



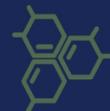
CABRINI
UNIVERSITY



MAY 4TH
ARTS ■ RESEARCH ■ SCHOLARSHIP

SYMPOSIUM

2021



ABSTRACT
BOOK

Fifteenth Annual
Arts, Research & Scholarship Symposium

Tuesday, May 4, 2021, 10am – 9pm

Livestream Online

Symposium Co-chairs:

Dr. Sheryl Fuller-Espie, Professor of Biology

Dr. Michelle Szpara, Professor of Education

Please note: Abstracts for both undergraduate and graduate posters and presentations can be viewed on-line at:

www.cabrini.edu/symposium

Undergraduate Submissions

Poster Sessions

Poster Session 1 – 10:00 am -11:00 am

Breakout room 1

- **Samuel Ullman -History and Political Science-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Darryl Mace
“A historiography of Reaganomics”
This project investigates the historiography of Reaganomics. The results will be available at the Symposium.
- **Aidan Meagher -History and Political Science-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Darryl Mace
“The Panama Canal: A cornerstone of American industrialization”
This project begs the question as to how the history of the panama canal, a controversial topic in American diplomacy, was written. It is important to understand the different perspectives and ideas that historians have written about this period in time to grasp the relations that the United States has developed with Latin America. Many books and articles have been read and reviewed, and the findings of these writings will be shown via a poster.
- **Morgan Rowland -History and Political Science-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Darryl Mace
“The 7 year war”
The Seven Years War was one of the most influential wars in history. The Seven Years War and its legacies showed a more complex and long-lasting effect on European countries and kingdoms. The conflict was a source of major reforms that encouraged movements of opposition to monarchical Europe. This project provides a deep dive into the social and political foundations of the conflict.
- **Marisa Linsky -History and Political Science-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Darryl Mace
“The historiography of the economic and social influences of the American Revolution”
The American Revolution is arguably one of the most significant events that has influenced American society as a whole. The effects of the Revolution can be seen to this day in the American political and economic systems. Historians have debated the underlying causes and goals of the Revolution for decades, however, it is undeniable that the impacts of the American Revolution are still incredibly relevant in current American society. It is imperative for society as a whole to understand the importance of the Revolution and how its results have forever affected the American way of life. The purpose of this presentation is to analyze how historians have studied the American Revolution and its impact on American politics, economics, and society. The research for this presentation was conducted through analyzing the works of renowned American Revolution historians and political scientists such as Bernard Bailyn, Gordon S. Wood, and John Selby.

- **Aaron Toepfer -History and Political Science-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Darryl Mace

"The Cold War"

The origins and impact of the Cold War remain a highly contested historical debate. Scholarly analyses range from policies of containment to American Imperialism. This presentation addresses past and present historical debates.

Breakout room 2

- **Ashley Vagnoni -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

"Crime-related television consumption and the belief in criminal justice myths"

With the growing popularity of crime-related television, it is important to study the influence that various crime-related shows may have on their viewers and their viewers' perceptions of the criminal justice system. The current study sought to evaluate the relationship between the consumption of crime-related television and the belief in myths that exist within the criminal justice system. This study built upon previous research that had predominately focused on the "CSI Effect," a phenomenon in which the viewing of crime and forensic based television shows affects the decisions made by jurors in a trial (Rhineberger-Dunn et al., 2017; Schweitzer & Saks, 2007). The current study, however, included various other myths in addition to the "CSI Effect," including the misrepresentation of the average case length, the underestimation of cases assigned to criminal justice personnel, and the overestimate of clearance rates (Barthe et al., 2013; Gustaferro, 2013). This study used quantitative research through the use of electronic surveys to collect data from 150 Cabrini University students in the Fall 2020 semester. Moreover, the researcher hypothesized that students that watched crime-related television on a regular basis were more likely to believe in the various crime myths that exist within the criminal justice system. Results show that there is not a significant relationship between the consumption of crime-related television and one's belief in myths that exist within the criminal justice system. Implications are addressed.

- **Emily Neiman -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

"The influence of media consumption on the perception of the Defund the Police Movement"

The murder of George Floyd on May 25, 2020 renewed national outcries for justice, drawing ever familiar parallels to the murders of other young Black men by police in the previous decades and dominated all media platforms. Beyond protests and demonstrations, however, George Floyd's murder galvanized a new proposal for criminal justice reform—the Defund the Police movement—which sparked heavily controversial debate surrounding the police and its funding. The Defund the Police movement can be understood through the lens of police legitimacy, which has come under public scrutiny as a result of increased funding and militarization and a strong history of police brutality. The transformation of mass media and the emergence of militant evidence allows media to play a significant role in the public's perceptions of not only the police, but also protest. Survey data collected from undergraduate students at Cabrini University is analyzed to understand the influence of media consumption on the perception of the Defund the Police movement. Results will be presented at the Fifteenth Annual Arts, Research & Scholarship Symposium.

- **Andrea Vito -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

“Effects of binge drinking among college students”

Binge drinking is defined as consuming five or more drinks for a males in a two-hour sitting and consuming four or more drinks in a two-hour sitting for females. Consuming this much alcohol consecutively tends to cause some uprising consequences such as problems in school, mental health issues, and alexithymia, which is the lack of focus or having a hard time connecting feelings and emotions. This quantitative research will be conducted using approximately one hundred-fifty undergraduate Cabrini University students through a survey to analyze whether binge drinking results in negative consequences, specifically alexithymia. Results will be presented at the Symposium.

- **Giuliana Primavera -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

“Binge drinking and the effects on academic success”

Researchers found that problems associated with binge drinking have increased among college students nationally in recent years (Martin et al., 2011). Binge drinking is classified as a pattern of consuming large quantities of alcohol in a relatively short period of time (McBride et al., 2014). Excessive alcohol use is associated with a number of negative consequences such as affecting academic performances and health problems. Moreover, there are many factors that can push college students to act out and start excessively consuming alcohol to the point where it affects the most important aspects of their lives. The purpose of this study is to examine the relationship between college students, binge drinking, and academic performance. This study analyzed primary quantitative data through the use of surveys distributed to Cabrini University students during the Spring 2021 semester. It was hypothesized that college students who binge drink will have lower test scores, spend less time on schoolwork, and will be more likely to skip classes. Full results will later be presented at the symposium.

- **Ashlee Hofner -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

“Stress and substance use”

Stress and substance use are both relatively normalized aspects of college life, especially in the United States. Past research connects the measures together, but does not discuss if there was any correlation and does not focus on gender as a possible factor. This study aims to examine the correlation between stress and substance use among college students, whilst focusing on gender as a factor as well. There is a possibility that stress is the cause of substance use in college students. The researcher is conducting a nonexperimental design of surveys that uses a non-probability availability sampling design among Cabrini University students. Results will be forthcoming at the symposium.

Breakout room 3

- **Luisanna Mora and Sofia Villegas-Psychology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Michael Corcoran

“Self-determination theory as a facilitator of life”

Self Determination Theory is a macro theory that can allow people to feel in control of the choices and decisions that they choose to make. The theory suggests that motivation is impacted by three psychological needs, autonomy, relatedness, and competence. The purpose of this study is to analyze how SDT plays out in different aspects of life, and also report an examination of how self-determination theory influences well-being and social development. We expect to find a higher influence on a personal level, which leads to the hypothesis that self-determination theory is a push factor for well-being and social development. In this study, the main goal is to see how college students are being impacted by the environment in which they

live or socialize. For this study, students will be participating in the subject pool in the Psychology department at Cabrini University. Participants first, were to complete the measures dealing with the larger survey, and then completed demographic measures. They will be given a survey divided into three sections and asked to answer based on a five-point scale (1= strongly agree, 2 = agree, 3 = neutral, 4 = disagree, 5 = strongly disagree) for every statement presented in each section of the survey. In section number III of the survey participants will be asked to answer based on their workplace experience/ life, if they do not work then they are directed to answer based on their academic experiences. Our predictions indicate that SDT will be more predominate at the personal level.

- **Kimberly Benge and Amanda Irizarry-Psychology-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Michael Corcoran

“Study of personality and video games”

This study examined the effects of violent videogames on introverted young adults and if it causes aggressive behavior. In many instances in the news when outgoing kids become quite and stay in their rooms paying video games. They then become obsessed and that leads to young individuals to pick up a weapons that their family members may have and use it to harm others. Undergraduate college freshman students were given 3 surveys that tested for introversion or extraversion personality, videogame preference and aggression.

Violent video games tend to be very aggressive, with the objective to hurt, destroy or kill someone or something to win the games. It is looked at through many emotions such as aggression, anger, hate, and power. College freshman in their late teens will also be surveyed to determine whether being introverted and playing violent video games can cause aggression and anger. Keywords: Violent, Video games, introversion, extroversion, college freshman, late teens

- **Theresa Gillespie -Psychology-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Michael Corcoran

“Affects of instructor attitude”

Throughout a student's academic life, they are exposed to a variety of teaching styles and instructors. Some Instructors might have a style of teaching that is more inviting for students, while other instructors might have a cooler demeanor while in the classroom. It might be assumed that a “warmer” instructor would have the more effective teaching method, but research has shown that other factors might play a larger role in how these instructors are perceived. Research has shown that the gender of the instructor and the gender of the student might play a role in classroom experiences. This study attempts to compare student reactions to both “colder” and “warmer” instructors that are both male and female, to see if gender has a contributing role in student’s experiences in the classroom. I predict this study’s results will indicate that “warmer” professors will have students will feel more comfortable and confident compared to the “cooler” professor’s students, with the warm female professor having the most positive scores overall.

- **De'Aja Gordon and Max Lenet-Psychology-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Michael Corcoran

“Peer pressure, emotions, and relationships”

According to previous research, we predict that higher life satisfaction will lead to higher subjective well-being; the greater autonomy support and less peer pressure is another possible predictor that results in higher needs of life satisfaction. Based on Ryan, R. M., & Deci, E. L., the Self Determination Theory proves how social context influences their motivation and personal development and the three basic needs, being true to their own values and desires. Seeing how these psychological needs are essential for one’s personal growth and mental health; It helps people come to actualize their “inherent potential.” The Basic Psychological Needs are fulfilled by friendships. We are using three different sets of survey questions and likert scales to distinguish between these three variables: Autonomy, Competence, and Relatedness. Also,

we are predicting that having positive influences of peer pressure eventually leads to better and healthier relationships. Positive and negative peer pressure changes people's outlook or perspectives on all types of relationships. We conducted a survey using the Cabrini Psychology students. This correlational study was conducted using a questionnaire involving how a person feels about their relationships and basic psychological needs, as well as their subjective well-being; we looked at subjective well being based on the results discovered from satisfaction with life, mood via PANAS, autonomy support. Our results will be revealed at the symposium.

- **Oumou Diakhite and Rasheeda Williams-Psychology-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Michael Corcoran

"Empathy and gender roles"

We created this study to see who is more empathetic; Men or women? We grew hearing that women are more emotional than men and that men are tougher than women. We are even taught that women are the more emotional ones. However, does this really determine who will be more empathetic? Probably not. In our study we also look at gender differences. We live in society where "gender norms" are no longer "gender norms". We believe that people based a lot of things on gender differences. In our modern society, there's women expressing male traits and men expressing female traits. We thought it would be interesting to see if gender differences had an impact on empathy. Also, it would be good to bring awareness to how much gender norms are changing in our society. In our society gender norms are affecting how many other people look at gender differences. Is it important to show others that everyone can achieve or be anything, female or male. Being empathic isn't just a female thing but even males can be empathic as well.

Breakout room 4

- **Aysiah Cintron, Brooke Palmer, Zanaia Brown, Taylor McCoy, Alexandra Tavani and Mack McKisson-Exercise Science and Health Promotion-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anjuli Gairola

"The effects of COVID-19 on the quality of education in college students at Cabrini University"

Over the past year, COVID-19 has made a large impact on many students day to day lives. Learning for all ages has changed from a face-to-face classroom setting to online learning. From the abrupt shift of how lectures are taught, some students may have found themselves not able to attend class from a lack of motivation. Grades overall may be decreasing from this lack of motivation to study and completion of schoolwork. There have been studies conducted about how COVID-19 has affected students in college, but this study will be used to identify the motivation level of students at Cabrini University. To test our hypothesis of how students have less motivation from the learning format switching to virtual, an online survey will be distributed to juniors and seniors from Cabrini University. These students will be asked to complete the survey anonymously so there are no potential biases.

- **Morgan Fazzini, Taylor Dimmerling, Austin Williams, Josh Cunningham and Dakota Bauer-Exercise Science and Health Promotion-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anjuli Gairola

"Cross-sectional examination between nicotine usage and major among Cabrini student athletes"

The purpose of this project is to better understand the level of engagement with nicotine use in different majors at Cabrini University, specifically amongst the athletes. This is important because all students should obtain an equal amount of information on the dangers, no matter the college major. Nicotine is extremely addictive and can decrease a student athlete's performance. Studying a health related major or not, the hazards of nicotine use should consistently be discussed. This will prevent a lack in education between different types of schooling.

- **Taylor McCoy -Exercise Science and Health Promotion-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Anjali Gairola

“Distinguishing athlete’s heart from hypertrophic cardiomyopathy”

Athlete’s heart is a term used to describe a heart muscle that has undergone physiological and anatomical changes resulting from aerobic training over a long period of time. Hypertrophic cardiomyopathy is a disease in which the heart muscle is physically enlarged and affects the way that the heart functions. These two entities have similar signs and symptoms, which can be difficult for health care providers to distinguish. The purpose of this project is to review the literature and explain ways that athlete’s heart and hypertrophic cardiomyopathy can be distinguished. Being able to identify when a subject simply has athlete’s heart versus hypertrophic cardiomyopathy can be lifesaving, so it is crucial for health care providers to understand the difference.

Breakout room 5

- **Anna Bauer -Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Anna Blice-Baum

“The use of plant models in developing recombinant proteins for potential HIV vaccines”

Recombinant proteins such as enzymes or antigens are manufactured from pre-existing proteins found bacteria that are altered to be used for multiple purposes. These include therapeutic treatments, medications, and components of some vaccines. In recent years, research has expanded into using recombinant proteins specifically for vaccines to prevent viral diseases such as Zika virus, Dengue virus, and HIV. One study wanted to successfully use tomatoes as a model organism to produce the C-C chemokine ligand 21 (CCL21) protein for potential therapeutic uses in cancer patients. Tomato plant leaves were infected with *Agrobacterium tumefaciens* containing the gene for CCL21 and then the protein was extracted from the leaves. Results showed that the tomato plants were able to express and produce a decent yield of the CCL21 protein. A second study looked into the effectiveness of recombinant HIV-1 gag and Dgp41 proteins expressed and produced in tobacco and lettuce plants. Like the first study, these plants were exposed to bacteria that possessed the genes for the desired proteins. The proteins were purified from the plants and then their immunogenicity was tested in mice. Anti-p24 antibodies were produced after 6 weeks showing that the proteins worked successfully to trigger an immune response against HIV. Based on the results of the studies, there is potential hope for a HIV vaccine in the future thanks to plant expression systems.

- **Kaila Wilkie -Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Anna Blice-Baum

“Gestational diabetes increases the risk of developing Type II diabetes in pregnant woman”

Women with gestational diabetes face the risk of developing Type II diabetes later in life. Gestational diabetes mellitus (GDM) is on the rise globally and many women are unaware of its prevalence and its effects. Women with GDM not only are at risk to develop type II diabetes but can also experience complications during and after birth: both fetal and maternal related. Women of minority race, low socioemotional status, over the age of 25 years, and a history of GDM or diabetes in their family are at high risk of developing GDM. Although the pathogenesis of GDM remains uncertain, physicians and researchers continually identify different techniques to prevent and treat this disease. Physicians and researchers also stress the importance of informing women about GDM and diabetes before, during, and after pregnancy.

- **Bianca Huertas Perez -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anna Blice-Baum

“The potential for natural medicine in the treatment of common symptoms of arthritis: effects and benefits on osteoarthritis rheumatoid arthritis”

Arthritis is the inflammation of one or more joints that causes pain in the affected areas, as well as stiffness that can worsen with age. There are more than 100 types of arthritis and related conditions, all types of arthritis share common features of the disease. The most common symptoms include swelling, pain, stiffness, and decreased range of motion. Although there are several factors that can increase the risk of each type of arthritis the most common underlying causes are the excess of activity, weather, already existent medical causes, stress, and the type of food consumed. While arthritis has no current cure, there are several available treatments. These treatments aid with relieving pain and decreasing inflammation but the majority are synthetic treatments that have side effects and some disadvantages to them. The focus of this thesis is to research available natural alternatives in the treatment of the most common types of arthritis: Rheumatoid and Osteoarthritis. Herbs and several other natural alternatives provide non-invasive therapy that can be used directly towards aiding the body's own healing process. This paper's main purpose is to show how natural medicine is a mean to provide more accessible and holistic treatments to individuals and communities that suffer from arthritis and its different forms considering the lack of specific treatment or cure for the disease.

- **Amoleen Nammah -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anna Blice-Baum

“The different types of sickle cell disease (SCD) and treatments to help manage symptoms/complications”

The purpose of this thesis research is to investigate the different types of Sickle Cell Disease (SCD) and the treatments to help manage symptoms/complications. Sickle Cell Disease is a hematologic blood disorder having a high morbidity and mortality. This autosomal recessive heritable disease is due to a mutation in the hemoglobin (Hb) found in red blood cells. The mutated hemoglobin polymerizes causing a clot which prevents red blood cells with normal hemoglobin from transporting oxygen throughout the body. Symptoms and complications vary depending on the type of SCD the patient has been diagnosed with. There is no curable treatment for SCD except a blood and bone marrow transplant for some patients which requires a well matched Human Leukocytes Antigen (HLA) donor for a successful transplant. Other medications and drug therapy are recommended to patients to help reduce the severity of the disease. In this research, the effect and outcome of hydroxyurea therapy, therapeutic hemoglobin levels and bone marrow transplant in SCD patients will be discussed.

