



23rd Annual Capstone Conference



**Saturday, May 4, 2024
8:30AM -5:00 PM**

Bizzini Hall

**University Honors Program
McNair Scholars Program**

**California State University Stanislaus
One University Circle, Turlock CA 95382**

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Acknowledgements

A Special thanks to the following faculty who generously agreed to serve as **Research Mentors** for our **2023-24 Senior Capstone Research Projects**:

Prof. Helen Argulles-Gudino (English), Prof. Bethlen Barnes (Psychology), Prof. Shannon Bianchi (Psychology), Dr. Ashley Black (History), Dr. Nancy Brown (Criminal Justice), Dr. Juvenal Caporale (Ethnic Studies), Dr. Bret Carroll (History), Dr. Trystan (Theo) Cotten (Gender Studies), Dr. Kelly Cotter (Psychology), Dr. Jessica De Silva (Mathematics), Dr. Adam Fleenor (Sociology), Dr. Jennifer Cullison (History), Dr. José Díaz-Garayúa (Geography), Prof. Deborah Forester (Psychology), Dr. R. Jeffery Frost, (Anthropology), Prof. Garrick Garcia (Psychology), Dr. Andrew Gardner (Biological Sciences), Prof. Brandi Gleason (Nursing), Prof. Danny Grimes (Psychology), Prof. Suditi Gupta (Psychology), Librarian Lauren Hall (Library) Librarian Tim Held (Library), Dr. Erin Hughes (Politics & Public Administration), Dr. Meggan Jordan (Sociology), Dr. Ryan Logan (Anthropology), Dr. Mirta Maldonado-Valentin (English), Dr. Amanpreet Manchanda (Chemistry), Dr. Esteban Montenegro-Montenegro (Psychology), Dr. Jamila Newton (Biological Sciences), Dr. Jennifer Pace Wittman (English), Dr. Grace Paradis (Psychology), Dr. Chantelise Pells (Agriculture), Dr. Jason Pourtarvirdi (Criminal Justice), Dr. Brent Powell (Kinesiology and Public Health), Dr. Chad Redwing (Humanities), Dr. Ryan Stanfield (Biological Sciences), Dr. Shrinidhi Subramaniam (Psychology), Dr. Trisha Van Larr (Biology), Dr. Pam Van Zwaluwenburg (Politics & Public Administration), Dr. Jason Veatch (Physics), Dr. Gary Williams (Psychology), Dr. Della Winters (Sociology)

The following faculty taught in the Honors Program this year:

Prof. Ian Albright (Philosophy), Dr. Ralph Becker (Anthropology), Dr. Ellen Bell (Anthropology), Dr. Juvenal Caporale (Ethnic Studies), Dr. Thomas Carter (Computer Science), Dr. Dave Colnic (Political Science), Dr. Andrew Conteh (Political Science), Dr. Jim Cook (History), Dr. José Díaz-Garayúa (Geography), Dr. Kamal Dulai (Biology), Prof. Nathan Erro (English), Dr. Katherine Filbert (Philosophy), Prof. Suditi Gupta (Psychology), Dr. Heather Jarell (Anthropology), Dr. Meggan Jordan (Sociology), Prof. Lisa Mariona (Communication Studies), Dr. Chris Nagel (Philosophy), Dr. Jamila Newton (Biology), Prof. Richard Randall (Political Science), Dr. Chad Redwing (Humanities), Dr. Jennifer Ringberg (Anthropology), Dr. Goshu Wolde-Tefera (Ethnic Studies)

Seniors in the Honors Program are encouraged to tackle complex problems using methods and knowledge drawn from relevant disciplines. Honors Program faculty and research mentors offer critical feedback and guidance along the way. The main objective is for students to explore, gather and analyze information effectively, and to reflect on the implications of what they have discovered. Group discussions help to promote thoughtful questioning. The goal is to communicate knowledge, judgments, and original perspectives based on careful inquiry, exploration, and analysis.

The Stanislaus State Ronald E. McNair Post-baccalaureate Achievement Program is federally funded through the U.S. Department of Education and Directed by Dr. Nicole Cochran

2024 Capstone Conference Schedule

Saturday – May 4, 2024

8:30 AM *Coffee & Breakfast Available in Bizzini 111*

9:00 AM-5:00 PM Electronic and Print Poster Displays
Bizzini-108, 111, 114

8:45 AM Welcome & Opening Remarks
Bizzini-102

9:00-10:00 AM Junior Research Poster Lightening Talks
Bizzini-102, 113, 115
15 Minute Break

10:15-11:30 AM Senior Research Presentations
Bizzini-102, 113, 115

Lunch and Mural Dedication at Innovative Center 12:15 – 1:30PM

1:30-2:30 PM Junior Research Poster Lightening Talks
Bizzini-102, 115
15 Minute Break

2:45-4:00 PM Senior Research Presentations
Bizzini-102, 115

5:00 PM Capstone Conference Concludes

Morning Sessions: B-102, B-115, B-113

Session B-102-AM: Psychology and Mental Health Research Bizzini 102

Moderator: Dr. Ellen Bell

*Timekeepers: Jennifer Frisk / Celina Bridges; Coordinator: Kirstin Normark
Posters in this session may be viewed in B-108 throughout the conference*

Junior Research Poster Lightening Talks 9:00 AM – 10:00 AM

***Carmen Chavez** (Psychology): Exploring The Relationship Between a Mother's Prenatal Environment and Behaviors and their Offspring's Mental Health

Faculty Mentor: Dr. Gary Williams

Stormie Caracciolo (Child Development): The Relationship Between Neglect and Brain Development in Childhood Through Adulthood

***Marlen Montoya** (Psychology): The Relationship Between Childhood Trauma and Adulthood Anxiety, Stress and Emotional Well-Being

Faculty Mentor: Prof. Deborah Forester

Natalie Vang (Psychology): Anxiety Treatments on Mental Health in Young Adults

Faculty Mentor: Librarian Tim Held and Prof. Suditi Gupta

***Tandy Das** (Psychology): Does Maltreatment Predict Insecure Attachment Style?

Faculty Mentor: Dr. Victor Luevano

***Jazmine Pantoja** (Child Development): The Relationship Between Adverse Childhood Experiences (ACEs) and Adult Attachment Styles in a Romantic Relationship

