



SCHOLAR

Student Scholar Day 2024
Thursday, April 11



Welcome to Avila University's 23rd Annual

Student Scholar Day

April 11, 2024

2024 Student Scholar Day Committee Members

Amity Bryson, DMA
Leah K. Gensheimer, Ph.D. (Co-chair)
Fatima Gines, Ed.D
Lida Khalafi, Ph.D.
Sue Ellen McCalley, Ph.D. (Co-chair)
Kelsey Miles, Ph.D.
Dakota Shields, M.S.

Special Thanks to:

Maintenance Staff for room set-up and tear-down
Great Western Dining Services Staff
ITS for technical support
Avila Faculty for student mentorship and encouragement

A SPECIAL THANKS

from

The Committee, Faculty, Students, and Guests
to **Frank Ihrer**

Whose generous donation provided our lunch today.

Frank Ihrer joined the Avila community in February of 2023, he has quickly become "Uncle Frank" to many students and staff. He refers to his time at Avila as a "spiritual experience." His work to maintain plumbing and air conditioning requires his "fix-it" mentality and skill-set, but his heart and mission is to help support students. Mr. Ihrer is kind, compassionate, and helpful. Frank is a veteran, son of a mathematician, father of five daughters and brother to five sisters. He knows how to get the job done with integrity and grit. We are so grateful for his support today to make this day extra special.

PROGRAM

ORAL PRESENTATIONS

WHITFIELD CONFERENCE CENTER

9:00 – 10:45 A.M.

- 9:00 Moral Luck and Gender: A Proposed Replication of Kneer & Machery (2019)**
Amy Daniela Hernandez-Luna
- 9:20 How Self-care Can Alleviate Burnout amongst Social Workers**
Raissa Dodjim
- 9:40 Evaluation of Biofilm Formation by Salmonella enterica with Antibodies**
Guadalupe Garcia
- 10:00 Language as a Mode of Power: Poststructural Feminist Theory**
Hannah Joy Heishman
- 10:20 Portraying Real Life Characters on Stage as a way to Impact Change**
Olivia Collet

Poster Presentations (Judging by Committee Members)

HOOLEY-BUNDSHU LIBRARY

10:45 A.M. – 12:15 P.M.

Lunch for Presenters and Guests

WHITFIELD CONFERENCE CENTER

12:30 – 1:30 P.M.

RESUMED ORAL PRESENTATIONS

WHITFIELD CONFERENCE CENTER

2:00 – 3:00 P.M.

- 2:00 Program Intervention for At-Risk Youth**
Terence Wilson
- 2:20 Delay Discounting and Smoking: A Multimodal Approach to Impulsivity**
Sydney Gardner
- 2:40 Safety and Security at Pawsperity**
Rachael Gardner

PROGRAM

KEYNOTE SPEAKER

WHITFIELD CONFERENCE CENTER

3:00 – 3:30 P.M.

Dr. Amity Bryson

“Finding Your Passion in Scholarship”

AWARDS CEREMONY

WHITFIELD CONFERENCE CENTER

3:30 – 4:00 P.M.

Disciplines in higher education have different formats for presenting research and scholarship. In the sciences (e.g., biology, kinesiology, psychology, education), scholars present research using a basic scientific approach: presentation of hypothesis, interventions or application, and results. Their research is usually presented with a PowerPoint and discussion. In disciplines such as history or English, scholars may present their research by reading a paper. All presentation styles and formats are valid and should be respected.



Oral Presentations

WHITFIELD CONFERENCE CENTER

9:00 – 10:45 A.M.

9:00 a.m.

Moral Luck and Gender: A Proposed Replication of Kneer & Machery (2019)

Amy Daniela Hernandez-Luna (Psychology)

Faculty Mentor: Dr. Jordan Wagge

Moral luck challenges the traditional understanding of moral responsibility by questioning whether individuals should be held accountable for outcomes beyond their control. Kneer and Machery (2019) investigated this concept, and they found that participants perceived agents in morally unlucky situations as more negligent and deserving of punishment than in lucky situations; specifically, participants rated caregivers in scenarios as more culpable when they were distracted and harm befell a child (unlucky) than when they were distracted and no harm occurred (lucky). It is possible that the judgments are based on implicit beliefs that may be associated with competence impressions grounded in traditional gender roles (Haines & Stroessner, 2019; Okimoto & Heilman, 2012). The role prioritization model argues that the less an individual is perceived to fulfill a traditional communal (usually associated with women) or agentic (usually associated with men) role, the more likely they are to face harsh judgments when they fail to meet the perceived requirements of those roles. In the proposed research, I will replicate Study 2 of Kneer and Machery (2019). The role played by the agent in this study is a communal (childcare) role, therefore the role prioritization model may be relevant to these moral judgments. Consequently, I will add an extension hypothesis to explore whether agent gender may be associated with these judgments, as predicted by the role prioritization model of gender.

