SYMPOSIUM ON UNDERGRADUATE RESEARCH
2023

WEDNESDAY, MARCH 29TH
TALLAHASSEE COMMUNITY COLLEGE

PRESENTED BY THE
TALLAHASSEE COMMUNITY COLLEGE
COUNCIL ON UNDERGRADUATE RESEARCH






Thanks to our Sponsor

This year's Undergraduate Research Symposium would not have been possible without the very generous support of the TCC Foundation, which has financially supported the program since its inception five years ago. Their continued support provides for refreshments, production of publicity materials, the printing of high-quality full-color posters, the cost of printing this booklet, and cash prizes for students. We are so grateful to all of the TCC Foundation's generous donors for their support of this worthy cause.



SCHEDULE AT A GLANCE

9:00-9:15	**Welcome and Opening Remarks** **FPAC Lobby**
9:30-10:45	**Oral Presentations** **FPAC 104 and 121**
11:00-12:00	**3-Minute Thesis Video Presentations** **FPAC 104 and Zoom** https://tccfl.zoom.us/s/95007946855
12:00-1:00	**Visual Arts Artist Talks** **Fine Arts Gallery, FPAC**
12:45-2:15	**Poster Presentations** **FPAC Lobby**
2:15-3:00	**Performing Arts** **CH 137**
3:30-4:30	**Reception and Awards** **FPAC Lobby**

FULL SYMPOSIUM SCHEDULE

9:00-9:15 —– Welcome and Opening Remarks, FPAC Lobby

9:30-10:45 — Oral Presentations

FPAC 104
Moderator: Michelle Peruche

“How Immigration Discrimination is a Problem"
Dianne Cruz
Faculty Advisor: Nicolette Costantino

“Foreign Policy and Leadership in the United States and Russia "
Elizabeth Kemp
Faculty Advisor: Dr. Edward Duggan

"Immigrant Children Fighting to Achieve the American Dream & Their Impact on the US Economy"
Jose Alfredo Olguin-Arellano
Faculty Advisor: Melissa Scalzi

"The Effects of Cognitive Aging on Memory Performance"
Cameron Tetreault
Faculty Advisor: Dr. Gina O’Neal-Moffitt

“The Association Between Emotion Processing and Childhood Trauma”
Temi Thomas
Faculty Advisor: Dr. Nick Vick

“Mental Health in College Students"
Alexis Riggen
Faculty Advisor: Dr. Nick Vick

FPAC 121
Moderator: Dr. Cathryn Meyer

“The Last Airbender: An Analysis of the Leadership of Sokka and Azula"
Samuel Ballman
Faculty Advisor: Patrick McDermott

"The Psychoanalytic Mind Behind the Joker "
Meredith Colton
Faculty Advisor: Dr. Nick Vick

"The Involvement of Rhetorical Transmogrification in the Tory Lanez and Megan Thee Stallion Case"
Joseph Eugene
Faculty Advisor: John Schultz

"The Former Human Right to Abortion"
John Foreman
Faculty Advisor: Lindsey Smitherman-Brown

"Human vs ChatGPT"
Landon Tillman
Faculty Advisor: Forster Agama

11:00-12:00 — Three Minute Thesis Video Screening

FPAC 104 and Zoom

Moderator: Dr. Renee Gordon
https://tccfl.zoom.us/s/95007946855

"Mood Disorders in Africa: Knowledge, and Challenges. Finding the Solutions"
Zikora Aliche
Faculty Advisor: Dr. Gina O'Neal-Moffitt

"Is There a Correlation? Durability & Waterproof"
Ernand Alzenor
Faculty Advisor: Dr. Renee Gordon

"Count It UP!"
Jonathan Brantley
Faculty Advisor: Dr. Renee Gordon

"The Improving 5"
Savion Harris
Faculty Advisor: Dr. Renee Gordon

"Animal Testing"
Tionna Harris
Faculty Advisor: Dr. Renee Gordon

"Mentor Moment"
Eriel Henton
Faculty Advisor: Dr. Renee Gordon

"The Representation of Domestic Violence in Artwork"
Isabella Hudson
Faculty Advisor: Lindsey Smitherman-Brown

"Exploring the Impact of Blockchain Technology and Cryptocurrency on the Financial Industry"
Joshua Israel
Faculty Advisor: Dr. Renee Gordon

"Are You A Stressed College Student?"
Mordecai Israel
Faculty Advisor: Dr. Renee Gordon

"The Science Behind Mediation"
Frederick McPherson III
Faculty Advisor: Dr. Renee Gordon

"The Evolution of Health Monitoring Devices"
Samuel Omeke
Faculty Advisor: Dr. Renee Gordon

“Black Mothers’ Deaths in Healthcare”
Ashlyne Renelique
Faculty Advisor: Dr. Renee Gordon

"CTE Awareness”
Carlton Richards
Faculty Advisor: Dr. Renee Gordon

“Robotics That Mimic Living Things”
Rhonda Smith
Faculty Advisor: Dr. Renee Gordon

12:00-1:00 — Visual Arts Artist Talks

FPAC Lobby

Moderator: Dr. Nick Vick

“Silver Spiderweb Pendant”
Ashlynn Brandstetter
Julie Baroody, Faculty Advisor

"Back to Normal”
Emma Case
Lindsey Smitherman-Brown, Faculty Advisor

"Not Quite My Tempo”
Katherine Harrison
Ljiljana Obradovic-Edmiston, Faculty Advisor

"Be Mine"
Bella Hernandez
Ljiljana Obradovic-Edmiston, Faculty Advisor

“Creating Visual Storytelling using a Stipple Drawing Technique”
Natalie Lobdell
Ljiljana Obradovic-Edmiston, Faculty Advisor

"Birds Perspective”
Sarah Mason
Ljiljana Obradovic-Edmiston, Faculty Advisor

"Confinement"
Kaitlyn McCarthy
Ljiljana Obradovic-Edmiston, Faculty Advisor

"Disguise"
Sage Moore
Ljiljana Obradovic-Edmiston, Faculty Advisor

“Present by Invisible”
Reagan Ness
Julie Baroody, Faculty Advisor

"Grass hill Lighthouse”
Bailey Russell
Dr. Nick Vick, Faculty Advisor

"Hurricane Ian's Impact on Fort Myers”
Allie Shimko
Dr. Nick Vick, Faculty Advisor