- **Hunter Steelman -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anna Blice-Baum

“The side effects of mental disorder on oral health”

There is a close connection between the health of the human body and the human mind. Many people that have a mental illness also suffer from a poor oral health. Mental illness affects the oral health in many direct and indirect ways. For example, anxiety and depression may cause those experiencing mental illness to suffer from dental phobia. Selective Serotonin reuptake inhibitors (SSRIs) used to treat depressive disorders and common mental health issues like bulimia; have drastic side effects that hinder physiological processes such as saliva secretion and production. The thesis herein looks to prove the connection between the oral health and mental health of individuals who experience a wide-range of mental illnesses. The peer-reviewed sources and journal articles chosen, focus on the side-effects of SSRIs and assesses the oral health care capacity and awareness of the mentally-ill. The results of this thesis show that xerostomia and jaw-bone degradation are two of the major side effects of SSRIs on oral health. The review also proves the poor oral health of the mentally-ill through direct assessment. The thesis underlies the necessity for more thorough dedicated oral health care for those experiencing mental illnesses and using prescribed SSRIs.

Breakout room 6

- **Mason Bennetch -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Joseph Smith

“Examining the physiological effects of fluoride in water on oral and bodily health”

Fluoride is a key component found in water supplies for communities all over the world. Its main purpose in water is to help reduce a person’s chances of experiencing dental decay. The issue that has arisen from adding fluoride ions to drinking water is trying to determine whether or not the benefits it provides to people outweigh the costs if it is administered in improper amounts. This research paper is broken up into an introduction, three subtopics, and a conclusion to aid in separating the key ideas from one another for a clearer understanding of the overall thesis. The first subtopic focuses on the effectiveness of fluoride as a way to help prevent dental decay and improve a person’s health. The next subtopic examines the adverse effects of too little or too much fluoride on an individual’s health. The third subtopic considers if there is an optimal amount of fluoride that should be included for everyone and looks at various fluoride removal methods as well. In the conclusion, after examining all the investigations presented, it was determined that fluoride should be incorporated into community water supplies with a recommended optimal concentration limit set at 1 mg/L. When considering the effects fluoride can have at varying concentrations, 1 mg/L would ensure that people are as safe as possible from developing fluorosis, while also ingesting enough fluoride to reduce their chances of dental decay. Future research directions on how water fluoridation can be further investigated are also provided.

- **Heaven Daye-Jackson -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Joseph Smith

“The use of oncolytic virus therapy as an innovative immunotherapy to combat carcinogenesis progression”

Cancer is defined as uncontrollable cell proliferation. It is one of the leading causes of death worldwide and is estimated to cause over 600,000 deaths in 2022. Most cancer cases are associated with DNA damage which could be caused by endogenous or exogenous factors. Common treatments for cancer is chemotherapy, excision of the tumor, and radiation. However, many of these treatments have severe side effects such as hair loss and anemia. Moreover, the tumor microenvironment (TME) can become chemoresistance making common treatments ineffective against stopping tumor formation. Targeted therapies such as anti-cancer oncolytic virus (OV) therapy, is a new approach in treating cancer more effectively by specifically targeting the cancer cells. OV therapy is a form of virotherapy that uses a genetically engineered virus to specifically target cancer cells while leaving healthy cells relatively undamaged. Several different viruses have been engineered such as the reoviruses and new castle disease virus to treat melanoma and end stage ovarian cancer respectively. OV therapy has several different advantages such as a high selectivity, little to no side effects, high therapeutic index, an ability to activate the immune system, and cause quicker excretion of tumor cell product out of the body. Cancer continues to be a huge issue worldwide and research needs to be continued to provide safe and effective methods to detect, treat, and diagnose this disease. OV therapy is the next step in providing a higher quality of care for cancer patients by eradicating tumors and preventing cancer recurrence in patients.

- **Zachary Martinez -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Joseph Smith

“CAR T cell manufacturing, killing action, and applications in cancer therapy”

Chimeric antigen receptor T cell therapy (CAR T Cell) is a revolutionary form of cancer therapy that reprograms the patients own T cell population to express receptors on the surface of their cells to specifically target and attack cancerous cells only. The manufacturing of CAR T cells can occur in multiple different ways, such as the use of CRISPR-CAS9 technology, paramagnetic beads to allow for the automation of this process, as well as the use of lentiviral vectors. The genetic manipulation allows for the placement of single chain variable fragment (scFv) onto the surface of the T cells and allows T cells to

recognize specific cancer cell antigens based on the type of cancer a patient has. This however has some limitations as this form of therapy is only FDA approved for B cell malignancies. Another limitation that will be researched is the inability of this therapy to destroy solid tumors due to the immunosuppression seen within the tumor microenvironment as well as what causes this immunosuppression. Along with this, serial killing activity of CAR T cells will also be researched via time-lapse microscopy. Currently, CAR T cell therapy is only utilized within B cell malignancies. However, research has shown there are different methods that can be utilized to allow for this therapy in both lung and breast cancer, as well as other cancers as well and these will also be explored. Results of this study will be available at the Symposium.

- **Egypt Edwards -Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Joseph Smith

“Investigating popular ingredients common in mineral and chemical sunscreens to evaluate their effects on coral bleaching”

An environmental issue is negatively affecting the coral reef population due to harmful UV filters in sunscreens. This paper investigates the harmful outcomes with certain ingredients in both chemical and mineral sunscreens to further prove that oxybenzone, other chemical UV filters (such as avobenzene, octocrylene, homosalate, octisalate, and octinoxate), and nano mineral UV filters (such as zinc oxide and titanium dioxide). First, this research covers the debate between chemical and mineral sunscreens, their impact on both human health and coral bleaching. Then, the importance of coral reefs and how coral bleaching affects our environment. The chemistry, the use in chemical sunscreens, and causes coral bleaching are investigated to prove that products with oxybenzone and other chemical filters should be open to reformulation. The chemistry, the use of mineral sunscreens, and its impact on coral health further suggest that non-nano mineral sunscreens are better for both the coral reef populations and human health as well. Our results suggest that nano mineral sunscreens and chemical UV filters (oxybenzone, etc.) exacerbate the effects of coral bleaching. Nano mineral filters are said to be toxic to corals based on their particle size and chemical UV filters are considered “endocrine disruptors”. This opens a conversation on whether these toxic ingredients are up for discussion on reformulations and/or banning.

- **Viola Varfley -Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Joseph Smith

“Psoriasis: complications, treatments, and impact on well-being”

Psoriasis is a continuous autoimmune skin disease that results in moderate to severe inflammation, patches, or scaliness of the skin and joints. Psoriasis arises due to the accidental activation of T cells. T lymphocytes (T cells) are a type of white blood cells that aid in the immune response to foreign invaders as well as produces cytokines. In the case of psoriasis, this process is sped up, the immune cells in your blood incorrectly recognize these new skin cells as unwanted invaders and attack them. This attack leads to the overgrowth of new skin cells beneath the surface of your skin. These new skin cells force out the existing skin cells and cause inflammation. There are five forms of psoriasis, plaque psoriasis, guttate psoriasis, pustular psoriasis, inverse psoriasis, and erythrodermic psoriasis. Psoriasis affects millions of adults and children worldwide. It can negatively impact those affected physically, emotionally, and psychologically. Significantly, psoriasis may be genetically linked or inherited, however, the disease can abruptly develop at any given time or age. This thesis presents an intensive review on the comorbidities and complications associated with psoriasis, cutting-edge research on current and emerging treatments, and the impacts on the wellbeing of those affected.

Poster Session 2 – 11:00 am -12:00 pm

Breakout room 1

- **Thomas Trucksess -Communications-School of Business, Arts and Media**

Faculty Sponsor-Dr. John Cordes

“Current satisfaction of US affairs”

For my survey, I wanted to gauge the current perceptions and attitudes of how we as a nation, view our current affairs. Through conducting my survey, I am seeking the overall perceptions on multiple issues we currently face. Some of the included issues, are of immigration, the economy and race. I developed my survey, by conducting research on various websites. This includes news websites to first get a feel of the most pressing social issues, our country currently faces. Next, I researched several scholarly sources using our own library's database. The test itself, I created and through meetings with my communications professor, Dr. John Cordes, we were able to make necessary revisions. The results of this survey are not yet available, but will be at the time of the symposium.

- **Giovanna Marrollo -Communications-School of Business, Arts and Media**

Faculty Sponsor-Dr. John Cordes

“Facing social media with depression”

The purpose of this project is to show how much social media is affecting people with depression. This project is important to me because it recently has come to my attention that I get sad while on social media. I am comparing myself to others. We live in a world where everybody wants to be someone else other than themselves, so they go on social media and live through others. Ever since COVID-19 people have spent more time on social media because they are not allowed to go anywhere. In order to measure how others may be affected, this research project fields a twelve question survey that is distributed through snowball sampling on Survey Monkey. Questions are included about personal feelings when accessing as well as posting on social media as well as self-measures of emotional states and essential demographic characteristics. Final analysis of the data will be presented at the May Symposium.

- **Brandon Loner -Communications-School of Business, Arts and Media**

Faculty Sponsor-Dr. John Cordes

“Studying students opinions about Cabrini”

I want to know what students think about Cabrini. What they like, what they don't like, and what they want to change about it. I will be fielding a survey with both closed-ended and open-ended questions including rating questions for students' opinions about specific characteristics of Cabrini as well as soliciting their opinions about the University in some of its many facets. The survey will be distributed electronically using snowball sampling. Analysis of results will be available at the May Symposium.

- **David Pacholick -Communications-School of Business, Arts and Media**

Faculty Sponsor-Dr. John Cordes

“Climate change option survey”

Climate change has become a conversation that has shifted from science to political views in the years coming. However, do people genuinely believe their genuine stances on the topic? This survey was created as a way for participants to provide their anonymous opinion on climate change in a politically free environment. The survey will be administered through a snowball sampling and take approximately ten minutes to complete. Final results and analysis will be presented at the May Symposium.

Breakout room 2

- **Erica Leinhauser -History and Political Science-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Darryl Mace

"Anne Boleyn"

Throughout history there have always been questions surrounding the role women play in positions of power. One of the most famous, being Anne Boleyn. Throughout the course of my research I look at several different portrayals of Queen Anne, to try and discover the truth about her. Was she trying to secure power for her family through the King, or was the King so desperate to have her as a mistress he blackmailed her into it? Queen for 1,000 days, she eventually fell from grace, and was executed surrounded by scandal. Does the scandal have any basis, or did the King become bored with her and need to get rid of her? The results of my research will be presented at the Symposium.

- **Nicholas Florczak -History and Political Science-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Darryl Mace

"An examination of the Holocaust and popular culture"

This historiographical project will discuss the people that were oppressed by the Nazi's brutality during WWII and how popular culture has examined the Holocaust through filmmaking and video game lenses. The importance of this study is to display the sometimes romanticized or poorly depicted scenarios of the Holocaust and why video games would want to delve into or even reference the Holocaust. Film and video game examinations, as well as journals and the texts "Night" by Elie Wiesel and some portions of "Man's Search for Meaning" by Viktor Frankl were used in order to acquire the data for this study.

- **Michael McShane -History and Political Science-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Darryl Mace

"Malcolm X: Interrogating historiographic legacy"

This presentation will interrogate the historiographic legacy of Malcolm X, examining the arguments of various sources aimed at unfolding Malcolm's icon. By putting the research perspectives of various scholars into dialogue, a multi-faceted look at the historiography of Malcolm will be formed, constantly questioning the historic role Malcolm has played and searching for both cohesion and contention in his historic legacy. In order to achieve these ends, a variety of perspectives will be explored, which will include: Malcolm's religious life; his greater legacy in Black Studies and black liberation; his relationship with other black figures in Civil Rights, such as Martin Luther King, Jr., and Elijah Muhammad; the impression Malcolm left on a masculine, black nationalism; and other potential viewpoints. Ultimately, this presentation derives from the renewed importance of addressing Malcolm's character in a contemporary setting, where Malcolm's icon and ideologies have continued to grow in response to systematic racism and related oppression. The results of this research will not be molded into a grander narrative that attempts to simplify Malcolm's legacy; rather, the dialogue of this legacy will be elaborated, with historiographic conclusions available at the Arts, Research & Scholarship Symposium.

- **Kelly Martin -History and Political Science-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Darryl Mace

"Fashion"

The purpose of this project is to examine the way fashion, the art of clothing, has been reported on historically. Fashion is an influential part of human culture and society, shaping the way we see ourselves and others. Various sources will be analyzed, compared and contrasted, and otherwise discussed for how they speak on the topic. Results will be available at the Symposium.

- **Connor Warwick -History and Political Science-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Darryl Mace

"Historiography of Revolutionary War spies"

This presentation will explore the importance of spies and the intelligence unit for the Continental army during the revolutionary war. The first spy ring in American history, the Culper ring, made up of undercover patriots in the northern colonies, played a pivotal role in the Continental armies victory in the revolutionary war. This presentation will look at different sources and compare the different ideas as to how this spy ring was formed, how they operated, the methods they used, and exactly what role they played in the war. Through the different sources, I have found that this group of spies played a larger part in the American victory than almost anybody else, at the symposium there will be more details and examples as to why experts believe this to be true about the Culper spy ring.

Breakout room 3

- **Liam Petry -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

"Stress, substance abuse, race, gun control"

Perceptions of gun control have varied throughout the years depending on one's background, including their political party, gender and college major. It is believed that men, conservatives, and criminology major can affect one's opinions on gun control. It's important to explore opinions on this topic because this is a very divided issue right now in the United States. Predictors of gun control opinions will be tested by surveying students at Cabrini University in the spring semester. Results will be presented at the symposium.

- **Andrea Rusli -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

"Race and friends: Perception of ethnic groups through intergroup friendships"

During the novel pandemic of COVID-19, there has been a significant growth in anti-Asian hate crimes. Coupled with the existing discrimination and ignorance in the United States, it is the perfect recipe for racial tension and division among ethnic minorities. Through understanding historical and environmental factors, dominative and aversive racism, and race and ethnicity, this research seeks to find the relationship between positive intergroup contact and its effects on perceptions on ethnic groups. The premise of intergroup contact theory bears the idea that prejudice can be reduced most effectively in intergroup friendships marked by four conditions: common goal, intergroup status, intergroup cooperation, and support from authorities. Using non-probability available sampling methods, surveys are administered to analyze intergroup contact and intergroup contact attitudes. Results will be shared at the Symposium.

- **Quinza Thurmond -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

"Perceptions of punitiveness on mass incarceration"

The United States Criminal Justice System has continuously been under question regarding its excessively high mass incarceration rates. This punitive punishment has had devastating impacts on minorities. The purpose of this research is to identify a relationship between students' political orientation and college major and whether they affect students' views on punitive punishment. The research is guided by its theoretical orientation focusing on how the Jim Crow Era has led to today's form of mass incarceration and the historical patterns that have led to today's views on punitiveness. An online availability sampling was used to distribute a survey to Cabrini University students during the spring 2021 semester. Results will be available at the Symposium.

- **Angeline McGonigle-Mellace -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

“Stigma, drug addiction, and treatment”

This study focuses on the stigma surrounding drug addiction and addiction treatment. Drug addiction has been a problem in the United States for decades. As a result, stigma and stereotypes of both drug addicts and their treatment has emerged. Two forms of stigma that are most common in these circumstances include stigmatization of users and perceived public stigma. U.S. society promotes stigma among this group and researchers are currently questioning whether it is beneficial or not to addicts and their treatment. To assess this question, surveys will be distributed to Cabrini University students in the spring 2021 semester using non-probability, availability sampling methods. Results will be presented at the symposium.

- **Hannah Dalton -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

“Underage drinking among college athletes”

This study aims to identify the relationship between college athletic status and underage drinking. The goal is to determine whether college students who participate in college-sanctioned sports (intercollegiate/varsity and intramural/club sports alike) are more or less inclined to engage in underage drinking than nonathletes. This study will survey approximately 150 undergraduate students who attend Cabrini University. The hypothesis for the current study is that student-athletes are more likely to engage in underage drinking than nonathletes. The results will be presented at the symposium.

Breakout room 4

- **Tyrone Tillman, Michelle Brzoska, Megan Martinez and Daniella Barletta-Psychology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Michael Corcoran

“Social media and self-esteem”

Does social media decrease self-esteem? Throughout previous studies, data shows that social media sites do have a negative effect on self-esteem. Social networking sites (SNS's) such as Facebook, Twitter, Instagram, and Snapchat have led to an impact on self-esteem. In this study, we focus on Tik-Tok, a social networking site that has become more popular. The World Health Organization (WHO) declared coronavirus a pandemic on March 11th, 2020. Following the pandemic, the social networking site, Tik-Tok, led to an increase in usage. To examine whether this increase in Tik-Tok usage led to a decrease in self-esteem, we gathered participants to conduct a study. Our sample included students from Cabrini University who are currently enrolled in a psychology course. In our research, we had participants complete a questionnaire regarding the frequency of social media. To assess the frequency, our participants completed a modified “addiction scale” that measures addiction symptoms, such as salience, mood modification, tolerance, withdrawal, conflict, and relapse. It was measured on a 5-point Likert scale. The scale ranged from very rarely to very often. We compared different social networking sites to examine how often participants use Tik-Tok. After completing the questionnaire, participants completed Rosenberg’s self-esteem scale. The scale measured both positive and negative feelings about oneself. It was measured on a 4-point Likert scale. The scale ranged from strongly disagree to agree strongly. We predicted that the use of Tik-Tok would decrease self-esteem. We believe that social networking sites do lead to an impact on self-esteem, specifically negatively.