9:20 a.m.

How Self-care Can Alleviate Burnout amongst Social Workers

Raissa Dодjim (Social Work)

Faculty Mentor: Dr. Debra Olson-Morrison

Social worker burnout is classified by emotional exhaustion, objectification, and reduced personal accomplishment, resulting from persistent exposure to high-stress situations. Burnout not only negatively impacts social workers' mental and physical health, but also hinders their ability to provide effective care. Prioritizing self-care within social work agencies is essential for promoting resilience, preventing burnout, creating a supportive work culture, and improving client relationships. This research applies a questionnaire to gather quantitative data on the self-care habits, burnout levels, and the impact of self-care among social workers. The application of a questionnaire as the primary data collection tool allows for an equalized and measurable assessment. Through the use of quantitative approach, the study aims to provide valuable insights that can inform evidence-based strategies for promoting mental health and resilience of social workers. The study acquires an evaluative level of study to explore not only the frequency of burnout, but also the ways in which self-care interventions may or may not promote resilience and sustained well-being among social workers. By conducting pretests to evaluate burnout levels and posttests to evaluate the intervention's outcomes, this study aims to assess any significant changes in emotional exhaustion, detachment, and feelings of personal accomplishment among engaging social workers.

9:40 a.m.

Evaluation of Biofilm Formation by *Salmonella enterica* with Antibodies

Guadalupe Garcia (Biology)

Faculty Mentor: Dr. Stephen S. Daggett

Salmonella enterica is a leading cause of global food-borne illnesses with the ability to form biofilms. Biofilms are thin, slimy bacteria films that stick to a surface that may be living or nonliving. The ability to form biofilms, contributes to the bacterium's ability to resist antibiotics, as they allow bacterial communities to survive even in stressful conditions. This leads to challenges in treating infections from these antibiotic-resistant bacterial strains. This is a study of *Salmonella*'s biofilm forming capability in the presence of antibiotics. Store-brought poultry was tested for biofilm capacity and antibiotic sensitivity through biofilm assays with and without the presence of kanamycin, streptomycin, and tetracycline. Biofilm assays consisted of growing a bacterial biofilm in multiwell plates using TSB media, staining any formation using crystal violet, and quantifying them using a plate reader. Statistical analysis will be carried out once enough data is collected to determine whether antibiotics hinder *Salmonella*'s ability to form biofilms.

10:00 a.m.

Language as a Mode of Power: Poststructural Feminist Theory

Hannah Joy Heishman (Psychology)

Faculty Mentor: Dr. Leslie Dorrough Smith

Poststructural feminist theory recognizes the relationship between discourse, power relations, and reality formation as it emphasizes the dynamic relationship between linguistics and personal narratives based on rules and regulations applied to particular environments. Poststructural feminist theory highlights the coercive nature of linguistics, addressing how discourse is used to organize

thought, maintain social control, and discipline subjects, therefore, perpetuating hierarchical power structures and normative frameworks that influence social perceptions of reality. This presentation will address how language surrounding women's lived experiences functions as a means of surveillance, forcing subjects to internalize societal scripts and examine how discourse evolves and adapts through various contexts to renew one's cultural history and identity.

10:20 a.m.

Portraying Real Life Characters on Stage as a way to Impact Change

Olivia Collett (Theatre, Musical Theatre Concentration)

Faculty Mentor: Matt Schwader Harbor

This presentation is a dissection and performance of selections from Avila University's production of "The Laramie Project", a social justice play presented in fall 2023. In this scenario an actor's job is to research the real life people I would be portraying as well as understanding and empathizing with their words and thoughts. The lines I memorized were direct quotes from each of the individuals I was portraying. It is required to do an extensive amount of research, in this kind of work, on how each of the real life characters would speak, move, and respond to the tragedy involving Matthew Shepard. After each performance, there was direct audience engagement through discussions that helped me to evaluate how impactful my work on and offstage was.