“Felix the Isopod”
Emily Taylor
Julie Baroody, Faculty Advisor

“Raining Fire”
Emily Taylor
Julie Baroody, Faculty Advisor

"Little Things by Elizabeth"
Elizabeth Thomas
Julie Baroody, Faculty Advisor

12:45-2:15 —- Poster Presentations

FPAC Lobby

Moderator: Dr. Gina O’Neal-Moffitt

“How Parent – Adolescent Relationships Affect Adolescent Emotions”
Sandrea Alex
Faculty Advisor: Dr. Gina O’Neal-Moffitt

"Living Organ Donation”
Bashair Binmahfooz
Faculty Advisor: Dr. Renee Gordon

“Negative Mental Health Impacts From COVID-19”
Madison Brown
Faculty Advisor: Michelle Peruche

“How Innovation, Creativity, and Leadership are Linked”
Caroline Cannon
Faculty Advisor: Dr. Nick Vick

"Music Intervention Can Lower Depression Levels in Graduate Students"
Sally Clavell
Faculty Advisor: Dr. Renee Gordon

"Outbreaks of Infectious Disease Through Deforestation"
Julian Daniel
Faculty Advisor: Dr. Renee Gordon

"The Crippling State of the U.S.A's Healthcare"
Jane Ene
Faculty Advisor: Dr. Renee Gordon

"The Destruction of Society Through the Lens of Gun Violence"
Jessica Hall
Faculty Advisor: Lindsey Smitherman-Brown

"Lacrosse and the Disparity of Black Players"
Ryan Henry
Faculty Advisor: Dr. Nick Vick

"Light Bulb"
Eddie Hills
Faculty Advisor: Dr. Nick Vick

"The Effects of Acid Rain on Plant Growth"
Jailynn James
Faculty Advisor: Dr. Renee Gordon

"Stress and Health in College Students"
Sarah Lane
Faculty Advisor: Dr. Kelly Thayer

"The Science Behind Learning Styles to Create Healthier Study Habits"
Kara Lane-Lightfoot
Faculty Advisor: Dr. Renee Gordon

"Diversifying STEM"
Kesnel Mezinord
Faculty Advisor: Dr. Renee Gordon

"Catching Air"
Alexandria Nipper
Faculty Advisor: Dr. Renee Gordon

"Understanding MS"
Edward Romero
Faculty Advisor: Dr. Renee Gordon

"Comparing and Contrasting AI and Predicting What Their Future Holds"
Lauren Trembley
D Faculty Advisor: Dr. Renee Gordon

"The Legacy of Jane Goodall"
Erica Trombley
Faculty Advisor: Dr. Nick Vick

"Efficacy of Opioid Use Disorder Medications Over Time Compared to Controls"
Jordan Swickley
Faculty Advisor: Dr. Renee Gordon

"Car Dependency and the American Suburb: A Problematic History"
Orchid Watkins
Faculty Advisor: Dr. Amber Cresgy

"The Inevitable Decline of College Students' Mental Health"
Ashley Williams
Faculty Advisor: Dr. Renee Gordon

2:15-3:00 — Performing Arts, CH 137

CH 137
Moderator: Dan Beugnet

"Hans Christian Anderson's, The Little Mermaid, The Princess's Point of View"
Brandy Kofler
Faculty Advisor: Lauren Fletcher

"Nebula, and Its Compilation of Styles Based on Modern Rock"
Christopher Laslie
Faculty Advisor: Dr. Nick Vick

"Beneath the Mask"
Madison Reed
Faculty Advisor: John Schultz

"Short Stories: A Modern Days Nursery Tale"
Madison Reed
Faculty Advisor: John Schultz

3:30-4:30 — Reception and Awards, FPAC Lobby

Presenter Abstracts

*Abstracts are alphabetized by presenters' last names.

HOW PARENT-ADOLESCENT RELATIONSHIPS AFFECT ADOLESCENT EMOTIONS

Sandrea Alex
Faculty Sponsor: Dr. Gina O'Neal-Moffitt

This paper examines how adolescent emotions are influenced by relationships with their parents. Adolescents live with their parents every day and are exposed to their responses and reactions which shape their emotional behavior. This research evaluates adolescents' conscious experience and behavioral expression from their emotions. This paper has been divided into three areas where adolescent emotions are explored in the following categories: parental emotions and reactions to the disclosure on adolescents, adolescent emotion regulation, and how race/ethnicity affects adolescent emotional responses. Studies were done asking adolescents about their emotions in different racial and familial environments. The statistics from the studies were analyzed to interpret the emotional behavior of adolescents. Results show that adolescents provide more disclosure and less depressive symptoms if they have a positive or accepting relationship with their parents and have adaptive emotion regulation. Parental reactions affect the bond between the parent and the adolescent.

MOOD DISORDERS IN AFRICA: KNOWLEDGE, CHALLENGES, AND FINDING THE SOLUTIONS

Zikora Aliche
Faculty Sponsor: Dr. Gina O'Neal-Moffitt

The purpose of this study is to understand how mood disorders are viewed in Sub-Saharan Africa, what the challenges are, and how we can solve the problems. I did peer reviews on two articles that evaluated and highlighted both the challenges and solutions to mental health in Africa. The two research papers: “Addressing Mental Illness in Africa: Global Health Challenges and Local Opportunities” and “Depression in Sub-Saharan Africa” discuss in detail how systemic and individual behavioral factors influence approaches to handling mental health in Africa. Mental health is important and should be taken seriously. Advocating and educating in developing countries can help citizens feel safe and improve socioeconomic conditions while also eliminating stigmatization and promoting inclusivity. The reviews recommend we address the issue of mental health in various ways, including creating an awareness group to educate people on mental health.

IS THERE A CORRELATION? DURABILITY & WATERPROOF

Ernand Alzenor
Faculty Sponsor: Dr. Renee Gordon

This 3-minute video presentation will examine the correlation between product durability and water-resistant level. I am researching this topic since most consumers actually actively use waterproof technology in their everyday life for convenience, but most consumers don’t know if it hinders the product's durability. Water Resistant Technology has become now a staple feature in most new technology since its first appearance in the late 1990s. This 3-minute video presentation will have a slide show style, presenting information from all types of sources such as articles, books, interviews, and any other relevant sources presenting statistical facts so viewers can understand the results of my research. Since waterproof technology has become so abundant and well-used by consumers. I am going to infer that waterproof technology does not in fact hinder the physical durability of a technological product.

THE LAST AIRBENDER: AN ANALYSIS OF THE LEADERSHIP OF SOKKA AND AZULA

Samuel Ballman
Faculty Sponsor: Patrick McDermott

This paper analyzes the styles of leadership displayed in *Avatar: the Last Airbender*. The purpose of this was to research the ability of children's media to create complex, realistic leaders, as well as how this portrayal of leadership contributes to the overall narrative. The extent of the research was on the intricacies of authoritarian leadership, trait-based leadership, situational leadership, and skill-based leadership, as well as how these styles were demonstrated by two of the show's main characters, Sokka and Azula.