Faculty Mentor: Dr. Grace Paradis

Jessica Balli (Psychology) Coping Skills for Children

Faculty Mentor: Prof. Danny Grimes

Gema Khoshaba Branchi (Psychology): The Effects of Emerging Adulthood on Mental Health

***Amanda Randez** (Psychology): Locus of Control and its Effects on Prosocial Behavior

Faculty Mentor: Prof. Deborah Forester

***Monica Tribbitt** (Biology): An Investigation of Therapeutic Models: Exploring the Effectiveness of Psilocybin in Mental Health Treatment and Examining Societal Perspectives on Natural vs. Big Pharma Drugs

Faculty Mentor: Dr. Ryan Stanfield

Aubreanna Mcnamara (Psychology): Psychedelics? How Do You Feel?

Senior Capstone Presentations 10:15 AM – 12:15 PM

10:15-10:30 AM:

Alexis Kaae (Biological Sciences): The Effect of Social Media on Young Adults' Mental Health

*Denotes McNair Scholar

Morning Sessions: B-102, B-115, B-113

10:30-10:45 AM:

Silvia G. Lemus (Psychology): Is Your Network Affecting You?: The Relationship Between Social Media Activity and Mental Health

Faculty Mentor: Prof. Deborah Forester

10:45-11:00 AM:

Kylie Sackett (Psychology): Video Games, Aggression, and Cyberbullying, Correlation or Causation?

Faculty Mentor: Dr. Kelly Cotter and Prof. Garrick Garcia

11:00-11:15 AM:

Carolyn Gallella (Psychology): The Effects of Self-labeling on Deviant Identity Status and Coping Strategies After Psychiatric Diagnosis

Faculty Mentor: Dr. Kelly Cotter

11:15-11:30 AM:

***Sinai Arenas** (Psychology): Relationships Among Exposure to Violence, Empathy, Aggression, and PTSD

Faculty Mentor: Prof. Deborah Forester

11:30-11:45 AM:

***Lu Aguiniga** (Psychology): The Act of Self-talk and Decision-Making Behavior

Faculty Mentor: Prof. Shannon Bianchi

11:45-12:00 PM:

Emma Pohl (Psychology): The Relationship Between Perceived Locus of Control and Positive Attributes Such of Time Management, Lifestyle Choices, and Academic Performance in College Students

Faculty Mentor: Prof. Deborah Forester

12:00-12:15 PM:

Tiffany Williams (Psychology): Comparison of Mental Health Access between the United States and Other Modern Countries

Faculty Mentor: Prof. Suditi Gupta

Session B-115-AM: Education, Arts, and Humanities Research Bizzini 115

Moderator: Prof. Suditi Gupta

Timekeepers: Jennifer Frisk / Celina Bridges; Coordinator: Kirstin Normark

Posters in this session may be viewed in B-111 throughout the conference

Junior Research Poster Lightning Talks 9:00AM – 10:00AM

Elia Bustos Magana (English): The Globalization of K-pop: How did this come to be?

Faculty Mentor: Prof. Suditi Gupta & Prof. Helen Argulles Gudino

Aioema Ahio (English): The Relationship Between Literature and Film

Emma Cabral (Psychology): The Influence of Expository and Narrative Text Styles on Reading Comprehension

Faculty Mentor: Dr. Shrinidhi Subramaniam

*Denotes McNair Scholar

Morning Sessions: B-102, B-115, B-113

Mike Long (English): The Internet's Role in Reading Comprehension, Attention Span, and Literacy

***Sydney Aguilar** (Psychology): The Impact of TikTok Videos on Comprehension
Faculty Mentor: Prof. Bethlen Barnes

***David Westover** (Public Health Promotion): Assessing the Impacts of Gender and Ethnicity among Nursing Students at Stanislaus State
Faculty Mentor: Dr. Ryan Logan

Chloe Burns (History): Inclusive Language Usage Within Library Databases and Search Methods
Faculty Mentors: Librarian Tim Held and Librarian Lauren Hall

***Caleigh Mendez** (Psychology): Changes in Learning and Behavior Post-COVID-19
Faculty Mentor: Prof. Suditi Gupta

Gina Mello (Public Health Promotion): Are College Students Taking Care of their Mental Health Post-pandemic?

Isabel Lopez (Liberal Studies): How Do Teachers Recognize the Level and Effectiveness of Support Provided by their School Districts in Navigating the Challenges of Hybrid Teaching?
Faculty Mentor: Dr. Chad Redwing

Daniela Sanchez (Psychology): The Relationship Between Academic Achievement and Self-esteem Among Adolescents

Nathan Rohani (Ethnic Studies): Psychiatric Services and College Outcomes

Senior Capstone Presentations 10:15 AM – 12:15 PM

10:15-10:30 AM:

***Nathalie Hernandez** (English): Reflecting on English Language Learning Experiences: Attitudes & Perceptions from English Language Learners at California State University Stanislaus
Faculty Mentor: Dr. Mirta Maldonado

10:30-10:45 AM:

***Dylan Hoyt** (English): The Ethics of AI in Education
Faculty Mentor: Dr. Jennifer Pace Wittman

10:45-11:00 AM:

Jennifer Frisk (Social Sciences): College Major Choice in a State University Context: A Psychosociocultural Perspective
Faculty Mentor: Dr. Esteban Montenegro-Montenegro

11:00-11:15 AM:

Julie Diaz (Psychology): Take It Easy On Us! The Effect of the COVID-19 Pandemic on the Quality of Well-Being and Academic Achievement of College Students
Faculty Mentor: Prof. Deborah Forester

11:15-11:30 AM:

Jasmine Martinez (Exercise Science): Food Insecurity May Affect Students' Academic Performance by Giving Rise to Higher Anxiety and Depression, Causing Higher Overall Stress, and Affecting their Cognitive Abilities to Learn
Faculty Mentor: Dr. Kelly Cotter

*Denotes McNair Scholar

Morning Sessions: B-102, B-115, B-113

11:30-11:45 AM:

