reading disabilities will score higher across all measure, with exception for the PMH. All data has been collected (N=192) and statistical tests will compare between-group differences (i.e., RD vs No-RD) through independent T-Tests.

**Discussion:** Results will help to clarify the impact of RD in early adulthood and stands to inform supplemental treatment developments for this population.

**Poster #14 The Role of Dispositional Mindfulness Against Craving in Trauma Recovery for OUD**

**Presenters: Sarah Mathewson, Melanie Somppi**

**Faculty Mentor: Dr. Michael Gawrysiak**

**Department: Psychology**

**BACKGROUND:** In 2020, it was estimated that 2.7 million people suffered with an opioid use disorder (OUD). Prior research suggests that dispositional mindfulness can buffer substance use severity and posttraumatic stress. However, further research is needed to clarify the relationships between dispositional mindfulness and craving specifically for those suffering from OUD. Dispositional mindfulness greater awareness and non-reactivity to emotions and internal thought patterns are features relevant to both OUD and posttraumatic stress. Therefore, we hypothesized that dispositional mindfulness would inversely relate to opioid craving and posttraumatic stress symptom severity.

**METHODS:** This study utilized archival data that collected from an ongoing randomized clinical trial investigating mindfulness among OUD patients. The current study tested the hypotheses that mindfulness (Cognitive & Affective Mindfulness Scale Revised, CAMS-R) would inversely relate to opioid craving (Opioid Craving Scale, OCS), and posttraumatic stress severity (Posttraumatic Stress Disorder Checklist, PCL-5). Statistical analyses used to test the study hypotheses entailed Pearson bivariate correlations.

**RESULTS:** Statistically significant correlations were observed between CAMS-R and OCS ( $r = -.356, p = .039$ ), CAMS-R and PCL-5 ( $r = -.585, p = .001$ ).

**DISCUSSION:** Results indicated that higher mindfulness scores were associated with reduced drug craving and posttraumatic stress symptom severity. It is essential that clinical research further investigates the relationships between mindfulness and other disorders such as OUD. Further research into the efficacy of mindfulness-based treatments could unravel the internal negative thought patterns and cycles of many psychological disorders.

**Poster #15 Can staying in the moment really save lives? Mindfulness-Based Relapse Prevention (MBRP) linked to decreased relapse and increase medication adherence among individuals diagnosed with Opioid Use Disorder (OUD)**

**Presenters: Justin Mehalick, Connor Mapa**

**Faculty Mentor: Dr. Michael Gawrysiak**

**Department: Psychology**

**PURPOSE/BACKGROUND:** Opioid overdose deaths have risen dramatically with over 75,000 deaths occurring in 2021 alone. Mindfulness Based Relapse Prevention (MBRP) is a novel behavioral intervention that demonstrates promise as an OUD treatment, but further research is needed to understand this approach among OUD populations.

**METHODS:** The present study used archival data collected from an ongoing randomized clinical trial investigating the efficacy of MBRP for patients with OUD. In the context of the parent study, participants are assessed on a ranged of medical and mental health constructs across five timepoints: Pre-Treatment, Post-Treatment/Pre-Discharge, 1-, 2-, and 3-month follow-ups. To identify differences between MBRP versus a Treatment-As-Usual (TAU) comparison group, the present study examined pre- and post-treatment on measures: Opiate Craving Scale, Cognitive & Affective Mindfulness Scale, and PROMIS. Statistical analyses used to test study hypotheses entailed Repeated-Measures ANOVA.

**RESULTS:** Significant pre-to-post treatment reductions in craving were observed among both the MBRP and TAU groups. Pre-to-post treatment mindfulness scores increased (non-statistical significance) for both groups. Post treatment follow-ups reported a significant reduction in relapse and increase in MAT adherence for the MBRP group relative to TAU.

**OUTCOMES/IMPLICATIONS:** Preliminary study results indicated MBRP was be linked to modest increases in mindfulness (CAMS-R), reductions in craving (OCS), and increases in overall mental health (PROMIS) relative to TAU. Results also suggest the benefit of MBRP in terms of superior MAT adherence and relapse prevention. Findings suggest that MBRP can benefit those suffering with OUD. Although preliminary, ongoing data collection will enable more robust statistical analyses.

## **Poster #16 Insights on Visitors to the WCU 150 Museum Exhibition**

**Presenters: Maclaren Remy, Jacqueline Armao**

**Faculty Mentor: Dr. Michael Di Giovine**

**Department: Anthropology and Sociology**

Based on ethnographic and survey research, this study analyzes visitor experiences at the Museum of Anthropology and Archaeology's high-profile WCU 150: History and Heritage exhibition. One of the centerpieces of the university's Sesquicentennial celebration in 2021-2022, the exhibition drew an unusually diverse audience for the Museum's traditional visitors, thanks in part to its location in the FHG Library and regional press coverage. The research sheds light on where visitors came from and why; what meanings they made of the exhibition; the level of thematic knowledge they possessed entering the exhibition and what they came away with; and, for those connected to WCU as alumni, students, or community members, what memories were invoked as they toured the space.

## **Poster #17 Traumatic Relapse: Examining the Relationship Between Posttraumatic Symptom Severity and Mindfulness among Patients Diagnosed with Opioid Use Disorder (OUD).**

**Presenters: Kelly Johnson, Sophia Orozco, Alyssa Saunders**

**Faculty Mentor: Dr. Michael Gawrysiak**

**Department: Psychology**

**Background:** Posttraumatic stress (PTS) is common among those with opioid use disorders (OUD) and when these comorbid conditions are present patients' evidence poorer treatment response and greater psychiatric severity. Mindfulness, defined as present-centered awareness coupled with a non-judgmental attitude, inversely relates to both posttraumatic stress and SUD severity, independently. However, mindfulness has not been well examined among individuals presenting with both OUD and PTS. The present study aims to test the hypotheses that mindfulness will inversely relate to PTS among a cohort of individuals diagnosed with OUD.