- **Nuresebah Alkadir, Angelique Lewis and Monae Small-Psychology-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Michael Corcoran

“Instagram usage among college students”

Over the past ten years, social media has become an integral side of modern society. Self-esteem is what we think of ourselves. When it is positive, we have confidence and self-respect. We are content with ourselves and our abilities, in who we are and our competence. Self-esteem is relatively stable and enduring, though it can fluctuate. Healthy self-esteem makes us resilient and hopeful about life. Self-esteem affects not only what we think, but also how we feel and behave. Our research will target women from freshman to senior year on a survey based on how much time spent on social media (specifically Instagram). Regardless of the growth Instagram is receiving, the researchers remain divided regarding the potential impacts of social media, particularly regarding photo-based platforms. It considerably affects events in our life, including our relationships, our work, and goals, and how we care for ourselves and our children. Sometimes social media can alter the way individuals see themselves. This paper discusses exactly how college women are mainly affected during the years of being in college and sought to analyze the relationship between Instagram usage, a photo-based social networking site, and its subsequent effects on user self-esteem.

- **Paige Marquez, Amber Seaman and Alexis Partridge-Psychology-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Michael Corcoran

“Music types and their effects on mood”

Music has numerous influences on an individual. The trend for music use depends on a person's well-being. A listener can use music to cope with certain feelings such as anxiety or stress. The most common music genres listen to are sad, happy, and calm. Research has shown that music genres can enhance moods and emotions positively or negatively. The beneficial aspect of music is it can improve mood or maintain a positive one. The negative use of music can be harmful, but studies have confirmed that it can be alleviating for some. The study will explore the three genres and the influences on an individual's mood and well-being. Participants will be from the psychology courses and social media. The experiment will be to listen to one song from the three genres and determine if their mood changed. We predict that the songs from the three music genres can induce moods to change however it depends on the psychological well-being of oneself. The results of this experiment will be available at the Symposium.

Keywords: music, genre, mood, well-being, influence

Breakout room 5

- **Alexandra Tavani -Exercise Science and Health Promotion-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Anjuli Gairola

“Lipid enzyme breakdown in the brain – Tay Sachs”

Tay Sachs is a genetic disease that causes lipid or fat build up in the brain. The buildup of this fat is caused by the absence of specific enzymes to break down lipids. There is no cure at the moment, but there are studies happening currently. Scientist have discovered that the HEXA gene is the cause for this genetic mutation. Scientist have also done sequencing in individuals with the disease and found that there is a homozygous nonsense mutation. This means that a specific protein is being change, which causes it to no longer function. Throughout these studies, scientist discovered enzymes and proteins that breakdown fats. With this information, it allows scientist to try and relate how these enzymes and proteins could work in the brain. The findings of this information have led to gene therapies, some scientists are even close to clinical trials. While there is still no cure, the hope is to find things that will slow the progression of the disease, which will one day lead to a cure.

- **Wyatt Fleck and Conlin Graft-Exercise Science and Health Promotion-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anjali Gairola

“Effects of blood doping on human performance and detection of illegal doping in sport”

This research includes an investigation and compilation of multiple professionally published articles pertaining to the practice of blood doping and other performance enhancing drugs. Discussions include defining and expanding on the multiple methods through which blood doping is performed, as well as the benefits and potential dangers of these practices. Descriptions of the development of organizations made to prevent illegal blood doping in sport, as well as how this prevention is being carried out are also included.

- **Taylor Dimmerling -Exercise Science and Health Promotion-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anjali Gairola

“The effects of the types of fat on the cardiovascular system”

Nutrition information is continually being evolved which leads to great confusion in consumers. In the past, there was miscommunication between scientists and the public about the role of dietary fat in a healthy diet. Fat seemed to always get a bad reputation because of the fear that fat will cause weight gain. This myth is actually far from the truth as it will be discussed as to why fat is a necessity in a person’s diet and how not all fat is of concern. There are four different types of fat, and each has a specific effect on the body. There have been many studies that researched the effect of fat has on a person’s health, in particular, cardiovascular health.

- **Mack McKisson and Jonathan Baker-Exercise Science and Health Promotion-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anjali Gairola

“The effect of resistance training of cardiovascular improvements in obese individuals”

This study was conducted to see the effects of resistance training on cardiovascular improvements. This is an important study because cardiovascular disease is the number one killer in America and resistance training is a very important aspect of exercise. Through the research conducted in this study, we were able to find results that showed a positive correlation between resistance training and improvements in cardiovascular health. Studies included research groups who went through different exercise programs including resistance training and aerobic training. It was found that both are important in improving cardiovascular health, but resistance training had an increased influence in improving LDL levels by decreasing them. Along with the other studies examined throughout this research, it was found that having resistance training added to an exercise program led to better cardiovascular health compared to when an exercise program only had aerobic exercises. This is an important finding because some people are unable to complete aerobic exercises due to contraindications, while resistance training can be more specialized and accommodate people unable to complete aerobic activities.

- **Joshua Cunningham and Drew Swire-Exercise Science and Health Promotion-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anjali Gairola

“Effects of smoking on metabolism”

It is recorded that smoking causes more deaths in the United States of America than the deaths of Human immunodeficiency virus (HIV), Illegal drug use, Alcohol use, Motor vehicle injuries, and Firearm-related incidents combined. With those types of numbers, it is no wonder that around 16 million Americans are currently living with a disease caused by smoking. Sadly, even Secondhand smoking causes around 41,000 deaths in adults, along with 400 deaths of infants each year. (cdc.gov) The effect of smoking on one’s metabolic capacities is linked to multiple physiological adaptations such as hormonal insensitivities or high

blood pressure. Metabolism is the body's chemical processes that need to occur when dealing with everyday living. It is regularly thought to be how fast someone burns off their food, but it is much more than that. When something goes wrong with the body's metabolism, it is often called metabolic syndrome. A metabolic syndrome is something such as high blood pressure, high cholesterol, and high blood sugar which have many types of risk factors that can affect your metabolic capabilities. If not treated properly, these syndromes can lead to heart disease, stroke, and diabetes. The relationship between smoking and metabolic syndrome has been a heavily documented topic and within these studies, continues to provide concrete evidence of the major risks involved with smoking. We chose to research this topic because of how many young adults are currently smoking. With the recent addition of electric cigarettes, addiction is easier than ever.

Breakout room 6

- **Deanna Wyche -Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Anna Blice-Baum

"Investigating the link between childhood obesity and type 2 diabetes"

In the United States, the current general rise in the prevalence of obesity among children is becoming increasingly concerning. While obesity is a concern among all pediatric populations, the risk is not the same for all children. Despite the general downward trend for obesity in populations with high socioeconomic status (SES), this is not the case for communities of low SES, where its incidence is still rising. This is significant not only due to the health implications of obesity alone but also because of its relation to increased type 2 diabetes (T2D) development. By further understanding the link between obesity and T2D, there is hope for lessening their impact on the physical and psychosocial health of children. Current research is focused on not only understanding these disorders but also on creating new and more effective prevention and treatment methods. By tackling and reducing obesity, researchers believe they can also decrease T2D development within pediatric populations.

- **Maria Khan -Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Anna Blice-Baum

"Atrial fibrillation patients with hypertrophic cardiomyopathy"

Recent studies have shown an increase in cardiovascular diseases and most commonly Hypertrophic cardiomyopathy (HCM) in both genders. HCM is the most recognized inheritable hereditary cardiomyopathy and is known to be a significant reason for cardiovascular morbidity and mortality across all ages. HCM has shown in population prevalence of up to 0.2%, or 1 in 500 persons. Some mutations are caused by genetic code such as sarcomere proteins which provides an indication that HCM is heterogeneous. MYH7(β -myosin heavy chain) and MYBPC3 (myosin-binding protein C) are the two most common genes, and the combination is liable for roughly 50% of the patients with familial HCM. MYH7(β -myosin heavy chain) and MYBPC3 (myosin-binding protein C). Other abnormalities include sudden death and arrhythmias. The most common arrhythmia in HCM is Atrial Fibrillation (AFib) which is responsible for worsening symptoms and leading to complications like stroke and heart failure. Hemodynamic factors, for example, left ventricular (LV) outflow obstruction and diastolic dysfunction are viewed as the early indications to prompting a reformist left atrial extension and resulting in AFib. Other factors include ischemia leading to mitral regurgitation and diastolic dysfunction leading to LVEDP, LVOT, mitral valve abnormalities all lead to the enlargement and dysfunction of LA. This topic is extremely vital to study because as it is a common disease affecting people, especially elders. In this paper, I explain the different types of treatments and factors that can lead to AFIB in patients with HCM.

- **Sophia Scarpone -Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Anna Blice-Baum

“Fluoride’s adverse effect among various organs within the human body”

The use of the trace element, fluoride, has been synthesized and used within drinking water, food supplies, and dental care products since the early 19th century in the United States. Fluoride ingestion has been linked to dental alterations, neurological development and bone formation deficiencies due to its interactions with the skeletal, central nervous system, and the digestive tract. Fluoride possesses the ability to accumulate within the brain, more specifically the pineal gland. Once accessing the pineal gland, it can affect an individual’s sleep patterns and sleep duration since fluoride is able to influence melatonin output. In addition, fluoride intake can affect the cognitive and behavior functions, such as decreased learning ability, memory impairment, and behavior abnormalities. Development of inflammation of the neurons, oxidative stress and degradation of neurons can be observed within rat’s brains displaying the changes to neurological functions and mechanisms. Fluoride can influence the formation of bone, by altering the bone cells, mineral and architecture. Some populations are more sensitive than others to fluoride ingestion and may code genetically for metabolic bone diseases, such as osteopenia, osteoporosis, and osteosarcoma. Earlier detection of each bone disease is becoming more precise in recent years. Finally, fluoride is linked to the development of caries reduction and can later result in dental fluorosis. The severity of the formation and the risk factors depends on the individual’s genetics. In conclusion, fluoride negatively influences systems within the human body, specifically the skeletal, central nervous, and digestive system.

- **Saralyn Taylor -Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Anna Blice-Baum

“Genetic predisposition and risk factor for bipolar disorder”

Bipolar disorder is a complex psychological disorder which strongly effects the mood and behavior of patients. The complexity of this disorder has been a popular topic of recent research and has been acknowledged in the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) where the sub-types of the disorder have become established. Like all mental disorders, scientists set out to determine its cause. Perhaps the most asked question regarding bipolar disorder is whether or not it is genetic, and the answer to that question isn’t as simple as just “yes” or “no”. In the following research, the topic of genes and heredity, brain circuits, and treatment options for bipolar disorder were studied in an attempt to determine its inheritance rate. Prior studies have isolated and defined many genes and specifically gene mutations which can be attributed to bipolar disorder. Single-nucleotide polymorphisms have been found to be the center of most genome studies regarding bipolar disorder. Interestingly, it was also discovered that some core hub genes which are found in bipolar patients are all involved in the brain functions in which the disorder most commonly effects. The brain circuits which bipolar disorder has an effect on seem to be an inevitable fate which is very similar across all patients (most within the same sub-type). Familial bipolar disorder shows similar presentation in parents as it does offspring. When it comes to treatment options, family therapy has the most substantial effect on patients and drug treatments such as mood stabilizers are also very commonly used along with the psychological treatments. Studying the heredity of bipolar disorder could help us to better prepare for bipolar offspring and the knowledge that we have about treatment options can potentially allow us to form treatment plans for this disorder which start at a younger age than it is typically even diagnosed. Having these abilities would reduce the number of negative effects from this disorder provoking young, undiagnosed patients.

Breakout room 7

- **Mark Martin -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Joseph Smith

“The unmet goal in ophthalmology: Posterior capsule opacification, the challenges caused by abnormal cellular response and new treatment options”

Cataracts causes vision impairment due to crystallin proteins misfolding within the lens which forms a cloudiness area. This is the leading cost of blindness and currently the only treatment is cataract surgery which is the most common ophthalmic procedure in the world, but complications may occur. The most common complication is Posterior Capsule Opacification (PCO) which is a multifactorial physiological consequence of cataract surgery that causes a “secondary” cataract which impairs the vision again. It is common to both adults and children and can occur as soon as a month and years later after surgery. When PCO does occurs, wrinkles found on the lens capsule of the eye are visible and causes light to scatter which make patients sensitive to light, blurry vision, and difficulty in the perception of colors. The cause of PCO is still unclear but it is believed to be caused by an abnormal cellular response from cataract surgery. The assessment of what results in PCO was observed in multiple studies to find the root cause. Currently, the only treatment option for PCO is another surgical procedure called Nd:YAG laser to clear the lens but there are complications with this procedure and not optimal because of the risk of a third cataract or proliferation of PCO reoccurring. Through clinical trials and studies new treatment options can become readily available to possibly help cure or reduce the occurrence of PCO after cataract surgery. Correction of vision or full treatment of PCO is the unmet goal in ophthalmology.

- **Klaudia Walewska -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Joseph Smith

“The effects of temozolomide resistance on glioblastoma multiforme”

Glioblastoma multiforme is a malignant brain cancer with a poor prognosis. TMZ is the current treatment drug for this type of cancer, however, resistance to TMZ is the number one cause for treatment failure. Key factors such as MGMT expression, differentially expressed proteins, glioblastoma multiform CSC and the histone demethylase KDM5A have been identified in relation to TMZ resistance. Various studies have found that overall survival, OS, is increased by 8-10 months when radiotherapy is used in conjunction to surgery. Another study showed that survival for radiotherapy only was 12.1 months and for radiotherapy with TMZ it was 14.6 months, while a TMZ specific study showed OS for patients with less than 7 TMZ cycles to be 20.6 months and the survival for those who had more than 6 cycles of TMZ to be 47.0 months. OS was also higher in the patients with mild leukopenia than those without it. Further research is necessary in order to reach significant results for the complications of erectile dysfunction in long-term TMZ users as the study discussed could not prove significant differences in semen quality. Nonetheless, another evaluated study suggested that survival chances have increased throughout the years, indicating that current treatment research is improving the chance of survival. In conclusion, although there are many studies completed on the effects of temozolomide on glioblastoma patients, further research is required in order to continue to search for the explanation of the resistance.

- **Riddhiben Parmar -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Joseph Smith

“Polycystic ovarian syndrome (PCOS) and its long-term health complications on females”

Polycystic Ovarian Syndrome is commonly known as PCOS, which is an imbalance of the reproductive hormones of a female. This chronic condition comes with physical and mental symptoms that can take a toll on some female’s life. The way females get PCOS is still unknown, but many factors play a role. Some factors are genetics, sedentary lifestyle, sleep disruptions, insulin resistance, or imbalance of hormones called androgen and insulin. PCOS causes serious complications later in life that may be a barrier to living a healthy life such as having cardiovascular diseases, infertility, or diabetes. Females are impacted mentally

due to the societal standards of having to be feminine and being able to conceive a healthy baby. Various treatments will help manage the symptoms such as medicine or change of lifestyle since there is no cure for PCOS as of now. However, health care providers suggest eating a balanced meal with thirty minutes of exercise each day helps to reduce the symptoms of PCOS. Some future directions would be to research in-depth on how social class plays a role in how severe PCOS can get and how to prevent PCOS in females that lack awareness on health.

- **Andres Torres -Chemistry-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Joseph Smith

“The influence of concussive/traumatic brain injuries on pathophysiological processes”

The study of traumatic brain injuries (TBI) is heavily understudied in science today. The purpose of this thesis was to conduct a scientific literature review on the influence of concussive/traumatic brain injuries on pathophysiological processes. Traumatic brain injuries occur when the head receives a violent impact causing the brain to shift, which can lead to both short and long term effects. Traumatic brain injuries affect everyone differently. Some of the most common side effects of TBIs include: headaches, nausea, and dizziness. However, TBIs will also affect the way the brain works. Upon impact, diffuse axonal injuries are created. Diffuse axonal injury is caused by shearing forces leading to widespread tearing of axons, and is considered an important pathologic feature of traumatic brain injury. It was also found that an abnormal increase in tau protein levels occurs soon after TBIs. This protein is mainly found in the axons of the Central Nervous System (CNS) and consists of mainly six isoforms that are created by alternative splicing. Lastly, the thesis will focus on the connection between neurodegenerative diseases and traumatic brain injuries. The neurodegenerative diseases include: Alzheimer’s disease and schizophrenia.

- **Caroline Sgambato -Chemistry-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Joseph Smith

“Benefits of using acetylcholinesterase inhibitors for Alzheimer's disease”

Alzheimer’s disease is the most common form of dementia and the number of people affected by it is continually increasing worldwide. Despite the public health issue that it poses, studies have been undertaken to find other possible candidates for the further development of new drugs to ease symptom progression of this neurodegenerative disorder. There are many reasons a person might develop this Alzheimer’s throughout their lifetime, some examples are genetics and family history, age, past head trauma, amyloid plaques, and neurofibrillary tangles. No cure has been discovered to date, but medications and management strategies can temporarily improve symptoms. In the past few decades, a great deal of research was directed towards discovering the cause of this disease with the hope of developing new safe and effective pharmacological treatments. Most studies observed looked at acetylcholinesterase inhibitors (AChE) in an attempt to investigate whether they could potentially manage Alzheimer’s disease since most drugs that act on the cholinergic system represent promising outcomes. The primary goal of medications given to Alzheimer’s patients is to enhance their quality of life by maximizing their functional performance through improving cognition, mood, and behavior. This report conducts research on studies from 2010 through 2020 to understand the development of medications done over the years using AChE inhibitors. Each experiment showed the advantages and disadvantages of new treatment options to use for diseases fighting against cognitive dysfunction. Even though finding the proper treatment remains challenging in the development of drugs for neurodegenerative diseases, new studies are continually being researched in hopes of finding a cure.