***Celina Bridges** (Sociology): Ageism and Covid-19: A War of Perception
Faculty Mentor: Dr. Della Winters

11:45-12:00 PM:

***Celina Bridges** (Sociology): The Social Decline: An Absence in Activities
Faculty Mentor: Dr. Della Winters

Session B-113-AM: History, Politics, & Public Policy Bizzini 113

Moderator: Dr. Chad Redwing

*Timekeepers: Jennifer Frisk / Celina Bridges; Coordinator: Kirstin Normark
Posters in this session may be viewed in B-114 throughout the conference*

Junior Research Poster Lightening Talks 9:00AM – 10:00AM

Andrew Downs (Philosophy & Business): COVID-19 Policies in the United States from a Public Health Ethics Perspective

Danielle Morgart (General Business, minor Pre-Law): California Budget Deficit
Faculty Mentor: Dr. Chad Redwing

Brittany Canada (Criminal Justice & Forensics): How Behavioral and Psychological Characteristics and Patterns of Serial Killers Can Help to Explain Why they Kill in a Specific Manner

Kimberly Culebro (Psychology): Reinstating Long-Term Institutions in the Post-Asylum Era: A Principled and Compassionate Approach
Faculty Mentor: Prof. Suditi Gupta

Victoria Steiner (Criminal Justice): The Relationship Between Adult Supervision and Intervention in Delinquent Behavior of Juveniles
Faculty Mentor: Dr. Nancy Brown and Prof. Suditi Gupta

Senior Capstone Presentations 10:15AM – 11:45 AM

10:15-10:30 AM:

Yurixia Ávalos (Psychology), **Heriberto Fuentes** (Nursing), **Saifa Sanguilan** (Public Health Promotion), **Luis Suárez-López** (Social Work), & **Justin Thao** (Biological Sciences): A Geospatial Association between Tobacco Retailer Advertisements and Neighborhood Characteristics
Faculty Mentor: Dr. José Díaz-Garayúa and Dr. Meggan Jordan

10:30-10:45 AM:

***Jayden Lopez** (Criminal Justice, minor in Psychology): Why Does the United States Have the Highest Incarceration and Recidivism Rates?
Faculty Mentor: Jason Pourtavirdi

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Morning Sessions: B-102, B-115, B-113

10:45-11:00 AM:

Hailey Borchardt (Political Science): The Eighth Amendment: What is Working and What Can Be Amended?

Faculty Mentor: Dr. Pam Van Zwaluwenburg

11:00-11:15 AM:

Michael Hopkins (Political Science): Did the Supreme Court decisions of D.C v. Heller (2008) and McDonald v. City of Chicago (2010) have a marked effect on the right to keep and bear arms and carry laws in the United States?

Faculty Mentor: Dr. Pam Van Zwaluwenburg

11:15-11:30 AM:

Kaitlin Rogers (History): A Lost Cause: The Daughters of the Confederacy's Impact on a Generation

Faculty Mentor: Dr. Bret Carroll

11:30-11:45 AM:

Alyssa Beltran (History): The Effectiveness of Monarchies Today

Faculty Mentor: Dr. Erin Hughes

****Lunch and Mural Dedication with Artist Joel Aguilar
Innovative Center Patio 12:15 – 1:30PM****

Session B-102-PM: Science, Medicine, & The Environment Bizzini 102

Moderator: Dr. James Tuedio

Timekeepers: Jennifer Frisk / Celina Bridges; Coordinator: Kirstin Normark

Posters in this session may be viewed in B-108 throughout the conference

Junior Research Poster Lightening Talks 1:30 PM – 2:30 PM

Flint McGrath (Agriculture Business): The Impact of Implementing Vermicomposting Systems on Soil Health and Sustainability Practices in College Campus Sustainability and Small-Scale Farming Initiatives

***Britanya Rodriguez** (Anthropology): Climate Crisis: Understanding its Impact on People

Faculty Mentor: Dr. Ryan Logan

Austin Hicks (Physics): What is Particle Physics and How Does a Particle Physics Analysis Work?

Faculty Mentor: Dr. Jason Veatch

Alexandra Roske (Exercise Science, Rehab): Virtual Reality in Physical Therapy

Faculty Mentor: Prof. Suditi Gupta

Jesus Hernandez (Computer Science): Social Media Impact on Categories and Frequency of Information Shared Online

Xochitl Ramirez (Biological Sciences): Macros: Helpful or Harmful?

*Denotes McNair Scholar

Afternoon Sessions: B-102, B-115

Senior Capstone Presentations 2:45 PM – 4:45 PM

2:45-3:00 PM:

***Sharlien Envieh** (Agriculture): A Preliminary Experiment: Conventional vs. Sustainable Strawberries

Faculty Mentor: Dr. Chantelise Pells

3:00-3:15 PM:

Justin Raymond (Biology): The Temporal Distribution of Pigments in Lantanas

Faculty Mentor: Dr. Andrew Gardner

3:15-3:30 PM:

Kaylee E. Kinst (Anthropology): *Bombus impatiens* (Bumblebee) Potential for Social Norm Conformity

3:30-3:45 PM:

***Mahmoud Faysiq Sulieman** (Mathematics): Creating a New Simplex Method Calculator to Optimize Student Learning

Faculty Mentor: Dr. Jessica De Silva

3:45-4:00 PM:

***Cecilia Alvarez** (Biological Sciences): Double Helical Silica Nanotubes as Catalysts for the Synthesis of Cinnamic Acid

Faculty Mentor: Dr. Amanpreet Manchanda

4:00-4:15 PM:

Jose Aguirre (Biological Sciences): A Novel Approach to Treating Disease Using Phage Delivery of Enzymatic Antibiotics In *S. Aureus*

Faculty Mentor: Dr. Tricia Van Laar

4:15-4:30 PM:

Angeles Ramirez (Biology): The Relationship Between Vision Care Access and Rate of Treatment

Faculty Mentor: Dr. Jamila Newton

4:30-4:45 PM:

Ashley Cabral (Nursing): Factors that Contributed to Nurse Burnout During the Peak of the COVID-19 Pandemic

