SAM HOUSTON STATE UNIVERSITY

SCHOLARLY INNOVATION SUMMIT

2023 PROGRAM

Office of Research & Sponsored Programs
SAM HOUSTON STATE UNIVERSITY
MEMBER THE TEXAS STATE UNIVERSITY SYSTEM

SCHOLARLY INNOVATION SUMMIT PROGRAM

September 26 — Day 1

8–9 a.m.	Bridging Barriers Between Industry and Academia
8–9 a.m.	The Administrative Professional and Award Management
9–11 a.m.	Cup of JoeY-Networking Coffee Happy Hour
11 a.m.–12 p.m.	Innovation Pitch Competition
12–1 p.m.	Attendee Break
1–2 p.m.	Undergraduate Research Student Panel
2–4 p.m.	Scholarly Innovation Research Fair
4–5 p.m.	Navigating Grant Reviews & Resubmissions
4–5 p.m.	Centering Servingness in Research Development

September 27 — Day 2

8–9 a.m.	Where to Start: Building Your Research Program
9–10 a.m.	The ABCs of Grant Management: Award, Budget, Compliance
10 a.m.–12 p.m.	Research Think Tank
11 a.m.–12 p.m.	Knowledge Quest: Research Edition
12–1 p.m.	Attendee Break
1–2 p.m.	Supporting & Leveraging Students in Research
2–3 p.m.	Leveraging University Advancement for Private Foundation Funding
3–4 p.m.	R & RStudio Workshop
3–4 p.m.	Nvivo Workshop

Audience Key:

- Faculty
- Staff/Admins
- Chairs/Deans
- Undergrad Students
- Grad Students
- External Partners
- Everyone

Session Descriptions—Day 1

8–9 a.m.—Bridging Barriers Between Industry and Academia | LSC 241

This session is intended for Faculty, External Partners, and Graduate Students.

In today's fast-changing economy, bridging the industry-academia gap is crucial. We're hosting a session uniting researchers, industry experts, and stakeholders for collaboration and knowledge exchange. Expect practical insights, real-world examples, and networking opportunities to foster innovation and economic growth. Join us to connect, share, and explore collaboration prospects.

8–9 a.m.—The Administrative Professional and Award Management | LSC 230

This session is intended for Administrators, Chairs, and Deans.

This workshop equips administrative professionals with tools to navigate the grant award process, covering pre- to post-award management. Real-world examples and exercises enable them to assist principal investigators effectively. Topics include grant timeline management, expense monitoring, reporting, and grant management software. Attendees gain confidence in handling grant administration, supporting research project success.

9–11 a.m.—Cup of JoeY - Networking Coffee Happy Hour | LSC 242

This session is intended for everyone: Faculty, Students, External Partners, Administration, and Staff.

Cup of JoeY is a coffee Happy Hour for Innovative Ideas. What is the difference between a cup of joe and a Cup of Joe-Y? It is the WHY. It's not what you do—it is why you do it! Join us for an engaging networking event designed to foster connections between our esteemed external partners and the talented members of our university community. This event serves as a platform for meaningful exchanges, knowledge sharing, and potential collaborations and seeks to bridge the gap between academia and industry, forging alliances that drive innovation, research, and mutual growth.

11 a.m.–12 p.m.—Innovation Pitch Competition | LSC 241

This session is intended for Faculty, External Partners, and Students.

Universities provide a unique opportunity to integrate innovative discoveries with entrepreneurship and bring about social and economic change. To catalyze the transformation from discovery-based research to market-solution and impact at Sam Houston State University, the Office of Research and Sponsored Programs (ORSP) and Center for Innovation Technology and Entrepreneurship (CITE) present the inaugural SHSU-Innovation Pitch Competition to be held during the 2023 Scholarly Innovation Summit. This pitch competition will bridge the gap between academia and the marketplace by providing faculty members with a platform to pitch their innovations, technologies, or discoveries with the potential for commercialization. This competition aims to accelerate the translation of SHSU research into real-world solutions.

12–1 p.m.—Attendee Break

Take the time to grab lunch, relax, or stretch your legs. The sessions will resume at 1p.m.!

▶ ▶ 1–2 p.m.—Undergraduate Research Student Panel | LSC 230

This session is intended for Undergraduate Students and Faculty.

Participate in a captivating panel discussion featuring accomplished undergraduate researchers from various disciplines across campus. Gain insights into SHSU's vibrant research ecosystem as these students share their personal journeys, valuable experiences, and insightful advice on how fellow students can actively engage. The panelists will engage in dynamic conversations, addressing both student-submitted inquiries and live questions from the audience. Discover how you can become a part of this enriching research community and unlock the possibilities it offers.

▶ 2–4 p.m.—Scholarly Innovation Research Fair | LSC Orange Ballroom

This session is intended for everyone: Faculty, Students, External Partners, Administration, and Staff.

Want to explore the latest research projects and cutting-edge technologies at SHSU? Don't miss the Scholarly Innovation Research Fair! This exciting event will showcase a range of multidisciplinary research projects, equipment, and innovations developed by our talented faculty, students, and external partners. In addition to networking with potential collaborators and learning about current research endeavors, attendees can also participate in hands-on demonstrations of the latest equipment and technologies used to support research. This interactive experience provides a unique opportunity to learn about the tools and techniques being used in various fields, and to explore how they can be applied to your own research interests. Whether you're a researcher looking to connect with others in your field or simply interested in learning about the latest advancements in research, the Scholarly Innovation Research Fair is a must-attend event. Come see what our research community has to offer and discover how you can be a part of shaping the future of our research enterprise!

▶ 4–5 p.m.—Navigating Grant Reviews & Resubmissions | LSC 230

This session is intended for Faculty.

Have you ever wondered what happens with a grant proposal after it's been submitted? Or the reasons your grant proposal was not funded? Join us in this session, as we dive into the peer review process and the art of navigating through reviews of grant submissions that were not successful The audience will learn from several SHSU faculty members who have served as review on grant review panels from several agencies (NSF, Dept of Ed, USDA, NIJ, NASA) including private foundations. These panelists will provide valuable insight on the review process, allowing for more successful grant submissions. Participants will learn how to analyze reviewer feedback, identify areas for improvement, and implement targeted revisions to maximize your chances of success.

▶ ▶ 4–5 p.m.—Centering Servingness in Research Development | LSC 241

This session is intended for Faculty and Administration.

This presentation will highlight the promotion of best practices in research activities for all faculty and staff. It will also highlight available HSI/MSI funding opportunities that exist and provide insights on integrating inclusive verbiage into your grant proposals to enhance their competitiveness and maximize their impact.

Session Descriptions—Day 2

▶ 8–9 a.m.—Where to Start: Building Your Research Program | LSC 241

This session is intended for Faculty.

Where to start? This session will explore strategies for identifying research goals, developing research questions, and designing research projects that align with faculty's research interests and expertise. We will also cover best practices for building a successful research program, including developing a research agenda, securing funding, collaborating with colleagues, and disseminating research findings. By the end of the session, participants will have a better understanding of the steps involved in building a successful research program and will have developed a roadmap for moving their research programs forward.

▶ ▶ 9–10 a.m.—The ABCs of Grant Management: Award, Budget, Compliance | LSC 230

This session is intended for Faculty and Administrators.

This workshop is designed to provide researchers with practical knowledge on managing and planning for the spending of research grants. Participants will learn what to expect during the award setup and management process, including compliance requirements and reporting responsibilities. They will also gain valuable insights into effective spending strategies and budgeting techniques to ensure that their grant funds are used efficiently and effectively.

▶ 10 a.m.–12 p.m.—Research Think Tank | LSC 242

This session is intended for Faculty.