**Methods:** The present study used archival data collected from an ongoing randomized trial investigating mindfulness intervention for OUD. In the context of the parent study, participants are assessed on a range of medical and mental health constructs. The present study examined pre-treatment PTS severity (PTSD Checklist for DSM-5; PCL-5) and mindfulness (Cognitive and Affective Mindfulness Scale; CAMS-R). Statistical analyses used to test study hypotheses entailed Pearson bivariate correlations.

**Results:** PTSD symptom severity was observed to be significantly and negatively correlated with mindfulness scores for this group ( $n = 30$ ;  $r = -.585$ ,  $p < .01$ ).

**Discussion:** Results indicated greater severity of PTSD symptoms were associated with lower mindfulness. The high incidence of SUD in treatment facilities should not warrant identical treatments. A multidimensional approach utilizing these specific practices in accordance with the patient's clinical history should be investigated. Upon future research, more intensive and deliberate approaches for mindful-based courses of treatment may need to be taken into consideration.

## **Poster #18 Online Student Course Engagement in a Developmental Summer Bridge Program: A Mixed Methods Study**

**Presenter: Kaitlyn Machcinski**

**Department: Learning Assistance & Resource Center**

Does virtual learning impact student engagement in developmental education? This convergent mixed methods study measures student experience and perceptions during one such bridge program forced online during the COVID-19 pandemic. Using the Online Student Engagement Scale (OSE), I measured students' perceived engagement levels in the online course (Dixson, 2015). Drawing from self-reflecting journal entries and observations, I measured students' experience of participation and engagement. Understood through Astin's (1999) Theory of Student Involvement, the findings of this study showed high perceived and demonstrated engagement in the developmental reading and study skills course. In addition, students struggled with their perceived study skills and finding time to engage with their peers. These results suggest that students can engage in a virtual setting but need structure and time to complete the required work.

## **Poster #19 Race-Based Discrimination and Traumatic Stress in Relation to Substance Use Severity among patients diagnosed with Opioid Use Disorder (OUD)**

**Presenters: Camryn Council, Hannah Brown**

**Faculty Mentor: Dr. Michael Gawrysiak**

**Department: Psychology**

**BACKGROUND:** Trauma exposure is a risk-factor for illicit drug misuse. However, very little research has examined how race-based trauma exposure relates to substance use among underrepresented minorities (URM). The present study assessed how racial discrimination/trauma relates to drug-use severity among individuals diagnosed with opioid use disorder (OUD). We hypothesized that race-based trauma exposure/stress would significantly correlate with OUD severity overall mental health.

**METHODS:** The present study examined self-report measures from URM-OUD patients (N=13) following their admission to a residential addiction treatment program. The Perceived Ethnic Discrimination Questionnaire (PEDQ; Brondolo, 2005) assessed lifetime exposure to race-based maltreatment; the Trauma Symptoms of Discrimination Scale (TSDS; Williams, 2018) assessed race-based trauma symptoms stemming from race-based maltreatment; the Timeline Followback (TLFB; Sobell, 1992) assessed drug-use history; the Opioid Craving Scale (OCS; McHugh, 2021) assessed drug-craving; and the PROMIS assessed global mental health (Hays, 2009). Pearson correlations were run to test the hypotheses that PEDQ and TSDS would correlate with all variables of interest.

**RESULTS:** All URM participants endorsed prior discrimination, with race-discrimination being most common (83.3%), followed by social class-discrimination (75%). Exposure to discrimination (PEDQ) significantly correlated with trauma symptoms of discrimination (TSDS;  $r=.719$ ,  $p=.004$ ), and global mental health ( $r=-.760$ ,  $p=.002$ ). Neither discrimination nor discrimination trauma symptoms significantly correlated with craving or past 30-days drug-use

**IMPLICATIONS:** Results indicated that higher discrimination/trauma associated with poorer mental health but did not reach significance for OUD severity or past 30-days drug-use. Results underscore the importance of assessing diversity and equity in both clinical and research contexts.

## **Poster #20 Incidence of Breast Cancer Associated with Childbirth**

**Presenter: Sinja Sharma**

**Faculty Mentor: Dr. Ramona Stone**

**Department: Health**

Research shows that parity has a dual effect on breast cancer risk, which appears to be higher immediately after childbirth even though it has a long-term protective effect.

**Purpose:** The study was conducted to test whether parity, age at first/last birth, and birth spacing are associated with transient increase in breast cancer risk after the last childbirth with a long-term protective effect.

**Method:** This is a case-control study of women born between 1950 and 1985 of ages 18 or older at childbirth. Cancer records (1995-2012) and birth records (1990 to 2003) from Kentucky were matched and merged in 2013. A total of 1,618 cases of parous women were matched with 8066 control parous were included in the analyses. Nulliparous women with a cancer diagnosis served as a comparison group.

**Results:** Data shows ( $t=19.832$ ,  $df=2823.7$ ,  $p<.001$ ) that parous women were younger at cancer diagnosis ( $M=40.2$ ,  $sd=7.1$ ) than nulliparous women ( $M=45.1$ ,  $sd=6.4$ ). Parous women who had children at 3—34 years old are 3.2 times more likely to be diagnosed with breast cancer within 5-year after childbirth than nulliparous of same ages; as the age at first childbirth increases, the risk for breast cancer after childbirth increases. Multivariable regression indicates that age at first birth is associated with incidence of breast cancer; late age at first birth ( $HR=6.411$ ,  $p<.001$ ) is associated with a 13% significant increase in the risk of breast cancer.

