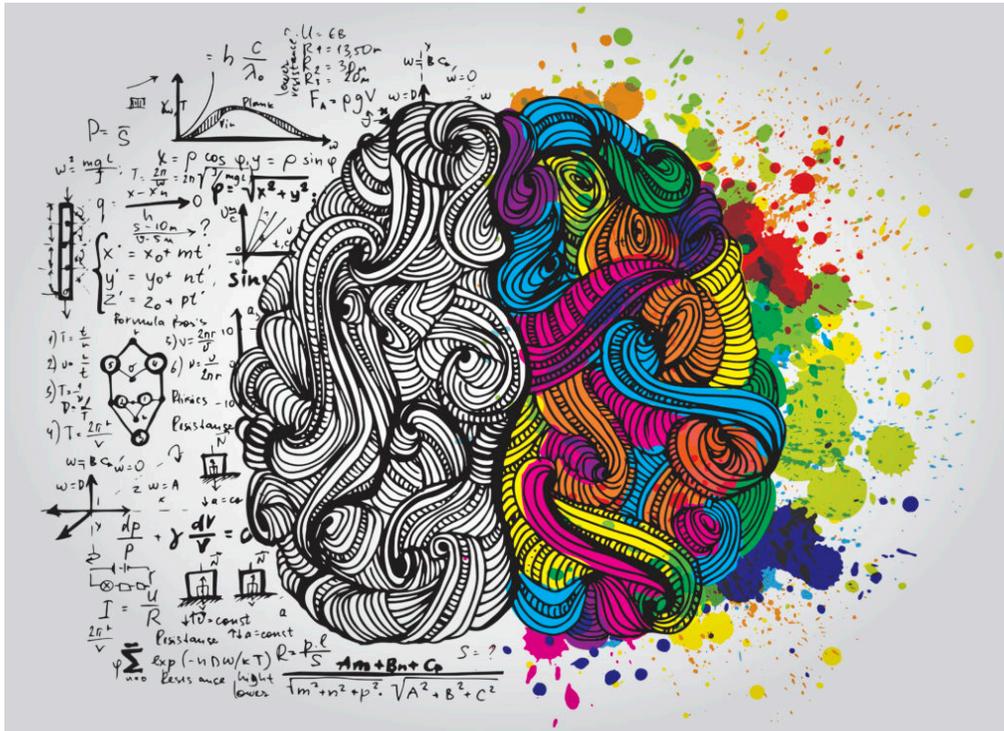


18th Annual Capstone Conference



Science I Building

Saturday May 4, 2019

10:00am - 4:15pm

University Honors Program

McNair Scholars Program

California State University Stanislaus
One University Circle, Turlock CA 95382

(209) 667-3180 | csustan.edu/honors | csustan.edu/mcnair

Acknowledgements

Special thanks to the following faculty who generously agreed to serve as **Research Mentors** for our **2018-19 Senior Capstone Research Projects**:

Elvin Aleman (Chemistry), JungHa An (Mathematics), Brett Ashmun (Liberal Studies), Jeffrey Bernard (Kinesiology), Eric Broadwater (Theatre), Thomas Carter (Cognitive Studies), Marcy Chvasta (Communication Studies), Deborah Forester (Psychology), Bruce Hesse (Psychology), Victor X. Luevano (Psychology), David Martin (Mathematics), Alison McNally (Geography), Keith Nainby (Communication Studies), June Newman (Psychology), Jamila Newton (Biology), Katie Olivant (Liberal Studies), Grace Paradis (Psychology), Anita Pedersen-Pennock (Psychology), Mark Perry (Criminal Justice), Cynthia Santos-DeCure (Theatre), Koni Stone (Chemistry), Gary Williams (Psychology), Molly Winter (English), and to Andrew Dorsey (English) and Jamila Newton (Biological Sciences) our Honors Presentation Seminar instructors. Thanks to Therese Lunt for her work with our sophomore Service Learning students and to Ralph Becker (Social Sciences), Ellen Bell (Anthropology), Suditi Gupta (Psychology), and Tim Held (Library) for guiding the research activity of our juniors.

The following faculty taught in the Honors Program this year:

Steve Arounsack (Anthropology), Ralph Becker (Social Sciences), Ellen Bell (Anthropology), Larry Busk (Philosophy), Joseph Carranza (Communication Studies), Tom Carter (Computer Science), Andrew Conteh (Political Science), Jennifer Cooper (Biological Sciences), Andy Dorsey (English), Jeffrey Frost (Anthropology), Suditi Gupta (Psychology), Tim Held (Library), Heather Jarrell (Anthropology), Therese Lunt (History), Cueponcaxochitl Moreno Sandoval (Ethnic Studies), Chris Nagel (Philosophy), Jamila Newton (Biological Sciences), April Oquenda (English), Justin Pack (Philosophy), Richard Randall (Political Science), Jennifer Ringberg (Anthropology), Mary Roaf (Ethnic Studies), Cynthia Santos-DeCure (Theatre), Kathryn Steele (English), Jim Tuedio (Philosophy) and Arnold Webb (English).

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.

2019 Capstone Conference Summary Schedule

Saturday, May 4, 2019

10:00a.m. - 4:15p.m.

| | | |
|-----------------|---|------------|
| 10:00am | <u>Welcome</u> | S-135 |
| 10:05am-10:50am | <u>Senior Lightning Research Talks</u> | |
| | ❖ Session 1 | S-135 |
| | ❖ Session 2 | S-139 |
| 11:00am-11:45am | <u>Senior Lightning Research Talks</u> | |
| | ❖ Session 3 | S-135 |
| | ❖ Session 4 | S-139 |
| 12:00pm | <u>Keynote Address: Emily Renteria, M.A</u> | S-135 |
| | <i>Roots and Responsibility: From Central Valley Grit to Purposeful Future</i> (Ph.D. student in the Department of Religion at Columbia University in New York City, Scholar and Lecturer in the College of Ethnic Studies at San Francisco State University.) | |
| 12:40pm | <u>Sophomore Service Learning Presentation</u> | S-135 |
| 1:00pm | <u>Capstone Research Poster Session</u> | |
| | ❖ Honors Juniors | S-104 |
| | ❖ McNair Scholars | Lobby Area |
| 2:15pm | <u>15-minute Senior Research Talks</u> | |
| | ❖ Session 5 | S-135 |
| | ❖ Session 6 | S-139 |
| | ❖ Session 7 | S-137 |
| 4:15pm | <u>Conference concludes</u> | |

Session 1: Lauren Eckerdt, Grasiela Franco-Carreno, Aleta Mascorro, Shawn Ward

Session 2: Cassidy Ferrell, Tate Thomasson, Dana Olmstead, Priscilla Hernandez, Nora Garcia

Session 3: Britiel Bethishou, Rolaun Dunham, Adriana Sarabia Savala, Evan Jonson,
Rebecca Linderman, Morgan Grajeda

Session 4: Taylor Pitts, Marissa Morado, Amber Crabtree, Miguel Lopez, Monica Calderon,
Rosemary Elias

Session 5: Camilo DeAnda, German Silva, Jose Godinez, Lauren Martinez, Daniel Stoffel

Session 6: Mason Donabedian, Tyler McLeod, Caycie Maynard, Brittany Groves,
Kailey Sarmiento, Maria Marquez

Session 7: Dennis Nguyen, Scott Contreras, Frank Mills, Jessica Valero, Fabiola Herrera,
Sarah Hernandez

Session 1: 10:05 am - 10:45 pm, S-135

Moderator: James Tuedio, Dean, College of Arts, Humanities and Social Sciences, University Honors Program Director