This think tank is the first of many collaborative gatherings of faculty researchers who are interested in exploring and discussing research themes relevant to their fields of study. The workshop will provide an opportunity for participants to share their ideas and expertise, and to engage in open and constructive dialogue with one another revolving around cybersecurity, advanced manufacturing processes, and supply chain/project management. By the end of the think tank, participants will have a clearer understanding of the current state of research in these three fields and will have made progress towards developing new research directions and collaborations. Seating is limited, so if you are interested in attending, please contact Brian Loft (loft@shsu.edu).

▶ 11 a.m.–12 p.m.—Knowledge Quest: Research Edition | LSC 230

This session is intended for Undergraduate Students.

Introducing Knowledge Quest—an immersive research game seamlessly blending elements from the renowned game show "Who Wants to Be a Millionaire" and the beloved board game "Dungeons and Dragons." Immerse yourself in a medieval-themed adventure, where the ultimate objective is to tackle research-centered inquiries with precision and expertise.

12–1 p.m.—Attendee Break

Take the time to grab lunch, relax, or stretch your legs. The sessions will resume at 1p.m.!

▶ ▶ ▶ 1–2 p.m.—Supporting & Leveraging Students in Research | LSC 241

This session is intended for Faculty, Undergraduate Students, and Graduate Students.

This moderated panel discussion focuses on the valuable role of student researchers, both undergraduate and graduate, in faculty research. It aims to highlight the significance of leveraging student talent and the positive impact it can have on faculty-led research projects. The conference will feature a panel of esteemed faculty members who have excelled as mentors, sharing their experiences, best practices, and insights into effectively engaging and guiding student researchers. Through interactive discussions and case studies, this session will explore the mutual benefits of collaboration between faculty and students, promoting a culture of research excellence and nurturing the next generation of scholars.

▶ ▶ 2–3 p.m.—Leveraging University Advancement for Private Foundation Funding | LSC 230

This session is intended for Faculty and Administration.

This session is to help you understand the role University Advancement plays in seeking Private Foundation support.

▶ ▶ ▶ 3–4 p.m.—R & RStudio Workshop | LSC 230

This session is intended for Faculty, Undergraduate Students, and Graduate Students.

This workshop will provide participants with a hands-on introduction to two powerful software tools for data analysis: R and RStudio. R is a free and open-source programming language widely used for statistical computing and graphics. Participants will learn the basics of R programming, including how to load data and manipulate variables. By the end of the workshop, participants will have a good understanding of the capabilities of both R and RStudio and will be able to start using these tools in their own research projects. No prior experience with the software is required; however, we ask that you have already watched this introductory video and have installed the program before the session.

3–4 p.m.—Nvivo Workshop | LSC 241

This session is intended for Faculty, Undergraduate Students, and Graduate Students.

This workshop will provide participants with a hands-on introduction to Nvivo, a proprietary software used for qualitative data analysis. During the workshop, participants will be introduced to Nvivo and learn how to import and code qualitative data, and how to perform basic analysis using the software. By the end of the workshop, participants will have a good understanding of the capabilities of Nvivo and will be able to start using this tool in their own research projects. No prior experience with the software is required; however, we ask that you have already watched this introductory video and have installed the program before the program.

Summit Scholarly Innovation Research Fair Abstracts

Note: *denotes a student on the project; **denotes a research scientist

Effectiveness of a Community-Based Intervention of Acceptance and Commitment Therapy for Type 2 Diabetes Management in a Rural and Underserved Community

Personnel: Ryan J. Marek, Ph.D. (Psychology and Philosophy), Chelsea Ratcliff, Ph.D. (Psychology and Philosophy), Owen Kelly, Ph.D.,RNutr, (Molecular and Cellular Biology), Oluwaseun Olaiya, DO, (Texas Children's Hospital and Baylor College of Medicine) & Michael Griffin, Ph.D. (Molecular and Cellular Biology).

Abstract: In the rural community at higher risk of diabetes, conventional lifestyle intervention approaches to diabetes management or prevention are not sustainable as they are resource intense. In medical deserts, there is a need for alternative strategies to care for the rural population with diabetes. One such approach is to improve diabetes self-management through Acceptance and Commitment Therapy (ACT), continuous glucose monitoring (CGM), and lifestyle education (LE). Our central hypothesis is that a community-wide intervention of ACT with CGM and LE will improve T2D outcomes in rural communities compared to CGM and LE, or LE alone. We aim to recruit up to 60 adults in rural areas with diagnosed diabetes and with a Hemoglobin A1c (HbA1C) ≥ 6.0 at screening. They will be randomly assigned to one of three intervention groups: ACT + CGM + LE,CGM + LE, or LE alone. Each participant will have their body composition, HbA1C, CGM data, psychosocial/cognitive functioning, health literacy, and food insecurity assessed at all study time points; baseline, 3-months post-intervention, and 12 months post-intervention. Multilevel modeling will be used to analyze data over time to determine if HbA1C is decreasing and if other outcome measures are changing. Our goal with this data is to develop a scalable and sustainable program for diabetes management in rural areas that enables individual self-management and does not require extensive healthcare resources in an existing medical desert.

Urban Agribusiness Ventures to Connect and Engage our Hispanic Community Personnel: Dr. Shyam Nair (PI), Drs. Kaitlin Hopkins, Alma Contreras-Vanegas, Mark Hainline, A.B.M. Islam, and Art Wolfskill (Co-PIs)

Personnel: Dr. Shyam Nair (PI), Drs. Kaitlin Hopkins, Alma Contreras-Vanegas, Mark Hainline, A.B.M. Islam, and Art Wolfskill (Co-PIs)

Abstract: The overarching goal of this proposal is to establish an urban agriculture pilot project to provide high school and Hispanic community groups resources and knowledge they need to produce fresh, healthy vegetables sustainably and efficiently through hydroponics and help them to create a sustainable revenue system through training in digital marketing techniques and the development of a smartphone marketing App. We will use the data and experiences gained from this proof-of-concept project to submit a federal proposal to USDA NIFA Hispanic Serving Institutions Program or NSF Engines Program. The federal proposal will be to create 40 to 50 such groups in the suburbs of Houston and merge them into a self-sustaining and profitable cooperative Community Based Organization (CBO) that provides fresh produce to the local community and generates economic opportunities for its members.

Establishment of the Biomedical Research, Innovation, Training, and Employment (BRITE) Consortium at Sam Houston State University

Personnel: Sharmin Hasan[1], Mardelle Atkins[1], Donovan Haines[2], David Thompson[2], Meagan Hinze[2], Aaron Lynne[1], Stephen White[3], Khalid M. Khan[4], Jailenne Quiñones[5], Diego Alvarez[6], [1]Department of Biological Sciences, College of Science and Engineering Technology, [2]Department of Chemistry, College of Science and Engineering Technology, [3]Psychology & Philosophy, College of Humanities and Social Sciences, [4]Department of Public Health, College of Health Sciences, [5]Department of Clinical Anatomy, College of Osteopathic Medicine, [6]Department of Physiology & Pharmacology, College of Osteopathic Medicine

Sam Houston State University, TX, USA

Abstract: Sam Houston State University (SHSU) is located in a flourishing region for biomedical careers, presenting valuable opportunities for students. Despite this, SHSU faces challenges in guiding students toward successful careers, including student training, need for development of a biomedical community, limited regional partnerships, and limited student placement in regional employment. To combat these challenges, the BRITE consortium has been established as a central hub to expand SHSU's biomedical research initiatives. BRITE will support students with education, paid research opportunities, and facilitate communication to build the campus biomedical community. Utilizing a 4-C approach—infrastructure for communications, collaborations, connections to external partners, and creation of opportunities for faculty and students in research and training—BRITE aims to have a wide-reaching impact. This will prepare students for advanced studies, foster critical thinking, and contribute to scientific advancement. These student-centered efforts are expected to increase SHSU's research capacity and regional presence, enhancing the university's brand. In addition, the consortium plans to generate peer-reviewed publications and improve SHSU's standing for obtaining external funding to support the training of students and the university's biomedical research programs.