**Conclusion:** This study supports prior recommendations for postpartum breast cancer screening.

**Poster #21 Students' Perceptions of Gender Pronouns: The Utility of Professors Adding Gender Pronouns to Their Email Signatures**

**Presenters: Oriana Barone, Christian Toth, Dana Pratt, Jillian Vander Zwan**

**Faculty Mentor: Dr. Stevie Grassetti**

**Department: Psychology**

College students who identify as transgender or genderqueer (non-binary, agender, pangender, gender fluid, or another gender identity) encounter unique challenges including the difficult experience of being misgendered by others. Using preferred pronouns is associated with students feeling included and respected, but students may not know whether sharing their preferred pronouns is safe. Faculty in higher education settings are positioned to support transgender and genderqueer students by sharing their preferred pronouns and inviting others to do the same if they so choose. To our knowledge, no studies have explored students' perceptions of faculty sharing their pronouns in their email signature line, a technique that can be used to normalize the inclusive practice of sharing pronouns. This study sought to understand how students perceive their professors based on whether they include pronouns in their email signature lines and the specific pronouns they list. 500 undergraduate students at West Chester University were asked to imagine they reached out to their professor inquiring about course content. Participants were randomly assigned to read one of four email responses. Three of four conditions listed pronouns in the signature line. Participants were then asked to indicate agreement with statements about the professor's traits, which included "empathetic" and "assertive." We hypothesize that participants will be more likely to rely on stereotypical characteristics associated with gender pronouns. Results of this study will be analyzed using a multivariate analysis of variance and may offer useful information to professors who are considering listing their preferred gender pronouns in their signature line.

**Poster #22 The Causal Effects of Psychological Compassion Climate on Compassion Given and Well-Being**

**Presenters: Margaret Prezuhy, Elena Duran, Winter Elvin**

**Faculty Mentor: Dr. Megan Nolan**

**Department: Psychology**

The purpose of the current study is to examine the causal effects of Psychological Compassion Climate (CC) on compassionate behavior, self-compassion, and well-being, and the extent to which prosocial identity moderates the relationship between CC and compassionate behavior. Nolan et al (2022) recently developed and validated a measure to assess CC, defined as an individual's perception of shared norms around compassion within their work group/unit. They found that CC assessed at time 1 predicted improvements in well-being indicators (i.e., anxiety, depressed mood, and psychological functioning) over a month-long span and that CC predicted compassionate behavior at work over the one-month interval, including compassion received from others, compassion given to others, and self-compassion. Building on Nolan et al (2022), the current study will attempt to isolate the causal effect of CC on employee well-being and compassionate behavior and examine the extent to which prosocial identity moderates these relationships. To examine these questions, the current study will employ an experimental vignette methodology in which participants will be randomly assigned to one of three conditions: compassion climate, creativity climate, and control (no climate). We predict that those in the psychological compassion climate will behave more compassionately (operationalized as the percentage of compensation donated to a struggling family) and report higher levels of well-being (lower anxiety and depression and higher flourishing).

**Poster #23 Impact of Micro-Breaks on Individuals with ADHD in the Workplace****Presenters: Ryan Hauler, Taylor McCrossan****Faculty Mentor: Dr. Megan Nolan****Department: Psychology**

It's estimated that within the United States 1.9-4.2% of workers have attention-deficit hyperactivity disorder (ADHD; Nagata et al., 2019). ADHD is a behavioral condition that makes focusing on everyday requests and routines challenging (Kazdin, 2000). For example, those with ADHD may have difficulty getting organized, staying focused, making realistic plans, and thinking before acting. Symptoms of ADHD can create many challenges for adults in the workplace, such as inattention, hyperactivity, time-management issues, procrastination, and impulsivity. Although there may be a belief that individuals with ADHD struggle in all situations, the extent to which ADHD impacts people's job outlook likely depends on contextual factors (Lasky et al., 2016), such as the type of work environment. Another contextual factor that might impact work outcomes for those with ADHD is micro-breaks. Micro-breaks are taken voluntarily between work tasks, and are brief, lasting between a few seconds to 15 minutes, and have been found to positively influence mood and performance (Kim et al., 2017). Micro-breaks may be especially effective for individuals with ADHD by providing them with time to replenish energy levels and maintain an effective state of attention. The current study will examine the extent to which ADHD symptoms interact with micro-breaks to impact job performance, psychological distress, and turnover. It is predicted that those with ADHD will benefit from these breaks. Participants recruited via Amazon MTurk will be administered surveys to assess their ADHD symptomology, psychological distress, turnover intentions, and the extent to which they engage in micro-breaks.

**Poster #24 Insights on Visitors to the WCU 150 Museum Exhibition****Presenters: Alden Ritchey, Hannah Shields****Faculty Mentor: Dr. Michael Di Giovine****Department: Anthropology and Sociology**

This study analyzes the impressions of attendees to the WCU Museum of Anthropology and Archaeology / WCU Alumni Association-sponsored Thematic Tour and Lecture Series events. Part of the pandemic programming for the WCU 150: History and Heritage exhibition, this is a series of 15 live, virtual tours and lectures with leading faculty and administrators on Zoom for Alumni. Each "tour" features a student co-curator, the Director of the Museum, and key guests as they discuss a particular theme, such as the LGBTQIA+ experience at WCU, Student Life, Sports, etc. For Quality Control purposes, the Alumni Association then sends out surveys to each Zoom attendee on what they liked the best, what could be improved, how they heard about the event, and if they saw the exhibition live. This research is based on content analysis of the de-identified survey results and chat transcripts provided by the Alumni Association.