Lauren Eckerdt (Psychology): The Relationship between Fiction Genres and Empathy

Faculty Mentor: Dr. Harold Stanislaw

Grasiela Franco-Carreno (English): LGBTQ: Not a Censor, but a Value

Faculty Mentor: Dr. Molly Winter

Aleta Mascorro (Theatre/Ethnic Studies): Queer Theatre

Faculty Mentor: Dr. Cynthia Santos-DeCure

Shawn Ward (Theatre): Setting the Stage: Drafting the Theatre Department Student Handbook

Faculty Mentor: Mr. Eric Broadwater

Session 2: 10:05 am - 10:45 am, S-139

Moderator: Ellen Bell, Professor of Anthropology, University Honors Program Director, McNair Scholars PI

Cassidy Ferrell (Liberal Studies): What is the most used learning style in the elementary school classroom?: The impacts of teaching different learning styles in the classroom

Faculty Mentor: Dr. Katie Olivant

Tate Thomasson (Liberal Studies): Gendered Speech in Schools: The Relationship between Gender Schema Theory and Self-Esteem

Faculty Mentor: Dr. Katie Olivant

Dana Olmstead (Liberal Studies): Implementing Service-Learning in the Lower Elementary Classrooms (K-3): Examining the How and Why from the Teachers

Faculty Mentor: Mr. Brett Ashmun

Priscilla Hernandez (Psychology): The Effectiveness of Picture Exchange Communication System (PECS) on Nonverbal Autistic Children Outside the Classroom Setting

Nora Garcia (Psychology): Parenting stress and Child Behavior Problems: Examining Whether Marital Satisfaction Plays a Moderating Role

Faculty Mentor: Dr. Anita Pedersen-Pennock

Session 3: 11:00 am - 11:45 am, S-135

Moderator: James Tuedio, Dean, College of Arts, Humanities & Social Sciences, University Honors Program Director

Britiel Bethishou (Biology): Potential Mutagenic Properties of Hookah Smoke vs Cigarette Smoke

Faculty Mentor: Dr. Koni Stone

Rolaun H. Dunham (Kinesiology): E-Cigarettes: Safe Nicotine Delivery System?

Faculty Mentor: Dr. Koni Stone

Adriana Sarabia Savala (Psychology/Sociology): Binge Drinking Among College Students

Faculty Mentor: Deborah Forester

Evan Jonson (Psychology/Economics): Risk Aversion Behavior in a Mock Gambling Task
Faculty Mentor: Dr. Victor X. Luevano

Rebecca Linderman (Kinesiology): A Study on the Optimal Recovery Methods Following Anterior Cruciate Ligament Reconstruction Surgery
Faculty Mentor: Dr. Jeffrey Bernard

Morgan Grajeda (Psychology/Biology): Effects of Animal-Assisted Therapy on Different Ages and Patients

Session 4: 11:00 am - 11:45 am, S-139

Moderator: Ellen Bell, Professor of Anthropology, University Honors Program Director, McNair Scholars PI

Taylor Pitts (Biology): The Importance of Keystone Species: Sea Otters in Alaska

Marissa Morado (Mathematics): Harmonic Motion Equations with Related Applications
Faculty Mentor: Dr. JungHa An

Amber Crabtree (Criminal Justice): Impacts of California Realignment in Rural County Jails
Faculty Mentor: Mr. Mark Perry

Miguel Lopez (Psychology): Brainwave entrainment to improve problem-solving skills in people with the neurodevelopmental disorder ADHD
Faculty Mentor: Dr. Bruce Hesse

Monica Calderon (Psychology): Trauma and the Emotional Stroop Task: Differences between Gender and Ethnicity
Faculty Mentor: Dr. Grace Paradis

Rosemary Elias (Biology/Neuroscience): The Link: Estrogen Therapy and its Role in the Prevention and Treatment of Alzheimer's Disease

Session 5: 2:15 pm, S-135

Moderator: James Tuedio, Dean, College of Arts, Humanities and Social Sciences, University Honors Program Director

2:15 Camilo DeAnda (Philosophy): The Interdependency of Environment and Man

2:35 Germán Silva (Geography): Pickleweed Vigor in a Californian Salt Marsh: A Remote Sensing Approach
Faculty Mentor: Dr. Alison McNally

2:55 Jose Godinez (Chemistry): Computational Study of the Oxidation of Volatile Organic Compounds by the OH Radical
Faculty Mentor: Dr. Elvin Aleman

3:15 Lauren Martinez (Biological Sciences): Analysis of Cellular ROS Regulatory Mechanisms in Patients Suffering Small Fiber Neuropathy
Faculty Mentor: Dr. Jamila Newton

3:35 Daniel Stoffel (Computer Science): Practical Technopathy: Harnessing the Power of the Mind
Faculty Mentor: Dr. Thomas Carter

Session 6: 2:15 pm, S-139

Moderator: Ellen Bell, Professor of Anthropology, University Honors Program Director, McNair Scholars PI

2:15 Mason Donabedian (History): The Fall of Rome

2:35 Tyler McLeod (History): World War 1914-1945: A Second Thirty Years' War

2:55 Caycie Maynard (History): Examining Communication and Democracy in the Vietnam War

3:15 Brittany Groves (English): Kate Chopin as a Feminist Writer

3:35 Kailey Jo Sarmiento (Psychology): The Effects of Story Modality on Comprehension and Emotional Engagement
Faculty Mentor: Dr. Gary Williams

3:55 Maria Marquez (Communication Studies): The Different Forms of Identity: Online and Offline
Faculty Mentor: Dr. Marcy Chvasta

Session 7: 2:15 pm, S-137

Moderator: Araceli Garcia, Director of the McNair Scholars Program at Stanislaus State

2:15 Dennis Nguyen (Mathematics): Linear Combinations of Harmonic Univalent Mappings
Faculty Mentor: Dr. David Martin

2:35 Scott Contreras (Mathematics): Dice Mathematics: A Hypothetical Study into Rationalizations of Bias

2:55 Frank Mills (Communication Studies): Real and Ideal: Family Communication
Faculty Mentor: Dr. Keith Nainby

3:15 Jessica Valero (Psychology): Effect of Perceived Parenting Styles on Depressive Symptoms
Faculty Mentor: Dr. June Newman

3:35 Fabiola Herrera (Teacher Education): The Relationship between Parents' Language Practices and Their Bilingual Children's Vocabulary Development
Faculty Mentor: Dr. Grace Paradis

3:55 Sarah Hernandez (Psychology): Assessing the Role of Social Skills as a Moderator in the Relationship between Socioeconomic Status and Child Behavioral Problems
Faculty Mentor: Dr. Anita Pedersen-Pennock

Abstracts of Senior Capstone Presentations

Potential Mutagenic Properties of Hookah Smoke vs Cigarette Smoke

Britiel Bethishou

Hookah has recently been popularized in the United States as an alternative to smoking tobacco using cigarettes. Since consuming hookah involves pulling smoke through water before inhaling it, there is a preconception that the potentially dangerous water-soluble tar components are trapped in the water, thus making the vapors safer. We performed a DNA nicking assay to test mutagenic properties of hookah smoke to compare them to cigarette smoke. The DNA nicking assay involves incubating various concentrations of hookah smoke solutions with bacterial DNA to measure the level of cuts in the sugar backbone of the bacterial DNA. The amount of DNA nicking by hookah solutions was orders of magnitude less than the nicking that has been detected with cigarette smoke. Additionally, UV spectroscopy revealed that some of the smoke components did remain trapped in the water. Though more research remains to be conducted, the results of this and similar studies could be used to explain differences in the rates of cancer and other tobacco-related diseases between countries or regions in which one delivery method is preferred or more prevalent/dominant than the other.