Breakout room 8

- **Kim Vo, Gianna Haldaman, Barbara Martins and Theodhora Qyshkollari-Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Sheryl Fuller-Espie

“Walker-Warburg syndrome: What's behind this mystery?”

Walker-Warburg syndrome is a rare autosomal recessive disorder characterized by cerebral and ocular malformations, muscular dystrophy, impaired intellectual ability, as well as other variable physical features such as cleft palate, hydrocephalus, lissencephaly, and more. Patients diagnosed with Walker-Warburg syndrome usually do not survive past one year after birth. This disorder is caused by a mutation in the protein O-mannosyltransferase gene (POMT1), which is located on the ninth chromosome, more specifically in the third band of region 1. As well, mutations in a second POMT2 gene, located on the 14th chromosome, region 2, band 4, have also shown a correlation with this disorder. The phenotypic effects of mutations in these genes have been extensively studied, showing impaired muscular function in *Drosophila melanogaster* and stunted embryogenesis in mice. *Drosophila* flies with mutated POMT1 and POMT2 genes, named rotated abdomen (rt) and twisted (tw), exhibited the most severe impairments in heavy exercise assays, had shorter lifespans, and increased apoptosis, which parallels the muscular dystrophic symptoms observed in humans. In mice, mutations in the Pomt1 gene diminished the development of the foundational embryonic Reichert's membrane, causing defective development of the murine embryo. Curative treatment is currently unavailable for Walker-Warburg syndrome.

- **Theodora Dini, Jamie Falgie and Patrick Quinn-Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Sheryl Fuller-Espie

“Mutations on the NTRK1 gene lead to congenital insensitivity to pain with anhidrosis (CIPA)”

The genetic disorder discussed in this paper is HSAN type IV, or congenital insensitivity to pain with anhidrosis (CIPA). This condition is autosomal recessive, and the affected gene encodes neurotrophic receptor tyrosine kinase 1 (NTRK1), located on chromosome 1. When the NTRK1 gene is mutated, the proteins on the sensory neurons are dysfunctional, and signals are not able to be transmitted via phosphorylation. This leads to a lack of pain sensation, and anhidrosis, due to lack of sweat gland innervation. CIPA is diagnosed clinically. Diagnosis via genetic analysis is difficult as CIPA is usually masked by other mutations. Two studies cited in this paper regarding CIPA attempted to determine which mutations in the NTRK1 gene are associated with CIPA, however, both studies found a variety of novel mutations. One study found 6 mutations, with 4 being novel, and the other found 27 mutations, with 15 being novel. Since there is no way to repair the mutated nerves associated with this disease, treatment is both supportive and educational. Parents of children with CIPA are taught how to care for their children in mild cases, and in severe cases, affected children may require supportive facilities.

- **Michelle Hallinan, Viola Varfley, Bianca Huertas and Leslie Hernandez Vazquez-Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Sheryl Fuller-Espie

“Affects of Duchenne muscular dystrophy”

Duchenne muscular dystrophy (DMD) derives from a sex-linked recessive mutation on the X chromosome involving the DMD gene; named as such due to the inability to produce a protein called dystrophin which is integral in cardiac and skeletal muscle function. Patients who are diagnosed with DMD are typically male and present with muscle weakness and degradation. Due to muscle weakness, those affected have difficulty walking, running, getting up after falls, and acquire a waddling gait. Patients show no signs of muscular fatigue up to three to five year of age, and have with an average life expectancy of 26 years old.

Patients who exhibit DMD may also be affected with mental retardation, learning disabilities, and cardiac ventricular dysfunction. Treatments for DMD include use of corticosteroids to control symptoms, physical therapy to aid in walking ability, and use of a wheelchair when walking becomes too difficult. Immunofluorescence imaging analysis locates dystrophin levels within muscle fibers. This has led to therapeutic interventional concepts that intend to produce appropriate levels of dystrophin. Specific dystrophin levels are found within certain muscle groups showing that the distribution of dystrophin varies among fibers. The differences found in dystrophin levels via immunofluorescence analysis varies among patients and various muscle groups demonstrating the severity for pretherapeutic testing per patient. Other data include studying the role of non-coding RNA (ncRNA) in regulating dystrophin expression. RNA could be used as a modifier of new drugs' responses. Long non-coding RNAs can target the dystrophin promoter directly affecting the transcription rate.

Poster Session 3 – 1:00 pm -2:00 pm

Breakout room 1

- **Morgan Carroll -Sociology and Criminology-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Katie Farina

“Media consumption and attitudes toward the LGBT+ community”

The purpose of this research is to examine the connection between the type of media an individual consumes and their attitudes towards the Lesbian, Gay, Bisexual, and Transgender (LGBT+), etc. community. It is important because media is a daily and integral part of our lives and the type of media one consumes could have an impact on their attitudes about the LGBT+ community. These attitudes, like any, can shape how we interact with people. The methods that will be used to examine this research question is a quantitative survey distributed to Cabrini University students that measure both media consumption and attitudes towards different aspects of the LGBT+ community, like same-sex relationships and a person transitioning. Results will be available at the Spring 2021 Symposium.

- **Sabrina Thompson -Sociology and Criminology-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Katie Farina

“Regionality and the political gun control debate”

The 2012 mass shooting at Sandy Hook Elementary brought the ongoing gun control debate to its peak (Limieux, 2014). The current study seeks to gain insight on college students' opinions on gun control based on their political party identity and the rurality of the community they were raised in. This research defines regionality in terms of the rural/urban divide, where previous studies break the country into sections such as South, East, Northeast, and Midwest (Wallace, 2017). The researcher hypothesized that Republican students and students with rural backgrounds will be less likely to support stricter gun control than Democratic students and students with urban backgrounds. This is in part supported by statistics from the Pew Research Center, which determined that rural areas have higher populations of Republicans and right-leaning independents, while urban areas have higher populations of Democrats (Parker et al., 2020). This study used quantitative research through the use of electronic surveys to collect data from Cabrini University students in the Spring 2021 semester. Results will be provided at the Symposium.

- **Jafet Velez -Sociology and Criminology-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Katie Farina

“Punitive attitudes: Examining the relationship between news consumption and punitive attitudes”

For hundreds of years in the United States, citizens have relied on the news media to provide them with important and accurate information on a local and national level. Recently, scholars have found that the news media has been broadcasting news that does not accurately represent what is going on in American

society. By doing this viewers may begin to hold biases against certain groups of people that are displayed disproportionately on the news. The attitudes of viewers can also be manipulated, allowing legislation to pass with public support even if it may be more harmful than helpful. This study seeks to analyze the relationship between news media consumption and punitive attitudes among viewers. Surveys were distributed to Cabrini University students in the Spring of 2021. Full results will be shared at the Symposium.

- **Jazmine Martinez -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

“Latinos and substance use”

This study examines why the Latino community are more likely to rely on substance use to cope with stressful situations. The Latino community has been struggling with this substance abuse issues for a while now and it is a problem that society should notice and ultimately address. To examine whether Latinx individuals abuse substances more often, a survey was administered to approximately 150 Cabrini University students in the spring semester of 2021 using availability sampling methods. Results will be presented at the symposium.

- **Elismeiry Herrera -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

“The CSI Effect: Perceptions of the criminal justice system”

Television viewers are exposed to a glamorized world of forensic science. With the popularization of crime-related television such as CSI and other similar shows, it is hard to know what is fact or fiction when it comes to forensic science and how it is applied. This can cause a false perception of the criminal justice system; this phenomenon is called the CSI effect. This study will analyze the viewing habits of respondents and their biased perception of the criminal justice system. The study will use an availability sampling method and present the findings of a survey of approximately 150 college students, who attend Cabrini University. The findings of these results will be discussed at the symposium.

Breakout room 2

- **Alexis Capria, Annalise Moreno and Lisa Reimann-Psychology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Michael Corcoran

“Stress & depression in college students during COVID-19”

Did stress and depression levels rise in college students when being online and isolated because of the COVID-19 pandemic? A potential reason is because there was no face-to-face learning or interactions. In this study, we used measures to see how your mental health may or may not have changed during the COVID-19 pandemic. With that being said, we assessed stress in college students involving their academic, social and financial situations. Each participant responded to this measure twice, once for in person classes and once for hybrid, hybrid or online classes. We then assessed COVID stress by asking how COVID has affected them through different domains. As well as assessing depression levels amongst these students in the time of the pandemic. We expected to find positive correlations between COVID stress and depression and expected students to rate online classes as more stressful than in person classes. With that being said, increased stress factors would correlate positively with depression and COVID stress. We believe that this research provides further information in the correlation in a global pandemic in college students throughout the world.

- **Destiny Santiago, JaLisa Gibson, Selena Morales and Jé La Boulden-Psychology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Michael Corcoran

“The effects of our best friend’s mood on our own”

This experiment examines whether our moods can be affected by the people around us, specifically someone we consider close to us such as our best friend. We hypothesize that the moods of our best friend – someone close to us besides our parents or guardians – can have an effect in altering our current moods. We examined multiple variables to see if each if they factored in how much their moods were changed. Those variables include the length of their friendship, the gender identity of the participant and their best friend, the ethnicity of the participant and their best friend, and social contingency. Cabrini students enrolled in psychology courses were asked to participate in a survey that consist of multiple example scenarios they may found themselves in with their best friend. The scenarios were separated by possible behaviors or conversations they may engage in with their best friend to see if their emotions were more impacted based on the word choices of their friend or the actions of their friend. After each scenario student participants were asked to rate the emotions, they felt based on the given scenario using a PANAS scale and then asked a few follow up questions. Based on the responses of the students we will measure to see if there seems to be a relationship between the moods of their best friend and their own, in effort to see if our hypothesis was correct or not.

- **Jelani Diabo-Wimberly, Megan Gebhart and Patrick Bell-Psychology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Michael Corcoran

“Study emotions and childhood experiences”

The purpose of the study is for us to be able to gauge the relative positive or negative nature of childhood of our participants to observe if there is a correlation with current well-being. In our study, we are predicting that if participants feel more negative towards their childhood then this will correlate with distress in their current life. Previous studies have used a retrospective survey of childhood experiences to get a better gauge on someone’s childhood experiences. We utilize a similar framework to look at the correlation between childhood experiences and current well-being. Participants will be completing multiple questions regarding a variety of topics in this survey. All of these questions revolve around the typical well-being or distress measures that may correlate with childhood experiences. Our study hopes to shed light on if there is a link between ones’ perception of their childhood experiences, and later feelings of well-being.

Breakout room 3

- **Zanaia Brown -Exercise Science and Health Promotion-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anjuli Gairola

“The effect of high protein diet and resistance training on resistance trained individuals”

The question that many scientists, athletes, nutritionist and more have is whether or not exceeding 0.8 grams of protein daily would positively or negatively impact your body. The follow-up question would be; If an individual exceeding the RDA for protein, are they putting their body at risk for illnesses and diseases? Is there a factor that would counteract the negative connotations of a high protein diet? There have been various studies that have had opposing outlooks on having a higher protein diet compared to a normal protein diet and whether or not it should be done by everyone. However, there are long term investigations where individuals were asked to intake a certain amount of protein while doing their resistance training program. These Investigations suggest that combining a higher protein diet with resistance training would yield a decrease in fat mass and increased fat-free mass (muscle) while not being detrimental to the metabolic processes of the body and the body composition.

- **Juliana Khanuja and Morgan Fazzini-Exercise Science and Health Promotion-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Anjali Gairola

“Lifestyle changes to improve metabolic syndrome”

Metabolic Syndrome is defined as the cluster of certain risk factors that can increase the risk of diabetes, cardiovascular disease, and premature mortality. This syndrome also directly affects how fast a person can digest food and convert it into energy for the body to use. The purpose of this research paper was to look at the how we can educate people to improve someone’s daily lifestyle so that this syndrome can be prevented or managed. Obesity is now higher than ever in the United States, and it is important that we live a healthier lifestyle so that we can prevent this syndrome that affects one-third of adults in the United States. We found that there are ways to prevent this such as exercising, but there are some risk factors that cannot be avoided, such as genetics or gender.

- **Brooke Palmer -Exercise Science and Health Promotion-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Anjali Gairola

“Hepatorenal tyrosinemia”

Metabolic disease treatments are crucial to improve the quality of life for those effected. Patients with hepatorenal tyrosinemia may need liver or kidney transplants or take an oral medicine nitisinone twice a day. These treatments are not proven 100% effective, but it is helpful to lessen some of their symptoms.

- **Austin Williams, -Exercise Science and Health Promotion-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Anjali Gairola

“Impacts of iron supplementation on athletic performance”

The purpose of this report was to answer the question of iron supplementation can improve athletic performance and if so, what groups benefit the most from supplementation. This topic is important to the field of Exercise Science because it affects athletes, people looking to get into or stay in shape, someone who wants to perform at their best, or anyone in the fitness industry. The topic also is a good Segway into the importance of iron in the body outside of exercise. For my paper, a meta-analysis was performed using 6 peer-reviewed articles covering iron supplementation on training, athletic, sedentary, or anemic and non-anemic men and women. All of the articles are peer-reviewed articles. Techniques such as blood sampling subjects throughout a training time frame, comparing anemic and non-anemic subjects as they exercise over a few weeks, daily vs alternate day supplementation, etc were used to get the results. The results from the meta-analysis showed that there were no noticeable advantages when taking iron supplementation for someone who has no iron insufficiencies and is already active. However, two studies showed that it is possible to benefit from iron supplementation. Iron supplementation was shown to improve muscle mass, VO2 peak, and a slow buildup of lactic acid and improve recovery and energy expenditure in female rowers in one study. The other shows an improvement in VO2 in sedentary women that was equivalent to training aerobically.

Breakout room 4

- **Alyssa Gerdes, Michaela Szupper and Yarlyn Hierro-Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Sheryl Fuller-Espie

“The impacts of Huntington’s disease”

Huntington's is a fatal, progressive, autosomal dominant disease. The genetic mutation arises from multiple CAG repeats in the huntingtin gene on the small arm (p) of chromosome four. The consequence of the

mutation is a toxic gain-of-function resulting in an array of disease-related proteins throughout the lifespan, protein aggregation and abnormal processing, negative effects on cell-autonomous and cell-to-cell interactions, and an overall neurodegenerative deterioration focused in the striatum. The symptoms of Huntington's disease are cortical deterioration that can lead to the loss of a person's muscle strength, physical motion, and issues with their speech and balance. Presently, there is no known cure for Huntington's disease, however, many studies have been conducted to investigate possible treatments for the condition. The study 'Time will tell: Decision Making in Premanifest and Manifest Huntington's Disease' conducted an investigation of physical therapy as an effective treatment for Huntington's individuals regarding their muscle atrophy. Results of this study showed that physical therapy had no effect on the progression in the treated group compared to the control group, however, they did improve their muscle strength and manual dexterity. Another study titled 'A Rationale for Hypoxic and Chemical Conditioning in Huntington's Disease' tested whether an increase in holistic approaches would create a healthy cellular environment and promote cellular resistance. The results from this study showed that the hypoxic condition benefited the mitochondria by helping to reform the cellular environment. This boosted cellular oxidative defenses that increased oxygen and glucose production, and also reduced brain inflammation.

- **Geraldine Brown, Loren Smith and Tien Tran-Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Sheryl Fuller-Espie

"Azoospermia"

The genetic disease that is described in this literature review is azoospermia, a sex-linked, dominant condition. When a male has azoospermia, their semen does not contain any sperm and they are infertile. One of the experiments reviewed examined non-obstructive azoospermia. When the long arm of the Y chromosome has a microdeletion, non-obstructive azoospermia occurs. This experiment helped patients with non-obstructive azoospermia to become fertile. The patients were diagnosed with azoospermia by the analysis of their semen. When there was an absence of spermatozoa observed in the patients' semen, they were diagnosed with non-obstructive azoospermia. In this experiment, pelleted semen was also examined. Most of the patients were diagnosed by differentiating non-obstructive azoospermia from obstructive azoospermia. There was also an analysis of the patients' physical examination, medical history, and hormones. The procedures and techniques that were performed in this study helped the patients to become fertile. In another study, blood samples were taken from the patients and the genomic DNA was removed. A mutation was performed on a testis-expressed gene. The mutation was used on a gene called TEX11 to determine the genetic basis for non-obstructive azoospermia. Another procedure called microarray testing was used to examine the deletions of the X-chromosome. The TEX11 mutation lost its function because of deletions of X-chromosomes. The chromosome that had the TEX11 mutation had a hemizygous loss in patients that had azoospermia. In this experiment it was determined that the cause of azoospermia and meiotic arrest was hemizygous TEX11 mutations.

- **Kenzi Eldabh, Sruthi Abraham, Emma Anderman and Kathie Flores-Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Sheryl Fuller-Espie

"Klinefelter's syndrome"

Instead of the usual XY arrangement of sex chromosomes, males with Klinefelter's syndrome (KS), experiencing low testosterone levels, small/underdeveloped testes, decreased bone density, and a high risk of cardiovascular disease, exhibit a common chromosome pairing of XXY making a chromosome count of 47. KS is caused when an X chromosome fails to separate, during meiosis I or II of either parent, in a process called nondisjunction, and presents itself in multiple ways. Some patients might have the aneuploidies of 48, XXXY; 48, XXYY; 49, XXXXY; and the most common type 47, XXY. Individuals with the higher number of sex chromosomes have more severe phenotypes and abnormalities. Patients with KS

have behavioral problems, learning disabilities, and infertility. These symptoms cause the life expectancy of patients with KS to be shortened by an average of 5.6 years. Hypergonadotropic levels can be observed in KS patients because of their low testosterone levels preventing an efficient negative feedback mechanism for follicle stimulating hormone or luteinizing hormone release. KS can be diagnosed through urine or blood samples that analyze unusual hormone levels. Blood samples can also be taken to examine numbers and shapes of chromosomes. Ninety percent of the patients are diagnosed after puberty, however, if the percentage of diagnosis before puberty was higher, the complications of comorbidities could be minimized. KS puts men at a significantly higher risk of a multitude of problems and diseases when compared to the normal population. Early diagnosis and treatment are key to a long lifestyle in these men.