Faculty Mentor: Prof. Brandy Gleason

Session B-115-PM: Crossing Boundaries-Social & Behavioral Studies Bizzini 115

Moderator: Dr. Ellen Bell

Timekeepers: Jennifer Frisk / Celina Bridges; Coordinator: Kirstin Normark

Posters in this session may be viewed in B-111 throughout the conference

Junior Research Poster Lightning Talks 1:30PM – 2:30PM

***Rosio Villanueva** (History & Spanish): Impact of the 1996 Illegal immigration Act on undocumented and documented immigrants living in LA county

Faculty Mentor: Dr. Jennifer Cullison

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Afternoon Sessions: B-102, B-115

Zalaa Afzal (Psychology): The prevalence of health conditions among the refugee population
Faculty Mentor: Dr. Brent Powell

Alondra Aguirre (Spanish & Criminal Justice): Mental Health Challenges for Immigrants

Joseph Broome (Anthropology): Is the Transgender Community at Risk for Genocide?
Faculty Mentor: Dr. Trystan (Theo) Cotten

***Arely Ochoa** (Psychology): Is There a Relationship with Acculturation and Emotional Belief and Regulation for Mexican Americans?
Faculty Mentor: Dr. Victor Luevano

***Breann Barnes** (Psychology & Criminal Justice): Systemic Inequalities in Housing and the Perpetuation of Housing Insecurities
Faculty Mentor: Dr. Chad Redwing

***Emerald DaRosa** (Sociology): Housing Insecurity In Higher Education: Where We Are Falling Short
Faculty Mentor: Dr. Meggan Jordan

***Jimena Mojica-Camarena** (English & Ethnic Studies): Decolonizing Literature in the English Major: Student and Faculty Pedagogy
Faculty Mentor: Dr. Juvenal Caporale

Skyler Murillo (History): The Effects of Mexican National Building on the Purepechas
Faculty Mentor: Dr. Ashley Black

Yolanda Hernandez Vega (Anthropology & Spanish, Minor in Latin American Studies): Michoacán Petroglyphs: State of Knowledge and Directions for Future Research
Faculty Mentor: Dr. Jeffrey Frost

Tasha Wilson (Sociology): Adult Learners in Higher Education
Faculty Mentor: Dr. Meggan Jordan

Senior Capstone Presentations 2:45PM – 3:45 PM

2:45-3:00 PM:

***Claudia Perez-Suarez** (Sociology): Relationship Between Traditional Latino Cultural Values and Parent Conflict among Young Mexican-American Adults and Mexican Immigrant Parents
Faculty Mentor: Dr. Adam Fleenor

3:00-3:15 PM:

Jillian De La Motte (Communication Studies): Comparative Study of Communication Behaviors: Families with Children Diagnosed with ADHD vs. Families with Children Without Behavioral Disorders

3:15-3:30 PM:

Paulina Bennett (Psychology): The Relationship Between COVID-19 Compliance and Attachment Styles
Faculty Mentor: Prof. Deborah Forester

3:30-3:45 PM:

***Summer Anderson** (Psychology): The Evolving American Political Landscape: Examining the Impact of Generational Migration Away from Religion on Generation Z
Faculty Mentor: Prof. Deborah Forester

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Abstracts of Senior Capstone Presentations

A Novel Approach to Treating Disease Using Phage Delivery of Enzymatic Antibiotics In *S. Aureus*

Jose Aguirre (Biological Sciences)

MDR *Staphylococcus aureus* is a leading cause of hospital acquired infection. Numerous studies have shown that there are many ways to treat from antibiotics to bacteriophage mediated treatment. This project seeks to answer an important question on how bacteriophages could be used as a method of biocontrol and gene delivery vectors and how they would affect the survival of populations of *Staphylococcus aureus*. There has been significant research on the use of antibiotic compounds to treat cases of *S. aureus* infection and a similar body of research to study the effect of lytic bacteriophages. However, there has not been a great deal of research on ways to use bacteriophages and antibiotics in conjunction, something this project will rectify. *S. aureus* infections have been and continue to be on the rise, with multiple strains of MDR *S. aureus* in existence, and more likely to develop in the future, making this research crucial to improving our understanding of effective treatments against these types of infections. In this comparative analysis, this study will develop a novel approach to treating bacterial disease by editing bacteriophage viral genomes to add a foreign gene. We will test this new process by using gene cloning to modify bacteriophages and evaluate for gene expression compared to unmodified bacteriophages.

Double Helical Silica Nanotubes as Catalysts for the Synthesis of Cinnamic Acid

Cecilia Alvarez (Biological Sciences)

Cinnamic acid is a widely used aromatic compound, admired for its easily manipulated structure and properties, making it a desired molecule within the cosmetic and pharmaceutical industries. Derived from the *Cinnamomum cassia*, cinnamic acid and its corresponding derivatives serve as potent biological molecules, being antimicrobial, anticancer, antioxidant, and antifungal (Vasconcelos, 198). In our study, we aimed to synthesize double helical silica nanotubes to serve as novel catalysts for the synthesis of cinnamic acid. These nanotubes were then functionalized with amine groups to enhance their catalytic activity in serving as basic catalysts. We then characterized the nanotubes using various techniques, including infrared spectroscopy (IR), transmission electron microscopy (TEM), and gas adsorption analysis. Preliminary results indicate successful surface modification of our nanotubes with amine groups, as confirmed by FTIR spectroscopy, meanwhile adsorption analysis reveals a decrease in surface area of our nanotubes post-modification, suggesting the incorporation of amine sites. Our findings suggest the potential of these amine-functionalized silica nanotubes as efficient catalysts in the Knoevenagel reaction from benzaldehyde and diethyl malonate for the synthesis of cinnamic acid.

The Evolving American Political Landscape: Examining the Impact of Generational Migration Away from Religion on Generation Z

Summer Anderson (Psychology)

This study investigated the implications of generational migration away from religious affiliations on the American political landscape, particularly focusing on Generation Z. The departure from religiosity has historically influenced political party affiliations, and with this trend accelerating among the younger generation, understanding its impact on politics becomes increasingly essential. The research employed a mixed-methods approach using surveys from the Stan State student body through SONA and various methods of survey dissemination, aiming to examine correlations between religiosity, political party affiliation, and ideological leanings within Generation Z. By analyzing the relationship between religiosity and political ideologies, the study sought to anticipate the future direction of political landscapes within the United States, offering insights into the potential political influence of emerging generations.