Trauma and the Emotional Stroop Task: Differences between Gender and Ethnicity

Monica Calderon

Trauma and the Emotional Stroop Task: Differences between Gender and Ethnicity; Individuals that have experienced a deeply distressing or disturbing event are considered to have faced trauma. Although previous studies have assessed trauma, relatively little is known about the cognitive processes that occur across ethnic variations. When assessing trauma, different genders are often exposed to different types of trauma, as well as differences in exposure to certain types of trauma. These variations are examined in the color-naming interference on an Emotional Stroop Task. This was measured to assess attentional bias on individuals who have faced a traumatic event. Fifty-four participants were recruited and used for analysis. Findings are discussed in the context of differences among gender, ethnicity, and trauma groups.

Dice Mathematics: A Hypothetical Study into Rationalizations of Bias

Scott Contreras

The design of two-player chance games is traditionally based in symmetry. That is, both players operate under identical rulesets in determining who wins and who loses. The goal of such designs is to make position arbitrary. Whoever takes on the role of Player 1 or Player 2 is irrelevant to the odds of either player winning, to such an extent that these labels are usually never mentioned. However, through elementary probability theory, the theory of chance and outcome, games can be constructed where the two players use different rules, but do not have any advantage over the other. Research in how humans understand probability theory suggests that complexity within a chance system inevitably leads to errors on the human end. What this research lacks are the specific types of complexities that are conducive to this error, as they pertain to game design. This hypothetical study seeks to answer how one might design a mathematically balanced, two-player game of chance that participants will still believe to be fair. The two rulesets of the game will be differentiated by the number of outcomes, the playing pieces, or the mechanics that generate outcomes. Participants will be presented with five different games and will be asked to determine whether or not these designs favor one player over another. Once completed, this study would reveal the kinds of complexities in game design that cause players to sense bias, and how asymmetry may be introduced into mainstream game design without arousing suspicions of foul play.

Impacts of California Realignment in Rural County Jails

Amber Crabtree

In 2011, the State of California implemented The California Public Safety Realignment Act. Assembly Bill 109 redirected administrative responsibility of non-serious, non-violent, and non-sexual felony offenders to county jails and probation systems. California Public Safety Realignment has raised questions about safely supervising low-level felons at the county level. Research that followed up with county and state agencies have all found that shortage of funding is a common problem as well as overcrowding in jails. Using a qualitative exploratory research design, this is a study focusing on the impacts of realignment in rural county jails in Northern California. The purpose of this study is to gain greater insight of realignment through the perspective of Tuolumne County Sheriff's Deputies. In person interviews and a short demographic survey will be used to collect data. Conclusions on the impacts of AB 109 draw upon the completion of data collection and analyses. Expected conclusions from this study on the impacts of AB 109 is that the burdens on rural county jails have seen little overcrowding relief since the implementation of realignment despite funding from the state.

The Interdependency of Environment and Human Existence

Camilo DeAnda

This paper explores various ways in which the environment and humans are interconnected. This topic is more important now than ever as recent environmental regulations and policies have been rolled back, leading to a less than optimistic view of our species' future. As this issue continues to snowball into something much more ominous, it has the very real potential to quickly become uncontrollable not just for us, but for future generations. There currently seems to be a disconnect between ourselves and how we tend to view the environment. This has led to a societal apathy which is dangerous if all current available data concerning our effects on environment are true. This problem, ultimately, is what the paper addresses: why the environment matters, not as a current events issue, but as a matter of the highest importance in terms of survival of ourselves and our world. Research for this project has been conducted in a multidisciplinary way with fields such as biology, chemistry, economic policy, politics, sociology, environmental ethics and anthropology consulted. The paper attempts to answer the question, "why is our natural world important?" The results of this inquiry have, of course, been varied depending on various perspectives but ultimately, the answer has been that it indeed is. It is hoped that this paper will serve as a call to action, both personal and societal, as to why and how to personalize this concern and push for a more aware society.

The Fall of Rome

Mason Donabedian

When someone familiar with the Fall of the Western Roman Empire thinks about the timing of the Fall, the year AD 457 is the thing most commonly associated with it. The saying goes that Rome did not fall in one night, but neither did it fall in one year. The Western Roman Empire truly began its Fall with the advent of the Edict of Caracalla in AD 212. This Edict mainly had the effect of extending citizenship to all free peoples of the Empire, with the exception of a newly conquered Egyptian minority. On the surface, with modern ideas of morality, this act would seem a moral and just one, made with the prosperity of the Roman peoples in mind. Below its shallow exterior, however, lies the truth of the matter. The Emperor Caracalla proclaimed this Edict with only his treasury in mind, as only Roman citizens could be taxed in coinage. This Edict was only put forward in order to offset the suffering of the economy from the vast costs of various defensive wars and a bloated state, once proud and aggressive now reduced to constant defense. The Crisis of the Third Century, a period of military anarchy that shattered the Roman Empire for a majority of its duration, was directly caused by this proclamation. This is due, mainly, to how citizenship previously functioned. Prior to the Edict of Caracalla, citizenship was a reward for extended military service in the Legions, and was a major factor in the motivation of soldiers. With this motivating factor removed, a massive cultural shift

occurred which left monetary compensation as the sole motivator for military service. Combined with the rampant debasement of coins and the fact that each Roman general had to pay his own troops, the Empire quickly devolved into a state of chaos. It is important to understand that the Empire fell not once, but twice. It fell during the Crisis of the Third Century, was stitched back together again, and then fell once more due to the fact that the damage done by the Edict was irreversible. Roman culture could not return to the way it once was. The importance of the Edict has largely gone unnoticed in the hundreds of years that this subject has been studied. This paper will discuss the Roman narrative from the perspective that it fell twice, rather than the commonly accepted belief that it fell only once.

E-cigarettes: Safe Nicotine Delivery System?

Rolaun Dunham

E-cigarettes have become increasingly popular with people throughout the United States. Unlike regular cigarettes, e-cigarettes do not produce a heavy smoke, but nicotine is still present. However, there has been a lack of research done on the substances found within liquids that make the e-cigarettes so popular, so more needs to be done. This is a problem because middle and high school aged children are using them without knowing their composition. Therefore, this subject needs to be explored, so we can educate our young people about the possible effects. The present study hypothesizes that there are aldehydes contained in e-cigarettes from nicotine being present, and that the substances will have properties that nick DNA. In order to demystify the youth's misunderstanding of their use with vaping products, laboratory experiments were designed specifically to detect aldehydes and the effect that the product could have on DNA. Specifically, a DNA nicking assay was designed to see if DNA would damage from fractionations of e-cigarette solutions, as well as a Purpald solution to detect if any aldehydes were present, and a spectrometer to observe the absorbance. Aldehydes were detected using the Purpald solution procedure, but further research must be done to show conclusive evidence the e-cigarette products do damage DNA.

The Relationship between Fiction Genres and Empathy

Lauren Eckerdt

The current research regarding the relationship between empathy and reading has established many positive correlations that show an established link between empathy and reading. The research has shown a positive link with empathy and literary fiction, reading over time, short term reading effect, and others. However, this area of research has not looked at specific genres to determine if there are genres that have a more positive impact on empathy, or even if there are genres that may negatively impact a person's empathy. This research focused on the relationship between fiction genres and empathy. In this study, romance fiction and horror fiction were researched in order to determine if one had a greater impact on empathy. It was hypothesized that readers in the romance group would have higher levels of empathy than those in the horror group. Participants were randomly assigned to either the romance fiction group or the horror fiction group and read a short story from that genre. Empathy was measured by an established scale that contains 30 items. The study found that there was a significant differences in empathy between the groups, with the romance fiction group scoring higher than the horror group on the empathy measure. There were no significant differences found based on gender or enjoyment of the story.