## **Poster #25 Mentally Relocating in the Absence of the Commute**

**Presenter: Jenna Schreiber, Abigail Miller**

**Faculty Mentor: Dr. Megan Nolan**

**Department: Psychology**



Research has found that the commute to and from work not only serves as a time to physically relocate but also as a time and place to mentally transition between roles. Over the past two years, many employees have transitioned to working from home. As a result, employees may be less likely to mentally transition between home and work roles without the commute to facilitate these processes. The proposed study will combine an experimental and experience sampling design to isolate the effects of a commute simulation on employee reattachment and job engagement. The simulation will prompt employees to mentally transition between roles by envisioning themselves commuting and thinking about what's to come in their next role. We predict that those in the commute simulation group will experience higher levels of reattachment and job engagement compared to those in the control group.

## **Poster #26 Overcoming the Challenges of Remote Newcomer Experiences**

**Presenter: Joseph Moran**

**Faculty Mentor: Dr. Megan Nolan**

**Department: Psychology**



Although there are benefits to remote work for employees, it also comes with challenges. One such challenge is providing employees with opportunities to interact informally with coworkers which is an important way employees develop relationships at work (Hemphill & Begel, 2011). Relationships at work are often developed through informal interactions that are likely to occur throughout the workday when people are working in the same location. Newcomers, in particular, may benefit from these interactions as they are trying to make sense of their new environment, seek out information, and reduce uncertainty (Hemphill & Begel, 2011). Virtual onboarding can present challenges for the newcomer and as a result, newcomers onboarded virtually may be more likely to experience anxiety, poor coordination, reduced trust, and role confusion (Hemphill & Begel, 2011). According to belongingness theory (Baumeister & Leary, 1995), people have a common need to belong and be socially accepted. The belongingness theory can offer support for newcomers overcoming the challenges of remote onboarding by initiating relationships. Not all newcomers may be similarly negatively impacted by virtual onboarding that lacks informal interaction. Those high in self-compassion, defined as offering nonjudgmental understanding to one's pain, inadequacies and failures, so that one's experience is seen as part of the larger human experience (Neff, 2003), might have strategies and ways of thinking that protect them from experiencing negative outcomes when interaction is low. The aim of this pilot study is to understand virtual onboarding affects newcomers and identify factors that might improve newcomers' virtual onboarding experiences.

## **Poster #27 Ukrainians versus non-Ukrainians food box preferences**

**Presenter: Evan Parker**

**Faculty Mentor: Professor Laura Pyott**

**Department: Mathematics**

The Jewish Relief Agency of Philadelphia (JRA) is a non-profit organization that provides a monthly food box to those in need. In January of 2022, about 2,000 surveys were mailed to a sample of JRA clients. The survey collects demographic data, level of satisfaction, food preferences, and connection to the Jewish community. To date, 800 surveys have been returned and entered into a database. In the survey, clients are asked to name their top 5 items they enjoy receiving in the food boxes. Given the recent Russian invasion of Ukraine, I chose to analyze Ukrainians versus non-Ukrainians in this topic area to determine if there is a cultural difference in item preferences. To show this possible cultural difference, I plan on utilizing bar graphs and analytical breakdowns of items per country. I hypothesize that there is a cultural difference in some food items, as most countries have food items that are more commonly used in dishes than others.

## **Poster #28 Effects of Caffeine on Delayed Onset Muscle Soreness after resistance training**

**Presenter: Courtney Stump**

**Faculty Mentor: Dr. Ed Kubachka**

**Department: Kinesiology**

Delayed onset muscle soreness (DOMS) describes the discomfort or stiffness experienced in the muscles 12-72 hours after an unfamiliar or especially strenuous activity. Most research examining exercise and caffeine focuses on caffeine's ergogenic effect rather than impact on recovery. **PURPOSE:** Our aim was to determine the effects of caffeine on DOMS after resistance training. **METHODS:** Nineteen university students (14 females, 5 males, age  $23 \pm 5$  years) were recruited to complete an upper body and lower body resistance training workout on two separate occasions. Thirty-six hours post workout, participants used a Likert Scale to rate their level of soreness (from 0-6) before consuming either a control (gum) or experimental (caffeinated gum). Fifteen minutes after consumption, participants used the same scale to re-rate their level of muscle soreness. **RESULTS:** Across all subjects, the mean muscle soreness level pre-caffeine dropped from 2.263 (pre) to 1.579 (post). The mean pre-placebo muscle soreness level dropped from 2.474 (pre) to 2.053 (post). Mode of soreness level in the caffeine group dropped by one, while not changing in the placebo group. However, the Wilcoxon signed-rank test showed a significant decrease in muscle soreness in both the caffeine group ( $p = .006$ ) and the placebo group ( $p = .011$ ). The Mann-Whitney U test showed no significant difference between treatments. **CONCLUSION:** While there was no significant difference in DOMS reduction between caffeine or placebo, caffeine did significantly lower the perception of DOMS in the subjects and to a greater degree than the control group, warranting further research.

**Poster #29 The Moderating Role of Organizational Culture on the relationship between perceptions of Organizational Change, Employee Engagement and Job Performance**

**Presenter: Justin Reid**

**Faculty Mentor: Dr. Vipanchi Mishra**

**Department: Psychology**



Organizational change is a common process industries go through to shape major components of the organization to be more competitive in their given market. Any type of organizational change may impact various elements within the organization, such as operational models, structures, or even strategies. This change process can be highly stressful for employees, and the perceptions of incoming change can potentially influence employee engagement and job performance. Numerous studies have indicated a positive relationship between employee engagement, organizational change, organizational culture and job performance. However, research focusing on the influence of organizational culture on organizational change processes is limited. Here we present a study proposal to investigate the effects of employee perceptions of organizational change on employee engagement and job satisfaction, with organizational culture as a moderator. Specifically, the effect of both positive and negative culture on organizational change perceptions will be investigated. The study design will include a longitudinal survey of individuals who have recently gone through an organizational change process. The findings of this study will have implications for identifying the factors that facilitate the development of a positive organizational culture. Specifically, this research may help organizations understand how culture could be changed or modified to motivate employees to achieve higher levels of performance during periods of organizational change.