Relationships Among Exposure to Violence, Empathy, Aggression, and PTSD

Sinai Arenas (Psychology)

This current research seeks to analyze potential PTSD symptoms, levels of empathy, and levels of aggression, and its relationship with the level of exposure to violent behavior as a contributing factor to the increasing rates of police brutality. An outline of previous research on how symptoms of PTSD, as well as varying levels of empathy and aggression, are affecting police officers' mental health is presented. The perimeter of the study is then described as police officers being asked to take an online survey where it measures the previous three factors with the level of exposure to violent behavior. We are seeking an average of 30 police officers from 3 police departments in the Central Valley, California. There will be a focus on Turlock, Modesto, and Merced. Once sought out they will receive (via a link) the study and take a survey that's an estimated 30 min. We are hoping to find a possible correlation between the levels of empathy, aggression, and possible symptoms of PTSD, with the level of exposure to violent behavior as a contributing factor to the increasing rates of police brutality. Due to the small sample size ($n = 2$), the hypothesis was not supported. We then discuss the limitations of the study and ways to better the conducting of this study.

The Effectiveness of Monarchies Today

Alyssa Beltran (History)

Is there an effectiveness of Monarchies in today's society? People today debate if a monarchy government is effective or if it is time for a change to a new government. The royals seem like a brand and do not do much for the royal duties of the past have been in past to the other people who help run the country. There are several kinds of monarchies today, but most countries today have a different kind of government. There are two main kinds of monarchies, the constitutional monarchy, and an absolute monarchy. Each country has its own opinion on their monarchy, but they all seem to ask the same thing. Is the monarchy still effective like it was in the past or should it be replaced by a different form of government? The expected result is that a monarchy is still effective in certain countries today. Some monarchic countries need a change to make their monarchy effective while others should change from a monarchy government to a new style of government that works for them.

The Eighth Amendment: What is Working and What Can Be Amended?

Hailey Borchardt (Political Science)

The Eighth Amendment to the United States Constitution protects individuals from excessive bail and fines, as well as cruel and unusual punishment. While the prohibition of excessive bail and fines is newer as of 2019 with *Timms v. Indiana* but has been effective in preventing government overreach and ensuring that the punishment fits the crime, the definition of what constitutes cruel and unusual punishment has been subject to ongoing debate and interpretation. As a result, there have been discussions about potential amendments to the Eighth Amendment, including more clearly defining what constitutes cruel and unusual punishment, providing specific protections for vulnerable populations, prohibiting private prisons and for-profit incarceration, abolishing the death penalty, requiring legal representation for all individuals, and reforming the cash bail system. These potential amendments could help ensure that the criminal justice system is more just and focused on rehabilitation and fairness for all individuals. Therefore, my research question is what can be done to the Eighth Amendment to make sure that crimes equally fit the punishments in a fair and consistent manner. I will be basing my research on background information from court decisions. Specifically, what punishment was assigned to a criminal based on what crime they committed. This is related because the inconsistencies found in these cases are what proves that the Eighth Amendment is not properly defined. For example, if the same crime committed by two first time offenders receives two different punishments, why is there a difference. This difference can represent bias from a judge or jury that could be reined in if the Eighth Amendment put more limitations on cruel and unusual punishment.

Ageism and Covid-19: A War of Perception

Celina Bridges (Sociology)

Older adults are subject to generalizations, stigmas and policies that socialize and restrict them from obtaining a quality and engaging life. Since COVID-19 those 65 and up have become accustomed to such factors of devaluation, which may have promoted disengagement or withdrawal from their previous societal functions. In this project, the experiences of older adults who sheltered in place during the pandemic are explored and analyzed. Using qualitative interviews with older adults, I will address the following research questions: 1) How does one feel about lockdown measures due to a worldwide pandemic? 2) How was one's quality of life affected? and 3) What was the role media outlets may have played in othering or promoting trauma within an individual?

The Social Decline: An Absence in Activities

Celina Bridges (Sociology)

Older adults are often oversold and underserved within long-term care and assisted living facilities (Jonasson 2023). Since COVID-19 these establishments have been operating with skeleton crews, which has resulted in limited outreach for meaningful and social engagement (Chen 2020). Due to these institutional disparities that older folks face, how does surveillance and resource rationing affect outreach and utilization of activities and the need for more human interactions within a long-term care setting, especially during a pandemic. With this in mind, community engagement and panoptical tactics will be explored within this project, using 3-7 qualitative interviews with activities workers who are currently or have formerly worked within an assisted living, we will explore 1) the tasks and functions of assisted living activities workers, 2) their work environment and culture, 3) if they felt like they provided meaningful services and 4) if they ever played a role in charting, communicating, or reporting on changes of conditions in their residents.

Factors that Contributed to Nurse Burnout During the Peak of the COVID-19 Pandemic

Ashley Cabral (Nursing)

Background: Frontline workers, such as nurses, experienced the COVID-19 pandemic differently than us. Dealing with hospital overcrowding, a disease that was largely unknown at the time, fear, and lack of material and human resources contributed to nurse burnout. Nurse burnout can have significant effects on patient care and nurse retention, making it a pressing matter to analyze. *Purpose:* To demonstrate that healthcare organizations need to implement interventions directed towards decreasing nurse burnout either through changing the workplace structure or increasing individual nurse resilience. *Methods:* This is an extended literature review using a non-experimental mixed methods approach. Qualitative and quantitative data were analyzed to determine the factors that exacerbate nurse burnout and how it affects patient care. Statistics determining stress levels among nurses during the pandemic, patient satisfaction related to burnout rates, and anecdotes from nurses working during the pandemic were gathered and analyzed to determine what causes burnout to get worse and what can hospitals and other healthcare organizations do about it. *Expected results:* Nurse burnout, measured in stress levels, increased during the pandemic and changing the workplace structure positively impacted stress levels. Interventions such as better management, resilience bundles, emphasizing techniques such as mindfulness exercises, and changing the workplace environment such as increasing availability of human and material resources can help decrease nurse burnout. *Conclusions:* Nurse burnout is an important statistic to monitor so that organizations can implement interventions to prevent deterioration of patient care, increase patient satisfaction, manage nurse retention, and avoid nurse turnover. While nurses have the responsibility to learn techniques to help reduce stress individually, organizations need to change the structure and management of the units to provide a better, safer environment for both nurses and patients. *Keywords:* COVID-19, nurse burnout, stress, resilience