The Link: Estrogen Therapy and its Role in the Prevention and Treatment of Alzheimer's Disease

Rosemary Elias

Alzheimer's, a neurodegenerative disease that destroys memory and other cognitive functions most common in people over the age of 65, affects 35.5 million people worldwide, two thirds of which are women. The most notorious aging process that occurs in women around ages 45-50 is menopause, in which menstruation no longer occurs and 17β -estradiol, the primary circulating form of estrogen in the body, decreases significantly. Symptoms of menopause that are often overlooked are mood swings and decreased cognition/memory just prior to and after menopause.

Studies have also suggested that estrogen has many functions beyond the reproductive system, including aiding in memory, learning, and mood. Meta-analysis was utilized in order to answer a question that has yet to be definitively answered; is estrogen depletion in women related to their increased statistical risk of getting Alzheimer's. This will ultimately allow us to determine whether or not estrogen therapies are useful in the prevention and treatment of Alzheimer's disease. Data reviewed, including ovariectomies with hormone replenishment and cognitive testing, showed that estrogen therapy may help with memory, with the caveat that there is an optimal time and dosage for menopausal hormone therapy. Overall, findings were not significant enough to suggest a promising future in their use to prevent or treat Alzheimer's disease.

What is the Most Used Learning Style in the Elementary School Classroom?: The Impacts of Teaching Different Learning Styles in the Classroom

Cassidy Ferrell

As most teachers know, students learn class material most effectively when it is taught to them by using multiple strategies presented in the classroom. The strategies of the four main learning styles in education are visual, auditory, reading/writing, and kinesthetic. Hence, teachers must address this diversity to enable their students to succeed in their learning in the classroom. Students also come from different types of backgrounds at home. Therefore, knowing the most commonly used learning style in the elementary school classroom allows teachers to utilize the most appropriate one to push their students forward to learn the next California Common Core Content Standard to be covered. This is exemplified, especially, for a teacher that needs to move on quickly with a concept in class because there is only so much time in the school day/school year to cover all standards. In this study, the methods used include recruiting participants using a snowball sample, beginning with teachers at Crowell Elementary School that I met, while undertaking observations for my Liberal Studies classes. All participants were teachers currently teaching in kindergarten through sixth grade classes. Interviews conducted were in the teacher's classrooms. Thus, after completing the above procedure, I learned that most teachers try to incorporate all four learning styles in their teaching. However, according to the data collected, visual is the prevalent learning style utilized in the elementary school classroom. Further, most students needed to see visual aids in the classroom in order for them to best understand the material. As follows, teachers who may be struggling in the classroom to reach all of their students learning curves can utilize this learning style of visual and combining with others in order to have the great majority of their class understand the abstract concepts to then move on to the next lesson.

LGBTQ: Not a Censor, but a Value

Grasiela Franco-Carreno

For as long as there has been literature, there has also been censorship. When considering the reasons why books may be censored, no theme is safe. Yet some censors are more controversial than others, especially those of a more sexual nature. Particularly, there is a lot of controversy concerning the LGBTQ censor, or the censorship of literature depicting Lesbians, Gay men, Bisexuals, Transgenders, and the Queer/Questioning. Although this censor is a fairly recent one, it is one that includes several sectors within the United States. For it not only concerns the academic effects on the learning community within a public school; it also pertains to the extent of one's freedom of speech and information as well as creates many other challenges within the United States. Through the reading, analysis, and writing about select literature censored due to its portrayal of the LGBTQ, I will be arguing how the censorship of books depicting LGBTQ content within the public education system is more detrimental than beneficial for its learning community. Therefore, the inclusion of these books and others similar to them is needed. For it will improve not only the academic, but also the political, social, and legal sectors within the United States in regards to the existence, validation, complexity and acceptance of all of those who make the LGBTQ community.

Parenting stress and Child Behavior Problems: Examining Whether Marital Satisfaction Plays a Moderating Role

Nora Garcia

Parenting stress can have an important influence on parents' marital satisfaction, as well as child behavior problems. Parenting stress can impact marital satisfaction, which in turn may serve as a moderator for other family variables. The present study examines whether marital satisfaction moderates the relation between parenting stress and child behavior problems. It was hypothesized that parents experiencing high levels of stress and also lower marital satisfaction would report higher child behavior problems in comparison to parents who experience higher marital satisfaction. Fifty-three families were recruited from Stanislaus County, California. Data were collected as part of a larger study on family interactions in families of preschoolers with and without developmental delay. Parents of children aged 3-5 years completed 3 questionnaires: the Child Behavior Checklist Ages 1.5-5, the Quality of Marriage Index, and the Parenting Daily Hassles Scale.

Computational study of the oxidation of volatile organic compounds by the OH radical: An exploration into the molecular realm

José L. Godínez

Volatile organic compounds (VOCs) present in the atmosphere are regulated by chemical processes and agents called 'sinks'. These processes are poorly understood and most modeling of atmospheric reactions congregate and often ignore different individual reactions. These studies often ignore the behavior at the molecular level. This study attempts to understand the intermolecular and electrostatic interactions between the hydroxyl radical, the most important sink, and five VOCs. The study was performed in silico using Spartan '16, a computational chemistry software. Møller-Plesset and density functional models were used along two different basis sets, 6-311+G** and 6-31+G*, to generate the transition state geometry and thus the vibrational frequency of the transition state. These methods were used to generate a potential energy surface with the approaching distance and hydroxyl radical rotation as the parameters. The results suggest that as reaction reaches its transition state, electrostatic and intermolecular interactions become important in shaping the reaction's path. This behavior was rationalized by the interactions between the singly occupied molecular orbitals (SOMOs) of the hydroxyl radical and the highest occupied molecular orbitals (HOMOs) of the VOCs. This demonstrates that the often-ignored electrostatic interactions between neutral species influence reaction paths and therefore kinetics. This new understanding provides useful information for modeling of atmospheric chemical processes.

Effects of animal-assisted therapy on different ages and patients

Morgan Grajeda

Animal-Assisted Therapy (AAT) is when an animal is used to work with a patient with a therapeutic goal. In this study, different medical backgrounds were compared within an age group to see how effective AAT is as a therapy. The factors used to determine effectiveness were anxiety reduction, stress reduction, physical improvement, social improvement, self-care improvement, cardiovascular improvement, increase attention, control of emotions, decrease pain, increase motivation, blood pressure and heart rate improvement, and decrease in salivatory cortisol. Each study does not include all these factors. Some studies find a negative impact or no significant changes to the patients which are also recorded. AAT has been studied in children for various condition and seems to be very effective. AAT helps with mental disabilities in adult and can have short term improvement for pain and chronic illness. Most studies that have been done for elderly patients is for dementia and Alzheimer's disease and mostly improves factors associated with social behaviors.

Kate Chopin and Feminism: the Significance of Water

Brittany Groves

Late nineteenth century writer Kate Chopin in her time was commonly recognized as a regionalist or realist author, focusing on the lifestyle and setting of the Louisiana region. An author's intentions are extremely important. The way a writer crafts a story is telling of how that person views the world they are in. Because of this, although she did not directly advocate for it, she should be considered a feminist writer as well. Chopin's writing tells the story of women claiming their own independence in the only ways they can in patriarchal society. Within that, she uses water in many of her stories as a representation of independence and baptism into a new way of life. Most of the female characters who have an experience with water also act in a way that goes against the societal norm for each situation. Even though Chopin made her career through the use of regionalism and realism, it does not take away from the fact that she was representing women in her stories as fighting for their independence in their own ways. While regionalism and realism are very important to understanding Chopin as a writer, the fact that she, in her own way, advocates for women to have their own agency is also a huge part of her writing. Water is used as a tool to represent the independence of the characters, and can be used to show how Chopin can be considered a feminist writer.