Breakout room 5

- **Evan Trizonis and Mason Bennetch-Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Vinayak Mathur

“Examining the relatedness of coronavirus strains isolated from different animal hosts”

Being able to determine the genetic relatedness of different virus strains is key to finding a more effective vaccine and predicting where a future outbreak may originate. Our research experiment examines the similarity of coronavirus strains in five different organisms. The five organisms being studied are humans, bats, pangolins, minks, and dogs. Specifically, we are comparing the similarity of the genetic sequences for the ORF1ab polyprotein in each of the respective organisms. ORF1ab is one of the major proteins in SARS-CoV-2. The relatedness of these five coronavirus strains will be examined using programs such as MUSCLE, MEGA X, Mauve, and Cytoscape. After creating a phylogenetic tree using MEGA software, it appears that the dog and mink strains are both closely related to the human strain. The bat coronavirus strain branches off earlier from the human, mink and dog strains, while the pangolin strain is the least related among the five strains that were tested according to the phylogenetic tree. Additional analysis of the results will help us understand how the virus evolves in different animal hosts.

- **Viola Varfley, Kaila Wilkie and Egypt Edwards-Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Vinayak Mathur

“Comparison of the nsp14 protein in different strains of SARS-Cov-2”

This study will compare sequences of the non-structural protein 14 of corona virus (better known as nsp14 protein) in different species of animals. Nsp14 protein has a role in replication and transcription in viruses including the SARS-COV-2 which is the severe acute respiratory syndrome coronavirus 2 that causes the coronavirus disease 19. This protein is important for virus multiplication, a task which is facilitated by its binding to the nsp10 protein, resulting in a protein complex. Our model organisms for this research are the nsp14 [Pipistrellus bat coronavirus HKU5], NSP14 [Duck coronavirus], and nsp14 [Rabbit coronavirus HKU14]. We will use bioinformatic tools such as NCBI, MEGA, MUSCLE, MABL, DNA Master, etc. to analyze our data. The goal is to evaluate these coronavirus genomes using these tools and investigating to role nsp14 plays in SARS-COV-2 biology. Additionally, protein annotation can allow us to study the nsp14 protein function to investigate the potential evolutionary relationships with coronavirus infecting human hosts. The importance of this study is to analyze the nsp14 protein in different organisms to better understand SARS-Cov-2 biology

- **Francisca Mukova, Amoleen Nammah and Daisy Morquecho-Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Vinayak Mathur

“Evidence of phage orthologous genes in Pseudomonas lutea”

The purpose of this research is to study different proteins in the uncultured Caudovirales phages, the largest group of bacteriophages and identify orthologous proteins in the bacteria, *Pseudomonas lutea*. This will allow for the further investigation of relationships between bacteria and viruses with a focus on horizontal gene transfer (HGT). HGT is one of the mechanisms that bacteria can increase their genetic variability. The Blastp tool on the NCBI website was utilized to identify cases of potential HGT. The software MEGA was used to construct a phylogenetic tree that indicates the evolutionary relationship between the bacteria and bacteriophages. In order to analyze synteny, the Progressive Mauve software was used to show the conservation of genetic regions between Caudovirales phage and *Pseudomonas lutea* sequences. Based on the results, we were able to find evidence of HGT between Caudovirales phage and *Pseudomonas lutea* bacteria.

Breakout room 6

- **Elise Fiore -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Caroline Nielsen

“Streams at Cowan Park and Cabrini University are less polluted than the stream near Eastern UniversitybBased on macroinvertebrate communities”

Pollution is a consequence of human activity. This pollution has a drastic impact on an ecosystem and its biodiversity. In this study we aim to conclude the health of streams based on the biodiversity of macroinvertebrates. A leaf pack study was performed to collect macroinvertebrates and calculate the biotic index at each stream. The streams at Cabrini and Eastern Universities as well as a stream at Cowan Park were used in this leaf pack study. The Cabrini stream had an excellent biotic index, and the Cowan Park stream had a good biotic index. The Eastern stream on the other hand had a poor biotic index. With this data it can be concluded the Cabrini stream is the healthiest and has the most macroinvertebrate biodiversity, while the Eastern stream has poor stream health and poor biodiversity of macroinvertebrates.

- **Bianca Huertas -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Caroline Nielsen

“Increasing soil temperature speeds up plant growth”

Increase in global temperature is undeniably causing changes in our global ecosystem. Reducing snow cover and sea ice, intensifying heavy rainfall, and changing habitat ranges for plants and animals. Increased temperature rate influences plants and vegetation and it is important to discuss what are the effects of such influences. An experiment was conducted on mung bean plants under controlled temperature conditions, that allowed the observation of plant growth. Comparing regular soil temperature and higher temperatures following the observed temperature rise of 2 degrees Celsius as reported by the NOAA Global climate report in the past few years, as well as the projected average global temperature increase of 1 degree marker as years pass. Contrary to the initial speculation of higher temperatures having a negative effect on plant growth, these findings suggest that higher soil temperatures have a positive effect on plant growth.

- **Darian Labroschiano -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Caroline Nielsen

“Investigation of Eastern University’s stream health through the biodiversity of macroinvertebrates when compared to two other locations”

The Biodiversity of Macroinvertebrates will be a large indication on how healthy the stream is. Macroinvertebrates have different sensitivity levels to pollutants, which will affect their presence in the stream. The maintenance of the stream and the streams ecosystem heavily relies on the macroinvertebrates that are present. In our study, we looked at three different stream locations, Cabrini University, Cowan park, and Eastern University, and placed leaf packs into the streams for four weeks. During analysis, we calculated a biotic index of 6 for Cabrini, 9 for Cowan, and 2 for Eastern. We also calculated an EPT index of 41.7% for Cabrini University and a 0 for Eastern and Cowan. After analysis, there was not a clear indication of which stream is the most biodiverse. In conclusion, further studies need to be carried out to properly test the stream health through biodiversity.

- **Sophia Scarpone -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Caroline Nielsen

“Ocean acidification inhibits brine shrimp, a model organism, to undergo stages of development”

As global warming continues to warm both surface and water temperatures, the pH of the ocean decreases as the concentration of atmospheric carbon dioxide increases. Ocean acidification alters the aquatic ecosystems, which can ultimately lead to the extinction of marine species. To study the effects of decreasing pH levels of saltwater, four separate ecosystems with different pH levels ranging between 3.31 to 7.72 were developed and observed how brine shrimp undergo their developmental phases. Of each of the four samples, it was hypothesized that the brine shrimp would proceed through their developmental stages within the 7.72 pH, however, as the pH levels decrease, the brine shrimp would either remain unhatched or die. The hypothesis was proven correct, since the brine shrimp thrived in the control sample, however, as the pH decreased, the brine shrimp did not undergo their developmental phases. Understanding that increasing pH levels negative impact brine shrimp, a model organism, can allow one to understand the adverse effects ocean acidification is causing to marine life.

- **Jamie Falgie -Biology-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Caroline Nielsen

“Acid rain effects and Wisconsin Fast Plants”

Acid rain is a form of pollution that is causing devastating impacts on biodiversity worldwide. The purpose of this experiment was to compare and measure the height and number of Wisconsin Fast Plants under distinct watering conditions, in an effort to simulate acid rain effects. Four mason jars were obtained and filled with distilled water. Varying amounts of vinegar were added to each jar to increase the acidity until the desired pH concentration was reached. The jars had pH levels of 5.6, 5.0, 4.5, and 4.0. The differing pH concentrations represented the range of acidity in which rain precipitation can be. The solutions were then used to water Wisconsin Fast Plants throughout a ten- day experiment. Although the trends were found to be nonsignificant, it was concluded that plants acquiring water from the 5.0 pH solution had the highest final average plant height, whereas the 5.6 pH solution had the lowest final average plant height. It was also found that the plants receiving water from the 4.0 pH concentration grew and retained the highest number of plants, whereas the 5.6 pH concentration grew and retained the lowest number of plants. This experiment is significant in that it attempts to simulate acid rain effects by measuring how each pH level directly correlates to the number and height of Wisconsin Fast Plants grown.

Poster Session 4 – 2:00 pm -3:00 pm

Breakout room 1

- **Danielle Diulio -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

“Examining the influence sexual assault may have on the mental health of college students”

This study explores the relationship between sexual assault and the potential resulting mental illnesses among a college population. Previous literature suggests that when an individual is sexually assaulted, they are more likely to develop symptoms of depression, anxiety, and Post-Traumatic Stress Disorder (Carey, Norris, Durney, Shepardson & Carey, 2018; Combs, Jordan, & Smith; 2013; Krahe & Berger, 2017). The current study took place during the fall semester of 2020 at Cabrini University. Electronic surveys were administered in a variety of courses and sports teams to sample undergraduate and graduate students. Results indicate that there is a significant relationship between certain measures of sexual assault and symptoms of mental illness and seeking treatment.

- **Kayla Melchiorre -Sociology and Criminology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Katie Farina

“Violent crime media and its effects on fear of crime”

Interest in crime has increased over the past few decades, making it the media's favorite topic to broadcast, post, and write. The media, especially the news, provides a wrongful display of crime rates and trends, creating a distorted view of the world by manipulating consumers. Considering this fact, this paper examines the question of whether violent crime coverage across various media platforms creates fear of crime. The literature discusses what makes a sensational story, and how these stories are not an accurate representation of real crime trends, creating a negative influence on people. The media often chooses to overrepresent certain groups of people as criminals, and other groups as victims, exaggerating the frequency of certain crimes. Crimes that are considered anomalies are seen to be broadcasted the most in order to gain attention and increase ratings. The media has been seen to have an impact on fear of crime, leading to physical and mental effects on the body and mind. The media and fear of crime relationship depends on some other factors. This includes hours spent engaged in violent media, the type of media, previous victimization, gender, and race. A survey was distributed to Cabrini University students to test whether violent crime media has an effect on fear of crime. Results and data will be present at the Symposium.

- **Jelani Diabo-Wimberly -Psychology-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Maya K Gordon

“Sleep quality affects brain performance of children through adolescence”

The purpose of this study is to spread awareness to parents about the importance of sleep and why it is beneficial for their children to get enough sleep, including how it affects the brain. . My project is going to consist of explaining how sleep quality affects the brain performance of children and adolescents. I will explain this by first explaining the importance of sleep and why we need sleep. Next I will explain how poor sleep can affect a child's cognitive abilities such as memory and decision making. I will then explain the mental and emotional side of sleep deprivation as far as disorders that can develop. Next, I will talk about how sleep deprivation affects children physically and specifically how its linked to obesity. Lastly, I will explain the long term affects through adulthood.

- **Michelle Brzoska -Psychology-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Melissa Terlecki

“Metacognition: The role of instruction and maturity in the classroom”

Metacognition, also known as self-awareness, is valued in many aspects of our functioning. Previous studies have shown that metacognition helps to improve life satisfaction and overall well-being. However, little research has been done on the association between metacognition and academic achievement in students. A longitudinal study was conducted to measure the effectiveness of direct metacognitive instruction. The participants in this sample included 572 undergraduate students from Cabrini University, who were enrolled in one of four psychology courses: Laboratory Experiences in Cognition, Metacognition, Introduction to Psychology, or College Success Seminar. Interventions regarding levels of self-awareness varied across these 4 courses. Levels of self-awareness were compared between students in each of the four courses using the Metacognitive Awareness Inventory (MAI) as a pretest and post-test measure. Considering self-awareness advances with maturity, freshman and seniors were also compared. It was predicted that students who were enrolled in Metacognition gained the most significant improvement over time.

Breakout room 2

- **Danielle Melendez, Ifeoluwa Ashiru and Praise Yormie-Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Vinayak Mathur

“Comparison of SARS-CoV and SARS-CoV-2 spike protein sequences”

The purpose of this research study is to understand how COVID-19 has evolved and spread from an animal host to humans. This is important to investigate as we can gain knowledge of how COVID-19 emerged and its similarity to other viral diseases. The disease was named COVID-19 (Coronavirus Disease-2019) to show that it was discovered in 2019, in the SARS-CoV-2 family. We know that this new coronavirus is similar to SARS-CoV which emerged in 2002. Using a comparative genomics approach, we can compare sequences from SARS-CoV and SARS-Cov-2 to identify the similarity between the two viral diseases. We focused on spike protein sequences from the two viral diseases from several animal hosts. Next the SARS-CoV spike protein sequence and COVID-19 virus sequence are placed into MEGA to create the phylogenetic tree to understand their evolutionary relationship. Also, comparing coronavirus spike protein from different hosts helps us understand how the virus mutates to infect different animal species.

- **Shilpa Thomas and Elise Fiore-Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Vinayak Mathur

“Investigating genetic variation of the ORF1ab Polyprotein in strains of SARS-Cov-2”

The purpose of this research study is to understand how COVID-19 has evolved and spread from an animal host to humans. This is important to investigate as we can gain knowledge of how COVID-19 emerged and its similarity to other viral diseases. The disease was named COVID-19 (Coronavirus Disease-2019) to show that it was discovered in 2019, in the SARS-CoV-2 family. We know that this new coronavirus is similar to SARS-CoV which emerged in 2002. Using a comparative genomics approach, we can compare sequences from SARS-CoV and SARS-Cov-2 to identify the similarity between the two viral diseases. We focused on spike protein sequences from the two viral diseases from several animal hosts. Next the SARS-CoV spike protein sequence and COVID-19 virus sequence are placed into MEGA to create the phylogenetic tree to understand their evolutionary relationship. Also, comparing coronavirus spike protein from different hosts helps us understand how the virus mutates to infect different animal species.

- **Joseph Hagen -Mathematics-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Hossein Shahrtash
“Introduction to Georg Cantor’s set theory and Russell’s paradox”
- George Cantor and Bertrand Russell are two mathematicians I have found to be particularly interesting with respect to both their personal lives and mathematical contributions. Both men dealt primarily with pure mathematics which earned them a fair bit of controversy throughout their careers. The particular area I would like to touch on is set theory, an invention of Georg Cantor. As with many novel concepts, set theory faced a massive amount of criticism from the mathematics community with some people going as far as to say that Cantor was poisoni
- **Jaclyn Ferrilli- Mathematics-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Hossein Shahrtash
“Using just four colors”
Using just four colors is based on the four-color theorem (problem) which was first conjectured in 1852. In this presentation will discuss how an innocent little coloring puzzle challenged generations of mathematicians and became the first major theorem to be proved using a computer. We aim to cover the main theorem and the meaning behind it, as well as some applications of the four-color theorem which have been famously known since the 1970’s.

Oral Session 1 – 1:00 pm -3:00 pm

Breakout room 7

- **Gabriela Chauca -Romance Languages and Literatures-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Melissa González-Contreras
“El sufrimiento de las guerras civiles de El Salvador y España (The suffering of the civil wars in El Salvador and Spain).”
This essay examines the suffering of two wars: The Civil War in El Salvador (1979-1992) and the Civil War in Spain (1936-1939). The suffering is demonstrated through the documentary The Tiniest Place (2011) by Tatiana Huezo and the painting El Guernica (1937) by Pablo Picasso. Both show the emotional and physical suffering caused by the wars. The documentary portrays it through the testimonies of five families who survived the war and El Guernica through meaningful images filled with symbolism.
- **Rocio Gonzalez-Rojas -Romance Languages and Literatures-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Melissa González-Contreras
“Active and passive oppression during the dictatorship of Francisco Franco in Spain expressed in theater plays.”
Dictatorships and authoritarian governments abuse the rights of their citizens, actively and passively. They control their lives completely, including what citizens read, hear or see. The plays En la ardiente oscuridad (1950) by Antonio Buero Vallejo and La Mordaza (1954) by Alfonso Sastre express the conditions under which people living in authoritarian governments or dictatorships live day by day and the fears and risks for which the minimal actions, attitudes or even points of view can lead to death. A death committed to maintain the social order and the "stable" government in which the government has all the power and the population is submissive until it reaches a point of not taking any more abuse. In this presentation I will analyze how dictatorships achieve or try to characterize people who try to liberate others from oppression as antagonists of the system, as is the case of Ignacio in En La ardiente oscuridad and Luisa in La Mordaza.

- **Georgina Ramirez Bamaca -Romance Languages and Literatures-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Melissa González-Contreras

“Utilizando el testimonio como herramienta para concientizar a los grupos marginados en Guatemala (Using testimony as a tool to raise awareness among marginalized groups in Guatemala)”

A testimony is a narration of the events witnessed by an individual. The testimony serves to express events from a different point of view. In the book *¿I, Rigoberta Menchu: An Indian Woman in Guatemala*, we can see the injustices that the indigenous people suffered in Guatemala. Rigoberta Menchu, an indigenous woman, narrates the events that happened when the state of Guatemala went against the indigenous population and the events that unfolded. Through this book, I analyzed how a marginalized groups could stand against an oppressive system and how testimony helped bring awareness to marginalized groups, not only within Guatemala, but also abroad.

- **Luna Tafuri -Romance Languages and Literatures-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Melissa Gonzalez-Contreras

“Racismo, Discriminación y Identidad: “Me Gritaron Negra” de Victoria Santa Cruz y “Mujer Negra” de Nancy Morejón. “Racism, Discrimination and Identity: “Me Gritaron Negra” by Victoria Santa Cruz and “Mujer Negra” by Nancy Morejón”

This presentation will explore notions of discrimination and identity in poetry and performance by Afrolatina artists. The analysis will focus on "Me gritaron negra" by Peruvian Victoria Santa Cruz and "Mujer negra" by Cuban Nancy Morejón.