Poster Presentations/ Judging

HOOLEY-BUNDSHU LIBRARY
10:45 A.M. – 12:15 P.M.

Individual Differences in Fundamental Social Motives: A Replication Study

Jasmine Beltran (Cognitive Psychology)
Faculty Mentor: Dr. Jordan Wagge

The present study is an attempt to replicate Neel and colleagues (2016). In this study, the authors found that the fundamental social motives (FSM) framework can be applied to understanding individual differences in personality, life experiences, and other factors that drive social motives. In this study, we will replicate the original study by having participants complete the same questionnaires: children and relationship questions, the FSM Inventory, goal ratings (present and past), life data questions, the Big Five Inventory (44 item), self-ratings of personality and physical traits, and the mini-K. Some participants will complete each of the following two sets of scales: 1) Sociosexual Orientation Inventory, Perceived Vulnerability to Disease, and Dominance/Prestige, and 2) Experiences in Close Relationships-Revised, Need to Belong, and Belief in a Dangerous World. All participants will complete questions related to demographics. As an extension, this study then will incorporate Rotter's Locus of Control Scale to determine whether an individual's perceived control is a significant predictor of FSM. Socioeconomic status will also be examined as an extension variable to determine whether it is a significant predictor of FSM.

Competitive Complexation of Ibuprofen and PHB-B-CD Complexes

Grace Effertz (Biology)
JaKeya Jackson (Biology)
Faculty Mentor: Dr. Lida Khalafi

Hydrophobic guest compounds, like Ibuprofen, can potentially interact with the hydrophobic cavity of β -cyclodextrin (β -CD) and form inclusion complexes. In a series of experiments, β -CD, phenolphthalein (PHP), and Ibuprofen were mixed in varying combinations to allow for the formation of inclusion complexes to occur. UV-visible spectroscopy provides a way to visualize the formation of these complexes. When Ibuprofen is added to PHP- β -CD solution, there is an increase in color and absorbance of the solution indicating that Ibuprofen can undergo competitive complexation in the presence of PHP- β -CD complexes to displace PHP and form inclusion complexes with β -CD. A standard calibration method was applied to detect and measure the concentration of Ibuprofen in an over-the-counter drug sample. β -CD's potential use as a drug delivery agent for improving the release and solubility of poorly soluble drugs is of interest for further study. The analytical techniques could also be potentially used for analysis of more complex mixtures or for analysis of Ibuprofen or other drugs in biological fluids, for example urine, to understand the drug's half-life or metabolism within the body.

Melodies of Memory: Cognitive Benefits of Music in Alzheimer's Disease

Hannah Joy Heishman (Psychology)
Faculty Mentor: Christine Boxx

Alzheimer's disease is a fatal neurodegenerative condition characterized by the progressive deterioration of brain regions responsible for memory, executive functions, visual-spatial skills, language, and more. As life expectancy continues to rise, projections suggest a significant growth in the prevalence of Alzheimer's disease and

other dementias in the coming decades. By 2050, the number of diagnoses may feasibly triple, highlighting the urgency for proactive strategies to explore the nuances of this condition. In recent years, the intersection between music and Alzheimer's disease has captured the interest of researchers, healthcare professionals, and caregivers alike with its profound capacity to elicit emotions, awaken memories, and stimulate cognitive processes. Music intervention has demonstrated significant efficacy in enhancing various cognitive functions and emotional well-being among Alzheimer's patients, including improvements in autobiographical memory, verbal encoding, attention, self-consciousness, and a reduction in behavioral effects associated with the disease. By exploring the intricate relationship between music and Alzheimer's, we can gain deeper insights into the human experience of memory, identity, and resilience in the face of cognitive decline.

Atrazine in Our Water: Advancing Accessible Testing Methods

Thomas Mikkelson (Biology)

Evan Serrage (Biology)

Faculty Mentor: Dr. Kelsey Miles

Atrazine is a common water contaminant that poses significant health risks upon ingestion. Widely employed in global agriculture to control broadleaf weeds, it leaches into groundwater, affecting drinking water sources. Endocrine disruption is a primary concern associated with atrazine-contaminated drinking water due to its interference on reproduction, effect on immune system function, and increased cancer risk. Despite the Environmental Protection Agency's regulation of atrazine levels to 3 ppb in drinking water, contamination issues persist. Furthermore, water testing is mandated annually, which provides insufficient data for the daily consumer. The exorbitant costs of specialized equipment to test atrazine levels further impede the general public's

knowledge of drinking water safety. This literature review delves into current research endeavors aimed toward developing handheld atrazine tests for household use. This can potentially revolutionize home water testing practices in the foreseeable future.