The Effectiveness of Picture Exchange Communication System (PECS) on Nonverbal Autistic Children Outside of the Classroom Setting

Priscilla Hernandez

Autism is a spectrum disorder that impacts an individual's nervous system, it is caused by genetic and environmental factors. Today autism affects 1 in 59 children throughout the United States. One third of these children fall into the category of "nonverbal autism". Which means these boys and girls are unable to effectively sustain significant conversations. Thus, they are unable to verbally communicate their wants, needs, and desires. Today, school systems have incorporated the Picture Exchange Communication System or PECS, into these children's schooling in order to help them communicate effectively. The PECS system allows children to communicate effectively using simple picture icons, with a goal to gradually building complex sentences. While there is an abundance of studies that prove the PECS system is effective within a controlled classroom setting, there have yet to be a substantial amount of studies that verify whether the PECS system is effective outside of the classroom setting. This study follows 2 boys, 7-9 years of age, who have used the PECS system in and out of the classroom setting for at least two years. The goal of this study is to understand how effective the PECS system is outside of the classroom setting.

Assessing the Role of Social Skills as a Moderator in the Relationship between Socioeconomic Status and Child Behavioral Problems

Sarah Hernandez

This study examines the role social skills play as a moderator in the relationship between socioeconomic status (SES) and behavioral problems in children. It was hypothesized that social skills would buffer the effect of SES on behavior problems. Data were collected as part of a larger study on interactions in families of preschoolers with and without developmental disabilities. Participants consisted of 47 families, with a focal child aged 3-5 years, residing in Stanislaus County. Parents completed questionnaires assessing their SES, as well as the focal child's social skills and behavior problems. Results indicated that, although SES did not significantly predict child behavior problems, the link between SES and behavior problems was moderated by child social skills when mothers were rating children's externalizing behaviors. Moderation was not found for fathers' ratings of child behavior problems. For both mothers and fathers, child social skills were found to significantly predict most types of behavior problems. Findings from this study indicate that targeting child social skills in therapeutic interventions may help reduce childhood behavioral problems.

The Relationship between Parents' Language Practices and Their Bilingual Children's Vocabulary Development

Fabiola Herrera

The purpose of this study was to examine the relationship between parents' practices and their bilingual child's vocabulary scores. Twenty-three parents and their bilingual children were recruited from a local Flea Market in Central California, and were also recruited through social media. A Pearson correlation was conducted to find a relationship between the scores on the PPVT and TVIP, and their relation to telling stories, reading in English, and speaking in English. The results demonstrated a positive correlation between telling stories and PPVT, but not the TVIP. Another significant positive correlation was found between reading in English and the scores on TVIP, but not the PPVT. A final Pearson correlation was conducted, and found a significant positive correlation between speaking in English and the scores on PPVT, but not with the TVIP. These findings are discussed in the context of bilingual learning and parents' home practices.

Risk Aversion Behavior in a Mock Gambling Task

Evan Jonson

Humans consistently face risky decisions. Previous research suggests that people tend to favor lower risk options and that framing influences an individual's choices. The present study set out to discover whether reordering the level of risk of a gamble and the payout of that gamble changes an individual's decision when faced with multiple gambling options. The participants in the study were recruited through, an online survey platform (n = 431). Participants were shown 15 questions, each containing 5 gambles of which they were instructed to choose one. These gambling options presented participants with complete information, i.e. the exact percentage chance of winning and payout of the win. Participants, on average, played conservatively overall, choosing options with lower levels of risk. The hypothesis was that those individuals who were shown the level of risk first would choose their gambles more conservatively because they would be focused on the levels of risk. The results did not support the hypothesis, indicating that there is no statistically significant difference between the individuals that were shown the level of risk first compared to the payoff of a particular gamble. This suggests that the experimental manipulation did not have a significant impact on the behavior of the participants. The present study demonstrates that this low level of manipulation is not enough to sway an individual's choice.

A Study on the Optimal Recovery Methods Following Anterior Cruciate Ligament Reconstruction Surgery

Rebecca Linderman

With the rapid increase in sports competitiveness, there has been an alarming increase in sports injuries as well. Preventative methods have been looked at and developed in depth; however, few studies have followed after injury in the recovery process. It is important to examine the recovery process following these injuries, not only for the client's return to activity but for a better quality of life following an injury. As the anterior cruciate ligament (ACL) is one of the most torn ligaments in the body and knee, especially in sports where quick changes in direction are required, the purpose of this study is to look at the recovery methods used following reconstructive surgery. This study pulled data from various sources, looking at recovery methods following ACL reconstructive surgery. The methods looked at are neuromuscular stimulation, creatine supplementation, eccentric exercises, and weight-bearing exercises. This study was designed to determine whether there is a single method or combination of methods that is the most optimal for a patient's recovery following reconstructive surgery. Examining the literature and comparing the studies done for each different method, I found that the combination of neuromuscular stimulation, eccentric exercises, and weight-bearing exercises are the most beneficial for the majority of patients following reconstructive surgery. Neuromuscular stimulation was used most often in the first weeks following the surgery,

then moved onto eccentric exercises and weight-bearing exercises. Input from athletic trainers and physical therapists will be input into the study following in-person interviews. These findings are beneficial to athletic trainers and physical therapists for bettering the patients' recovery following the reconstruction surgery. Further studies will look at different methods in comparison to the examined methods.

Brainwave entrainment to improve problem-solving skills in people with the neurodevelopmental disorder ADHD

Miguel A. Lopez

The purpose of this study is to examine whether brainwave entrainment has an effect on problem-solving skills in people with an attention-deficit/hyperactivity disorder (ADHD). A predominant symptom of ADHD is inattention. ADHD is associated with symptoms such as difficulty sustaining attention during tasks, easily distracted, and seeming to avoid tasks that require sustained mental effort. The first-line treatment for ADHD is through the use of psychostimulant drugs, but some may experience negative side-effects. Therefore, there is a need for an alternative treatment that is less invasive. The present study hypothesizes that brainwave entrainment will put participants in a productive brainwave frequency that will allow them to perform better at problem-solving tasks. Binaural beats with a gamma-frequency (50HZ) were used to acquire brainwave entrainment. Four healthy subjects with ADHD participated in a single-subject ABA reversal research design study (three phases). In the first phase, participants listen to rain noise with no binaural beats for 5-minutes, then given 5-more-minutes to complete a puzzle (while still listening). In phase two, participants listened to rain noise with binaural beats for 5-minutes, then given 5-more-minutes to complete the puzzle. Lastly, in phase three, the first phase was repeated. The results suggest that brainwave entrainment had a moderate effect on the participant's problem-solving skills. Moreover, two participants performed very well while under brainwave entrainment; the other two showed some effect, but not significant enough. A future direction for this study is to control for daily mood, adding a fourth phase (ABAB), and a larger sample size.

The Different Forms of Identity: Online and Offline

Maria Marquez Mendoza

This research will analyze how people communicate their self-identity within social networks. It will be evaluating how people present their concept of self through social media outlets and how they communicate their cultural backgrounds with others who may or may not come from the same cultural backgrounds as them, while observing their top five social media posts that they believe represent themselves well during a face to face interview. This analyzing process will look at their social media posts and see what motivates them to post a specific post in a specific way within social media by looking at their pictures, captions or comments on different social media outlets. At the same time, this research will observe the different type of identities eight participants may be expressing within social media based off the terms they choose to use. Within this research, I will also be analyzing how people may develop multiple identities within different media outlets and see how people can become influenced to adapt new behaviors due to using media.