LIVING ORGAN DONATION

Bashair Binmahfooz
Faculty Sponsor: Dr. Renee Gordon

Over 600,000 people in the United States are under dialysis treatment yearly, and 106,000 are on the waiting list for organ donation. 85% of the people on this list are waiting for a kidney transplant, and 17 people on the waiting list die each day. The purpose of this study was to discover the reasons and understand why living people do not donate their livers and kidneys to their family members, friends, or individuals who are in need. Is it because of apprehension of affecting the quality of life after the transplant, lack of health information, or insufficient resources for medical expenses? The survey consisted of four points of general information about organ donation to boost the person's background, followed by five multiple-choice questions. The aim was to conduct the survey with 300 students and staff members that are enrolled at TCC; because not all students completed the survey, only 150 were included in the analysis.

SILVER SPIDERWEB PENDANT

Ashlynn Brandstetter
Faculty Sponsor: Julie Baroody

I chose to make this piece because I love nature and things that may typically be considered “dark” and therefore commonly overlooked. Something as simple as a spider web is seen by each of us every day, yet it is rarely noticed. Spiderwebs are strong, giving spiders a home and food source all in one. Creating this web out of silver now gives it the attention it wouldn’t normally get by turning something gross or scary into something beautiful. I made the pendant by carefully and intentionally soldering different sizes of sterling silver wire together. It was difficult to make the spiderweb look as natural as possible while also trying to maintain the structure and geometric shapes that make up a spiderweb. I tried several different methods and made a lot of mistakes while making this piece. Though these moments were not always ideal, they helped me grow as a jewelry maker and as a person.

NEGATIVE MENTAL HEALTH IMPACTS FROM COVID-19

Madison Brown
Faculty Sponsor: Michelle Peruche

The research question that I investigated during the fall semester was *How were college students’ mental health impacted by Covid-19?* I decided to research this topic since it is an ongoing issue in our society today, and I was also very curious if others had the same mental health impacts as myself. In my research, participants were asked to complete a survey based on the mental health impacts they had from Covid-19. The survey that was used in the study was delivered to the undergraduate students via Canvas, and if the student completed the survey, they would be given 5 extra credit points towards their final grade.

COUNT IT UP!

Jonathan Brantley
Faculty Sponsor: Dr. Renee Gordon

Recent political elections have been closer than ever, and, thus, the following question can be asked: “Are people voting more or less frequently?” This study aims to prove there has been a drastic decrease based on generational voting habits. The study will describe voting patterns for Baby Boomers, Gen. X, Millennials, and Gen. Z, and using research from the Voting Commission and The Census Bureau, this project will clarify the period of the last 50 years and how voting behaviors among these groups have changed over time. The project will assess if the traditional voting practices are making it harder for certain generations as times change and will explore the question of whether innovations are negatively impacting social consciousness. The information should prove that later generations have been adversely affected by innovations which in turn have also impacted their participation in voting processes.

HOW INNOVATION, CREATIVITY, AND LEADERSHIP ARE LINKED

Caroline Cannon
Faculty Sponsor: Dr. Nick Vick

The purpose of the study was to find how innovation, creativity, and leadership are all linked. This is important to understand because each of these qualities help strengthen the other. Without a leader it is hard to confidently innovate and create. Innovation comes from creativity and a strong leader, and creativity takes a strong leader who is willing to innovate. This is useful to know in the real world because when taking on leadership positions it is crucial to use creativity and to innovate with what is available. The research was done by reading and analyzing eight sources produced within the last five years, highlighting the significance of my study. Each source was able to be connected to the others. After researching the significance of each source and linking the three qualities together, I was able to conclude that creativity, leadership, and innovation do rely on one another

BACK TO NORMAL

Emma Case
Faculty Sponsor: Lindsey Smitherman-Brown

At the height of the COVID-19 pandemic, schools went online, afterschool activities were canceled, masks were required, and we felt disconnected and anxious. My project is entitled "Back to Normal" and is a graphite and charcoal drawing. The work is comprised of two images of the same person: one with his medical mask on and one removing his mask. The work seeks to convey the feelings that students experienced during the pandemic, and the relief we are experiencing now as we get back to normal.

MUSIC INTERVENTION CAN LOWER DEPRESSION LEVELS IN GRADUATE STUDENTS

Sally Clavell
Faculty Sponsor: Dr. Renee Gordon

THE PSYCHOANALYTIC MIND BEHIND THE JOKER

Meredith Colton
Faculty Sponsor: Dr. Nick Vick

The study investigated the film, *The Joker*, through a psychoanalytic lens. This is important because it shows how mental illness is not often prioritized in our society and how that can become a big issue. This analysis also sheds light on some specific mental illnesses and shows what it is really like to have them. I did my project through watching and interpreting the film, doing research on the psychoanalytic lens, more research on different psychologists' opinions on the film and the mental illness shown throughout, and finally applying my research to create an essay.

HOW IMMIGRATION DISCRIMINATION IS A PROBLEM

Dianne Cruz
Faculty Sponsor: Nicolette Costantino

The study is based on scholarly sources that discuss how discrimination towards immigrants has been a problem, and it focuses on examples of prejudice they receive. It's important because despite the fact that immigration discrimination is constantly seen to this day, it's a social issue. The way I commenced my project was doing research and finding statistical and narrative evidence from people who have suffered from that type of discrimination.

OUTBREAKS OF INFECTIOUS DISEASE THROUGH DEFORESTATION

Julian Daniel
Faculty Sponsor: Dr. Renee Gordon

Over time, global deforestation has debilitated not only the ecosystems that are being destroyed but human lives as well. This study analyzes the effects of infectious diseases spreading to humans because of deforestation. Infectious outbreaks worldwide are steadily increasing, and if deforestation continues, the effects on the health of humanity can be detrimental and possibly permanent. Wild animals forced to come into contact with human settlements will increase the chance of an outbreak of infectious disease. Studies over the course of decades have linked deforestation as a primary factor towards introducing humans to a range of deadly diseases. This research will analyze the correlation between areas undergoing large-scale deforestation and how it affects the health or introduction of diseases to people in the surrounding area.

THE CRIPPLING STATE OF THE U.S.A'S HEALTHCARE

Jane Ene
Faculty Sponsor: Dr. Renee Gordon

The purpose of this research is to unravel the hidden instability of the U.S healthcare system, while bringing awareness to how such fragility can be detrimental to lower class families. I collected my information utilizing various media sources, like individual interviews on news channels, peer-reviewed articles online, and statistical databases of active hospitals within the U.S. After gathering all the needed information from those sites, I then organized said information into groups. Regardless of one’s financial situation or status, understanding the how and why of our broken healthcare system can not only bring awareness but change for those affected.