Comparative Study of Communication Behaviors: Families with Children Diagnosed with ADHD vs. Families with Children Without Behavioral Disorders

Jillian De La Motte (Communication Studies)

This extended literature review seeks to investigate the relationship between communication difficulties and the presence of Attention Deficit Hyperactivity Disorder (ADHD) in children. The study aims to find if families with children diagnosed with ADHD encounter more challenges in communication compared to families with children without behavioral disorders. The approach used for this literature review is non-experimental, focusing on existing studies about ADHD and family communication. The design intends to observe qualitative studies, recording communication patterns within families. The expected data anticipates a higher prevalence of communication difficulties within families with children diagnosed with ADHD. This review also expects to understand the impact of ADHD on family dynamics and communication, thereby providing insights for interventions and support services, hoping to improve family communication and relationships.

Take It Easy On Us! The Effect of the COVID-19 Pandemic on the Quality of Well-Being and Academic Achievement of College Students

Julie Diaz (Psychology)

During the abrupt changes we universally experienced during the COVID-19 pandemic, there were shared feelings of uncertainty and anxiety. As we all sat on edge waiting for daily updates on the COVID-19 virus, everyone engaged in unforgettable nail-biting as we were provided with changes being made to state and federal mandates. The purpose of the present study examined the relationships amongst elements of the COVID-19 pandemic and the quality of well-being and academic achievement of college students. It was hypothesized that participants would report lower levels of quality of well-being and academic achievement during the COVID-19 pandemic as compared to after the COVID-19 pandemic. Two questionnaires were administered to 24 undergraduate college student participants from a public four-year university at which time they were asked to reflect on their past and current experiences pertaining to their well-being and academic achievement during and after the COVID-19 pandemic. Results indicated that there was no significant correlation between the COVID-19 pandemic and the quality of well-being and academic achievement of college students. These findings may have been limited by having a small sample size restricted to only students from one college campus, all of whom were enrolled in psychology courses. Future researchers may delve deeper into the relationship between the COVID-19 pandemic and the quality of well-being and academic achievement by having a larger and more diverse sample size. Keywords: COVID-19 pandemic, well-being, academic achievement

A Preliminary Experiment: Conventional vs. Sustainable Strawberries

Sharlien Envieh (Agriculture)

With the use of synthetic fertilizers, pesticides, plastic mulch, and monocultures, conventional strawberry growing systems dominate in yield and quality. However, these systems are contributing to great environmental degradation through excessive nutrient leaching, pesticide health risks, plastic waste, and overall decreased biodiversity in the system. Agro-ecology provides us with an alternative to the current industrial system because it encompasses a holistic view of farming and ecological principles. Implementing agroecological practices such as vermi-compost, companion planting, and organic mulch, we designed a sustainable strawberry growing system to compare it against a monoculture conventional system that used synthetic fertilizer and plastic mulch. We found that the entire conventional system performed better in overall successful yield (222 vs. 180), and its successful fruits weighed 1/10th more than the sustainable system, implying larger berries. However, the conventional system still had a higher number of failed strawberries (230 vs. 129). This shows that the agroecological plot had a higher percentage of successful strawberries to its own total compared to the conventional one. This is promising for agroecological farming given that this plot accidentally received much less water for nearly the entire duration of this experiment! Failed strawberries were also classified based on the damage type. Moreover, within the plots and their respective replications, there were also interesting trends found that could be explained by the observational

data collected as well as official soil and tissue analysis tests. This pilot experiment serves as a small example that could be replicated onto acres of strawberry fields to investigate the impacts of conventional and agroecological practices.

College Major Choice in a State University Context: A Psychosociocultural Perspective

Jennifer Frisk (Social Sciences)

College education is increasingly costly, yet it is crucial for social mobility (particularly for first-gen and/or low-income students). The relatively affordable tuition of California State Universities (CSUs) facilitates access for students from diverse socioeconomic backgrounds. This study investigates what factors primarily influence how students at CSUs choose their majors. I hypothesize that pragmatic factors, such as future earnings and degree completion cost/duration, have an outsized influence on major choice, even for students at relatively affordable institutions like CSUs. I will distribute an online survey (adapted from the SERU survey) to at least 30 Junior/Senior undergraduates via Qualtrics and SONA. Though I believe the results may confirm that pragmatism heavily influences major choice, they may also refute my hypothesis by highlighting other factors such as personal interest or feelings of belonging. Results may also be inconclusive, indicating a complex relationship of factors. This study aims to inform stakeholders about students' major choice, aiding in better support and decision-making for students at CSUs.

Effects of Self-labeling on Deviant Identity Status and Coping Strategies After Psychiatric Diagnosis

Carolyn Gallella (Psychology)

Modified Labeling Theory (MLT) posits that receiving a psychiatric diagnosis may lead individuals to internalize a deviant identity status (i.e., a sense of otherness resulting from difficulty satisfying social norms) and that maladaptive strategies are often used to cope with the threat of stigma. Most labeling research concerns deviance after formal diagnosis; however, self-labelers believe they are deviant before diagnosis (Norris, 2011), as opposed to non-labelers who do not. It was hypothesized that self-labelers would experience a decrease in deviance after diagnosis and utilize healthier coping strategies. Online survey data were collected from 50 undergraduates (74% women, 68% Caucasian, 56% Hispanic/Latino) with a mean age of 27 and at least one psychiatric diagnosis. Consistent with predictions, qualitative data revealed that self-labelers were significantly more likely to state that they experienced a decrease in deviance after diagnosis ($X^2(1) = 12.72, p = .001, \Phi = .50$). Concurrently, quantitative data revealed that there was a significant difference between mean scores of self-labelers and non-labelers on a measure of deviance before and after diagnosis ($t(48) = 2.27, p = .02, CI [0.08, 1.08]$). Contrary to predictions, there was no difference in the use of coping strategies between groups. Although this study was cross-sectional and limited in scope, it illustrates a promising direction for future research. The findings show that MLT may not universally apply. The mental health community needs to better understand how different people will react to diagnosis to create a more individualized approach to treatment.