The Relationship between Self-Efficacy and Factors of Text Anxiety

Trevon Miller (Psychology)

Faculty Mentor: Dr. Jordan Wagge

Self-efficacy is the belief one has in oneself to achieve goals. This is an important trait to understand in college students, because success in college depends on being able to achieve goals, including performing well on tests. Therefore, it is also important to understand test anxiety and the different ways it manifests in college students. In this study, we will examine secondary data from the Statistical and Mathematical Anxiety and Related Variables in University Students (SMARVUS; Terry et al., 2023), which collected data related to math anxiety and related variables in a large international sample (N = 12,570) of university students. These variables included self-efficacy as measured by the 8-item New General Self-Efficacy Scale (NGSE; Chen et al., 2021) and test anxiety as measured by the Revised Test Anxiety Scale (R-TAS; Benson & El-Zahhar, 1994). The R-TAS contains four subscales related to factors of test anxiety: bodily symptoms, tension, worry, and test-irrelevant thinking. We will examine the relationship between NGSE scores and the four components of R-TAS. We predict a negative association between NGSE and R-TAS worry and tension subscales, and no association between NGSE and R-TAS bodily symptoms and test-irrelevant thinking subscales. Results, implications, and directions for future research will be discussed.

Lifestyle and Demographics in Relation to Criminogenic Thinking in Freshmen

Kirsten Moore (Graduate Counseling Psychology)

Faculty Mentor: Dr. Jon Mandracchia

College students engage in high rates of maladaptive behaviors (McKee, et.al., 2022). The purpose of this study is to examine the relationship between demographic variables and past behavior, and thoughts that perpetuate maladaptive behaviors (i.e., criminogenic thinking) among college freshmen. 118 participants completed surveys online during the first three weeks of the fall semester of their first year at Avila University. Survey materials included a demographics form, questions about risky and reckless behaviors engaged in during high school, and the Measure of Criminogenic Thinking Styles (MOCTS; Mandracchia 2017). Multiple linear regression analyses will be conducted to test the hypothesis that demographic and lifestyle factors are related to criminogenic thinking. Predictor variables will include first generation college student status, employment, student athlete vs non-student athlete status, socioeconomic status, mental health concerns, and maladaptive behaviors. Criterion variables will consist of the MOCTS Total and subscale scores (i.e., separate analyses will be conducted for each criterion variable). Results of this study could provide colleges with information on at-risk students, and possibly help them provide better resources to students such as access to counseling services, peer mentoring, or educational efforts about the consequences of these risky behaviors.

LUNCH

WHITFIELD CONFERENCE CENTER

12:30 – 1:30 P.M.

A SPECIAL THANKS TO FRANK IHRER



**Helen
Mechanical**

Resumed Oral Presentations

WHITFIELD CONFERENCE CENTER

2:00 – 3:00 P.M.

2:00 p.m.

Program Intervention for At-Risk Youth

Terence Wilson (Social Work)

Faculty Mentor: Dr. Debra Olson-Morrison

This presentation will focus on an intervention I implemented for my senior year social work capstone project. My practicum is at Amethyst Place, an agency that provides rehabilitation services for women who have a history of substance use and their children. Oftentimes the adolescent children living at AP struggle with social skills, motivation and general self-esteem. The intervention I implemented was titled “8 to Great.” 8 to Great is an evidence-based program that aims to build social skills, self-esteem, and daily living skills with adolescents. For my presentation, I will discuss the research about the population and the program, and then will discuss my intervention. Pending IRB approval, results of the intervention will also be discussed. Finally, I will talk about broader implications for adolescents with parents recovering from substance use. I will show the relationships between positive youth development programs such as 8 to great and positive growth of youth who participate in such programs.

2:20 p.m.