THE INVOLVEMENT OF RHETORICAL TRANSMOGRIFICATION IN THE TORY LANEZ AND MEGAN THEE STALLION CASE

Joseph Eugene
Faculty Sponsor: John Shultz

This study investigates the rhetorical modes at work which persuaded thousands of people to believe rapper Tory Lanez did not shoot fellow rapper Megan Thee Stallion despite overwhelming evidence demonstrating otherwise. Research was conducted through an analysis of "Memory and Martyrdom: The Transmogrification of Ashli Babbitt" published by Roseann M. Mandziuk on Nov. 9th 2022 in *Journal of Contemporary Rhetoric*. Mandziuk examines how Ashley Babbitt, a woman shot by capitol police during the January 6th insurrection, was configured into a martyr by the radical right through a process termed rhetorical transmogrification. This process is used by groups to mystify past events with fabricated narratives to alter public memory of those events, thus pushing public opinion of them into the group's favor. This model was applied to the events preceding Lanez conviction and used to develop implications on the impact that negative perceptions of black women have on them in America.

THE FORMER HUMAN RIGHT TO ABORTION

John Foreman
Faculty Sponsor: Lindsey Smitherman-Brown

This presentation explores the right of abortion in regard to the Roe v. Wade court case. Roe v. Wade was a landmark court ruling in 1973 that has previously guaranteed the right to abortion until its recent overturning on June 24, 2022. This presentation explores the implications of overturning Roe v. Wade through the humanities in painting, literature passages, and music. In addition, these works of art are analyzed for formal elements and their historical context. Ultimately, the research on the works of art aims to aid in the understanding of the consequences overturning Roe v. Wade has on American society.

THE DESTRUCTION OF SOCIETY THROUGH THE LENS OF GUN VIOLENCE

Jessica Hall
Faculty Sponsor: Lindsey Smitherman-Brown

The purpose of this study was to analyze how gun violence in America is rapidly dividing the system from its own people and how the government could possibly prevent or decrease the total number of such incidents. As death tolls rise across the nation, this is a reoccurring issue that has become increasingly common among the public as a result of little intervention from the states, as well as federal authorities. Three individuals who hold a specific position or have been shown to be closely associated with the given issue were directly contacted via email and given interview seminars; these will be compared to the most recent statistics on the subject. The anticipated results will be based on the information provided by the participants in order to display and determine the best possible solutions to fighting gun violence.

NOT QUITE MY TEMPO

Katherine Harrison
Faculty Sponsor: Ljiljana Obradovic-Edmiston

I chose to make prints based off of an iconic scene from the film *Whiplash* when Fletcher has one of his first violent outbursts when Andrew wasn't playing perfectly during his first day of rehearsal. I found a shot from the movie that displayed Fletcher's overbearing, ruthless teaching techniques and Andrew's focus and obsession for drumming. I digitally posterized this image and altered the colors; then, I added in other references to the film. For these prints, I used two screens and utilized screen filler and drawing fluid to paint my design. First, I created the background, featuring the title and a cymbal. With my second screen, I started with a white base and then used shades of blue and black to create the depth and shadows of Andrew and Fletcher. I worked from the outside inward, applying ink from light to dark, one color at a time.

ANIMAL TESTING

Tionna Harris
Faculty Sponsor: Dr. Renee Gordon

Animal testing, also known as animal experimentation, involves the use of non-human animals in scientific and medical research. The practice has been used for centuries, and it remains controversial to this day. Proponents argue that animal testing is necessary to ensure the safety and efficacy of new drugs and medical treatments, while opponents argue that the practice is unethical, unreliable, and unnecessary. Animal testing is used in a wide range of scientific fields, including pharmaceuticals, cosmetics, and biomedical research. Animals are subjected to a variety of tests, including toxicity tests, where they are exposed to chemicals to determine their harmful effects, and efficacy tests, where animals are used to test the effectiveness of new drugs and treatments.

THE IMPROVING 5

Savion Harris
Faculty Sponsor: Dr. Renee Gordon

This project will examine if the human body can improve the 5 basic senses to a noticeable degree within a matter of weeks. Studies have shown that people with dulled senses are often disconnected with their environment and in general less happy with the world around them. Scientists have proven that the senses become less sharp over time during a person’s lifespan. The method of testing will use standard and approved approaches to testing the 5 senses. With repeated "exercise”, it will be assessed if participants notice any change in their sense of smell, sight, touch, hearing, and taste. The results of this experiment would determine if individuals should start doing daily exercises of the senses to improve quality of life.

LACROSSE AND THE DISPARITY OF BLACK PLAYERS

Ryan Henry
Faculty Sponsor: Dr. Nick Vick

This project looks at the diversity in the game of lacrosse and analyzes why the number of African American players is so low. Lacrosse as a game has been known to be very white-dominant for a long time, outlasting its Native American origins. Multiple factors such as cost, exposure, and racism on and off the field have caused many Black people to dislike the sport. Those who do like the sport face incredible hardship while trying to enjoy the game. This study breaks down the individual factors and examine why they lead to a disliking of the game for minorities, which, consequently, leads to a mainly white-populated game. The statistical data will help highlight what changes need to be made in order to make the sport more accessible in the future.

MENTOR MOMENT

Eriel Henton
Faculty Sponsor: Dr. Renee Gordon

This project analyzes the correlation between mentorship and how it ties into student success. Mentorship is important because it allows mentees to tap into the knowledge from those more experienced than themselves. My personal experience as Vice President of the organization *Sister to Sister* and having mentorship/leadership meetings has given me a first-hand experience of how mentorship correlates with student success. After utilizing TCC's database as well as conducting multiple interviews with mentees to do my project, it gave me a better understanding on why mentorship has a direct impact on student success.

BE MINE
Bella Hernandez
Faculty Sponsor: Ljiljana Edmiston

In this piece, I focused on my appreciation for vintage art styles. I found this design by looking through vintage Valentine's Day cards. I hoped to be able to show appreciation for the piece through a new color scheme as well as through the effects and techniques of the screen-printing process. I used screen filler for the first six layers of colored ink (white, metallic pink, metallic green, yellow, and blue) and then followed with drawing fluid for the final layer of black ink details to bring the whole piece together.