- **Luisanna Mora -Romance Languages and Literatures-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Melissa González-Contreras

“La noche de Tlatelolco”

On October 2, 1968, Mexico experienced a massacre where hundreds of people were shot by the country's national police. The shooting took place due to protests made up of students from the Autonomous University of Mexico (UNAM), teachers, workers, professionals and intellectuals in Mexico City. The citizens were opposed to police violence in the country, which began after a fight between students where the police intervened. As a result, the student movement arose, which caused an effect by breaking the status quo of the country, in a way that made the perfect appearance that Mexico wanted to demonstrate disappear and show the repression and violence that a government is capable of imparting to its citizens. The story of the night of Tlatelolco is one that has not been made known as much as it should, this is a representation of a government that decided to oppress and kill hundreds of people just to maintain an honorable reputation in front of other countries that were traveling due to the celebration of the 1968 Olympic Games. The purpose of my presentation is to inform about the inhumanities and atrocities that the Mexican government imposed against its citizens in 1968.

- **Sandra Irene Manrique -Romance Languages and Literatures-School of Humanities and Social Sciences**
Faculty Sponsor-Dr. Melissa González-Contreras

“Authority and rebellion in Spanish theatre”

My presentation analyzes two plays that deal with the themes of rebellion and authority. The plays represent authoritative figures that leads to rebellion in these works, which can be associated with real-life circumstances during Francisco Franco's (1939-1975) regime in Spain. The play *En la ardiente oscuridad* (1947) by Antonio Buero Vallejo, speaks about the pedagogy of a center/school for the blind. These characters or students live in an illusion where the lack of sight is a mere inconvenience, and their world has been preordained and is perfectly controlled as a metaphor to the blindness in which a great portion of the Spanish population lived while in a dictatorial regime. The play *La mordaza* (1954) by Alfonso Sastre,

refers to a family that is under the power of the father Isaías and in silence. The feeling of fear is prevalent because of the authoritarian nature of the father, and this figure has been associated with Franco, the authoritarian main figure in Spain's recent history. *En la ardiente oscuridad* and *La mordaza* reflect authoritarian systems through the center and Isaías Krappo. Some characters are in favor and others against these figures. This unleashes conflict, silence, and fear.

- **Susan Pierson -Romance Languages and Literatures-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Cynthia Halpern

"Milagro, la mariposa monarca"

Spanish: *Milagro, la mariposa monarca* fue escrito durante mi participación en español 324. Presenta la historia de una mariposa maravillosa y su viaje milagroso. En su camino, Milagro conoce a dos niñas, una estadounidense y una mexicana. Este cuento informa nuestra comprensión del ciclo de vida de la mariposa, la migración milagrosa de las mariposas monarca y la celebración del Día de Muertos. También toca temas de amistad, amor y entendimiento intercultural. El cuento está dedicada a la nieta del autor, Elsa. Se presenta en español.

English: *Milagro, The Monarch Butterfly* was written during my participation in Spanish 324. It presents the history of a wonderful butterfly and her miraculous journey. Along her way, she meets two girls, one American and one Mexican. This story informs our understanding of the life cycle of the butterfly, the miraculous migration of monarch butterflies and the celebration of the Day of the Dead. It also touches on themes of friendship, love and intercultural understanding. The story is dedicated to Elsa, the author's granddaughter. The presentation will be conducted in Spanish.

- **Yeredith Cruz -Romance Languages and Literatures-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Cynthia Halpern

"De lo que aconteció de la mariposa monarca"

This oral presentation is presented in Spanish. It is an original story written by the student in the style of Don Juan Manuel in XIV Spain and his famous collection of short stories called *El Conde Lucanor*.

Oral Session 2 – 1:00 pm -3:00 pm

Breakout room 8

- **Shaiann Lyde -Health Science-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Gifty Key

"It looks like this: Students athletes unaware of mental health issues on college campuses"

College student athletes are facing stressors and adversities in their lives that are contributing to mental health issues. Whether it is anxiety, depression, PTSD, or other mental disorders, these student athletes are facing these disorders without being aware of the support that they could be receiving. The documentary brings awareness to student athletes on colleges campuses facing mental health disorders such as anxiety and depression through interviews from actual student athletes and coaches. The documentary expands further into mental health by doing an analysis on college student athletes that are facing anxiety and depression while being student athletes. The interview consists of a female swim coach, and one of her swimmers, being interviewed via zoom video chat and discussing his experience on anxiety and depression. The purpose of this research project is to bring awareness to colleges about student athletes facing mental health issues on college campuses. This documentary aims to highlight the feelings that college student athletes are facing through anxiety and depression, and ways to support the issue as a college community.

- **Mary Anna Gatta -Health Science-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Gifty Key

“Living with demons”

“Living with Demons” is a short documentary that focuses on the power that anxiety can have in ones' life. This documentary will explore what three separate people experience when they suffer from a panic attack, what daily life is like for them, and most importantly, what they have learned through their battle with this particular mental illness. Each testimonial has been given by someone who feels as though they are suffering greatly from a generalized anxiety disorder. With consent, each person tells their story, in hopes to give those watching the documentary a better and deeper understanding of what it's actually like to live with this "demon". What can be seen through this documentary is perseverance and strength, and a collapse of the stigma behind those who have mental illnesses. A beautiful world is behind the eyes of those who have these mental illnesses, and it's time for more people to get a closer look.

- **Angela Rivieccio -Health Science-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Gifty Key

“Domestic violence: Living with fear”

Domestic violence, also referred to as “intimate partner violence”, can be a very serious, yet preventable, public health issue that affects millions of Americans. Intimate partner violence can be described as abuse or violence that can happen in a relationship, whether it be past or present. In this type of relationship, there are many patterns of behaviors where the abusing partner gains or maintains power and control over their partner. This documentary researched domestic violence and how it impacted peoples’ lives. This documentary will show two perspectives of domestic violence. First, the researcher discusses the challenges experienced from a past partner and how she overcame those challenges. Second, Dr. Colleen Lelli, Director of The Barbara and John Jordan Center for Children of Trauma and Domestic Violence Education, educates on the topic of violence prevention and how Coronavirus has affected the health of relationships in the past year. There are still many misconceptions of domestic violence and it is important to bring awareness. During the interview, the goal is that people identify the signs and help themselves or one another. People need to be more aware of this major public health issue and understand the signs and what to do.

- **Chelsey Szuttor -Health Science-School of Natural Science and Allied Health**

Faculty Sponsor-Dr. Gifty Key

“It's just anxiety”

There are over “forty million adults that are affected by Anxiety Disorders each year” and yet people still think that it is not an issue (ADAA, 2021). They say, “It’s just Anxiety” but it’s time individuals actually understood how it differs from daily stressors like going for an interview, traffic jams, or the first day of school. Stress is awful but long-term/chronic stress is what can lead to worsening symptoms. The purpose of my research is to provide a mixture of both past and current statistics on the disorder and personal testimonies from individuals who have actually been diagnosed with anxiety who will show how it truly affects their everyday lives. During their testimonies, you will hear how even asking individuals about their anxiety can cause irritability and racing thoughts, especially with hard subjects like stigmas, and how they only make things harder, but through this we can find out whether or not there is truth behind them. Through research it has been discovered that “only 36.9% of those with anxiety disorders are receiving treatment” and it’s very likely that stigmas are the reason to blame for this (ADAA, 2021). This documentary needed to be created to answer those hard questions and to truly educate individuals on the importance of not only anxiety, but mental health as a whole. The end goal is to erase these stigmas and replace them with TRUTH, which in turn will show people that “It’s NOT Just Anxiety”.

- **Jordan Shemonski -Health Science-School of Natural Science and Allied Health**

- Faculty Sponsor-Dr. Gifty Key**

- “What is diet culture?”*

- Diet Culture advocates that people are more or less worthy based on their body size. In America, it is assumed that a person who is thin is considered healthy, and a person who is overweight, is considered unhealthy. Society believes that a person’s body size directly reflects their eating habits and exercise patterns, which is just simply not true. It is also common for people to think of certain foods as “good” and “bad”. Examples of “good food” are something like fruits and vegetables, while a “bad food” would be something like candy or chips. This thought process is based on the idea that a certain food will have a negative impact on the body, while a different type of food will have a positive one based on “good” and “bad.” According to the article, “The Development of a Scale to Measure Diet-Culture Beliefs,” has shown that women normally experience a negative thought or emotion when they eat a “bad” food (Davidson, 1970). This documentary researches the impact that Diet Culture has on society, such as bad self-image, eating disorders and an unhealthy relationship with food and exercise. Social media being so prevalent today only increases this impact. There are many ways to recognize and move away from Diet Culture and go in the direction of body positivity. The purpose of this documentary is to educate the audience and society on the dangers of Diet Culture.

- **Dalton Roberto -Health Science-School of Natural Science and Allied Health**

- Faculty Sponsor-Dr. Gifty Key**

- “Wrapped around a bottle”*

- Alcoholism is a chronic disease that controls the lives of many people across the United States, as well as around the world. The substance that is most widely-abused across the United States and often left untreated is alcohol. This study looked at the impact that alcoholism has on the lives of many Americans and why many who need rehab the most do not receive it. This was gathered through thorough research from various articles, research studies, and scholarly sources. Nearly 6% of Americans have an alcohol use disorder and shockingly, of those people only around 7% receive treatment. Alcohol-related deaths in the United States reaches nearly 100,000 annually, thus making it the third-leading preventable cause of death in the U.S. Additionally, information was gathered from recovery centers included statistics regarding their annual intake of patients and success rates, relapse, etc. Individuals suffering from Alcohol Use Disorder (AUD) often will seek care for an alcohol-related medical problem, rather than for drinking too much. Addiction is a treatable disorder, that while it can’t be cured, it can be managed successfully so that people may regain control of their lives.

- **Heaven Daye-Jackson -Biology-School of Natural Science and Allied Health**

- Faculty Sponsor-Dr. Sheryl Fuller-Espie**

- “Development of a flow cytometry assay to investigate the antimicrobial effects of protein extracts purified from Eisenia hortensis on the bacterium Micrococcus luteus”*

- The objective of this preliminary investigation was to develop a flow cytometry protocol to study the effects on both cell morphology and viability after treatment with a crude antimicrobial protein extract isolated from the earthworm *Eisenia hortensis* using the bacterium *Micrococcus luteus*. The extract was prepared and concentrated using ammonium sulfate precipitation, dialysis, and filtration. Previous results in the lab using this protein extract showed susceptibility to the antimicrobial properties using disk-diffusion and tube-dilution methodologies using *M. luteus* grown in Mueller-Hinton agar and tryptic soy broth, respectively. This study used flow cytometry to monitor changes in cellular morphology using forward scatter (FSC) measurements in a time- and dose-dependent manner following exposure to the protein extract. Propidium iodide (PI), a fluorescent viability dye that binds to DNA, was used to investigate

cell death by measuring changes in relative fluorescence intensity detected by the FL-2 photodetector in the flow cytometer. Significant changes in cell size (FSC) and viability (PI uptake) ($p < 0.05$) were observed after exposure to the protein extract at 0.5 mg/ml after 60 minutes. An expected finding was a significant number of cells showed a decrease in FSC after treatment (small cells), consistent with shrinkage associated with cell death. Unexpectedly, there was also a shift in the geometric mean in the FSC of the remaining cell subpopulation not corresponding to the small cell category. Experiments are underway to incorporate deoxyribonuclease following extract exposure to determine if DNA released from dying cells is responsible for apparent aggregation of cells observed in the FSC profiles of this subpopulation. Future studies will also address the minimum concentration of the antimicrobial protein extract required to facilitate cell death, and the effects on DNA integrity using electrophoresis techniques.

- **Kayla Hunt -English-School of Humanities and Social Sciences**

Faculty Sponsor-Dr. Amy Persichetti

"If society won't hold you accountable, I will"

In this creative nonfiction about the causes and effects of my father going to prison, the responsibility of choice serves as a recurring theme. The main factors causing him to become incarcerated are being a black young man growing up in inner-city Philadelphia, the changing laws and politics of the 1990s and early 2000s, the relationships between substance abuse, hypermasculinity, and drug dealers, and free will. The effects are his difficulty pursuing employment and other typical society components, his conversion to Islam, and estranged relationships within his family. The relationship between my father and me and its evolution is the primary relationship explored.

As my father's story unfolds, it is imperative to note that my father was a well-supported black young man in America who had the opportunity of pursuing a lifestyle within the bounds of a lawful society. My father chose to descend into an alternative and criminal lifestyle. Many black individuals in America face various hardships that impede them from discovering and achieving the American Dream; my father chose to become a statistic.

Pierce Fellows Project Presentations: Hunger and Food Insecurity

4:30 – 6:00 pm

Register in advance for the Pierce Fellows meeting:

<https://zoom.us/meeting/register/tJMvde-hqTgqG9GWZ4StFyMZRWypKV-P1M-e>

Graduate Submissions

Session 1 - 5:30 pm - 6:30 pm

Session 1A

- **Heaven Daye-Jackson-Masters- Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Vinayak Mathur

“A phylogenetic approach to determine the relation between SARS-CoV-2 strains in humans and other animal hosts”

Viruses in the Coronaviridae family have been linked to several different worldwide outbreaks throughout the years. These viruses are responsible for three major viral diseases: Severe acute respiratory syndrome (SARS) Middle East respiratory syndrome (MERS), and the most recent being SARS-CoV-2. The similarity between these three viral diseases is that they are all zoonotic viruses that have evolved in a way to cross the species barrier that allows transmission to occur between animals to humans. It is known that MERS and SARS came from dromedary camels and civet cats respectively. However, SARS-CoV-2 continues to be researched to directly pinpoint the reservoir in which it originated from. It has been suggested that SARS-CoV-2 originated from human SARS, domesticated animals, horseshoe bats, or pangolins. The purpose of this research is to complete a phylogenetic study to determine the evolutionary relationship between animal and human coronaviruses. One of the intended results of this research is to identify the closely related animal coronavirus strains which are highly similar to SARS-CoV-2 sequences from humans. Understanding how and where SARS-CoV-2 originated and is able to mutate is essential in tracking the development and evolution of the coronavirus. Moreover, understanding the origin of this virus will increase the knowledge to aid in medical surveillance to prevent another threat to the population.

- **Riddhiben Parmar-Masters- Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Vinayak Mathur

“Using a bioinformatics approach to understand the evolution and impact of SARS-CoV-2”

The purpose of this project is to find similarities and differences in the different strains of the SARS-CoV-2 by using a bioinformatics approach. There is evidence that mutations in some key proteins of SARS-Cov-2 can affect the transmissibility of the virus among human hosts. It is important to study these mutations to understand how the virus is spreading through the population. Studying the evolutionary relationship between different virus sequences will allow us to identify strains that may affect humans differently. To assess and analyze the data from the NCBI Virus database, bioinformatics tools like MUSCLE, MEGAX and ProgressiveMauve were utilized. The goal of this research project is that it can provide essential information on SARS-CoV-2 strains, with implications towards vaccine development in the future.

- **Megan Monostra-Masters- Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Vinayak Mathur

“Comparison of spike protein sequences for SARS-COV2 in a various of organisms”

Severe acute respiratory syndrome coronavirus 2 is the respiratory illness causing the global pandemic which started in late 2019. The pandemic has caused a reported number of 4,628,903 cases and a total of 312,009 deaths from May 18, 2020 by World Health Organization in humans. There are concerns of deaths in other organisms as well the virus causing extinctions in animals. Other than humans, other animals have been affected by this virus from all across the world include lions, tigers, minks, golden

hamsters, domestic dogs, cats, green monkeys, and feliformia (civets, mongoose, hyenas). The purpose of the study is to compare the different sequences of the SARS-COV2 surface glycoprotein in several different organisms, including humans. I will use a bioinformatics approach utilizing the Muscle software and MEGA X to create phylogenetic trees to compare coronavirus sequences from these hosts and identify their relatedness. Progressive mauve software will be utilized to create the synteny map to compare their similarity and position in the genome. By focusing on the surface glycoprotein for this comparative study, we hope to understand the process of viral transmission into the hosts cells.

- **Amanda Wolfgang-Masters- Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Vinayak Mathur

“Identifying spatial and temporal variations in the surface glycoprotein among covid-19 strains”

SARS-CoV-2 also known as covid-19 has impacted multiple locations all over the world and continues to mutate over time. The RNA sequence found in each new strain helps scientists determine their similarity. In particular, the surface glycoprotein is a potential target for many vaccines since scientists can block host cell entry to eventually prevent infection. The goal of my study was to investigate the surface glycoproteins of 14 different SARS-CoV-2 strains. I collected protein and nucleotide information from the NCBI Virus database based on unique geographical location, some of which includes one of the first strains from Wuhan, China. Others include the strains from the USA, as well as some strains from countries that have managed to control the initial surge of the covid-19 pandemic. I constructed a phylogenetic tree using bioinformatic tools such as MUSCLE and MEGAX. Based on the initial tree, I performed another analysis to compare the new strains collected in March 2021 using the ProgressiveMauve software. By comparing these sequences and identifying the mutational changes, we will be able to understand better the progression of the pandemic throughout the world.