Keywords: Biomedical Science Research, Student Mentorship, Workforce Training, Research Collaboration

Machine-Learning Algorithm to Optimize the Carbon Sequestration and Noise Attenuation of Roadside Vegetation in Texas

Personnel: Momen Mousa & John Pascarella

Abstract: While the Texas Department of Transportation (TxDOT) reclaims land impacted by transportation infrastructure after road construction, the carbon sequestration and noise attenuation resulting from these reclamation projects are not considered in TxDOT's decision-making process. This is primarily because little information is known about the carbon pool associated with the native and non-native species along highways in Texas. According to the Federal Highway Administration, Texas has nearly 294,394 acres of unpaved Right of Way (ROW). Therefore, the objective of this project is to develop a comprehensive framework that helps TxDOT utilize this unpaved ROW to maximize carbon sequestration and noise attenuation without negatively affecting roadway safety. This will ultimately contribute to the overall reduction of Texas's contributions to greenhouse gases. To do so, a comprehensive literature review and a state-wide survey will be conducted to collect key information about Texas's Right-of-Way vegetation management. The research team will then select test sites to be studied in this project. After this, samples will be taken from the selected test sites for laboratory testing and field measurements will also be conducted in these test sites. Eventually, the laboratory and field measurements will be analyzed to outline the final conclusions and recommendations. such groups in the suburbs of Houston and merge them into a self-sustaining and profitable cooperative Community Based Organization (CBO) that provides fresh produce to the local community and generates economic opportunities for its members.

Keywords: Carbon Sequestration, Carbon Capture, Roadside Vegetation Management, Transportation

Pitcairn Islands Research Station

Personnel: Donald Patrick Albert, Susan Elkins, Matthew Purifoy*, Mason Solomon*

Abstract: The Pitcairn Islands Research Station (PIRS) functions as a portal for our studies involving the mutiny on the HMAV Bounty (April 28, 1789) and its aftermath. Our affiliate investigators include Donald Albert (Department of Environmental & Geosciences), Susan Elkins (Newton Gresham Library), Matthew Purifoy (Geography Major), and Mason Solomon (History Major). The purpose of PIRS is to disseminate our studies (abstracts, posters, magazine and journal articles) online through Scholarly Works @ SHSU to Bounty/Pitcairn enthusiasts worldwide. The underlying themes of these studies have ranged from biogeography, isolated populations, to island feminism. The public has downloaded these studies almost 1,600 times from Scholarly Works @ SHSU over the last two years. Download counts offer an alternative measurement to standard citation metrics (e.g., h-index). PIRS maintains almost one-hundred books, including rare first or early editions. Further, the PIRS has collected first day covers (stamps), stamp exhibition entries, and postcards illustrating motifs depicting the Bounty or Pitcairn Island. PIRS possesses carvings (whales, sharks, birds, turtles, and a stingray), painted leaves, and other memorabilia emanating from Pitcairners. One developmental leave (2021), two internal grants (2022, 2023), and three Nancy and Jim Tiller Faculty Awards (2018, 2020, 2022) have supported our research. Our most recent publication is titled, "Repositioning Pitcairn's Tapa: Detecting the Voices of the Forgotten Women of Bounty," appearing in the Okinawan Journal of Island Studies (2023). In support of this initiative Albert has traveled to California (Pitcairn Islands Study Center), Oahu (US), Tahiti and Moorea (French Polynesia), Australia (Sydney), and New Zealand.

Keywords: Mutiny on the Bounty, Pitcairn Islands, Historical Geography, Small Island Economies

Elevating Geography's Relevance: A Collaboration with Secondary Teachers and Students in Southeast Texas

Personnel: Dr. Velvet Nelson (PI), Dr. John Strait (Co-PI), Dr. Ross Guida (Co-PI), Ava Fujimoto-Strait (Co-PI), and Hailey Richardson*

Abstract: In the 2020-21 academic year, 324,000 Texas high school students enrolled in World Geography and 63,500 students enrolled in AP Human Geography. While AP Human Geography has grown exponentially since 2001, little of this growth has translated to sustained geographic interest in college. Moreover, many Texas high school graduates struggle to understand the breadth of geography when arriving on college campuses. This may be partially attributed to a lack of place-based learning that is key for engaging underrepresented minority students. The goals of this project were to: 1) equip high school teachers in the Houston metropolitan area with content and technological tools to aid in the development of place-based lessons and activities to engage students, while also meeting required Texas Essential Knowledge and Skill (TEKS) standards; and 2) cultivate place-based geographic awareness among primarily low-income and minority high school students to foster a greater understanding of southeast Texas's distinctive environment and culture in daily life, higher education, and the workforce.

Keywords: Geography Education; Place-based Learning; GIS Story Maps

Connecting Parents with Disabilities to Essential Resources in Their Local Libraries

Personnel: Erin Owens, Kimber Cox*

Abstract: One in four Americans lives with a disability (Centers for Disease Control and Prevention), and more than half of adults live with at least one chronic condition such as arthritis, cancer, heart disease, or hypertension (Boersma, Black, & Ward). Among these Americans, many are or wish to become parents: a 2012 estimate suggests that 4.1 million parents live with disabilities and a child under age 18 living at home (Kaye). A disability or chronic illness can significantly impact an individual's physical or cognitive capabilities in relation to raising a child. Books about other parents with disabilities and their children are one kind of tool that may help families to process, discuss, and manage their experiences. The purpose of this project was to create and openly publish an annotated bibliography of essential resources that pertain to parenting while also navigating a parent's disability or chronic illness. Various types of resources are included, such as self-help guides, personal memoirs, and children's books. Additionally, various types of disabilities and illnesses which may impair a parent's physical or cognitive functioning are represented. The project was supported by a 2022 Carnegie Whitney Grant from the American Library Association (ALA).

Keywords: Disabilities, Parenting, Books, Libraries

Objective vs. Subjective Workload Ratings in Collegiate Women's Soccer

Personnel: Yvette Figueroa (PI); Jen Bunn (Co-PI)

Abstract: Athlete monitoring systems aim to quantify the work athletes perform during practice and competition. However, rarely are these values compared to athletes' perceived efforts. The purpose of this study was to compare the objective and subjective workload ratings in training and games for collegiate women's soccer. Athletes (n = 22) wore global positioning systems (GPS) monitors by PlayerTek for every training and game session during the competitive season. To gather objective workloads, Player Load (PL) was used to quantify workloads based on GPS data. For subjective workloads, athletes provided intensity ratings for all sessions on a scale of one (at rest) to 10 (maximal intensity). Data were standardized and a paired samples t-test was used to compare objective and subjective workload ratings for training and games. Data included workload ratings from 56 training sessions and 19 games. No differences were found between objective and subjective workload ratings ($t(148) = 0.00$, $p = 1.00$). Findings indicate that either objective or subjective approaches can be used to determine workload ratings among collegiate women's soccer players. This information will be useful for coaches and support staff to make impactful decisions for practice and competition strategies that aim to optimize athletes' wellbeing.