LIGHT BULB
Eddie Hills
Faculty Sponsor: Dr. Nick Vick

My study will focus on the science behind the light bulb: what is it that makes a light bulb glow; how is it that it glow for so long without burning out; the different types of light bulbs; what makes them different; which is more efficient; and which type is the best to use. Light bulbs are used constantly throughout today’s society; it would be nice for people to know how they work. I chose this project because I want to be an electrical engineer, and I found this topic to be fascinating enough to write about.

THE REPRESENTATION OF DOMESTIC VIOLENCE IN ARTWORK

Isabella Hudson
Faculty Sponsor: Lindsey Smitherman-Brown

This film explores the issue of domestic violence and artists who raise awareness for it through their work. Because domestic violence is such a common issue (1 in 3 women and 1 in 4 men experience it in the U.S.), it is important that more people are aware of it and its terrible effects so that we can support those experiencing it. Those who are facing domestic violence should also be aware that there are organizations and individuals to support them. This film was completed through the research of domestic violence and the analysis of artworks meant to bring awareness to it.

EXPLORING THE IMPACT OF BLOCKCHAIN TECHNOLOGY AND CRYPTOCURRENCY ON THE FINANCIAL INDUSTRY

Joshua Israel
Faculty Sponsor: Dr. Renee Gordon

This research presentation examines the potential effects of cryptocurrency and blockchain technology on the financial sector. We explore how blockchain technology works and its potential benefits for financial transactions. We also analyze cryptocurrency, including its advantages and disadvantages as a means of exchange. We discuss how banks and other financial institutions are utilizing blockchain technology and how they might adapt to the new technological environment. Finally, we consider potential applications of blockchain technology and cryptocurrency in the future, as well as any regulatory and ethical issues that may arise. This presentation offers a thorough examination of how blockchain technology and cryptocurrencies have impacted the financial sector and provides insights into potential future developments in this rapidly evolving area.

ARE YOU A STRESSED COLLEGE STUDENT?

Mordecai Israel
Faculty Sponsor: Dr. Renee Gordon

This 3-minute presentation aims to explore the topic of stress among college students, covering its definition, causes, negative effects, and solutions. It defines stress as a psychological and physiological response to demanding situations. The presentation then explores the various factors that contribute to stress in college students, including academic pressure, financial stress, and social expectations. Next, it discusses the dangers of stress, including physical and mental health problems such as anxiety, depression, and cardiovascular disease. Effective strategies for managing stress, such as exercise, mindfulness, and time management, are also discussed. By the end of this presentation, the audience should have a better understanding of stress and its impact on college students, as well as some practical tips for reducing stress in their own lives.

THE EFFECTS OF ACID RAIN ON PLANT GROWTH

Jailynn James
Faculty Sponsor: Dr. Renee Gordon

Acid rain occurs when low pH acids pollute the air and are deposited back on earth's surfaces when it rains, snows, sleets or hails. These gases convert back to acids when they contact water. Acid rain can be a problem when environments lack strong bases to neutralize the acidity. This research explores how acid rain affects plant growth. Using plants and lemon juice as acid, an experiment will be conducted to understand how acid rain affects the growth of the plants. The results will be displayed through pictures as well as a video showing growth each day and the outcome of the experiment.

FOREIGN POLICY AND LEADERSHIP IN THE UNITED STATES AND RUSSIA

Elizabeth Kemp
Faculty Sponsor: Dr. Edward Duggan

This work discusses the effects of foreign policy and leadership on international relations. Learning more about the history and culture of nations will create a better understanding behind the motives of political actions, which can improve tensions and foreign affairs. Utilizing personal experience and research papers, this work will compare the differences in government structure and balance and how it leads to the style and execution of leadership in each country. The lack of corrective action towards countries, such as Russia, with growing interference in neighboring countries, creates political dominance and future issues.

HANS CHRISTIAN ANDERSON'S, THE LITTLE MERMAID, THE PRINCESS'S POINT OF VIEW

Brandy Kofler
Faculty Sponsor: Lauren Fletcher

The short story I wrote dives into the point of view of the princess in the little mermaid original short story. The purpose of this short story was to show feminism, oppression of the LGBTQ+ community, and alienation, through fantasy and creative writing. For my research, I put together multiple sources analyzing the short story and incorporated these interpretations through character description/development. The original story is tragic, and I wanted to write the princess's story to be "sondering" and unexpected. The princess spends time observing the Little Mermaid's behavior with the prince and expressing her feelings on her treatment as princess. In the end, when the little mermaid tragically dies, the princess realizes that the little mermaid was a mermaid and that subconsciously she had known all along. This short story concludes that everyone sees the world differently, and it's important not to judge people we don't understand.

STRESS AND HEALTH IN COLLEGE STUDENTS

Sarah Lane
Faculty Sponsor: Dr. Kelly Thayer

Overtime, there has been a large decline in college students' mental and physical health caused by stress and its effects to the brain and body. This study observed the stress reactivity and the students' overall mental health while completing an exam. Then, how mental health correlates with the amount of stress a student experiences was analyzed. This was important to show how college stress can negatively impact overall health and the ability to succeed in school. For my project, I read and analyzed many published scientific articles on how college can negatively impact overall mental and physical health.

THE SCIENCE BEHIND LEARNING STYLES TO CREATE A HEALTHIER STUDY HABIT

Kara Lane-Lightfoot
Faculty Sponsor: Dr. Renee Gordon

How do the different learning styles effect students' comprehension of material? This research was done in classrooms and in the STEM center while observing the students studying. The students broke down what they knew and did not know, focusing on the parts they did not understand with the professor or tutor. If there was an issue with comprehension, the instructor would change their tactics. Based on the current research, students need to know how they learn to help them succeed in school and work. This research is designed to help students understand that it is good to learn differently, and that knowing this can help students find the best way for them to study.

NEBULA AND ITS COMPILATION OF STYLES BASED ON MODERN ROCK

Christopher Laslie
Faculty Sponsor: Dr. Nick Vick

A simple study of the humanities can reveal to one how music has evolved over human history and what has changed. Through studying different pieces of music written by groups like the Foo Fighters, Royal blood, and Queens of the Stone Age, one can learn what modern rock has become in comparison of its predecessor, which is the classic rock of the 1960s to the 1980s. Observing patterns and understanding the standard layout of songs it is possible for one to create a possibly “standard” modern rock song. Nebula is a culmination of studying and trying to understand modern rock and the pattern it follows. With the help of my band mate, we have written a piece of music that is comparable to popular modern rock.