**Poster #30 A survey of biodiversity in Gishwati forest, Rwanda using camera trap sampling**

**Presenters: Lizzie Brost, Brian Connor, Julia Curran, Emily Dawson, Sydney Hendrixson, Daniel Lafferty, Emily Mauser, Jacob Maxwell, Mackenzie Medeck, Kaitlyn O'Brien, Ryan Phillips, Elide Reynoso**

**Faculty Mentor: Dr. Rebecca Chancellor**

**Department: Psychology**



Camera trapping is a commonly used methodology to assess the behavioral ecology of species that are hard to observe directly. It also allows for the collection of data on taxonomic diversity, abundance, and distribution. In this study, we used camera traps to examine the biodiversity in Gishwati forest, Rwanda, as well as behaviors exhibited by the chimpanzees (*Pan troglodytes schweinfurthii*) in the forest. We systematically deployed 6 camera traps in the forest between July 19, 2011-February 27, 2012, and November 1, 2013-April 25, 2014. We deployed camera traps in places of interest, where we had previously observed chimpanzees, including chimpanzee trails, a bee nest in a tree, a decaying fallen tree, a *Crematogaster* ant nest, and a *Ficus* tree. We captured a total of 509 sixty-second videos of animals over the course of the study and identified 8 different genera. Primate sightings made up approximately 41% of our observations, and included chimpanzees, mountain monkeys (*Cercopithecus lhoesti*), and golden monkeys (*Cercopithecus mitis kandti*). The camera traps recorded a variety of chimpanzee behaviors, including feeding on decaying wood as well as foraging for honey in a bee nest. Our study provides baseline data for monitoring long-term biodiversity and behavior in Gishwati forest and adds to data on the conservation status of a number of IUCN East African taxa.

**Poster #31 Coping with loneliness and Isolation: The Healing Power of Nature**  
**Presenters: Georgina Hanna, Nicole Lyman, Katherine Ford, Carolyn Cusmano, Jonelle Grant, Shawn Medlock**  
**Faculty Mentor: Dr. Jasmin Tahmaseb McConatha**  
**Department: Psychology**



The cumulative losses of the pandemic and the ongoing loneliness crisis represents significant challenges to well-being. After two difficult years, most Americans are coping with varying degrees of grief, loss, loneliness, and isolation. As psychologists attempt to cope with one crisis, a mental health crisis is looming. At the same time, there is also a shortage of available mental health services, particularly for older adults and marginalized populations (Mongelli et al., 2020). The natural environment is one therapeutic resource that has been underutilized. Access to nature, time in gardens, and green spaces can improve both physical and mental health and aid in coping with anxiety, stress, loneliness, isolation, as well as grief and loss (Soga et al., 2021). In fact, spending just 2 hours each week outdoors can help improve immune function, positive affect, cognitive abilities such as memory, and boost depleted attentional capabilities (Ray et al., 2020). Based on the review of research an exploration of the social and psychological benefits of access to and use of natural environments is an important area of exploration. This presentation focuses on research addressing the potential benefits associated with time spent outdoors in green space. The presentation also addresses ongoing efforts to make green spaces available to all segments of the population, for example, the 10-minute project is a nationwide project promoting accessibility to green space for all Americans. This presentation explores the relationship between access to outdoor green space, use of outdoor spaces, and well-being.

**Poster #32 The Pandemic Dilemma: A Mixed-Methods Study of Student-Centered Science Education in the COVID-19 Pandemic**  
**Presenter: Jennifer Slavick**  
**Faculty Mentor: Dr. David Backer**  
**Department: Educational Foundations and Policy Studies**



The purpose of this explanatory sequential mixed-methods study was to determine how student-centered instruction shifted and what dilemmas teachers experienced in enacting science instruction as they worked through the COVID-19 pandemic. A modified Draw-A-Science-Teacher-Test was used to examine teachers' perceived instruction during the Fall of 2019, Fall of 2020, and Fall of 2021. Scores on this modified checklist were compared to determine differences in instruction year-to-year, across grade-bands, and to find trends in instruction concerning student demographics. Interviews were conducted with a subset of teachers in the study to learn more about the dilemmas they faced as their attempted science instruction. Results indicate that teachers' perceived instruction was mostly student-centered in the fall of 2019 and became significantly teacher-centered in the fall of 2020. Further, teachers' perceived instruction shifted back toward student-centered in the fall of 2021 but had not reached pre-pandemic levels at that time. Further, teachers that were interviewed recalled being impacted by a variety of dilemmas during each timeframe, including conceptual, pedagogical, cultural, and political dilemmas. Most interestingly, teachers experienced a unique existential dilemma during the pandemic, which I call the pandemic dilemma, that could impact science education in the future.