Analysis of Cellular ROS Regulatory Mechanisms in Patients Suffering Small Fiber Neuropathy

Lauren Martinez

Neuropathy refers to abnormal nerve conditions which yield severe neurodegeneration and painful, episodic pain in the distal appendages. Small fiber neuropathy (SFN) is a disease in which patients suffer from intense pain and abnormal sensations related to touch in the extremities of the body. These symptoms are nonspecific, which makes diagnosis difficult and imprecise. Previous studies have examined the relevance of reactive oxygen species (ROS) in cell death and cell survival pathways, though no research has identified specific mechanisms. In order to craft a reliable method of diagnosis we examined the physiological changes in biopsied skin tissue of both diseased and

healthy individuals. We focused on two potential proteins involved in ROS-induced pathways. Human tissue samples were probed for activation of Yes-Associated Protein (YAP) and 8-Oxo-2'-deoxyguanosine (8-Oxo-dG), which are known to be related to cellular stress pathways. YAP is responsible for promoting cell survival in the face of increased stress, whereas 8-Oxo-dG is involved in injury pathways that result in apoptosis. We successfully established a protocol which gives accurate and precise diagnoses in 8-Oxo-dG trials. YAP trials showed no difference in staining between healthy and disease tissue. Extensive modulation of the protocol during this study revealed signs of potentially significant mechanisms which could serve as novel diagnostic criteria and promote precision medicine. Thus, in addition to our original objective of establishing an effective staining protocol, we may have also found differential pathways.

Examining Communication and Democracy in the Vietnam War

Caycie Maynard

The Vietnam War Era is a complex and unfortunate time for United States' history. Despite US involvement beginning in 1950, large-scale discussion and public knowledge did not begin until much later. Involvement in the Vietnam War began before the American population was able to exercise their democratic right. In addition, President Truman, Eisenhower, Kennedy, Johnson, and Nixon all contributed to the deception and violation of the American people. Government officials created a palatable narrative covering the events of the Vietnam War and engaged in the war in secrecy, violating democratic rights in the process. When events developed beyond being easily concealed, the American people grew restless and resisted intensely until they were heard.

World War 1914-1945: A Second Thirty Years' War

Tyler McLeod

The prevailing view of the time period of 1914-1945 is as separate events, however this article looks at an alternative to this view by grouping the period into a single thirty-year long conflict. Currently in the time period of 1914-1945 there are three recognizable events: World War One, the Interwar, and World War Two. To many it may seem normal that these events are separate since they have clear beginnings and endings but there are historical examples of grouping multiple conflicts into a single conflict. One such example of this is the Thirty Years' War of 1618-1648. This conflict shares several similarities to its more modern counterpart beyond just length. An important similarity that each period has is shared themes. These themes are common across each time period respectively and make each period distinct from the years before and after. Perhaps most important to the argument that 1914-1945 should be a single conflict is the peace, or lack thereof, during the interwar. This article also works with the difference in war experience between the U.S. and Europe and how this has affected the current view of the time period.

Real and Ideal: Family Communication

Frank Carlo Mills

How does the difference between our idealized visions of our experiences and the actual experiences affect familial relationships, the most influential relationships in a child's development? What role does interpersonal communication play in creating these differences, remedying them, and structuring families in general? Coordinated Management of Meaning (CMM) and Relational Dialectics Theory (RDT) help determine the effects the differences between idealized and actual experiences have on family communication, and possibly how to control those effects. CMM claims we co-create meaning through communication guided by rules. RDT sees relational life as a constant process and motion—people in relationships constantly feel the push and pull of conflicting desires. For my study of this issue, I used my family (myself and my brother, father, and mother) as test subjects, using our Thanksgiving family gathering in 2018 as context. I started with the hypothesis that I would find a difference between idealized and actual experiences in the family setting, involving failed expectations. My process was simple: I gave my family

four two-part questions, the first parts asked before Thanksgiving started and the second parts asked after Thanksgiving ended. Asking the first parts and learning everyone had high hopes for the holiday but feared some upset, I observed our Thanksgiving celebration, made my own notes, and asked them the second parts, finding many common themes between everyone's answers and my own notes. Everyone desired positive family interaction and stable relationships rather than unstable ones, they all had their own worries, and, as I thought, expectations were violated, but instead of our worst nightmares coming to pass, we simply didn't achieve our wildest dreams.

Harmonic Motion Equations with Related Applications

Marissa Morado, Andrew Lazar, and Alejandro Rios

The paper will focus on the understanding of harmonic functions and their relationship with its applications. Particularly, we will be investigating its foundations in differential equations and numerical methods and its effect on the expression of mathematical models. Using ordinary differential equations along with numerical methods further analyzes various mathematical applications often seen in spring problems and in the oscillations of objects. Thus, we begin on a comprehensive understanding of harmonic functions and their relationship with its applications, particularly investigating its foundations in four different types of ordinary differential equations. The equations include the homogenous, non-homogenous, resonance and damped equations. In order to create a thorough understanding, we must take a closer look at systems which contain an oscillatory motion. In addition, important concepts such as amplitude and frequency will be incorporated to fluently comprehend the background information given and further explain the applications of harmonic motion equations. Through the implementation of MATLAB, visual representations of the equations and their coefficients were created and analyzed to further determine the importance in the variance of coefficients. Furthermore, being able to thoroughly comprehend how each equation varies from one another builds a correlation on the emphasis of real-world applications on simplistic and ordinary mathematical concepts and equations. In conclusion, the resulting information may be used as an invaluable resource for students and construct an oscillatory system varying from elementary mathematics to higher level applied mathematical equations.

Linear Combinations of Harmonic Univalent Mappings

Dennis Nguyen

Many properties are known about analytic functions; however, the class of harmonic functions which are the sum of an analytic function and the conjugate of an analytic function is less understood. We wish to find conditions such that linear combinations of univalent harmonic functions are univalent. We focus on functions whose image is convex in one direction; for example, each line segment in that direction between points in the image is contained in the image. M. Dorff proved sufficient conditions such that the linear combination of univalent harmonic functions will be univalent on the unit disk. The conditions are: the mappings must be locally univalent, their images must be convex in the imaginary direction and they must satisfy a normalization which states that the right and left extremes of the image are the image of 1 and -1 respectively. In this paper we generalize this existing theorem. The conditions of this theorem are geometric and we would like to maintain this feature in the generalization. We show that the image may be convex in any direction and that any points on the boundary of the domain, which no longer must be the unit disk, can be the points that are mapped to the extrema, which now must be in the direction perpendicular to the direction of convexity.

Implementing Service-Learning in the Lower Elementary Classrooms (K-3): Examining the How and Why from the Teachers

Dana L. Olmstead

The education system is always looking for a way to improve teaching methods to best educate students. Service-learning is a teaching method which reaches and teaches students as a whole because it uses experiential learning

in which students can better relate to concepts and gain a deeper understanding of what they are being taught. Service-learning has been thoroughly researched and is seen as beneficial for students in the upper grade levels, especially throughout high school. Research has gradually lessened as grade levels decrease from high school through elementary school. Minimal research has been done in the lower elementary levels, grades kindergarten through third. This study conducted a survey of K-3 teachers in the Turlock Unified School District. The questions asked pertained to their teaching methods, and determine whether or not they are familiar with service-learning techniques. This study also aimed to understand how and why lower elementary teachers incorporate service-learning into their instruction. After completion of the survey, I anticipated to find a low implementation rate of service-learning among K-3 teachers. This is due to either a lack of exposure to service-learning techniques, or the perception that the input it takes to implement service-learning outweighs student benefits in teacher's current understandings of service-learning. With these results being found to be consistent among teachers, an advocate for service-learning will be needed in TUSD.