Keywords: Female Athlete, Training, Soccer, Athlete Monitoring, Rating Of Perceived Exertion

Representing Victims in Parole Hearings: A Mixed- Methods Evaluation on Victim Impact

Personnel: Stuti S. Kokkalera (PI); Avery Brinegar*; Daniel Rodriguez*; Jaritzy Ochoa*; Beatriz Amalfi Wronski*

Abstract: A substantial proportion of those serving life were sentenced as juveniles. The juvenile lifer population is unique since their cases attract significant attention from the media and the public. Like at the time of sentencing, victims, or their representatives can provide in-person testimony at the parole hearing. Drawing on a mixed methodological approach, we examine how victim input influences parole decision-making for juvenile lifer candidates. The quantitative analyses draw on a sample of 300 juvenile lifer parole decisions issued between 2005 and 2022. Multivariate models will be used to test whether victim input at the hearing is associated with the likelihood of parole release, as well as the length of time that a parole candidate must wait for another hearing if denied parole. Content analytical techniques are employed to examine victim impact statements presented in 60 transcribed parole board hearings that took place between 2005 and 2013. Therefore, the study will clearly articulate the influence of victim opposition on parole outcomes and will surface how victim and/or victim representative narratives (including prosecutorial objections) are presented at the parole hearing, revealing variation in opposition, and concerns of procedural justice.

Keywords: Parole; Juvenile Lifers; Victim Impact; Mixed Methods

Fighting Fascist Spain -- The Exhibits (FFSTE)

Personnel: P.I. and Curator: Montse Feu, Ph. D., *Layla Johanna, *Stephanie Love, *Ian Luis Maloney, and *Cheree Robles

Abstract: The open-source digital project Fighting Fascist Spain – the Exhibits (FFSTE) contextualizes recovered U.S. Hispanic antifascist primary sourcesin thematic areas: print culture, graphic art, communities, and theatre. These exhibits focus on the Sociedades Hispanas Confederadas (SHC), their periodicals, and support networks. For four decades, the SHC aided refugees and political prisoners, and reported on the Spanish Civil War (1936-1939) and Francisco Franco's political repression (1939-1977). After Franco's uprising, nearly 200 U.S. workers' cultural and mutual aid societies joined the SHC, which was devoted to fighting Fascist Spain by publishing Frente Popular (1936-1939) and España Libre (1939-1977) in New York. The SHC periodicals were reliable sources of news, opinions, and cultural practices. Periodicals also operated as connecting hubs in the United States, as their editors and staff became organic leaders of the antifascist movement. FFSTE shares workers' protest fashioned by the alternative intellectual, cultural, and political traditions and institutions: grassroots associations, the alternative press, and the comic and farcical theater. All of which provided opportunities for antifascist activism in the United States. FFSTE does not merely recover evidence of workers' activism but articulates how their politics shaped their antifascist culture.

Keywords: Workers, Antifascism, Periodicals, Digital Humanities

Aging and Burnout for Nurses in An Acute Care Setting: The First Wave of Covid-19

Personnel: Beier, M., Cockerham, M., Branson, S. & Boss, L.

Abstract: We examined the relationship between age, coping, and burnout during the peak of the COVID-19 pandemic with nurses in Texas (N = 376). Nurses were recruited through a professional association and snowball sampling methodology for the cross-sectional survey study. Framed in lifespan development theories, we expected that nurse age and experience would be positively correlated with positive coping strategies (e.g., getting emotional support from others) and negatively correlated with negative coping strategies (e.g., drinking and drug use). We also expected age to be negatively related to the emotional exhaustion and depersonalization facets of burnout and positively related to the personal accomplishment facet of burnout. Findings were largely supported in that age was positively associated with positive coping and personal accomplishment and age and experience were negatively correlated with negative coping and depersonalization. Age was not, however, associated with emotional exhaustion. Mediation models further suggest that coping explains some of the effects of age on burnout. A theoretical extension of lifespan development models into an extreme environment and practical implications for coping in these environments are discussed.

Keywords: Aging; COVID; Burnout; Coping; Nursing

The Historic Wynne Home: The Role of 3D Printing in Restoration

Personnel: Pamela Zelbst

Abstract: The Wynne Home, a beautiful historical structure located in Huntsville, Texas, was built by Adair Wynne for his bride as their "Honeymoon Cottage" in 1883. The cottage grew as their family grew and evolved into a Classical Revival style home (Zellar, 2006). The transformation of the home not only increased the size by 25 percent but also included grand paired composite cypress columns and smaller Doric columns used to support a portico and created a beautiful entrance to the Wynne Home (Zellar, 2006). The capitals of the cypress columns were made of plaster and horsehair, which was a normal process in the early years of this historic home. The capitals withstood many years of heat, cold, wind, rain and the occasional hailstorm. As with any manmade product, all good things come to an end. Approximately four years ago, two of these capitals that had been on the historic home for over a century collapsed and broke into several pieces. This is the story of the recreation of the capitals on the cypress columns. This project's scope included the design of a process using 3D technology to replicate and replace the capitals.

Keywords: Historic Restoration, 3D Printing, 3D Scanning, Production Process

Exploring 18+ Programs Across Texas for Adult Students with Disabilities

Personnel: Gushanas, C. M., Mitchell, V. M., Biggs, B., Daniel, K., & Driffill, J.

Abstract: This state-wide study is funded by a grant through the Texas Education Agency and Texas Council for Developmental Disabilities. In Texas, students are eligible to receive special education services through the age of 21. Currently, the field of special education lacks guidance on how to serve adult students receiving special education services ages 18-21 (18+). Meanwhile, there has been an increase in school districts creating 18+ programs. The purpose of this study is to identify current 18+ program characteristics and instructional practices for students who receive special education services between the ages of 18-21 years old across Texas.

Keywords: Special Education, Transition

Design & Implementation of PV-based EV DC Fast Charging Station for Community Engagement

Personnel: Reg Pecen (PI), Faruk Yildiz, Michael Dakeev, Keith Coogler, Kevin Von Rosenberg, *Dillon Gathright, *Blayke Yearick, *Nabethse Gomez, *Austin Weirich, *Maxwell Zeutschel, *Nick Capuano

Abstract: The objective of this project is to install a 33.6 kW solar array on SHSU campus and connect it to a nearby campus transformer by a 50 kW capacity, 3-phase grid-tie inverter. A Charge-Point Express 250 DC fast charger will also be installed on the SHSU campus near the PhotoVoltaics (PV) array to charge electric vehicles (EV). The project will also include an outdoor educational display describing how the overall system operates and environmental savings are secured. Fully sponsored by Entergy Energy Services, Inc.'s Environmental Initiatives Funding (EFA), this project provides a multitude of benefits by placing an EV fast charger on campus with it being convenient for the citizens of Huntsville, TX and electric vehicle drivers traveling between Houston and Dallas. The project will also serve as a showcase to the SHSU community for the increasing importance of renewable energy resources and display a unique example of how clean power is generated on campus. This project will expand renewable energy generation on campus, demonstrate aggregated management of climate-resilient clean energy technologies in Texas, increase access to fast EV charging, and provide on-site PV farm and DC fast charging educational demonstration for engineering technology students. The key benefits of this project include improved energy resilience, reduced energy burden, and reduced GHG of the electrical energy at SHSU community.

Keywords: PhotoVoltaics, EVs, Fast Charging, Renewable Energy, Sustainability

Sam Houston Autism Research and Education (Share) Workshop Series: A Flexible Approach to Teacher Training

Personnel: Vargo, K. K., Ramirez, R.*, Orr, K.*, Taylor, M.*, Smith, R.*, Gushanas, C., & Calderhead, W.

Abstract: Autism Spectrum Disorder (ASD) is a pervasive developmental disorder with a current prevalence of 1 in 36. Students with ASD may demonstrate challenges in social and communication skills, which require teachers to implement evidence-based strategies. The purpose of this project is to provide teachers with empirical resources and strategies to use in educational settings through a virtual workshop series. Teachers can attend sessions synchronously or asynchronously. Throughout the workshop series, teachers complete a variety of assessments to evaluate performance and rate the feasibility and application of the sessions and resources.