CREATING VISUAL STORYTELLING USING A STIPPLE DRAWING TECHNIQUE

Natalie Lobdell
Faculty Sponsor: Ljiljana Obradovic-Edmiston

The purpose of this study was to investigate the stipple technique and how to utilize that in visual story telling. Art can be a vehicle in exploring the human element in a personal way through dealing with certain topics that could elicit emotional responses from the viewer. Completing the project included numerous steps. To better understand values and creating a sense of volume, I practiced the technique on 2-Dimensional and 3-Dimensional shapes. Next steps included looking at examples of home layouts, emergency broadcasts, and various objects that can be used to express certain ideas or feelings like symbolism of certain flowers. The stipple technique was useful in creating a sense of the past by giving the piece a grainy, analog style. Finally, creating art to express themes and emotions requires research and planning not only with the overall conceptual idea of the piece but also the individual techniques within it.

BIRDS PERSPECTIVE

Sarah Mason
Faculty Sponsor: Ljiljana Obradovic-Edmiston

The study I have chosen to conduct is based upon perspective works of art. This field ranges from one-point perspective to several. However, my piece is done using one-point perspective. Understanding this aspect in art is pertinent for learning foundations. Before the initial rules of perspective were established, buildings and artistry in that field lacked a certain depth and thus, pieces attempting to depict them accurately fell flat. Learning how to make the 2D surface appear to pop out, or look 3D is essential to realism. I put together this project using various types of graphite as well charcoal on Strathmore drawing paper. With a variety of techniques including smudging, applying selective pressure to lines, and creating a sense of space within the work, I managed to make my piece come together.

CONFINEMENT

Kaitlyn McCarthy
Faculty Sponsor: Ljiljana Obradovic-Edmiston

I created this piece for a point-perspective assignment. I had the idea of using boxes and nature to show the importance of plants and animals. I began by creating a plain sketch of the boxes. I then built around or inside of them. I added the details, and light and dark by shading. I used an eraser to create highlights and transparency with the clear boxes. The entire work is created using graphite pencils. A human eye is the vanishing point to symbolize how it is our responsibility as humans to care for our planet and the life on it. The plants, and animals are confined to these boxes or have something holding them back from leaving the entrapment (such as the peahen with her eggs). Along with the meaning behind my work, I wanted a whimsical feeling, because I wanted Confinement to be a dream world.

THE SCIENCE BEHIND MEDITATION

Frederick McPherson III
Faculty Sponsor: Dr. Renee Gordon

The study of meditation investigated the science behind it (what it does to your body, brain etc.) and the effectiveness of practicing meditation of the positive outcomes it has on your mental health, emotions, and even in life. Meditation is important because it gives you a sense of calm, peace and balance that can benefit both your emotional well-being and your overall health. I did my project by using TCC databases to do my research on the subject of meditation, and looked for the articles/journals that talked about the science behind meditation, and the effect it has on us.

DIVERSIFYING STEM

Kesnel Mezinord
Faculty Sponsor: Dr. Renee Gordon

The field of STEM is a place where creativity and prosperity come to meet. This study investigates diversity in STEM in association with race and disability. This is important because STEM impacts the life of everyone, and it is beneficial to have people from different backgrounds to collaborate with in building new projects within sciences and mathematics. This project surveyed people of color and those with disabilities, asking if they felt welcomed and accepted in the STEM field. The survey consisted of three questions, and the goal was to at least get 50 people to participate in the survey. Each question was multiple choice, and we encouraged the participants elaborate on their answers. Our anticipated results are the participants giving nuanced answers to the questions and explaining how the STEM field could be more inclusive.

DISGUISE
Sage Moore
Faculty Sponsor: Ljiljana Obradovic-Edmiston

In my photo, I studied portrait style photography, editing in photoshop, composition and design, as well as costume usage. I found this work important because it allowed me to not only practice and apply basic photography skills and techniques, but I was also challenged to introduce new elements into my portfolio like costumed portraits. I found this exciting and wildly educational. For this project, I gathered supplies to disguise myself, like a wig, mask, and ambiguous clothing, and set up in front of a backdrop. I then posed and had a friend help me with getting in frame and taking the photo so I could see lighting changes that needed to be made or other camera adjustments. After I got enough shots in various poses and locations, I selected the best takes and edited them in photoshop.

PRESENT BUT INVISIBLE
Reagan Ness
Faculty Sponsor: Julie Baroody

For this piece, I wanted to create something with a deep meaning that one could appreciate only if they knew the idea behind it. It was challenging to try and create a piece that would convey my ideas while being both simplistic and containing a detailed meaning, but I wanted my piece to have a backstory to go with it rather than being just another piece of jewelry. I have always been interested in what happens when someone dies, so I tried incorporating that interest into my art. My piece represents a plane of existence, cut in half, separating the living and non-living. The silver balls on my piece represent little beams of light left behind as souls of the deceased, trapped in darkness. The light emitted from each soul can reach across the barrier, making an impact in our world, but the souls themselves cannot cross back into existence. They are trapped in darkness and cannot even connect with one another. How lonely I can only imagine it must be...

CATCHING AIR

Alexandria Nipper
Faculty Sponsor: Dr. Renee Gordon

This paper shows the progression of the improvement of air bags or body air bags for motorcyclists. The motorcyclist has always been in more danger than other motorists. Creating an effective way to keep them safe on the road will decrease mortality overall. The major disadvantage of body airbags is that they're cumbersome and they reduce much needed mobility of the motorcyclist. The biggest hurdle of creating effective air bags is making sure they inflate at the right time. Another issue is the air bag staying attached to the person as the accident happens. With testing and refinement, the advanced technology that is needed to address these challenges will be improved. The many aspects of physics will be the catalyst to refining the future advancements of air bags.

IMMIGRANT CHILDREN FIGHTING TO ACHIEVE THE AMERICAN DREAM & THEIR IMPACT ON THE US ECONOMY

Jose Alfredo Olguin-Arellano
Faculty Sponsor: Melissa Scalzi

The purpose of this research project is to determine the demographics of immigrant children under DACA (Deferred Action of Childhood Arrivals) who are fighting to achieve the American Dream and how this Act has had an impact on the economy. Many people lack the knowledge of this Act and its importance in this country. The aim of this project is to bring more awareness and educate others on the situation. My project is based on evidence obtained through my personal experience, online research, and communication with other DACA recipients. I will include surveys of other Dreamers and their experiences; I will include demographics and statistics of DACA recipients and the change in the economy since DACA was first created in 2012. I anticipate finding out where all or most DACA recipients are today in their lives and careers by the end of this project.