The Importance of Keystone Species: Sea Otters in Alaska

Taylor Pitts

Sea otters are an important keystone species in the marine system. Keystone species are species in an ecosystem that are not necessarily abundant, but those that other species greatly depend on. Without these keystone species, ecosystems could fail or drastically change. Sea otters are especially important in maintaining sea urchin populations which directly increases the health of kelp forests. It was not until the last few decades, however, that sea otter population numbers have begun to stabilize and increase to a more sustainable level, however, in some places they are still declining. Understanding whether there is a direct link between sea otters and sea health is important in understanding and determining the conservation interventions that need to be implemented to help this endangered species. Although research has been done on the scale of impact that sea otters have on ecosystems, more research can be done to determine how sea otters affect sea urchins and kelp forests over an extended period of time. This study determined the importance of the sea otter as a keystone species of the Alaskan Islands by comparing and analyzing sea otter populations, sea urchin density, and kelp forest density over multiple decades. This comparison further confirmed the validity of the sea otter/urchin/kelp paradigm. Results have confirmed that sea urchin biomass and kelp density have an inverse relationship. Generally, my results have also shown that as the number of sea otters on an island increase, the sea urchin biomass on the island will decrease. Future studies should focus on how to apply this knowledge to the conservation of other keystone species.

Keynote Address

Roots and Responsibility: From Central Valley Grit to Purposeful Future

Emily Renteria

Higher education is not an end in and of itself; rather, it must be a catalyst for social change through which students learn to develop visions and strategies to enact just futures for all. As a Central Valley native, Emily Nanea Renteria's scholarship holds responsibilities to land, ancestors, and future generations at the very heart of her work. Her commitments have taken her from marching in the mean streets of Modesto to teaching in the nation's first College of Ethnic Studies at San Francisco State University. Early in her academic career, the Honors Program at CSU Stanislaus provided a space for her to develop research that brought direct benefits to marginalized communities in Stanislaus County, and this work has influenced her scholarly trajectory ever since. Whether students plan to remain in the Valley after graduation or explore beyond, Renteria's insights will offer guidance on how to combine the privilege of education with personal experience and political commitments to craft a life of meaning and purpose.

Binge Drinking Among College Students

Adriana Sarabia Savala

Binge drinking among college students has become a major health concern. Binge drinking has been defined as drinking five or more drinks in a single setting for men. For women, it is defined as four or more drinks in a single setting. Research shows gender differences and housing status affect patterns in alcohol consumption, specifically binge drinking. For the present study, it was hypothesized that participants who identify as a male will be more likely to report binge drinking behavior as compared to female participants. It was also hypothesized that students who live on campus will be more likely to binge drink than students who live off campus. A sample of 179 undergraduate students from CSU Stanislaus between the ages of 18 and 63 were asked to indicate their gender, their current housing status (on campus or off campus) and what their alcohol consumption habits were. To determine whether there were differences in binge drinking behavior between gender and housing status, data were analyzed using independent samples t-tests. The research hypothesis was supported. Significant results were found relative to both gender, $t(37.818) = 3.31, p = .002, d = 0.79$, and housing status, $t(14.382) = 2.3, p = .039, d = 0.67$. As expected, male participants were significantly more likely to engage in binge drinking behavior ($n = 31, M = 2.6, SD = 1.28$) as compared to female participants ($n = 148, M = 1.7, SD = 0.99$). As was also expected, participants who reported that they lived on campus were significantly more likely to engage in binge drinking behavior ($n = 14, M = 2.6, SD = 1.34$) as compared to those who did not live on campus ($n = 165, M = 1.8, SD = 1.03$). Although the numbers did not reflect high levels of binge drinking, these findings imply that both gender (male), and housing status (on campus) have an influence on college students' drinking behavior. Limitations of the study included a small sample size, the sample being limited to an undergraduate college population, and a disparity between reported genders and housing status.

The Effect of Story Modality on Comprehension and Emotional Engagement

Kailey Jo Sarmiento

With the rise in popularity of audiobooks, it is important to evaluate the influence story modality has on story comprehension and story engagement. Research is divided on how story modality affects comprehension in adults. Furthermore, research on emotional engagement with a story tends to view emotional engagement as a predictor for comprehension. The present study aimed to contribute to the investigation of the effect of story modality on comprehension and emotional engagement. We had non-directional hypotheses. Thirty-three participants (29 females, 4 males, $M_{age} = 22.03$) were randomly assigned to either read or listen to two stories. One story was fiction and the other was nonfiction. All participants answered questions to assess story comprehension and emotional engagement. Data analyses showed that comprehension scores of participants in the reading condition ($n = 16, M = 7.75, SD = 1.44$) did not significantly differ from those of participants in the audiobook condition ($n = 17, M = 6.94, SD = 2.14$), $t(31) = 1.27, p = .214$. Additionally, emotional engagement scores of participants in the reading condition ($n = 16, M = 4.81, SD = 1.00$) did not differ significantly from those in the audiobook condition ($n = 17, M = 4.55, SD = 1.18$), $t(31) = 0.66, p = .512$. In addition to small sample size, limitations included a homogenous sample (most participants were female psychology students), the lack of a time delay before the comprehension task, and the relatively short duration of the stories. These results may have implications for classroom settings. Some students may show a preference for one modality over another. The present study shows that providing different forms of materials may not significantly impact a student's ability to learn.

Pickleweed Vigor in a Californian Salt Marsh: A Remote Sensing Approach

Germán Silva

Only about 10% of California's historical coastal wetland prior to 1850 exists today. Since wetlands provide valuable ecological and societal services, measures have been implemented to protect and restore these ecosystems in recent years. However, there is still a large need for information on these ecosystems to better inform management and

policy in the face of a changing environment. This study attempts to fill some of this knowledge gap by examining drought impact on pickleweed (*Salicornia virginica*) health in the Californian coastal wetland located at Salinas River National Wildlife Refuge and how it can be assessed using fine resolution remote sensing data. Since pickleweed is a succulent, it was expected that the drought would have minimal effect on the observed health with the majority of the stress being observed at the height of the drought (2016). Therefore, the objective of the study was to determine which parts of the wetland, if any, came under stress during the most recent Californian drought (2011-2016) and if fine resolution remote sensing would be a viable tool for this type of research. RapidEye imagery from August or September 2014, 2015, 2016, 2017, and 2018 was used to conduct the study using QGIS for analysis. Images were classified using supervised classification into four categories (Water, Healthy, Stressed, and Bare Soil) and area was calculated for each year. Healthy areas had a large fluctuation through the five years assessed. However, data shows that there is a positive correlation between healthy plants and wet years. Therefore, the data suggest that drought did have an adverse impact on the salt marshes and that fine resolution remotely sensed data is viable for this research.

Practical Technopathy: Harnessing the Power of the Mind

Daniel Stoffel

Within the last decade, advancements in Neural Network systems and Brain-Computer Interfaces have paved the way for more innovative approaches to human-computer interactions. While current fads in the user interfacing in electronic systems have focused on the convenience of voice or gesture-activated devices, a tangible increase in the affordability and accessibility of neural activity sensing technology has created a ripe environment for new research and commercial application. As a possible side step from more physically intrusive sensing mechanisms, researchers have begun looking into the feasibility of mental connectivity through electronic interfacing. The focus of this project was to ascertain the practicality and accuracy of a commercially available Neural Sensing device in conjunction with connected living devices and integrated hardware systems. The conducted experiment showed that while complexities and complications abound, tangible progress can be made in a relatively short time. The experiment showed that although distractions can distract from the overall consistency of detection and correct execution of action, the overall results should be satisfactory for everyday use. In conjunction with the purpose of other similar studies, it is the aim of this project to one day revolutionize our interactions with complex electronics as well as provide new avenues of access for the physically disabled.