Reflecting on English Language Learning Experiences: Attitudes & Perceptions from English Language Learners at California State University Stanislaus

Nathalie Hernandez (English)

In the Central Valley of California, at California State University Stanislaus, adult English Language Learners were surveyed, regarding their attitudes, preference of learning styles in their English Language acquisition process and a self-reflection on their cultural identity being a multilingual speaker. The student participants shared their experiences on when they first learned English, what inhibitions they had learning English, and learning methods they preferred between the Audio-lingual Method and Grammar Translation Method. Currently as University students they explained how they feel about their cultural and self-identity in higher education being a multilingual speaker and how it affects their sense of self. English Language Learners ultimately showed a more positive attitude and greater performance when using the Audio-Lingual Method rather than the Grammar Translation Method in acquiring the English language. Regarding their self-identity

and sense of culture as multilingual learners, at the University setting students felt neutral and positive about their lived experiences.

Did the Supreme Court Decisions of *D.C v. Heller* (2008) and *McDonald v. City of Chicago* (2010) Have a Marked Effect on the Right to Keep and Bear Arms and Carry Laws in the United States?

Michael Hopkins (Political Science)

My project, Did the Supreme Court decisions of *D.C v. Heller* (2008) and *McDonald v. City of Chicago* (2010) have a marked effect on the right to keep and bear arms and carry laws in the United States?, is investigating whether or not these two cases had a significant or 'marked' effect on the legislative bodies of each of the 50 states. I will particularly be looking at the states carry laws (Concealed Weapons Permits), the states recognition of the right to keep and bear arms, as well as a significant amount of literature that also looks at state pre-emption laws and state laws regarding the ability to sue gun manufacturers for their 'role' in gun violence.

Food Insecurity May Affect Students' Academic Performance by Giving Rise to Higher Anxiety and Depression, Causing Higher Overall Stress, and Affecting Their Cognitive Abilities to Learn

Jasmine Martinez (Exercise Science)

In light of the economic challenges and high cost of living in California, college students are increasingly facing difficulties in securing adequate nutrition, which is essential for their academic success. Prior research has shown a relationship between food insecurity and diminished academic performance, potentially due to increased stress, anxiety, depression, and impaired cognitive function. It has been shown that college students experiencing food insecurity have a lower academic performance than students who are not. This study aims to explore the impact of food insecurity on the academic achievements of college students and understand what factors of food insecurity might be the cause of lower academic performance. We conducted a survey to CSU Stanislaus students to better understand this relationship. The survey consisted of the 10 item U.S. Adult Food Security Survey Module, Cohen's Perceived Stress Scale, the Patient Health questionnaire (PHQ), and questions about the students' academic performance. The findings show that indeed students with less access to food struggle more. We further discuss specifics of this and what factors contribute to the academic struggles of these students.

Relationship Between Traditional Latino Cultural Values and Parent Conflict Among Young Mexican-American Adults and Mexican Immigrant Parents

Claudia Perez-Suarez (Sociology)

Studies have shown conflict and problem behaviors arise due to children being more acculturated (i.e. more assimilated to current culture in their area) (Basáñez et al., 2014). As children become more acculturated, their values and beliefs may no longer align with that of their parents, creating differences. The following study investigated the association between traditional Mexican American Cultural values and conflict among Mexican American families. More specifically, the study aimed to determine whether second-generation immigrants report a weaker presence of traditional Mexican American cultural values and more conflict amongst their family than first-generation immigrants. A modified version of existing scales was used to measure the strength of cultural values and conflict among college students at Stanislaus State University. Participants (N = 20) were recruited and asked a series of questions from both the Mexican American Cultural Values Scale and the Acculturation Gap Conflict Inventory. Surprisingly, participants that identify as second-generation immigrants reported a greater presence of specific values than first-generation immigrants, such as familial obligation and support. Second generation immigrants also reported more conflict than first-generation immigrants.

The Relationship Between Perceived Locus of Control and Positive Attributes Such of Time Management, Lifestyle Choices, and Academic Performance in College Students

Emma Pohl (Psychology)

The experiences college students encounter in higher education vary depending on the individual's reported level of self-control. Self-control can benefit college students in their academic achievements, procrastination prevention skills, and mental and physical health. Including college students in research regarding self-control can inform programs and intervention methods used for promoting mental health resources as well as hazardous behavior intervention on college campuses. I predict to see a positive correlation between internal locus of control and each variable of academic achievement and motivation, time management skills, and lifestyle choices. Students who report higher internal levels of self-control will also report higher levels of academic achievement and academic motivation, more adaptive time management skills, and greater functional health. The necessary data will be collected through a series of questionnaires. The questionnaires have been designed in Qualtrics and posted to the SONA website. Participants will sign up on SONA and complete the study at their own convenience. Participants will complete a consent form, the questionnaires, and be debriefed. The participant pool consists of undergraduate and graduate Psychology students at Stanislaus State. Possible results from the study include the chances of higher levels of internal locus of control paired with higher levels of academic achievement, time management, and health, low levels of self-control paired with high levels of the latter, and no correlation between self-control and the three variables. Data will be collected and shown in the form of graphs and tables.