Keywords: Autism Spectrum Disorder, Teacher Training, Virtual Training

Listening, Sharing, and Learning: Educating Teachers and Students About Autism

Personnel: Vargo, K. K. & Kuntz, C.*

Abstract: The Prevalence of Autism Spectrum Disorder (ASD) is 1 in 36, so it is likely that students and teachers will interact with students with ASD daily. Unfortunately, despite the high prevalence of ASD, many students and teachers are unaware of the core characteristics. The purpose of this project was to educate teachers and students about ASD while encouraging awareness and acceptance within schools and the community.

Keywords: Autism Spectrum Disorder, Teacher Training, Awareness

Family Involvement in Recovery Support and Treatment of Opioid Use Disorders and Other SUDs

Personnel: Craig E. Henderson, Trenten Foulkrod, Inneké Vargas, & Ruth Miller

Abstract: The Family Involvement in Recovery Support and Treatment (FIRST) Research Network is a sustainable research network designed to develop and evaluate innovative family-based recovery support services (RSS) across the youth OUD services cascade. FIRST conducts research on promoting family integration in youth OUD services with the goals of increasing service engagement and engendering supportive family environments for youth recovery. It has two specific foci: (1) Innovations in family RSS interventions and metrics to assist youth OUD providers with integrating families in OUD services, and (2) Innovations in measurement of direct-to-family RSS for families of youth with OUD. The network is committed to enhancing existing remote-access RSS for caregivers of youth with SUDs (helpline, parent coaching, mobile messaging) by developing multidimensional metrics for family service engagement and outcomes. At project end FIRST will maintain a sustainable network of family-based RSS research activities, provider training and measurement resources, as well as mentor early-career research scientists in RSS.

Keywords: Substance Use Disorders, Opioid Use Disorder, Family Therapy, Adolescent, Emerging Adult

Center for Art Research and Education

Personnel: Edie Wells, Trish Ramsay, Kate Borcherding, Cynthia Reid, Edward Morin, Pat Lawler, Anthony Watkins, Christopher McKnight*, Reagan Truong*, Samantha Samos*, Leslie Prokosch*, Mark Menjivar, Emily Peacock, Rebecca Finley, Michael Henderson

Abstract: The Center for Art Research and Education (CARE) strives to enhance the visual culture of SHSU, Huntsville, Walker County and the surrounding communities. CARE promotes awareness and appreciation of art and design by supporting faculty research, art education, visiting artists, design projects, and opportunities for faculty and student engagement with community.

Keywords: Art, Summer Camps, Gallery, Animation, Graphic Design, Art Education, Creativity, Community, Walker County, Huntsville, Texas Art

Bee Biodiversity in Texas

Personnel: John B Pascarella

Abstract: Bee biodiversity was sampled at multiple Texas Military Forces locations including Camp Bowie (Brown County), Camp Swift (Bastrop County), Martindale Army Airfield (Bexar County), Camp Maxey (Lamar County), Fort Wolters (Parker County), and Eagle Mountain Lake Maneuver Facility (Tarrant County). Bee species richness and abundance were determined at Camp Bowie (19,335 specimens and 83 species), Martindale (4501 specimens and 26 species), and Eagle Mountain (7295 specimens and 56 species) while species richness only was determined at the other three sites (Fort Wolters-32 species, Camp Maxes-42 species, and Camp Swift-148 species). These military training facilities maintain habitats appropriate for native bees.

Keywords: Biodiversity, Texas Military Forces, Species Richness, Abundance

Research in Department of Communication Studies

Personnel: Anya Lu, Caleb Hubbard, Colton Krawietz

Abstract: The goal of this display is to demonstrate the variety of research projects done in the Department of Communication Studies. We will showcase current research being done by our faculty and the partnerships they have with graduate students, other SHSU faculty, and faculty and researchers at other institutions. Faculty will share future research projects and possible opportunities for interdisciplinary collaboration. Our department specializes in interpersonal communication, therefore our research spans across medicine, health, education, romantic relationships, technology, finances, sports, parasocial relationships and media, and more. Communication Studies faculty use a wide variety of research methods that include quantitative, qualitative, mixed methods. They conduct research using experimental design, surveys, interviews, observations, big data as well as public data sets. Our faculty has a proven record of interdisciplinary and international collaboration working with scholars from computer science, college of medicine, college of business. Our department is equipped with a research laboratory with a 'living room' style configuration where interactions can be recorded. This lab also has a subzero freezer for biological samples. The faculty would welcome collaborative research and interdisciplinary grant proposals. We look forward to discussing how we can work together to improve human connection through the study of communication and its application in your discipline.

Keywords: Communication Studies, Interpersonal Communication, Research, Mixed Methods, Collaboration

Medical and Health Humanities Program

Personnel: Scottie Buehler, Maria Botero, Barbara Kaminska, Paul Child

Abstract: : SHSU's Medical and Health Humanities Program promotes interdisciplinary investigations into the multifaceted relationships between health and society, explores the ethical and narrative dimensions of healthcare, and produces citizens and future medical practitioners prepared to grapple with the complexities of modern healthcare.

Keywords: Health, Healing, Medicine, Medical Humanities, Social Sciences Of Health And Healing

Progress in Development of an Advanced Cancer Cachexia Model

Personnel: Mardelle Atkins, Sofiane Gana, Morgan Marsh

Abstract: Cachexia is a complex wasting disorder which results in metabolic derangement and rapid loss of body muscle. It affects up to 80% of cancer patients and may be the direct cause of mortality for around 20% of all cancer patients. Yet, diagnostics and therapeutics for this devastating condition are extremely limited. Prior work in murine models have had limited success in translating their findings to the clinic. Thus, we have developed a cachexia model in Drosophila that recapitulates key features of cachexia, but in a more rapid and scalable system. We will present our current characterization of this model as well as novel insights gained.

Keywords: Disease Models, Cancer, Model Organisms, Muscle, Cachexia, Student Research, Biology

Association between nutritional mineral biomarkers, neurocognitive performance and thyroid biomarkers among rural Bangladeshi adolescents – A pilot study

Personnel: Berna Rahi, Fahmida Rashid *, Rasheda Sultana and Khalid M. Khan

Abstract: The roles of nutritional minerals (NM) such iron (Fe), selenium (Se), zinc (Zn), magnesium (Mg) and copper (Cu) in determining the cognitive growth in young children have been established. Nevertheless, their roles in the brain development of adolescents are often overlooked despite the brain undergoing maturation during middle to late adolescence. Also, the relationship of these NM biomarkers with thyroid hormone remains unclear. Therefore, we are leveraging the existing resources of an ongoing NIH-funded study to address the gaps of knowledge regarding the effects of NM on neurocognitive and thyroid functions during the crucial adolescent life stage. We have already recruited a sample of 50 adolescents aged 13-17 years from the parent NIH study. We are assessing NM and thyroid hormone biomarkers in the blood and neurocognitive performance using the Behavioral Assessment and Research System (BARS). Preliminary data regarding NM and blood biomarkers will be discussed.

Keywords: Nutritional Metal, Cognitive Growth, Thyroid Hormone, BARS

Exposure to Metal Mixtures in Early Life and Neurocognitive Health Impacts in Rural Children

Personnel: Khalid M. Khan (PI), Karen Carreon García*, Samyukthaa Saiprakash*, Pavani Chilamkuri*, and Mariah Jade Zimpfer

Abstract: The etiology of neurocognitive impairment in children due to metal mixture exposure is poorly understood. While metals such as arsenic (As), lead (Pb), manganese (Mn), and cadmium (Cd) can individually impede neurocognitive functions in childhood, data are lacking on when during early life the effects start to appear. To address these critical knowledge gap, we are conducting two epidemiological investigations to test the hypothesis that disruption of thyroid hormone by metal mixtures in early life produces toxic effects on brain development both in toddlerhood and adolescence. In the first study, 600 adolescents from the Health Effects of Arsenic Longitudinal Study (HEALS) cohort in Araihazar, Bangladesh will be recruited and evaluated by a computer-based neurocognitive test battery. Concurrently, adolescent blood samples will be analyzed for metals and thyroid hormone (TH) biomarkers including free thyroxine (fT4), total triiodothyronine (tT3), and thyroid stimulating hormone (TSH). The second study will recruit a cohort of 200 mother-child pairs from the Health and Demographic Surveillance System (HDSS) area in Matlab, Bangladesh to assess if maternal metal mixture exposure is associated with TH disruption during pregnancy and neurocognitive performance in young children. Preliminary data and initial evidence of metal toxicity from these two cohorts will be presented.