Delay Discounting and Smoking: A Multimodal Approach to Impulsivity

Sydney Gardner (Graduate Psychology)

Laura Martin (Graduate Psychology)

Faculty Mentor: Dr. Marcia Pasqualini

The study aims to examine differences in the dorsal anterior cingulate cortex (dACC) between smoking and non-smoking groups through behavioral measures of reward-based decision making and self-reported measures of impulsivity. Each assessment reflects the impulsive behaviors attributed to nicotine use. For this secondary data analysis, participants (N = 19) who smoke (n = 11) and have never smoked (n = 8) completed a delay discounting task while undergoing fMRI scanning to assess impulsive decision-making in a task providing the choice between an immediate versus delayed reward. Proton magnetic resonance spectroscopy (1H-MRS) was employed to acquire concentration levels from the dACC, including levels of glutamate-glutamine (Glx) and N-acetylaspartate (NAA). Additionally, self-reported impulsivity was assessed through questionnaires. I hypothesize that participants who smoke will be more likely to demonstrate impulsive behaviors as shown through the choice of immediate over delayed rewards in the delay discounting task, higher concentrations of Glx and NAA, and higher self-reported impulsivity scores. I expect the behavioral and neurobiological measures observed through different neuroimaging techniques will be positively correlated with self-reported impulsivity scores. By adopting a multimodal approach, this study will provide a comprehensive understanding of the neural mechanisms underlying nicotine use and its impact on impulsivity and nicotine dependency.

2:40 p.m.

Safety and Security at Pawsperity

Rachael Gardner (Social Work)

Faculty Mentor: Dr. Debra Olson-Morrison

Pawsperity is a non-profit dog grooming school with a mission to eradicate generational poverty by ensuring food and income security for its students. However, the lack of an approved safety protocol has raised concerns about the mental well-being of the workers and students. To address this issue, this research investigated the impact of the absence of safe procedures on employees' mental health. This study researched suitable methods to develop an emergency procedure that helps minimize traumatic feelings during emergencies. Emergency procedures are significant because they will guide students and staff on what to do in an emergency and the after-care of a traumatic event. The research question for this project is, "How do safety procedures affect the sense of security of Pawsperity students in the program?". In this research question, the safety procedures are the independent variable, and the Pawsperity staff and students' sense of security is the dependent variable. This study holds significant importance for the staff and students of Pawsperity as safety is crucial in an individual's life. The hypothesis for this research question is that safety procedures have an increased impact on the sense of security of Pawsperity students. Data were collected through a mixed method of qualitative and quantitative research to assess the impact of safety procedures on the sense of security.



Keynote Speaker

WHITFIELD CONFERENCE CENTER

3:00 - 3:30 P.M.

Dr. Amity Bryson

“Finding Your Passion in Scholarship”

Dr. Amity Bryson is Associate Dean of the College of Arts & Sciences and Chair of the School of Performing Arts at Avila University in Kansas City, Missouri. After first attending Cottey College, Dr. Bryson completed a BS Ed in music education and an MM in voice performance at the University of Missouri—Columbia and later a DMA in voice performance and pedagogy at the University of Missouri—Kansas City Conservatory of Music.

At Avila, Dr. Bryson remains in the classroom in addition to administrative duties. She conducts *University Singers* and *Avila Singers*. *Avila Singers* is the “original Avila Chorus” and open to all students on campus. Every School and College at Avila are consistently represented in this ensemble. Dr. Bryson believes “if a student wants to sing, I have a place for them in my ensembles.”

University Singers has performed previously in Carnegie Hall, the *Festival Corale Internazionale di Roma* (2009, 2016) and consistently receive invitations to perform across the US and Europe including the Sydney Opera House, Beijing Olympics and the Salzburg Mozart Choral Festival in Vienna. *University Singers* was named *Outstanding Ensemble* of the Paris Choral Festival in 2019 and have been invited to the *Interfolk Festival LePuy* sponsored by UNESCO.

Awards Ceremony and Closing

WHITFIELD CONFERENCE CENTER

3:30 P.M.

Winners for Oral/Performance and Poster Presentations will be announced.

Participants from past Student Scholar Days



STUDENT SCHOLAR DAY GOALS

- Promote and encourage student contributions to scholarly activity across the campus.
- Recognize and reward outstanding student achievements and scholarly activity.
- Promote interdisciplinary academic interaction among students and faculty.
- Reinforce the breadth of learning that characterizes a quality formal education.
- Support the institution's educational efforts regarding the importance of communication skills.
- Enhance community awareness of the high level of scholarship at Avila University.