*Keywords:* science education, dilemma, student-centered, COVID-19

**Poster #33 Satisfaction of JRA services within the Holocaust Survivor Population – 2020 vs. 2022****Presenters: Sehrish Khan****Faculty Mentor: Professor Laura Pyott****Department: Mathematics**

The Jewish Relief Agency (JRA) is a nonprofit organization that works to serve food and provide living essentials to the Greater Philadelphia area. Every 2 years, the JRA sends out a survey to its clients, which collects demographic data, food box preferences, overall satisfaction, and connection to the Jewish community. There are several subpopulations within the JRA clientele. My interest is in the respondents who identified as Holocaust survivors. Surprisingly, there is often a disparity on respondents answered two survey questions: ‘are you satisfied with the overall experience with the JRA’, and ‘does the food received meet your food needs’. This study aims to compare the responses in JRA satisfaction and food needs in Holocaust survivors in the 2020 and 2022 survey. It is hypothesized that the difference in responses is due to the respondents’ interpretation of the question asking about overall satisfaction with the JRA (i.e., satisfaction may also include connection to community). A two-sample z-test comparison for proportions will be performed including 95% confidence intervals, comparing both the responses for both questions, and how the responses changed between the years 2020 and 2022. The results of the comparison will be able to provide the JRA with a better understanding of how to better understand and provide for the JRA’s Holocaust survivor community.

**Poster #34 Chandra High-Energy Transmission Grating Spectra and 3D Wind Shock Simulations of the Magnetic Massive Star  $\theta^1$  Orionis C****Presenters: Dr. Marc Gagné, Leigh Parrott****Department: Earth and Space Sciences**

The Chandra X-ray Observatory has completed a 2.1-Ms Very Large Program to observe the Trapezium Cluster with the High-Energy Transmission Grating Spectrometer. The brightest source is the magnetic O7 Vp star  $\theta^1$  Ori C, the central star of the Orion Nebula. We present a spectroscopic analysis of the 1.5 - 20 Å spectrum, including a detailed analysis of the forbidden, intercombination and resonance lines of He-like ions of Ar XVII, S XV, Si XIII, and Mg XI. In particular we explicitly account for emission from weak lines, including dielectronic recombination lines, in our analysis of the He-like line complexes. An ISIS fit of the entire spectrum is used to estimate the emission-measure distribution of the shock plasma, while the He-like f/i ratios are used to constrain the approximate location of the shocks. Emission-line profiles are analyzed to measure Doppler velocities. We also present 3D magnetohydrodynamic shock simulations of the magnetized wind of  $\theta^1$  Ori C using the newly developed Riemann Geomesh code, which uses an isotropic triangular geodesic mesh to map the spherical surface of the star, and a non-linear radial zone structure to map the volume of the wind. From the simulations we generate synthetic emission-measure distributions, column densities, Doppler widths, X-ray luminosities and radial shock distributions, for direct comparison with observational diagnostics.

**Poster #35 Physical Activity and Obesity in U.S Adults aged 18 years and above**

**Presenter: Bhumika Patel**

**Faculty Mentor: Dr. Ramona Stone**

**Department: Health**

Obesity is one of the most prevalent chronic diseases worldwide. It can be easily prevented with physical activity and recreational activities.

**Purpose:** This study is a secondary analysis of the association between physical activity and obesity in the US adults aged 18 years and above.

**Methods:** Data from NHANES (2013-2014), a nationally representative cross-sectional survey, includes a weighted sample of N= 47,803 participants. Univariate, bivariate, and multivariable regression analyses tested the relationships between key variables. The multivariable regression model between physical activity and waist circumference was adjusted for age, sex of respondent, education level, general health condition, and smoking status. As expected, a significant relationship was found.

**Results:** The sample included with 23,019 (48.2%) males and 24,784 (52%) females, with an average age of 47.8 (SD=16.2). Mean waist circumference is 99.6cm (SD=17.0) with 23.4% being obese; 64% reported low physical activity with an average 163.5 minutes/week (SD= 139.3). A multivariable regression found a significant relationship between minutes spent in doing moderate-intensity work and waist circumference ( $p=.017$ ), while controlling for age ( $p<.001$ ), sex ( $p<.001$ ), education ( $p=.043$ ), health condition ( $p<.001$ ), and smoking status ( $p<.001$ ). The data shows that as physical activity increases, the waist circumference decreases.

**Conclusion:** Tests conducted indicates levels of physical activity depends on various factors such as age, sex, race, income, education, and body mass. Obesity can be prevented by increasing engagement in any type of physical activity. As obesity rates are increasing every day, it is very important to educate everyone regarding importance of physical activity.

**Keywords:** Physical activity, obesity, waist circumference, moderate/vigorous physical activity

## PERFORMANCE PRESENTATION ABSTRACTS

### **Performance #1 Meadow & Sky**

**Presenter: Franklin Stroble**

**Faculty Mentor: Dr. Robert Maggio**

**Department: Music**



“Meadow & Sky” is a musical meditation on reverence for nature even in the 21st Century. The composer has tried to capture the feelings, sensations and images experienced during a morning walk on a summer day. It’s scored for Wind Band and take about 8 minutes to perform.

# **SCHOLARLY RESEARCH & CREATIVE ACTIVITY (SRCA) AWARD ABSTRACTS**

(Listed in Alphabetical Order)

**Title: Detecting Information Loss in Shape Theory**

**Presenter: Johnny Aceti**

**Faculty Mentor: Dr. Jeremy Brazas**

**Department: Mathematics**

The purpose of topology as an abstract theory is to establish the ways in which we can logically apply the human language of mathematics to our understanding of shapes and spaces. This field has also become useful in the analysis of large data sets. Topological data analysis takes large, high dimensional data sets and approximates them with simpler geometric structures, which are built out of edges, triangles, tetrahedra, and so on into high dimensions.

In this talk, I will describe how abstract spaces can be approximated in this way using geometric objects called simplicial complexes using a construction called the “nerve” of an open cover of a space. I will also describe my work on the higher Spanier groups, which are algebraic structures meant to provide a description of precisely what data is lost when comparing a space with its approximation.