Keywords: Metal Exposure, Neurocognition, Thyroid Hormone, Child Development

The SHSU Houston Teacher Pipeline Collaborative: Thinking Differently to Solve Challenges

Personnel: Abbie Strunc (co-PI, Chair of the School of Teaching & Learning), Helen Berg (co-PI, Associate Dean), Tori Hollas (Associate professor, program developer), Jaime Coyne (Associate Professor, program developer), Will Blackwell (Associate Professor, program developer), Amber Godwin (Assistant Professor, program developer)

Abstract: The SHSU Houston Teacher Pipeline Collaborative (HTPC) is designed to assist Houston ISD, Aldine ISD, and Spring ISD with decreasing teacher classroom shortages through an intentional blending of high-quality teacher preparation and alternative certification. Innovative, seamless, and cost-effective, the program includes competency-based modular coursework as well as effective mentoring and professional development designed to increase both teacher readiness as well as retention rates for classroom teachers. The SHSU teacher preparation program has one of the highest retention rates in Texas, 84% for a five-year period, while state-wide ACPs report just 64% of teachers remaining in the field for five years; these numbers represent dramatic implications for the teacher shortages across Texas and particularly the quality of instruction available to students in K-12 classrooms. This program is offered in an innovative, agile format for intensive preparation for pre-service and in-service teachers, thus addressing critical teacher shortages with a new, collaborative and forward-thinking approach.

Keywords: Teacher Certification, Alternative Certification, ACP, Teacher Shortage

Design and Capabilities of The Dominey Observatory

Personnel: Joel Walker

Abstract: The new Dominey Observatory is under construction a few miles to the North of campus. This state-of-the-art domed facility is designed for safety and high throughput, and it will house the largest fully-wheelchair-accessible telescope in the state. It will be a center for education, research, community outreach, and student recruitment. Come visit with me to learn more, and to pick up a free pair of glasses for safely viewing the upcoming solar eclipse on April 8, 2024.

How Do Religious and Political Beliefs Predict COVID-19 Vaccination Behavior Among U.S. College Students? A Study Using the Health Belief Model

Personnel: Yixin "Cindy" Chen (PI)

Abstract: Purpose: Predicting COVID-19 vaccination behavior among U.S. college students using the Health Belief Model (HBM). Design: Cross-sectional survey. Setting: Online. Sample: A convenience sample of students in a public university in the U.S. (N = 411). Measures: Demographics; COVID-19 vaccination behavior as outcome variable; HBM variables (perceived threat of COVID19, perceived individual benefit of vaccination, perceived community benefit of vaccination, perceived vaccine-safety barrier, perceived vaccination-cost barrier [time and effort], self-efficacy), and fear of COVID-19 as proximal predictors; religious beliefs and political beliefs as distal predictors. Questions/items measuring all variables in the survey data collection were taken from relevant and peer-reviewed publications and were modified to reflect the context of COVID-19. Analysis: Structural equation modeling (SEM). Results: The model fit the data very well ($\times 2$ /df = 2.27/5 = .45, p = .810; RMSEA = .000). Perceived individual benefit (ß = .489, p < .001), perceived vaccine-safety barrier (ß = .151, p = .001), perceived vaccination-cost barrier (ß = .152, p < .001), and political beliefs (ß = .094, p = .029) are significant predictors of vaccination behavior. Effects of religious beliefs are completely, and effects of political beliefs are partially mediated by perceived individual benefit and the two barrier variables. Conclusion: Perceived individual benefit, the two barrier variables, and political beliefs are direct predictors, while religious beliefs are an indirect predictor, of COVID-19 vaccination behavior, suggesting that the HBM can effectively inform strategies to promote vaccination. Political beliefs are a much stronger predictor than religious beliefs. Students who are more religious or conservative tend to perceive less individual benefit and greater barriers to vaccination, making them less likely to get vaccinated. A limitation of this study is the disproportionate number of female participants (77.9%).

Keywords: Religious Beliefs, Political Beliefs, COVID-19, Vaccination, Health Belief Model

All of Us Research Program: Benefits of the Data for Historically Underrepresented Researchers and Historically Underrepresented in Biomedical Research

Personnel: Lisa Connor (PI), Christina M. Seeger (Co-PI), Susan D. Strickland (Co-PI), Brett Porter (Co-PI)

Abstract: The National Library of Medicine of the National Institutes of Health (NIH) and the All of Us Research Program invited the Newton Gresham Library to participate in a pilot program titled the All of Us Data Training and Engagement for Academic Libraries Program. The funding award is designed to help libraries build infrastructure for engagement with the All of Us Researcher Workbench with the objective of enhancing the research capacity of institutions with a significant percentage of students from groups that are underrepresented in the biomedical workforce. The NIH's All of Us Research Program is a historic national initiative to gather data from 1 million participants representing the diversity of the United States that focuses on the intersection of biology, environment, and lifestyle to accelerate research to improve health. This impactful dataset supports more than 6,700 research projects across 577 institutions. Following training and registration, SHSU researchers have access to the full dataset including whole genome sequencing. The program is IRB-approved, harmonized, and longitudinal, saving researchers time and resources. The value of the available data goes beyond healthcare; it promotes interdisciplinary collaborative projects in areas such as sociology, psychology, chemistry, data science, and forensic science.

Keywords: Interdisciplinary Research, Big Data, Precision Medicine, Social Determinants of Health, Academic Libraries

Battling Invasive Species through Research and Outreach at the Texas Invasive Species Institute

Personnel: Ashley Morgan-Olvera (TISI Director of Research & Education), Kylee Kleiner (TRIES Invertebrate Lab Manager & Invasives iWire Editor), Brent Rahlwes (TISI Research Biologist), Briana Kelnhofer* and Noah Davis*

Abstract: The Texas Invasive Species Institute (TISI) was established at SHSU in 2011 as a statewide entity to provide support in the battle against invasive species. Throughout our 12 years on campus, TISI has maintained its research and community outreach to where it has acquired the Texasinvasives.org website and Citizen Scientist program. Our institute actively participates in Early Detection and Rapid Response to emergent invasive species in Texas through annual surveys, while also providing statewide workshops on reporting, identification, and prevention. Our goal is to empower the public into action through invasive species education utilizing our Citizen Scientist trainings, workshops, and instant website reporting or Texas Invasives" Report It! App.

Keywords: Texas Invasives, Report It!, Invasive Species, Citizen Scientist, Prevention & Management

The SHSU Institute for Homeland Security (IHS)

Personnel: Dr. Ryan Randa, Research Director, Dr. Shannon Lane, Project Manager – Research, Mr. Heberto Villarreal – Project Manager

Abstract: The Institute for Homeland Security at Sam Houston State University is focused on building strategic partnerships between public and private organizations through education and applied research ventures in the critical infrastructure sectors of Transportation, Energy, Chemical, Healthcare, and Public Health. The Institute is a center for strategic thought with the goal of contributing to the security, resilience, and business continuity of these sectors from a Texas Homeland Security perspective. This is accomplished by facilitating collaboration activities, offering education programs, and conducting research to enhance the skills of practitioners specific to natural- and human-caused homeland security events.