THE EVOLUTION OF HEALTH MONITORING DEVICES

Samuel Omeke
Faculty Sponsor: Dr. Renee Gordon

This project researches the significance of health monitoring devices in today's society. This analysis of health monitoring devices in a variety of styles include: the Oura ring, the Apple Watch, the Samsung Galaxy watch, and the FitBit. The results of this experiment will convey the following: The impact these devices have had on medicine, the trajectory for these devices and their potential capabilities in the future, and their impact on individual's lives. This study is significant due to the fact that these tools or devices are used by almost everyone for their personal health needs, and because of that it is necessary that we research their impact not only in the medical field but in today's society as well.

BENEATH THE MASK

Madison Reed
Faculty Sponsor: John Schultz

According to a 2022 Report by the Center for Disease Control, over one million Americans reported burn injuries requiring medical attention. A startling element to this statistic is that approximately 25% of these individuals are children under the age of 15. While the pain of the initial burns and the subsequent treatments can be extremely painful, the emotional and psychological scars linger long after the body has healed. So, through the prose, "Running Away" by Claudia Hill, the poetry "Control Burn" by Alysia Harris and the plays, *Nebuchadnezzar King of Gold* by Magenta Starling, and *My Scars* by Amanda Hurst, this program reminds us to embrace, not alienate, those who have suffered the tragedy of a burn incident.

SHORT STORIES: A MODERN DAYS NURSERY TALE

Madison Reed
Faculty Sponsor: John Schultz

Throughout women's history, false personas have been implemented into the stories of women by safeguarding men who aim to shield the influence of unconventional women in society. *The Guardian* on October 13th 2022 explains that it is nearly impossible to figure out the origin of female figures in literature. Under the guise of men who have simply rewritten women's stories, usually under a more "nurturing" persona, this has made its way into women's history - even finding itself today in the nursery rhymes we tell our children. These rhymes are filled with the figures little girls are meant to idolize and the behavior they are expected to "replicate". The truth is that there is no way of telling fiction from fact. This prose is an act of reclamation, a celebration of truth and feminism so that we may idolize and rhyme about a woman whose story was robbed from her.

BLACK MOTHERS DEATHS IN HEALTH CARE

Ashlyne Renelique
Faculty Sponsor: Dr. Renee Gordon

This research study will investigate the correlation between race and the death of black mothers and their children from childbirth. The deaths of black mothers and their babies have been higher than others. With the higher death rate, the questions of how and why rises. The research will answer the questions of how does race contribute to the death of black mothers and do black mothers feel more comfortable with having a doctor who has a similar color? Other researchers have already concluded that black women do go through racial injustice in the health care system. I will ask various black mothers both questions and create results. Many common complications that could lead to death during childbirth can be preventable but are not addressed because of race.

CTE AWARENESS
Carlton Richards
Faculty Sponsor: Dr. Renee Gordon

I'll be creating a three-minute video about chronic traumatic encephalopathy, or CTE, a degenerative brain disorder, and how it is frequently linked to repeated head trauma, like those received in contact sports like football. Those with this illness may experience a variety of symptoms, including memory loss, disorientation, sadness, and issues with impulse control. This illness can cause players long-term health issues or even cause some of them to pass away. There are several actions that can be taken to tackle the issue of CTE, such as changing the game's rules or making improvements to the equipment used by players, training players, and launching awareness campaigns. Further research and innovation can also be conducted to create new technologies and treatments for this and improve concussion protocols for players overall to create a safer environment for players and reduce the risk of long-term health problems associated with head injuries.

MENTAL HEALTH IN COLLEGE STUDENTS
Alexis Riggen
Faculty Sponsor: Dr. Nick Vick

This study investigated mental health in college students and how the stigma of mental health affects college students and why it is a main reason they do not reach out for help. This is important because the percentage of college students with mental health disorders or mental health symptoms seems to keep rising every single year. It’s a problem that affects their grades, their learning ability, and their social skills throughout life but, most importantly, it affects their wellbeing and their will to live in this world. Research included different articles talking about mental health and stigma and what we can do to help those around us.

UNDERSTANDING MS

Edward Romero
Faculty Sponsor: Dr. Renee Gordon

This research will examine Multiple Sclerosis and why this is currently an incurable auto-immune disease. With Multiple Sclerosis (MS), white blood cells (disease-fighting cells) get sent through the Blood-Brain Barrier (BBB) and attack the myelin which is the fatty substance that protects the nerves of the brain. Two main factors that cause MS flare ups in a person are 1) stress and 2) heat. This body of work is personal and will dive into protocols that equip individuals with MS for living a healthy life.

GRASS HILL LIGHTHOUSE

Bailey Russell
Faculty Sponsor: Dr. Nick Vick

This black pen and ink drawing represents decay and loneliness. The tall uncut grass and single building demonstrates this. There are some new techniques that were used. I drew little streaks of lines to make the grass look long and untouched. Also, I individually colored every brick to give the lighthouse a rusted texture.

HURRICANE IAN'S IMPACT ON FORT MYERS

Allie Shimko
Faculty Sponsor: Dr. Nick Vick

In this study, I went to Fort Myers Beach four months after Hurricane Ian hit the beach on September 23th of 2022. Everyone has seen the direct aftermath of the hurricane, but after a few weeks, it is not talked about anymore. I am from Fort Myers, and many people do not know how badly this hurricane has impacted the whole town and how this damage still remains. The damage to my hometown is extreme. I went home at the end of January and walked down Fort Myers Beach and took pictures of how everything still looks. I was in shock myself when taking these pictures; I want to remind people of Ian's devastation.

ROBOTICS THAT MIMIC LIVING THINGS

Rhonda Smith
Faculty Sponsor: Dr. Renee Gordon

This project focuses on the future of robotics. Various robots exhibit animal or human-like forms. For instance, Atlas the walking robot and Spot the dog-like robot, were both created by Boston Dynamics. The programming languages C, C++, and python aid these devices to make split decisions on where to place their feet and other natural movements. It has taken two decades to reach this level, and there is still a long way to go to mirror what humans and other living things can do. In the future, robots will be greatly enhanced in motion, vision, speech, and overall daily tasks.

EFFICACY OF OPIOID USE DISORDER MEDICATIONS OVER TIME COMPARED TO CONTROLS

Jordan Swickley
Faculty Sponsor: Dr. Renee Gordon

This research poster will analyze the use of buprenorphine, buprenorphine/naloxone combination, methadone, naltrexone, and unmedicated abstinence for the treatment of opioid/opiate addiction. The United States greatly outranks almost any other country for the amount of opioids prescribed, the rate of misuse/abuse, and the number of people who go on to develop an Opioid Use Disorder (OUD). With 1,500 people dying each week from opioid related overdoses, it is clear that finding a method to control withdrawal and craving symptoms in those suffering from OUD is of paramount importance. This study will involve collecting publicly available statistical data related to the use of all four medications as well as the unmedicated control, and the rates of relapse over time, as well as the survival rates. Each of the four medication programs will be divided into short term (<6 months use before exit) and long-term use (≥6 months before exit).