**Title: Play styles of families across cultures in Early Years and its impact on gender and developing cognitive, and pre-computational skills in children.**

**Presenter: Subarna Basu**

**Faculty Mentor: Dr. Jade Burriss**

**Department: Early Childhood Education**

Play styles varies across culture significantly. While parents in some cultures perceive play as part of the natural learning process, others think of it as a past time, a method of mere engagement and interaction. Play is an integral part of how children learn, and it aids the child's ability to think, understand, remember, experiment, and problem solve. Different cultures have different attitude towards "play" and its importance in the lives of the children. In many agrarian societies, children learn subsistence skills and domestic tasks though early participation in these activities with a combination of work and play. Research demonstrates that developmentally appropriate play with parents, carers and peers is a singular opportunity to provide socio-emotional, cognitive and language skills that build a prosocial brain.

This paper, which will summarize the study of children's play (2 to 8 years) in private homes and in formalized learning/educational institutions, tries to shed some light on this regard. This research will also aim to interview parents and educators through survey and questions the impact of culture on play styles, development of cognition through play activities and the role of gender in play. The results will aim to show that parents and teachers have different play styles to enhance concentration, cognition, and logic in children. The observations will primarily be focused on the importance of unplugged activities in the development of cognitive and pre-computational skills in children. Cognitive skills are the core skills that our brain uses to acquire knowledge and information and interpret data. Children acquire different cognitive abilities by interacting with the environment, solving problems through different activities and through "serve and return" parent child interactions. Cognitive skills can be enhanced through a number of pre-computational unplugged activities and help them with decomposition, pattern recognition, abstraction, and algorithms. Unplugged activities provide children with hands-on opportunities where children can relate to the problem and solve it through permutation and combination.

**Title: Goats Die, Butterflies Fly: Portrayals of Dominican Dictator Rafael Trujillo (1891-1961) in Historical Fiction and Non-Fiction**

**Presenter: Jocelyn Brown**

**Faculty Mentor: Dr. Jason Bartles**

**Department: Spanish**

The dictator novel has become a staple of Latin American literature in the 20th century, known for its ability to portray the intimate lives of dictators and the effects of their regimes on the people. In particular, this project focuses on analyzing the rise and fall of Dominican dictator Rafael Leónidas Trujillo (1891–1961) as portrayed through literature. This project aims to compare the ways in which Trujillo and his regime (El Trujillato) are portrayed not only in historical fiction, but also in non-fiction. Trujillo was known for his cult of personality and rewriting the Dominican Republic's history to revolve around him. This project's corpus includes the novels *The Feast of the Goat* (2000) by Mario Vargas Llosa and *In the Time of Butterflies* (1994) by Julia Alvarez. Finally, the comparative non-fiction source is the biography *Trujillo: The Death of the Dictator* (1978) by Bernard Diederich. Comparing the nuances of how the three authors approach narratives in literature and history paints a more comprehensive picture of Trujillo's character. It also helps deconstruct Trujillo's "official historical narrative."

Keywords: Trujillo, Dominican Republic, authoritarianism, dictator novel, historical fiction

**Title: Factors Influencing Treatment Outcomes of Individuals with Total Laryngectomies: Provider Identified Facilitators and Barriers**

**Presenter: Gretchen Frank**

**Faculty Mentor: Dr. Elizabeth Grillo**

**Department: Communication Science Disorders**

Laryngectomies are the standard of care for various forms of advanced laryngeal cancer (Galli et al., 2019). Literature has consistently reported reduced quality of life (QoL) in individuals with laryngectomies (IWLs) with regard to several aspects including voice handicap and various psychosocial factors (Evitts et al., 2011). Effective voice rehabilitation is one critical component to improving QoL for patients who have undergone laryngectomies. Various means of alaryngeal speech (esophageal speech [ES], electrolaryngeal speech [ELS], and tracheoesophageal speech [TES]) exist with the aim of restoring speech in patients who have undergone laryngectomies (van Sluis et al., 2017). Existing literature on the topic of post-laryngectomy outcomes focuses primarily on subjective patient outcomes. Limited information is available on provider perspectives regarding what factors providers identify as contributing to successful treatment outcomes. Obtaining provider perspectives on which factors contribute to successful outcomes in IWLs can provide a more holistic understanding of what factors influence treatment recommendations for IWLs. The purpose of this project is to obtain provider-identified facilitators and limitations of patient outcomes in IWLs. To achieve the aim of this study, speech-language pathologists who treat individuals with laryngectomies completed a short Qualtrics survey and participated in an interview via Zoom video conferencing. Results indicated various factors are important for patients and providers to take into consideration when selecting a mode of alaryngeal speech. Distribution of provider responses on the survey are discussed in comparison with the themes identified from the interview transcripts.

**Title: From the Shadows to the Spotlight: Centering the Experiences of Faculty with Invisible Disabilities**

**Presenter: Tiffany Gray**

**Faculty Mentor: Dr. Heather Schugar**

**Department: Literacy**

Centering and elevating the experiences of people with disabilities continues to be an under discussed and researched area. Within higher education, more attention needs to be made to faculty with disabilities and their navigation of campus life. This study provides a unique opportunity to add to the literature and scholarship that sheds light on the complexity of disability experiences in higher education.

My research inquiry explores the experiences of faculty with invisible disability identities within higher education. The binary construction of visible or invisible disabilities can create additional layers and complexity when addressing the nuances of disclosure. Additionally, the layers are multifaceted for disabled faculty around process and navigation of disclosure and/or non-disclosure of an invisible disability. Within society, being able-bodied and able-minded is often the default and assumed identity, which can be complicated for people who identify within and outside of those constructs. The institutional and systemic barriers and challenges within society cannot be ignored and the ways in which disclosure becomes impacted.