De-Escalation Training Center

Personnel: Dr. William Wells, Dr. Rita Watkins, Mr. Garreth Tiefenbach

Abstract: Calls for police de-escalation training have been frequent and have come from diverse voices over the past several years. Dr. Robin Engel and her colleagues (2020, p. 722) claim that "With the possible exception of implicit bias training, no other training is more often demanded by policy makers, politicians, police executives, academics, civil rights activists, and citizens than de-escalation training for police." Yet there is inconsistency in the de-escalation training that is being delivered. Thus, there are questions about the nature and quality of de-escalation training. The Department of Justice (DOJ) Office of Community Oriented Policing Services (COPS) has responded to the need for improved de-escalation training by establishing regional de-escalation training centers that will deliver certified training curriculum. SHSU LEMIT De-Escalation Training Center was founded in October '22. Trainings were launched in April '23 and have been held in Texas, Oklahoma, Arkansas, and Louisiana. Research focuses on contemporary policing practices, uses of force, and the effectiveness of current de-escalation and use of force training.

Keywords: De-escalation, Law Enforcement, Training, Use Of Force, Implicit Bias

Pharmacy Deserts - Tapestry Segmentation Analysis and Mitigation Strategies for Increasing Access

Personnel: Dr. Jade Zimpfer, Dr. Devon Berry, Dr. Amanda Scarbrough, Dr. Falguni Mukhurjee, and Dr. Gene Theodori

Abstract: Pharmacy deserts are typically defined spatially as an area within a 10-mile radius lacking access to a fully functioning pharmacy. During the recent COVID-19 pandemic, pharmacy deserts became a subject of further concern when residents in underserved communities were not able to access a pharmacy, thereby increasing their risk for contracting COVID-19 due to lack of access to vaccines. Our project utilizes Tapestry Segmentation Analysis - a GIS methodology used for market analysis - to identify pharmacy deserts in the state of Texas, understand the communities who are most impacted, and offer applicable mitigation strategies for those communities.

Keywords: Desert, Food Desert, GIS, Spatial Analysis, Tapestry Segmentation

Online Cooperative Learning Groups in Higher Education: A Faculty Development Opportunity

Personnel: Madelyn R. Kilgore (PI)

Abstract: The purpose of this mixed methods study was to fill a void in the catalog of faculty development offerings and address the pedagogical strategy of online CL groups at one university system in Texas. The goal for the CL faculty development module was to support and guide faculty members with experience and increased understanding about the intricacies of online CL group work. The primary intent of the study was to generate new knowledge meant to be shared, published, presented, and intended to have an impact on the field of online education, faculty development, and online student growth. As my professional values naturally played a part in my positionality as a student researcher, I hoped that the volunteer faculty participants felt smart, satisfied, and encouraged and can make shrewd decisions moving forward with their pedagogical approaches to CL group work within their online courses.

Keywords: Communication Skills; Faculty Development; Online Cooperative Learning; CL Groups; Online Courses

Navigating Sex Trafficking Busts: Local vs. Federal Approaches to Victim Support

Personnel: Austinn West*, Stuti Kokkalera (Assistant Research Professor in Criminal Justice Department), and Troy Cochran (Director of Criminal Justice at Northern Oklahoma College)

Abstract: There are both similarities and differences between the treatment of victims in the case of a small-town police agency versus a federal agency like the FBI when busting a sex trafficking ring. Both cases emphasize identifying and assessing potential victims, providing victim-centered support, and collaborating with service providers. Small-town police departments do not have the greater resources that federal agencies do. They are also limited in their jurisdictional reach in comparison to federal agencies. Often working with multiple agencies and managing complex cases across the country, they operate under specific legal frameworks all across the US. As shown in this summary, while the general approach is similar, federal agencies have distinct approaches because of their broader capabilities.

Keywords: Sex Trafficking, Police Department, Federal Agency, Victims, Jurisdiction

Network Vulnerabilities in Embedded Devices and Classroom Forensic Lab Development. A Case Study of the Ring Home Security System.

Personnel: George Hendrickson* (PI), Dr. Narasimha Shashidhar (Co-PI)

Abstract: Ring home security devices are ubiquitous in current society. However, we assert that very little has been understood about the vulnerabilities faced by these devices. In this project, we sought to study the very popular Ring home security system, with the goal of analyzing and modeling its network traffic. We attempted to show that such a Ring system can be used to gather information on its owner without their knowledge or consent; and we determined the feasibility of, and likelihood that the device is collecting data on behalf of its manufacturer. Target artifacts include the date and time the homeowner enters/ leaves their home; whether a triggered detection device contacts an outside server or just the hub device, and what data it sends; and the feasibility of decrypting and monitoring such traffic from outside the system. Methods included multiple vectors of network collection and analysis.

Keywords: Network security, Internet of Things, Ring, Cybersecurity

The Relationship Between the Multidimensional Model of Boldness and Section III Antisocial Personality Disorder and Psychopathy Specifier

Personnel: Daniel Zamora*, Jared Ruchensky, Ph.D.

Abstract: Patrick and colleagues (2019) recently developed the Multidimensional Boldness Inventory (MBI), a multidimensional measurement model of psychopathic boldness that has received little attention. The multidimensional nature of this measure is significant, given that most research regarding triarchic psychopathy is the Triarchic Psychopathy Measure (TriPM), which only contains a global scale for boldness. The current study evaluated the convergence of the MBI with the DSM-5-TR pathological trait model found in the Alternative Model for Personality Disorders (AMPD) as operationalized by the Personality Inventory for DSM-5 (PID-5), particularly the antisocial personality disorder (APD) diagnosis and the psychopathy specifier (PS). We also analyzed the convergence of the MBI with proposed modifications to the PS put forward by Strickland et al. (2013). We found that the MBI was robustly correlated with, and significantly predicted, PID-5 trait facets relevant to psychopathic boldness. The intended presentation will discuss the implications of these findings for research and clinical work in this area.

Keywords: Psychopathic Personality Disorder; Antisocial Personality Disorder; DSM-5-TR Section III; Boldness

Violence Educators Face in the United States

Personnel: Isabella Ortiz

Abstract: Limited research and analysis has been done regarding the instances of violence educators experience in their occupation. This project will consist of an extensive literature review of past studies that have examined the abuses and subsequent environmental stressors that educators face in schools. The focus will be to examine methods used in these studies and the responses gained. This project will identify the different offenses educators encounter and discuss relevant impacts towards educators. The goal of this project is to provide a better understanding about the physical and verbal violence educators across the country face and how it affects school environments.

Keywords: Violence, School Environment, Educators

Interventions for Loneliness, Lack of Social Connection, and Isolation Among College Students.

Personnel: Stephanie Georges, En-en Peregrino, Anjoely Ramirez

Abstract: Moving to a new town away from the comfort of your own home could be difficult and finding new friends may be a challenge. These factors could lead to students feeling lonely and isolated without even realizing it. To combat this, we will be addressing the underlying factors of mental health in loneliness, isolation, and lack of social connection. We researched evidence-based interventions to provide preventative measures that the Office of Health Promotion could utilize for upcoming freshmen and sophomores. Our goal is to reduce the risk factors of poor mental health due to loneliness, isolation, and lack of social connection.

Keywords: Student Mental Health, Loneliness, Isolation

Data Analytics: What Is It and Why Do We Need It?