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Believe it or not, this work was not carved from one piece of metal. I had to learn how to seamlessly connect two pieces to give the illusion of one. It was difficult, as the pieces kept separating when I was making the bail. The inspiration for this piece came from the idea of opposites colliding, of everything not being as it seemed, similar to how the piece appears to be one piece of metal. It's fire in a raindrop, with sparks floating up the water. The ombre with the oxidation was added to make the fire feel more alive and to give the piece more depth. The water drop comes smoothly down from the bail, where it drips from the necklace.

THE EFFECTS OF COGNITIVE AGING ON MEMORY PERFORMANCE

Cameron Tetreault
Faculty Sponsor: Dr. Gina O'Neal-Moffitt

The purpose of this study was to examine the effects of cognitive aging on memory performance. Everyone experiences changes in their cognitive ability as they age, and learning the effects of this cognitive aging on mental processes, such as memory, can lead to the implementation of strategies to counteract these effects. This study was completed through research of scientific studies that sought to compare the memory performance of different age groups. The findings of these studies were then compared and analyzed using known psychological concepts. This research found that the elderly have an lower overall memory performance than younger age groups, but showed significant improvement through use of specific memory techniques. This research also found a consistent improvement in the memory performance of children, suggesting they may have a form of developmental plasticity exclusive to children.

LITTLE THINGS BY ELIZABETH

Elizabeth Thomas
Faculty Sponsor: Julie Baroody

I have always loved the detail in small-scale art. Therefore, jumping on the opportunity this jewelry-making class provided was only natural. The guitar was inspired by my love of music. The bulk of my time for this piece was spent soldering the incredibly delicate frets in place. The micro die came from my love of board games. The hammered silver cube was quite challenging to make, getting each edge perpendicular to its neighbor. My love of insects inspired the butterfly ear cuff. Its wings are overlays of a hand-drawn pattern, each loop and circle carefully cut out and filed by hand.

THE ASSOCIATION BETWEEN EMOTION PROCESSING AND CHILDHOOD TRAUMA

Temi Thomas
Faculty Sponsor: Dr. Nick Vick

As people grow and develop, many life experiences can positively or negatively affect the emotions people go through. There are numerous factors that influence how these emotions are processed throughout one's lifetime. The way the mind subconsciously structures and configurates memories with a reactive feeling is the body's emotion processing system. Based on a child's upbringing, certain aspects can be very harmful to their attitudes and behavior later on in life. This may be an onset of the development of childhood trauma. Abuse and the particular environment in which someone is raised play crucial roles in the development of childhood trauma. The lamentable outcomes of these influences are mental health issues and social development problems. Such problems can be accompanied by both internal and external obstacles in a person's life.

HUMAN VS CHATGPT

Landon Tillman
Faculty Sponsor: Forster Agama

This survey's purpose is to record student responses when asked to read two essays, one written by a human, the other by an AI. The AI used is OpenAI's "ChatGPT" and was used to provide a biographical statement about the American physicist Richard Feynman. I am looking to see how students compare the two essays. Organized research on this topic is scarce, and so a study of this kind may reveal interesting data regarding this idea. The central question is which one would they turn in; they will not know one was written by an AI. The underlying idea is to see how students would rate the two essays when put into the perspective of a professor. The survey will be in the form of an open-ended questionnaire that will accompany the two essays. The participant goal is thirty people and will consider their gender, age group, and major.

COMPARING AND CONTRASTING AI AND PREDICTING WHAT THEIR FUTURE HOLDS

Lauren Trembley
Faculty Sponsor: Dr. Renee Gordon

The study investigates the current AI systems that are available in the world. We analyzed the systems and compared and contrasted them to each other, which allowed us to form our predictions of what AI could be. AI is important because it is being integrated into more of our technology as the years go by. Staying up to date or even ahead of what AI is capable of would allow us to utilize more of its benefits. We could also stop the potential risks that come with AI. For the project, we looked at scholarly articles and studies as well as videos about the latest AI available.

THE LEGACY OF JANE GOODALL

Erica Trombley
Faculty Sponsor: Dr. Nick Vick

This project investigates the renowned Jane Goodall, who is most famously known as the woman who studied chimpanzees. Goodall's work shows us the behaviors pf chimpanzees and how they relate to humans, who share common ancestors with these animals. Because I am interested in zoology, I find it fascinating how animals interact with humans that they trust, how they live in certain areas, and how they behave.

CAR DEPENDENCY AND THE AMERICAN SUBURB: A PROBLEMATIC HISTORY

Orchid Watkins
Faculty Sponsor: Dr. Amber Cresgy

This paper examines the history of car dependency and American suburbanism and solutions to the problems both have caused. Car dependency and American suburbanism impact almost every aspect of modern American life. This paper explores the rise of car culture in America and how it is inherently tied to both environmental and social racism. This paper is an analysis of three academic sources, supplemented with information from the U.S. Census Bureau, looking at the effects of car dependency and American suburbanism on the social and economic health of the United States. The analysis shows that while car dependency and American suburbanism negatively affect all Americans, Black Americans and other groups excluded from early forms of car culture are disproportionately affected. Fortunately, the analysis also shows that there are solutions in reach of most American cities.

THE INEVITABLE DECLINE OF COLLEGE STUDENTS' MENTAL HEALTH

Ashley Williams
Faculty Sponsor: Dr. Renee Gordon

This project will study the mental health of college students and why it is getting worse. Anxiety is the most common mental health disorder college students suffer with. Many colleges are not able to cater to this issue, leaving students to cope with their declining mental health struggles on their own. This leads to students dropping out or even developing depression due to all the stress from not only school but life in general. This study will lay out the statistics on the number of college students who develop mental health/anxiety problems in college and how many actually seek help for it. A solution for this problem and ways we can stop college students' mental health from decreasing will be provided as well.

Acknowledgements

The 2023 Symposium on Undergraduate Research is the capstone event for Tallahassee Community College's Undergraduate Research Program, which is now in its fifth year. Hosting an academic symposium is a significant undertaking, and it would not be possible without the dedicated work of the program's coordinators.

This symposium and all other activities of the Undergraduate Research Program are coordinated by TCC's Undergraduate Research Council, an interdisciplinary group of faculty and staff who volunteered their time and efforts toward making this year's symposium a success. A tremendous debt of gratitude is owed to them.

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