- **Jennifer Daly-Masters- Biology-School of Natural Science and Allied Health**
Faculty Sponsor-Dr. Vinayak Mathur

“Analysis of variant strains of SARS-CoV-2 from different countries compared with the Wuhan strain to determine relation as well as possible vaccine changes required over time”

Severe acute respiratory syndrome coronavirus-2 (SARS-CoV2) has been a prevalent aspect in daily life since its emergence in late 2019. The virus enters the cell via its spike protein by binding to the receptor binding site of angiotensin converting enzyme 2 (ACE2) and subsequent cleavage by transmembrane protease serine 2 (TMPRSS). The ease with which the virus can do this is partially based on the spike protein sequence but also the sequence of the receptor binding site. Vaccines have been developed to combat the spread of SARS-CoV2 by Moderna and Pfizer. These vaccines are based on RNA components of the spike protein. Here, it is hypothesized that variations in the sequences that generate the spike protein from the original viral strain found in Wuhan of SARS-CoV-2 will likely impact vaccine production over time because the spike protein will branch further away from the original novel SARS-CoV-2 spike protein sequence. To assess this prediction, several web-based analysis tools were utilized to show sequence variations as well as relation of the variant spike proteins to the sequences of the Wuhan spike protein from early in the pandemic. The results of this study indicate that there is variation among the spike proteins isolated from different geographical regions of the world, and documenting this variation is the key to modifying the mRNA vaccines in the future. The results of this work demonstrate the potential for formulation changes in the components of the RNA of the spike protein used for vaccine production.

Session 1B

- **Jennifer Archie-Educational Policy and Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“Student Choice: How Offering Choice Within the Classroom Impacts Student Learning”

Student choice within the classroom has become a focus in the recent years as instructional styles and techniques have evolved. This study was conducted to explore how offering student choice impacts student learning outcomes. A pilot study was conducted in the Fall in which students in a suburban, 4th grade classroom were given the option to type or voice record their written responses to text-based short response questions. In the Spring semester, an in-depth study was conducted that included multiple forms of choice assessments across multiple units of instruction. All data was collected through the district’s student management system on a weekly basis. Student responses were scored on a scale from below basic to advanced using both district grading scales and the Pennsylvania PSSA Text

Dependent Analysis Scoring Guidelines. At the end of both studies, students were given a survey looking for their response to having a choice, and the way the choice impacted how they answered the questions. Findings will be available at the Symposium.

- **Amy Frink-Educational Policy and Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“A Quest for Student Motivation and Engagement”

Student motivation and reading ability among the many adolescents enrolled in schools today across the country continue to be problematic, as only slightly more than one-third of these adolescents read at a proficient level (Paige, 2011). A pilot study conducted in the fall of 2020 examined strategies of engagement and motivation with struggling adolescent readers. The study revealed that the majority of participants’ overall engagement in reading is strongly affected by students’ intrinsic motivation towards reading. Despite their lack of enjoyment in reading, the majority are intrinsically motivated and put a lot of effort into the process of reading. The study provided a lens to the levels of interest and effort expended toward reading based on participant perceptions. It also noted that strategies of engagement incorporated within the lesson design impacted students’ ability to engage in the reading process. An in-depth study was conducted in the spring of 2021, designed to measure motivation for teaching, attitudes, and reactions from the perspectives of Wilson Reading and Learning Support Teachers, as to what are the most effective Universal Design for Learning strategies for engaging and motivating struggling adolescent readers. Because there are many variables at play when engaging students in the reading process, it is important to recognize the significance of student motivation and interest and the role each plays in that process.

Alexander Foulke

Faculty Sponsor-Dr. Michelle Szpara

“Differentiation in Writing for 7th Grade English”

This study addressed the question of whether or not strategies such as Self Regulated Development Strategy (SRSD) would help students improve their writing and move from a fixed mindset to a growth mindset. After looking at the data provided by the rubrics used for the first and final drafts of the argumentative essays, there is clear evidence that the SRSD strategy provides improvement for most students that learn the strategy. Further still, it showed improvement in creating thesis statements, elaborating upon details and statistics, and creating cohesive and powerful transitions between thoughts and ideas within the essay.

- **Jordan Scanlon-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Teachers’ Perspectives on the Effectiveness of Project-Based Learning in the ELA Curriculum on Student Learning and Engagement at the Elementary Level”

The purpose of this instrumental case study is to gather teachers’ perceptions about project-based learning in the ELA curriculum and its effectiveness on student engagement and learning at the elementary level. Based on various constructivist theories for learning, educators work to find alternative methods of teaching that positively impact the ways students learn and engage with the content. Utilizing experienced elementary teachers, grades Kindergarten to fifth, who exclusively teach with the project-based learning approach, this qualitative study seeks to identify themes from participants’ responses through an open-ended surveys, in-depth interviews, and classroom observations. From collection of the data, findings will be presented in the remainder of the paper, identifying teachers’ perspectives about project-based learning in the ELA curriculum and its effectiveness on student engagement and learning at the elementary level.

- **Robert Benton-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Alia Sheety

“Teachers’ Ability to Foster Student Creativity in the High-Stakes Testing Environment”

The influence of No Child Left Behind policy emphasized the importance of standardized testing and has impacted the landscape of curriculum in the education system (Longo, 2010). Curriculum across the nation has been altered to increase test scores for students. The alteration in curriculum has led to a school culture that puts achievement on high stake standardized tests above all aspects of education (Husband & Hunt, 2015; Blazer, 2011). This leads to the ongoing debate among educators on whether standards-based practices and lessons that cultivate creativity can coexist. The proposed quantitative research study aims to examine the relationship between teachers’ implicit conceptions of creativity and teachers’ beliefs about high stakes testing. Teaching for Creativity Scales (Rubenstein et al., 2013) and Teachers’ High Stakes Testing Survey (Brockmeier et al., 2014) will be distributed to 3rd-8th grade teachers. Four subscales will be used to measure teachers’ implicit conceptions of creativity: creative self-efficacy, environmental encouragement, societal value, and student potential (Rubenstein et al., 2013). Six subscales will be used to measure teachers’ beliefs about high stakes testing: curriculum, teaching, work satisfaction, stress, accountability, and students. A purposeful sample of teachers from the Northeastern United States will be invited to participate in the study by completing the two scales. Through the data collected, this study offers a unique perspective of the perceived relationship between high-stakes testing and teachers’ ability to plan and implement lessons that cultivate creativity.

Session 1C

- **Lizanne Pando-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Supports Needed for Higher Education Students with Down Syndrome to Succeed”

The inclusion of students with Down Syndrome (DS) in public school didn’t come about until the mid 1970’s with advocacy for a disabled child’s right to attend school with their typically-abled peers. The advance of students with DS to Higher Education (HE) only began within the last 13 years. Currently only 5% or 305 out of 5300 Institutions of Higher Education (IHE) in the US admit students with disabilities, including those with DS. The purpose of this study is to better understand what supports help those with

DS best reach their goals, as set upon entering their IHE. There is a gap in the research where students in IHE with DS are concerned, versus studies on other disabilities such as autism. This is a phenomenological qualitative study observing the lived-experience of students attending IHE with DS. This research will explore what helps in goal setting academically and socially for careers and independent citizenry. The subject pool will consist of students in HE with DS, their parents/guardians, peer-mentors, professors, director, and HE administrators. This research will use a lens of Universal Design/Universal Design for Learning (UD/UDL) and a pedagogy of presumed competence. The results of this study will be presented at the symposium. The inclusion of students with Down Syndrome (DS) to public school didn't come about until the mid 1970's with advocacy for a disabled child's right to attend school with their typically-abled peers. The advance of students with DS to Higher Education (HE) only began within the last 13 years in 2009 to HE programs and classes. Currently only 5 % or 305 out of 5300 Institutions of Higher Education (IHE) in the US that admit students with disabilities including those with DS. The purpose of this study is to better understand what supports help those with DS best reach their goals set upon entering their IHE. There is a gap in the research where students in IHE with DS are concerned vs studies on other disabilities such as autism. This is a phenomenological qualitative study observing the lived-experience of students attending IHE with DS. This research will explore what helps in goal setting academically and socially for careers and independent citizenry. The subject pool will consist of students in HE with DS, their parents/guardians, peer-mentors, professors, director, and an someone in HE as administrator. This research will use a lens of Universal Design/ Universal Design for Learning (UD/UDL) and a pedagogy of presumed competence. The results of this study will be presented at the symposium.

- **Lauren Czyszczon-Educational Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

"Professional Satisfaction of Special Education Teachers"

Since the establishment of the Individuals with Disabilities Education Act (IDEA) in 1975, implementing special education services has become more vast and complex for special education teachers. Their increasing job responsibilities may have them experiencing varying levels of occupational burnout and stress. The purpose of this qualitative study, employing an instrumental case study methodology, interviewed eight suburban, high school special education teachers, to better understand potential variances in their experiences of professional satisfaction based on assigned classroom settings. Four self-contained program (Autistic Support, Life Skills Support, and Emotional Support) teachers and four inclusion classroom teachers completed individual interviews that identified personal perceptions of burnout, contributing factors of burnout and stress, and supports either already in place or suggested for implementation to help ameliorate professional satisfaction. Results will be discussed at the Symposium.

- **Kelsey Neff-Educational Policy and Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

"Teachers' Beliefs on the Effectiveness of Technology in grades K-2"

In education, technology is being used more and more within classrooms, especially in our world today, while there is not a lot of research on its effectiveness. This case study examines experienced teachers' beliefs on the effectiveness of technology in early childhood education (grades kindergarten through second). This is an important topic to study because many classrooms are employing one-to-one technology with their students when, especially with our youngest students, there is limited research on if it helps or hinders student development at this age. To determine an answer to this question, teachers with 3+ years of experience in teaching grades K-2 at an elementary school in the northeastern US will be asked a series of questions through an online survey relating to the effectiveness of technology for their students. The results of this study will be available at the Symposium.

- **Alyssa Garrison-Educational Policy & Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“What strategies of collaboration are most effective between special education and regular education teachers in order to support social skills for 6th grade students with autism in an inclusion program?”

This case study examined the question of what strategies of collaboration are most effective between special education and regular education teachers in order to support social skills for 6th grade students with autism in an inclusion program? As schools continue to integrate students with special needs into regular education classrooms, it is important to consider the best practices for how teachers should collaborate in order to provide the least restrictive environment for their students. This study was conducted in a middle school located in Z County, Pennsylvania. The teachers who participated in this study range from ages 30-60 years and have had at least 5 years of teaching experience. Data for this study was collected through interviews and surveys provided to the general education teachers who teach inclusion classes at the middle school.

Session 1D

- **Renee Campbell-Educational Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“The Benefits of Trauma Informed Practices”

The topic of this research study is the importance of incorporating trauma informed practices in the classroom. The research was conducted to answer the following question: How has the implementation of trauma informed practices among K-2 elementary students improved student behaviors and interactions within the school setting? This study is important because it will show the effects of how implementing trauma informed practices in the classroom can benefit the teacher, the student, their relationship, and the classroom environment. My method for this study will be phenomenology. The participants for this study will consist of elementary teachers that work with K-2 students. These teachers will be currently implementing trauma informed practices within their classroom. The teachers will be interviewed, and the interviews will be transcribed, from audio-recordings. Once the interviews are complete, the answers will be analyzed to determine if the implementation of trauma informed practices have benefited the teacher, students, and classroom environment.

- **Carolyn Reilly-Educational Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“In what ways does professional development on trauma-awareness influence middle school teachers' perceptions of and responses to student behaviors, including referrals?”

The purpose of this project is to understand the impact that participating in professional development pertaining to trauma-awareness may have on the perceptions of and responses to student behaviors by middle school teachers. It is important to conduct this study as this school has been participating in a grant from the U.S. Department of Justice for the past three years through the local Intermediate Unit. As a result of this research, it may be determined if these efforts were meaningful in terms of faculty and staff becoming trauma-aware/trauma-informed. Additionally, the impact on the students' middle school experience may be discovered. The methods used are interviews, and as of this date, this process is in the beginning stages. The results will be available at the Symposium.

- **Laura Granata-Educational Policy and Leadership-School of Education**
Faculty Sponsor-Dr. Karen W. Coldwell

“Prevalence of Anxiety and Mood Disorders in Elementary-Aged Children”

The purpose of this study is to identify the root cause of anxiety and other mood disorders in elementary-aged children. Why is there an increase in anxiety and mood disorders in elementary-aged students? The goal is to provide an intervention that reduces physical, behavioral, and psychological

anxiety in students. This study will provide teachers with information on what the possible causes are in order to act in a proactive way. The study will also provide clear strategies to help reduce anxiety and other mood disorders in children. The teacher will implement mindfulness activities, breathing exercises, self-regulation strategies, and coping strategies in a sixth grade classroom to study the impact on student anxiety disorders. The study will take place over a span of 6-8 weeks. The students will benefit by being more aware of their own thoughts and feelings. The students should begin to self-regulate with ease and feel comfortable talking to adults about their worries or fears. The outcome will be a better understanding of what causes anxiety and other mood disorders to develop strategies that provide long-term benefits. The results of this research are pending and will be available at the Symposium.

- **Aisha Eubanks-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Examining Trauma Informed Practices in Title 1 Urban Schools: Educators’ Perspectives”

There is an increasing need for service to the most vulnerable communities with high adverse childhood experiences (ACE), to identify prevention strategies that support children and reduce the potential risk of high ACE scores. Few studies focus on the perspectives of educators and educator-support professionals who are working directly in schools within communities where African-American/Black students have disproportionate rates of community or personal traumatic experiences. This qualitative grounded theory study gathered open-ended surveys and interviews of staff working in education to examine current perspectives regarding incorporating trauma-informed practices in a high school deemed an under-resourced, low socioeconomic, urban, Title 1 school district. These schools often have a high percentage of African American/Black students. Data collection methods included participant selection based on the criteria that they work within a Title 1 urban school in a large metropolitan area. The research gives an overview of the following perspectives from educators and educator support professionals: 1) Necessity and effectiveness of trauma-informed practices in their current schools; 2) Potential barriers and challenges with adopting a trauma-informed approach; and 3) Potential barriers preventing staff members from adopting a trauma-informed approach. By examining the educator and educator-support professionals’ perspectives, recommendations of trauma-informed intervention strategies useful in Title 1 urban schools are identified, in order to establish a positive learning environment for African American/Black students experiencing traumatic and challenging events.

Session 1E

- **Saher Masoodi-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Teacher Perceptions of the Strengths and Needs of Pakistani, Bengali, and Indian ELL Students in the U.S.”

The following is a qualitative study that explores teachers’ perceptions of ELL (English Language Learner) students of Pakistani, Bengali, and Indian origin. Students of South Asian descent have fairly similar historical and cultural backgrounds. However, there is a large discrepancy among the high school completion rates of immigrant Pakistanis, Bengalis, and Indians in the U.S. According to the National Center for Education Statistics, 1.9% of Pakistani students, 1.8% of Indian students, and 4.2% of Bengali students drop out of high school in the United States (2017). This phenomenological study attempts to describe teachers’ perceptions of South Asian immigrant high school students to better understand their interpretation of the students’ experiences, strengths, barriers, and beliefs in or about education. Despite comprehensive research that includes the comparative or contrasting backgrounds of broader groups such as Asian, Hispanic, Black, and White students, studies on the comparative or contrasting backgrounds of specific South Asian subgroups is minimal. It is essential to discover the meaning and rationale behind these dropout rates so teachers can effectively help their ELL students succeed in the classroom and ultimately reach their goals. For this pilot study, the researcher interviewed two teachers of ELL students at two different public high schools in Pennsylvania. Themes/Data will be available at the Symposium.

- **JoEllen Paldino-Educational Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“Teacher efficacy in relation to culturally proficient teaching and its impact on classroom practices”

With the increase of culturally diverse students and pluralistic populations entering the education system, it has become essential for teachers to understand and practice culturally responsive teaching. Culturally responsive teaching (CRT) is not only defined as understanding the characteristics and experiences of students but also how students communicate, learn, and build relationships (Gay, 2018). For teachers to understand how their teaching practices affect their students, teachers must first understand how to reflect upon their individual cultural frame of reference. Research has shown that teachers who successfully implement CRT can act as change agents within their schools (Cruz, 2020). This study will allow teachers the opportunity to reflect on their understanding of their use of culturally relevant instructional practices by allowing the teachers to reflect on their own implicit biases. This phenomenological qualitative study attempts to understand the perceptions and self-efficacy of middle school teachers in relation to providing culturally relevant instructional practices into the classroom. By allowing the teachers the opportunity to reflect on their practice, the researcher is hoping to increase the number of times teachers review their practice and reflect on the current students in their class. In this mini-study, the researcher will interview six middle school teachers to examine how the professional development they are receiving is flowing into their classroom practices. The findings in this study support the idea that teacher self-efficacy related to culturally responsive teaching does affect their classroom practice and instructional choices.

- **Laura Chisholm-Educational Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“Educational Equality for Hispanic Students: Supports and Barriers to Persistence between 2015 - 2020”

With the large discrepancy between the graduation rates of Hispanic students and students from other racial and ethnic backgrounds, it is both an equity issue and an economic imperative that higher education institutions focus on the retention and support of Hispanic students. This qualitative phenomenological study seeks to understand the perceived supports and barriers to enrollment and graduation that Hispanic students have faced between 2015 and 2021, a time when increased public bias against the Hispanic community perpetuated American society, and the coronavirus pandemic disproportionately affected the Hispanic community. The methodology includes focus groups and individual interviews with Hispanic students and recent graduates, and interviews with higher education leader-practitioners. Results will be available at the Symposium.

- **Jaclyn Davidson-Educational Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“What are The Perceptions of Middle School Students Regarding the Inclusivity of the School Curriculum and Social Environment for LGBTQ+ Youth in a Well-Resourced Suburban School District in the Northeastern United States?”

In this qualitative, phenomenological study, middle school participants were asked about their experiences and perceptions of the inclusiveness of the curriculum and climate of their school. The focus group took place over Zoom due to the pandemic, and consisted of participants who were in grades 7 and 8. In order to create more welcoming school environments and to support more marginalized students, adults in schools must first listen to the experiences and the perceptions of these students. This study is the first step in moving towards that goal. The results will be available at the Symposium.