Personnel: Dr. Deja Jones, Dr. Joshi Praphul, Dr. Sagar Patel

Abstract: Data Analytics is a computation of data analytics and can be used in computer science, business, and health. When data analytics is brought into public health, it is beneficial in aiding in establishing conclusions because trends and multiple data sheets are able to be examined. For public health to excel, interpreting data and building ideas off of that is key. Data analytics is a big factor in potentially revolutionizing health care, supporting clinicians, implementing interventions, faster disease detection, high-quality care with better results, and much more (Novillo-Ortiz, David, 2021). Overall, this study will focus on the basic need for data analytics within public health, the future prospection it has, and what coursework is required for jobs in this specific area.

Keywords: Data Analytics, Future Prospection

The Effect of Verbal Fluency on False Memories in Adults

Personnel: Amberley Payne (PI), Alexandra Jaque, Ryan Springs, Mary Ithil

Abstract: A common technique for investigating false memory production is using the Deese/Roediger-McDermott (DRM) paradigm. The DRM paradigm provides a list of words that are all associatively related to a common non-listed word (i.e., a critical lure). When individuals are given a word list, they remember items from the list and reliably remember the critical lure as if it were presented. Findings have also shown that children demonstrate lower levels of false recognition, which may be due to less activation of critical lures that is presumably due to them having a less developed associative network. The current study evaluated if a similar pattern would emerge in adults with lower levels of verbal fluency. We hypothesized that individuals with higher verbal fluency would have greater activation of critical lures, producing more false memories, whereas participants with lower verbal ability would show fewer false memories. Participants' verbal fluency was assessed using the COWAT and their memory was assessed using the DRM paradigm. Participants were divided into high or low verbal fluency groups based on their COWAT scores and their rates of false memories were compared. Data showed that participants low in verbal fluency recognized fewer critical lures than participants with higher verbal fluency.

Keywords: DRM Paradigm, Critical Lures, Verbal Fluency

Probiotics Produce Anxiolytic Effects by Reducing Blood Plasma Corticosterone Levels

Personnel: Nathaniel Rodriguez*

Abstract: Pharmacotherapies for anxiety disorders include the use of benzodiazepines and/or SSRIs. While these treatments are effective, they produce undesirable side effects. Probiotics have demonstrated the ability to improve mood in both pre-clinical and clinical studies. The anxiolytic mechanism of probiotics produce is not well understood. It is hypothesized that probiotics reduce the production of stress hormones in response to stress. The purpose of this study is to determine if a 9-day regimen of probiotics will reduce stress hormones in response to a 60-minute isolation stressor. Following 9 days of treatment with either probiotics or saline, separate squads of animals will be exposed to a 60-min isolation stressor. In order to characterize the production of stress hormones, animals will be removed from isolation and blood collected at the following time points 0, 5, 10, 15, 30, 35, and 60 min. We predict the saline-treated animals will show a gradual increase in corticosterone levels peaking at 15 min and steadily declining for the remainder of the test session. In comparison, we predict the probiotic-treated groups will display reduced levels of corticosterone compared to saline-treated animals. We hope to identify a one possible mechanism of probiotics' anxiolytic effects.

Keywords: Anxiety, Probiotics, Corticosterone, Stress

The Assessment and Reversal of Cognitive Bias in Stress Resilient and Stress Vulnerable Genetic Lines of Aves in the Chick Anxiety-Depression Model

Personnel: Addison Kanke, Trinity Castro, Felicia Padilla

Abstract: Current treatment options fail to provide adequate symptom relief for the cognitive symptoms associated with Anxiety and Depression. The development of novel pharmacotherapeutics for cognitive symptoms associated with these disorders depends on the development of representative animal simulations of the clinical syndromes. The goals of this study were 1) measure cognitive bias in stress-resilient and stress-vulnerable genetic lines and 2) attempt to reverse cognitive bias in the stress-vulnerable genetic line. In phase I, animals were exposed to either a no-test, 5-min, or 60-min isolation stressor. Immediately following isolation, animals were transported to a straight alley maze and exposed to one of four images: mirror (appetitive), 75% chick: 25% owl (ambiguous appetitive), 25% chick:75% owl (ambiguous aversive), or owl (aversive). Start and goal latencies and distance traveled were measured. The stress-vulnerable strain isolated for 5-min (anxiety) showed reduced distance traveled under the ambiguous aversive cue, and for the 60-min (depression) showed reduced distance traveled for both ambiguous cues. The stress-resilient strain did not measure any changes in behavioral measures for the isolation groups. In phase II, both imipramine-15mg and maprotiline 2.5-mg produced antidepressant effects. Imipramine appeared to reverse cognitive bias by decreasing start and goal latencies and lengthening distance traveled.

Keywords: Depression, Cognitive Bias, Ketamine, Psychopharmacology, Behavorial Neuroscience

Reality Bites: Belief in Fake News and Acceptance of Conspiracy Theories

Personnel: Felicia Padilla (PI), Vanessa Villarreal, Cristal Jaramillo

Abstract: Easy access to world news, events, and social issues has led to investigations of fake news, and studies have shown that misleading news headlines paired with photographs increase the acceptance of fake news (Burke et al., 2018). Murphy et al. (2019) found that memories for false news headlines were easily produced, particularly when the false headlines were consistent with the headlines that aligned with the participant's political orientation. Similarly, Miller et al. (2016) found that when an opposing political party is in power, a person's belief in conspiracy theories increases. We investigated an individual€™s Generic Conspiracy Belief Scale (GCBS) score and participants€™ readiness to accept false headlines. Participants were presented with a combination of true and false headlines, some accompanied by a photograph, where they had to determine if they remembered the headlines. Participants then completed 4 scales, the Political Ideation scale, Bullshit Receptivity scale, Generic Conspiracy Belief scale, and the Need for Cognition scale. We predicted that individuals who scored high on the GCBS, indicating a conspiracy mindset, would be more accepting of false news based on their need to accept alternative realities. This study is on-going, however, the current data is consistent with our predictions thus far. We feel that this study brings awareness to the role that media plays in our belief systems and how it can feed the public false information.

Keywords: Memory, False Headlines, Conspiracy

Tri-ing for Physical Activity: Experiences of Youth Sport Families in the Tri4Schools Non-Profit Program

Personnel: Dr. Mayrena Isamar Hernandez, PhD, MPH, LAT, ATC (PI), Josie Ray*, Crystal Brown*, Ethan Perez*

Abstract: Positive effects from organized youth sport are primarily achieved through physical activity but there are secondary health benefits such as having a higher level of physical activity later in life, psychosocial and personal development, social interaction, and higher academic achievement. Despite organized youth sports having many positive health effects, organized sport can be a double-edged sword regarding its effects on health due to the emphasis on training children like year-round little professional athletes and winning at all costs mentality. Due to these negative consequences, it is essential to provide equitable organized sport at a critical time such as middle school age. Tri4Schools aims to do this through their non-profit wellness program that focuses on the physical, social, and emotional well-being of youth. We engaged in semi structured interviews with 12 parent-child dyads. The results of our study allow for improvement, replication, and support of programs like Tri4Schools to be able to gain governmental grant funding based on the outcomes of this research study. Understanding the benefits of a physical activity program that is structured holistically can potentially retain more youth to continue to patriciate in sport and physical activity throughout their life spin and decrease overall mortality and morbidity rates.

Keywords: Physical Activity, Sport Specialization, Youth Sports

Frequencies and Associations with Self-Perceived Health Among Women in Custody of the Oklahoma Department of Corrections

Personnel: Dr. G. Kevin Randall, Karleigh Amburn*

Abstract: Few studies have looked at the frequencies and association with self-perceived health among women in custody. In this research we will discuss the top five health concerns that were found from the literature, which are cardiovascular disease, obesity, diabetes, liver disease, and HIV. The current study will determine the frequency counts of the five objective health conditions in the sample. In addition, correlations will be used to test whether or not the objective health conditions correlate negatively with a participant's self-perceived health.

Keywords: Women In Custody, Objective Health Conditions, Self-perceived Health

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