The Relationship Between Vision Care Access and Rate of Treatment

Angeles Ramirez (Biology)

Purpose: As rates of myopia and other vision issues increase year after year, it is important to analyze what impedes people from obtaining treatment for this eye disease. Certain barriers are already known, such as high costs, lack of insurance acceptance, healthcare job deserts, and long distances to vision healthcare. Therefore, research into why and how much access to vision care is affected is important to determine which areas receive inadequate treatment, then expand upon this by comparing against the impact such barriers have, particularly on treatable conditions like myopia. Methods: A meta-analysis of existing research on barriers to access was done. Barriers to access such as cost of care, accepted insurances, and availability of optometric offices will be compared against census data of a sample of twenty medium sized cities, as defined by OECD, such as median income and race. Results: Specific barriers to access for vision care were high cost, lack of quality care, and lack of personal importance of vision care. Areas with lower median income and low optometric office density had higher barriers to access for vision care as the availability and affordability of vision care rose, and it is expected that this will result in higher difficulty for patients to get high quality care, as defined by Institute of Medicine (IOM, 2001). This will result in higher levels of treatable conditions, myopia, compared to areas with high median income and optometric density (i.e. lower barriers to access).

The Temporal Distribution of Pigments in Lantanas

Justin Raymond (Biology)

All flowers that exhibit colors distribute pigments across their cells in order to present the coloration that we see. Flowers are not limited to only one type of pigment as many different flowers have different color polymorphisms, within the same species as well as within the same petals of the flower. Lantana camara is one species of flowers that shows differences in pigments across different cultivars, but also within the same inflorescence. Past studies have indicated that pollination is a key factor to the color change seen within the same inflorescence, as well as age. In this study, floral dissections were performed on 3 different cultivars of lantana flowers and microscopic pictures were taken of the pigment content in both the corolla lobe and corolla tube. The abaxial and adaxial sides of both the lobes and tubes were imaged and compared. Purple/white inflorescences retain a greater amount of pigments in their older corolla tubes than in the yellow/orange inflorescence. The yellow/orange showed a mix of different types of pigments in the older corolla lobes, showing yellow and reds to make the orange coloration. The results from this study will help to

understand the way that Lantanas distribute pigments temporally and to lay groundwork for studies that work with pigment accumulation in the Lantana species.

A Lost Cause: The Daughters of the Confederacy's Impact on a Generation

Kaitlin Rogers (History)

The Daughters of the Confederacy are a pro Confederate group that formed after the Civil War. During this time period, Lost Cause ideology also emerged as The South attempted to justify their loss during the Civil War. The Daughters of the Confederacy were one group that spread Lost Cause ideology, and they did so by using catechisms, censoring textbooks, creating confederate monuments, and writing their own history books. The Daughter's efforts to spread Lost Cause ideology still affect The South today. I will collect the necessary information to prove my thesis by looking at a combination of previous studies and primary sources. I will use library databases and archives like JSTOR to get the majority of my data. The data I have collected indicates that The Daughters of the Confederacy played a major role in spreading Lost Cause ideology. The Daughters of the Confederacy were one of the driving forces behind the Confederate monuments. They would censor textbooks that published information about The South that the Daughter's did not like, and they would write their own textbooks with their version of history. The Daughter's also passed their version of history down to children by using catechisms to teach them about the Confederacy. Lost Cause Ideology is still present in The South today, and it is a cause of friction between those who do and do not believe in the myth.

Video Games, Aggression, and Cyberbullying, Correlation or Causation?

Kylie Sackett (Psychology)

Undoubtedly, video games are among the most popular hobbies and pastimes for adolescents and teens worldwide; however, the question I aim to uncover is whether we understand the impact that violent video games have on our mental state. Many have experienced anger or feelings of aggression after losing in a video game at some point in their life. The issue at hand is whether this could become a severe issue for those who play more violent video games on a weekly or even daily basis. This issue prevails because video games are played worldwide, making this a global concern for millions. My study involved an in-depth examination of existing literature covering many articles in the past 15 years. I have also considered a range of variables that may play into the positive association that I had initially hypothesized. These include risk factors and vulnerability, longitudinal effects, social networks, and environmental influences. I looked for participants that fit the global criteria of teenage and adolescent video game players, specifically aiming for participants aged ten to 21. Overall, the findings from my research did not align with my hypothesis and did not support the general idea that violent video games are positively associated with aggression among adolescents. Future studies can build upon my findings and contribute to the research by completing an experimental study; this can help strengthen their reliability. In conclusion, the present study aims to explore the complex relationship between violent video game exposure and aggressive behavior in adolescents.

Creating a New Simplex Method Calculator to Optimize Student Learning

Mahmoud Sulieman (Mathematics)

The field of Operations Research (OR) plays a crucial role in aiding organizations across various sectors in making informed decisions to optimize their processes and resources. A fundamental technique employed in OR is the Simplex Method, which enables analysts to iteratively improve feasible solutions towards optimality. However, the computational complexity of the Simplex Method often poses challenges for students learning the technique, leading to a reliance on calculators that provide complete solutions, undermining the learning process. In this project, we developed a new web-based Simplex Method calculator to address this issue. The calculator aims to enhance student learning experiences while optimizing computational efficiency. Drawing from existing literature and resources, the web app was created and is now fully functional in design and implementation. Stanislaus State students who have previously taken the

Operations Research course gave their feedback on the calculator through a survey. The survey had them complete three Simplex Method problems via three different methods: (1) by hand, (2) using an existing calculator, and (3) using our newly developed calculator. The results of the survey are discussed in this article.

A Geospatial Association between Tobacco Retailer Advertisements and Neighborhood Characteristics

Yurixia Ávalos (Psychology), Heriberto Fuentes (Nursing), Safia Sanguilan (Public Health Promotion), Luis Suárez-López (Social Work), Justin Thao (Biological Sciences)

The use of tobacco and nicotine products is a leading cause of preventable death, thus making it one of the most complex public health problems in the U.S. Previously, the tobacco industry has had a long-documented history of promoting tobacco products towards disadvantaged communities, such as those from ethnic minorities and low-income communities. Restrictions and policies have been applied to tobacco retailers, but prior research has found a discrepancy between tobacco retailer density and the advertisements displayed. We aim to discover how these phenomena have manifested in the city of Turlock. First, we conducted a visual survey of retailers in Turlock to examine the external advertisements found on tobacco-licensed retail stores. Second, we performed a content analysis on the advertisements, specifically language, products, and imagery. Finally, a GIS hot and cold spot analysis using the locations and advertisements present in the stores.

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