Gendered Speech in Schools: The Relationship Between Gender Schema Theory and Self-Esteem

Tate Thomasson

How does the use of gendered speech affect students' self-image and therefore their achievement? That is what I hoped to discover with this study. Previous studies have looked at factors such as emotion regulation, friendship making skills, and anxiety as variables that affect student achievement, but I found a lack of studies focused on discrimination based on gender. I have asked college-aged students to reflect on their kindergarten through college experiences and how they might have been shaped based on internal and external factors. To name a few: toys given as a child, gender roles at home, school activities, gender (a)typicality, and self-esteem. By learning how students' self-esteem may be affected by gendered speech, school faculty and staff can adjust their instruction so that all students may feel safe and valued. Further studies may be useful to build upon my research, by changing the age range/location of participants surveyed.

Effects of Perceived Parenting Styles on Depressive Symptoms

Jessica Valero

There is extensive research that examines the relationship between gender differences and perceived parenting style on depressive symptomatology among children adolescents, but a dearth of studies among college-aged students. Therefore, students (N = 156) from Stanislaus State were recruited through Qualtrics (n = 37) and Summer 2018 Student Orientation sessions (n = 119). Each student answered 12 questions from the Major Depression Inventory (MDI) scale, which asked how they had been feeling over the last two weeks. Additionally, participants answered a statement, with respect to the scenario that resembled the recollection of their parents' style of rearing, when they were growing up. A one-way analysis of variance revealed the following: 1) those with uninvolved/neglectful parents reported the most depressive symptoms, whereas those with permissive parents reported the fewest depressive symptoms; 2) males reported more depressive symptoms than females; 3) females with neglectful parents reported the most depressive symptoms; and 4) males with neglectful parents reported the fewest depressive symptoms. The present study will aid in the prevention of mental health development, due to individuals having the ability to assess their current or to-be parenting style.

Setting the Stage: Drafting the Theatre Department Student Handbook

Shawn Ward

Over time, the needs of a work environment and culture fluctuate, with practices and policies created or modified to accommodate those needs. Within the past three years the California State University, Stanislaus Theatre Department has experienced changes in faculty and staff, including a shift in leadership. The new department chair, Eric Broadwater, seeks to build structured, cohesive, and consistent environments for students, faculty, and staff. In an effort to aid future students in the department, we have created a comprehensive student handbook to create policy, manage expectations, and institute follow through. In the past 20 years, there was no centralized document for new students to learn expectations, policies, and procedures. Any existing documents have been concentrated to specific areas of the department, such as the costume and scene shops. Students had to learn expectations, requirements, and standards over time, usually verbally, and from various conflicting sources. This created a climate of tension and confusion that divided students, faculty, and staff. The handbook will be a student resource for department policies and procedures based on existing in-house documents, policy examples from other California State University theatre departments, and collaborations with faculty and staff. Topics covered include degree requirements, student opportunities, general operating procedure, and information on the production process. The success of implementing the handbook will be measured by student satisfaction surveys to be handed out each year over the next five years. These surveys will measure the goals of creating policy, managing expectations, and instituting follow through.

Sophomore Service Learning Participants

Vivian Aguilar
Bertha Arellano
Ashley Byers
Breanna Cannon
Megan Dean
Manuel Duarte Jr
Samuel Garcia Jr
Danah Gissler
Jaime Hawthorne

Farhat Khairzadah
Rachel Klopfer
Ana Martinez
Jaime Mejia
Carley Newbill
Kendrick Perata
Marcus Ruddicks
Bradley Sanow
Holland Sargis

Capstone Research Poster Displays

McNair Poster Session, Science Lobby 1:00pm

Angel Avalos - Biological Sciences
Fernando Bautista Martinez - Psychology
Rachel Choate - Biological Sciences
Jasmin Cornejo - Computer Science
Efrain Covarrubias - Physics

Arlena Gavino - Mathematics
Cassandra Olivas - Computer Science
Danielle Simpson - Psychology
Elizabeth Torres - Psychology
Mary Vardeh - Mathematics

Honors Poster Session S-104, 1:00pm

Sabrina Ammar - Biological Sciences
Joseph Angulo - Psychology
Sara Buenrostro - Biological Sciences
Alejandro Caballero - English
Jacqueline Cerda - Communication Studies
Alexander Chavez - Business Administration
Jazmine Chavez - Psychology
Annelisa Cole - Business Administration
Elizabeth Cole - Biological Sciences
Jacqueline Duarte - Psychology
MaggiJo Erickson - Psychology
Kenneth Foster - Psychology
Berenice Franco Corrales - Ethnic Studies
Meagan Gallman - Kinesiology
Ryan Garcia - English
Alissa Gonzalez - Psychology
Keith Gordon - Computer Science
Bethany Harper - History
Larissa Harter - English
Laura Hernandez - Biological Sciences
Amy Hill - Biological Sciences
Lynsey Hillberg - Biological Sciences
William Hitchcock - Sociology
Sarah Kline - Psychology
Stevie Kloepfer - Psychology
Makayla Lawrence - Biological Sciences
Carter Lawson - Biological Sciences
Hannah Lockwood - Psychology
Mikaela Magwili - Nursing

Jasmine Mann - Business Administration
Brandon McMinn - Biological Sciences
Anaissa Medina - Biological Sciences
Brooke Nawrocki - Psychology
Timothy Nersy - Biological Sciences
Elias Pepito I - Business Administration
Denise Perez-Fernandez - Criminal Justice
Lauren Piro - Business Administration
Kaydon Potter - Business Administration
Karen Ramos Lupercio - Psychology
Noe Rangel - Psychology
Itsel Reynoso - Ethnic Studies
Brittaney Rigby - Chemistry
Brock Riggs - Biological Sciences
Connor Roberts - Theatre Arts
Hope Rodriguez - PreNursing Interest
Jasmyn Romo - Business Administration
Alexandra Sibrian - Child Development
Jasmine Singh - Biological Sciences
Connor Skustad - Criminal Justice
Lorraine Solis - Psychology
Yesenia Solorzano - Economics
Lizeth Soto - Business Administration
Kendra Souza - Liberal Studies
David Toepfer - Computer Science
Steven Trapp - Communication Studies
Matthew Trevena - Computer Science
Ileana Trujillo - Psychology
Emma Van Hoogmoed - Computer Science

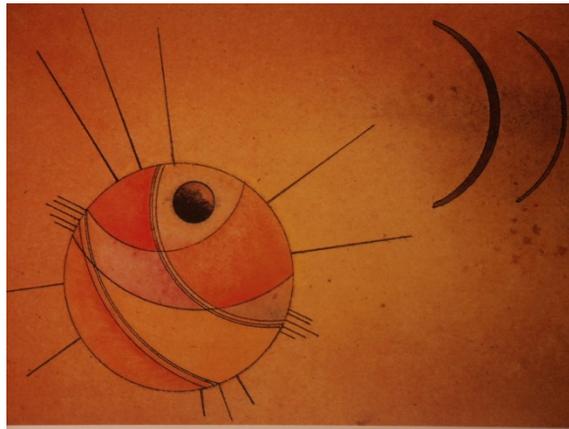
Session Moderators: Ellen Bell, Araceli Garcia and James Tuedio

Conference Host: Andrew Conteh

Conference Coordinator: Becky Temple

HONORS PROGRAM COMMUNITY STATEMENT

The Honors Program at CSU Stanislaus is a community of scholars bound together by vital principles of academic openness, integrity, and respect. Through focused study and practice involving exploration and discovery across a variety of disciplines, the Honors Program upholds these principles of scholarly engagement and provides students with the necessary foundations for further research and inquiry.



Our interdisciplinary curriculum is integral to this work and is intended to facilitate creative understanding of the irreducible complexities of contemporary life and knowledge. Personal and intellectual honesty and curiosity are essential to this process. So, too, is critical openness to difficult topics and respect for different perspectives, values and disciplines. The Honors Program aims to uphold these virtues in practice, in principle, and in community with one another.