This qualitative convergent mixed methods inquiry aimed to explore factors that contribute to faculty with invisible disability disclosure and/or non-disclosure in the workplace. A participant survey was introduced in phase one which included open-ended and closed-ended questions and phase two consisted of follow up semi structured interviews with post survey participants that identify as having an invisible disability. This approach allowed me to analyze both sets of data to find areas where the results converge and diverge. Lastly, a document analysis was completed, which included a random selection and review of college and university websites. The purpose of the document analysis was to gain a broader perspective of what information is communicated or not communicated as it relates to invisible disabilities on these institution websites.

**Title: The Importance of Early Childhood Development Programs for the Growth of Refugee Children**

**Presenter: Sara Hassan**

**Faculty Mentor: Dr. Zeinab Baba**

**Department: Health**

This study was conducted to illustrate the benefits of early childhood development (ECD) programs for refugee children and how the implementation of these programs can support their socio-emotional growth. This study is critical because although research evidence has been presented to visualize the value in affective interventions and ECD programming, the humanitarian system has failed to include them as a core component in their response strategy. There is a need to examine implementation quality and the why and how specific aspects of interventions work. By delving into more context-specific research, ECD programs will have a higher implementation rate and provide more benefits to children. A systematic literature review was performed to identify conceptual frameworks of early childhood development programs for refugee children. A content analysis was carried out to identify the structure of ECD programs, what the outcomes are for refugee children, and how effective models can be replicated in the United States. The search results were narrowed down to select articles published between 2018-2022 focusing on programs targeting refugee children ages 2-18 in refugee-hosting countries. The results demonstrated the benefits of ECD programs and why they are crucial for the growth and development of refugee children. These programs must become widely available in all refugee-hosting countries to provide support to the positive wellbeing and development of refugee children.

**Title: Yoga Stress in College Students During the COVID-19 Pandemic: A Mixed Methods Study**

**Presenter: Lori Klein**

**Faculty Mentor: Dr. Heather Schugar**

**Department: Literacy**



College students have experienced exponential increases in stress and mental health concerns that continued to rise during the global coronavirus pandemic. Given that yoga is well regarded for improving psychological wellbeing and is popular among students, universities may want to expand these supportive programs. This mixed methods study examined how a three-credit introductory yoga course impacted college students' stress management and wellbeing when returning to in-person instruction after a period of remote learning as a result of coronavirus restrictions. This study used an explanatory sequential mixed method design to first assess stress levels quantitatively with the Perceived Stress Scale (PSS), and then qualitatively explain changes in stress with students' experiences in the semester-long yoga course. College students (n = 121) enrolled in 8 sections of Yoga 1 completed the PSS during weeks 3, 7, and 11, and reported statistically significant decreases in stress between weeks 3 and 11 according to repeated measures ANOVA analysis. A stratified random sample (n = 27) of student cases were selected for qualitative analysis of reflective assignments. Qualitative data were analyzed in Dedoose using a constant comparative method. The main themes of students' experiences were finding a sense of ease, supercharging, holding opposing forces, and preparing to tackle the day. Results from data convergence indicated that the yoga classes supported psychological wellness among college students, while divergent findings demonstrated that self-report surveys may not accurately measure the interaction of stress and coping skills. Future research is recommended to expand approaches that improve college students' wellbeing.

**Title: A GIS Analysis and Comparison of Potential Wetland Mitigation Opportunities in the Red Clay Creek and White Clay Creek Watersheds, Chester County, Pennsylvania**

**Presenter: Shannon Ryan**

**Faculty Mentor: Dr. Joy Fritschle**

**Department: Geography & Planning**

Wetland type environments provide innumerable functions and values that are beneficial to the environment. Historically these habitats have suffered significant losses and, as the pressure of human development expands, it is crucial to preserve existing wetlands and plan for future restoration opportunities. This research examines the Red Clay Creek and White Clay Creek watersheds in Chester County, Pennsylvania to determine where potential wetland mitigation opportunities occur. Using a Geographic Information Systems (GIS) analysis, three wetland characteristics including watercourse locations, existing National Wetlands Inventory (NWI) wetlands, and hydric soils were mapped and evaluated throughout each of the watersheds. Based on the occurrence of these characteristics, five sites were selected for ground-truthing investigations. To support findings from the GIS analysis and ground-truthing investigation, a review of historical aerial imagery was performed to understand how the site and surrounding landscape have changed over time. Of these five selected sites, three were deemed suitable for potential wetland mitigation opportunities. This research shows that GIS analysis could be a useful tool in determining where potential wetland mitigation opportunities lie and could be used to prioritize planning wetland creation activities.

**Title: Community Based Music Therapy for Medically Complex Pediatric Patients and Their Families**

**Presenter: Hannah Stevens**

**Faculty Mentor: Dr. Angela Guerriero**

**Department: Music Education and Music Therapy**

Music therapists working with families with young children who have experienced complex medical diagnoses and hospitalizations have addressed many areas in their treatment. These areas include positive parent-child interaction through developmentally appropriate practices and supporting childhood development (cognitive, sensorimotor, expressive, emotional) as it relates to varying diagnoses.

Few family music therapy studies exist in the literature (Nicholson, et al 2008, Pasiali, 2012), and a fraction of those studies address families involving children who have been hospitalized (Baron, 2017; Loewy, 2011). There is a need for additional research to determine the ongoing benefits of music therapy with the development of family disposition to engage in appropriate social settings once discharged from the hospital setting. This study will contribute to the literature by documenting how family music therapy supports positive parent-child interactions and overall child development.

West Chester University of Pennsylvania  
Office of Research and Sponsored Programs  
700 S. Church Street  
Ehinger Office Annex 111  
West Chester, PA 19383  
610-436-3557  
research@wcupa.edu