Session 1F

- **Marrea Walker-Smith-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“RESPECT AND REPUTATION: PRECURSOR TO SCHOOL VIOLENCE AMONG AFRICAN AMERICAN MALES IN LOW-INCOME NEIGHBORHOODS.”

School violence among African American males at "The High" mirrors the violence in C-City, which is known for high poverty, crime, and murder rates. This retrospective qualitative case study examines a community's social norms for respect and reputation as a precursor to school violence. The study consists of interviews and an ordinal scaled survey of five African American males ages 18-25, residing in low-income communities, and admitting to at least one incident of violence at The High. A pilot study provided the researcher with an opportunity to understand the emic terms and culture. The researcher disputes critical race theory (CRT) as a framework for the study, but evaluates the tenets of CRT in the literature review to avoid bias. Bronfenbrenner's ecological systems theoretical framework was applied to explore the influence that peers, family, and neighborhoods have on an individual's interaction within the community. A snowball sampling approach was applied, which resulted in authentic data collection, trust, and transparency among participants in the study; the researcher grew up in the low-income site for the study. There is a gap in research in natural settings that evaluates the impact that peers, families, and neighborhoods have on school violence. Further research should explore a model to shift the community's social norms and values that may impact school violence.

- **Tequila Jimenez-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Exploring the Effects of Trauma on African American Males Impacted by Incarceration, Recidivism, and Systemic Racism”

The reality of being involved within the penal system in the United States can possibly lead to varying levels of traumatization. The proposed research will focus on the potential development of emotional and/or mental health disorders that may stem from traumatization experienced during incarceration and throughout the recidivism cycle. In particular, encounters that happen between the criminal justice system and the African American male population raise the question as to the population being an unconscious target of illegal racial profiling. The apprehension and stress experienced by African American males in incarceration leads to the question of the long-term effects of being incarcerated, potential traumatization, and the effects of individual quality of life post incarceration. The sample size will consist of 5 to 7 African American male participants, between the ages of 18 to 22 years old who are not currently incarcerated, but who have experienced incarceration more than once. The methodology will include a survey administered via paper or email (depending on covid-19 and external circumstances), as well as in-depth, open-ended interviews, along with field notes on the observation of each interviewee's verbal and nonverbal responses. Preliminary findings will be shared at the Symposium.

- **Serita Reels-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Unseen and unheard: Exploring Black misandric stereotypes in the everyday lived experience of housing insecure Black men attending predominately White institutions (PWIs)”

In the United States, education is believed to be one of the most realistic ways to achieve social and economic mobility. However, Black men are continuously “severed from this opportunity” (Griffin & Cummins, 2012) because of gendered racism. Studies show that Black males attending PWIs often describe feeling marginalized, put under surveillance, and missing the sense of belonging needed to

maximize their college experience (Harper, 2009; Smith, Allen, & Danley, 2007; Smith, Mustaffa, Jones, Curry, & Allen, 2016). The constant bombardment of racial stereotypes of Black men as undeserving, anti-intellectual, criminals, and athletically superior, ultimately “silence and demean Black men, while excluding many from support and care” (Griffin & Cummins, 2012). For Black male students experiencing housing insecurity, overlapping stigma and stereotypes associated with race and housing status may present additional barriers to academic success and enhance the degree to which Black males feel excluded at PWIs. The objective of this qualitative research study is to examine how Black misandric stereotypes and housing insecurity intersect to affect the college experience of Black men attending PWIs. Utilizing hermeneutical phenomenology, interviews will be conducted with two Black male students attending a private four-year PWI who have experienced housing insecurity any time during college. The interviews will be tape-recorded, transcribed, coded, and analyzed for themes and patterns. Preliminary findings will be presented at the symposium. Findings from this study will guide future research on the intersection between race, gender, and housing status, and its impact on academic success for Black male students at PWIs.

Session 2 - 6:45 pm - 7:45 pm

Session 2A

- **Kaitlyn Mancuso-Educational Policy and Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“The Importance of Social Emotional Learning in 2nd Grade Students: The Teachers' Perspective”

Social emotional learning (SEL) has been a topic that has been discussed widely in the world of education. In the fall, a pilot study was conducted in an after-school program on SEL lessons for students. In the spring, a study was conducted that focused on interviewing classroom teachers on the impacts of the SEL lessons during the 2nd grade “Class Meeting” time. The participants, which include the four teachers on the 2nd grade team, completed a Likert scale and answered three (3) open-ended questions regarding the SEL process and the lessons delivered in his or her classroom. The feedback that the participants provide by answering these questions is invaluable. The importance of social-emotional health is incredibly profound, especially given the current global pandemic. This study focuses on the teachers’ perspective, looking at the importance of the SEL lessons and all of the social-emotional skills those lessons encompass (resiliency, grit, etc.). The findings of the study will be available at the Symposium.

- **Diana Hanbeck-Educational Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“Social and Emotional Learning: Supporting Student Mental Health in Middle School”

This qualitative case study explores teacher perceptions of their use of incidental social and emotional learning strategies in a school site where no formal social and emotional learning (SEL) curriculum exists. Though there have been studies on specific curriculum-based SEL programs, there is limited research on how SEL strategies are used when no universal curriculum is in place. The study follows the SEL framework developed by the Collaborative for Academic, Social and Emotional Learning (2015) which includes the SEL competencies of self-awareness, self-management, social awareness, relationship skills, and responsible decision making. The study addresses the following questions: 1) In the absence of a universal SEL curriculum, how do middle school teachers support student mental health through

informal or planned social and emotional learning experiences? 2) What are teacher perceptions of their preparedness to support student mental health through social and emotional learning experiences? 3) How can school leaders assist teachers in their implementation of SEL? The study will include a purposeful sample of middle school teachers in a suburban school district. Interviews will be conducted virtually. Results will be available at the symposium.

- **Christine D'Annibale-Educational Policy and Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“Improving Student Engagement in High School Physical Education Class and Online P.E. Courses”

Improving student engagement in Physical Education (P.E.) class is crucial to a student’s connection to lifelong fitness. Online learning has become required for many high school students due to the Covid-19 pandemic, and many students can feel disconnected and overwhelmed in virtual learning. This paper seeks to discover effective methods and activities to engage students in an online P.E. course and investigates which programs increase participation in a P.E. class. Thirty-five students from an urban high school were evaluated based on participation in Kahoot, TikTok/ Flipgrid, chat drops, Exit tickets, and an online student engagement survey (OSE). Outcomes suggest that active learning during class can support participation and engagement, but more research needs to be conducted regarding engagement and incentives outside of class (such as incentives for using TikTok/Flipgrid). The limitations include a small sample and lack of data from students not attending class. Additional study and methods along with a larger sample in future research are indicated to determine how students engage in courses that do not require attendance in class.

- **Cathia Thomas--School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“Teacher Perceptions of the Importance of Physical Literacy Development in Pre-Kindergarten and Kindergarten Children”

The COVID-19 pandemic has changed education, whereby children are navigating digital platforms while receiving remote instruction. Opportunities for children to engage in meaningful movement play with their peers and teachers are nearly non-existent in a remote learning environment (Guan et al, 2020; Mitra et al, 2020; Moore et al. 2020). However, movement promotes better use of the brain and overall quality of life. Children must move to learn, but should first learn to move. Whitehead (2010) refers to the motivation, confidence, physical competence, knowledge, and understanding to value and take responsibility for maintaining purposeful physical activity throughout life as Physical Literacy (PL). PL is a lifelong journey that starts in early childhood. If children are exposed to physical literacy knowledge and apply it in their childhood, they are more likely to maintain this and live a healthy lifestyle in adulthood. Despite extensive evidence in describing ways in which increased physical movement in early childhood programs is related to and may even predict advances in cognition (Tompsonski, Davis, Miller & Naglieri, 2008), there is minimal research exploring teachers' understanding and perceptions of physical literacy development in pre-kindergarten (PK) and kindergarten (K) classrooms. Therefore, this qualitative study aims to investigate the following research questions:

(1) What are PK/K teachers' understandings and perceptions regarding the importance of incorporating physical literacy into the curriculum?

(2) How do PK/K teachers incorporate physical literacy into instruction to promote learning?

(3) How can administrators support the use of physical literacy in PK/K classrooms?

Preliminary findings will be shared at the Symposium.

Session 2B

- **Treana Sadler-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Perceptions of Directors of Equity regarding their Self-Efficacy in Implementing District Equity Plans and Goals”

The achievement gap, disproportionality identification for special education services as well referrals for disciplinary action has compelled school districts to take a stance on issues of diversity, equity and inclusion (DEI). One way that school districts espouse their commitment to DEI is by developing equity statements, equity plans and equity goals. Many however, struggle with the realities of enacting such plans and goals. To address this matter, many districts have developed a new district level position, Director of Equity (DE). The purpose of this study is to explore the lived experiences of Directors of Equity in Pennsylvania suburban K-12 school districts as they implement Equity plans and goals. The method used for this study was phenomenological as it allowed the researcher to capture the experiences of 3 Directors of Equity from their perspective and allowed for better analysis of their successes and challenges. The data was elicited through personal interviews. The literature review focuses on the historical overview of educational inequities and the emergence of Chief Diversity Officers in higher education which is similar to the role of Director of Equity in the school district setting. This study fills a gap in the literature as this role has been researched in business and higher education but not at the school district level. In this mini-research study, the researcher interviewed 3 school district level Directors of Equity to determine their perceptions of their self-efficacy in implementing their district equity plan and/or goals. Results will be available at the Symposium.

- **Nicholas Taylor-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Minoritized Teachers’ Perceptions of the Recruitment Efforts of Suburban School Districts”

For the last two decades, there has been a growing disparity in the demographic makeup between students and teachers in U.S. public schools. As the student population grows more diverse, the teacher population has remained predominantly White. Specifically, this disparity has become more pervasive in suburban environments. Research has shown that demographically matched students and teachers yielded more positive educational outcomes for students of color. Hence, there is a great need in the U.S. education system to close the diversity gap in the teacher workforce. This qualitative study explored minoritized teachers’ perceptions of suburban school districts’ effort to recruit teachers of color. Eight teachers of color were interviewed for this study, and the findings show that the participants perceived suburban schools were indifferent to recruiting diverse candidates. Also, this study found that although minoritized teachers valued diversity, they were not deterred from seeking employment opportunities in suburban schools.

- **Jaime Parris-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Exploring the Perceptions and Experiences of Young African American Males in Under-Resourced Public Schools”

The study will examine how young African American males in grades five through twelve understand and value education in an under-resourced school district. The intent of the study is to highlight ideas and goals of new teaching techniques to reach young African American males. The central research question that will guide this study is: How do African American males, in grades 5-12, perceive their public school education experiences in an under-resourced school district? This qualitative phenomenology research study will explore African American males' experiences in grades five through

twelve. The theoretical frameworks that will serve as the lens to this study are Critical Race Theory and the Need to Belong Theory. This sample size for the study will include 12 to 15 one-on-one interviews with young African American males. Data collection will include journaling before interviews, and 2-3 focus groups of 3-4 young African American males. Participants of the study will be attending a school district that is under-resourced. Results will be shared at the Symposium.

- **Suzanne Diszler-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Perceptions, Influences, and Reasons for Teachers’ Paid Time Off and Supports Necessary to Improve Attendance”

Many factors can contribute to the academic success of elementary age students, but one must not overlook the importance of the classroom teacher. Teachers are constantly looking for areas in which they can improve classroom instruction, new strategies are being developed, and best practices are being put into place, but teachers must also realize the impact their attendance has on districts, schools, and students. Teacher absenteeism is an international concern yet is a behavior that is not well understood. Measuring teacher absenteeism is difficult as it is not factored into local, state, or federal accountability requirements and teacher attendance policies are created locally through collective bargaining agreements. The purpose of this qualitative study is to gain a better understanding of the perceptions about, attitudes towards, and reasons teachers use paid time off and to determine the supports teachers need to improve their attendance. Once building leadership begins to understand how culture and climate affects teacher attendance and teachers begin to reflect on their reasons for utilizing paid time off school systems may experience organic change without making drastic changes to the system. The findings from this research study will be available at the symposium.

Session 2C

- **Alyson Cohen-Educational Policy and Leadership-School of Education**

Faculty Sponsor-Dr. Karen W. Coldwell

“The Influence of Visual Graphing and Student Centered Learning Goals on Growth Mindset in Oral Reading Fluency”

This study was used to determine if student mindset could be influenced by an outside force, in addition to having students set personal learning goals that promote self-motivation. The objective of this study was to examine if students who once possessed a fixed mindset when it comes to their oral reading fluency (ORF) skills could alter their mindset towards believing they are capable of making authentic growth in their abilities. The research question of this study asked if students were able to visually see their growth on their ORF skills graphed, along with being asked to set their own achievable learning goals, would they become more likely to possess a growth mindset about their ORF skills? It was hypothesized that students’ development of a growth mindset over a fixed mindset could be positively influenced by such interventions. Data were collected from students in the learning support program at O. Educational Center in grades 4th-8th following the written consent of their principal, guardians, and themselves. Data collection took place within the classroom setting and involved providing an initial questionnaire and interview questions before the intervention was implemented. Following the implementation of the intervention, a follow-up questionnaire was provided and another interview was conducted by the primary investigator. Results of both the questionnaire and interview questions are currently being compiled and compared in order to identify consistent themes and outcomes across all student participant answers. Results of this research study will be made available at the research symposium in May, 2021.

- **Patricia Pardini-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Carolyn Berenato

“What is the Impact of the Success for All: Reading Edge Program on a Title I Middle School?”

With the passage of NCLB, and its successor ESSA, there has been an increased focus on the reading abilities of students, especially in Title I schools. To meet the requirements of the various legislation and close the opportunity gap, schools have begun purchasing scripted reading programs that promise to help students show growth in reading abilities. These programs are alluring to districts because of their promised quick results on standardized testing and their “cover everything” model that forces every classroom to follow the same script, therefore, providing the exact same education for each student. One of the most popular and widely used school reform programs has been created by the Success for All Foundation. The Reading Edge program was developed to fit the specific needs of students in middle school, to promote reading growth and teach skills necessary to be successful in high school. The schools that tend to buy into SFA programs are high poverty, high minority, urban, Title I schools that are struggling to show growth on state mandated tests. With students in these schools already viewed as disadvantaged, research needs to be done to make sure that these programs are not increasing the opportunity gap. This independent study will focus on what the impact of the SFA: Reading Edge program is on a Title I middle school, allowing for the results to join the growing literature on how reading should be taught in schools and what needs to be done to help close the opportunity gap.

- **Ann Senoyuit-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“The Use and Effect of ELL Content Overlays on ESL English language Proficiency and Content Instruction”

English Language Learners represent a growing population in schools. To meet the linguistic needs of this population, effective research-based instructional models should be applied, such as the Sheltered Instruction Observation Protocol (SIOP) and the Language-Based Approach to Content Instruction (LACI), which support language and content development through English language development goals. These approaches also need to be integrated with content strands and utilize Model Performance Indicators. This phenomenological qualitative study asks regular education teachers who teach English language learners about their perceptions of the PA English Language Learners Content Overlays. The study intends to determine the effect on English language proficiency and content instruction and determine if any professional development is required, based on the perceptions of the teachers. The study fills a gap in the published literature, as the use and effectiveness of the ELL Content Overlays by Pennsylvania teachers have not been explored in formal research. My limited study results indicate that content area teachers believe that they need additional training to meet their English language learners' needs.

- **Megan Trexler-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Exploring the Impact of Structured Word Inquiry on Developmental College Students’ Perceptions of Self- Efficacy in Reading”

Developmental education plays a major role across the nation’s community colleges and public, four-year universities (Center for the Analysis of Postsecondary Readiness, 2021). Although developmental education has many benefits, research shows that developmental students often have a lower self-concept than their college-level peers (Goldwasser et al., 2017). This is problematic because self-concept, as well as its precursor self-efficacy, influences general academic performance and persistence (Bong & Skaalvik, 2003). Within the context of reading instruction, self-efficacy influences motivation, processes, and achievement (Cantrell et al., 2014). Despite the importance of self-efficacy in reading performance, prevalent literacy instruction frames the English language as illogical and irregular (Byrne, 2014). These representations reinforce learning methods, such as memorization of spelling and

vocabulary, that do not necessarily maximize self-efficacy (Kulakow, 2020). Therefore, this study will explore the impact that structured word inquiry (SWI)—an orthographic approach to literacy—has on developmental college students' perceptions of self-efficacy in reading and strategic reading practices. To explore this impact, a grounded theory study will be conducted during SWI instruction of approximately 120 students across 10 sections of developmental college reading. Data, which will be collected from two pilot studies as well as the proposed dissertation study, will include pre-and post-SWI instruction surveys, a reliable and validated self-efficacy survey (Cantrell et al., 2014), word sorts, audio recordings of instructional sessions, reflective journals, individual interviews, and SWI instructional class projects. This investigation will explore the way students' self-efficacy is influenced by a literacy approach that frames the English orthography as logical and investigates words through morphology, etymology, and phonology. Results will be available at the Symposium.

Session 2D

- **Matthew Kashow-Educational Policy and Leadership-School of Education**
Faculty Sponsor-Dr. Karen W. Coldwell

“How Does Participation and Collaboration Affect Overall Student Performance in a Virtual/Hybrid Setting?”

The purpose of this project is to see if there is a direct relationship between student engagement and collaboration compared to overall performance within a virtual/hybrid setting. This school year has been like no other with the ongoing transitions between hybrid and virtual methods of instruction. I surveyed ten of my colleagues, who have a wide variety of teaching experiences, teach different grade levels, and teach in a wide variety of different school districts. The teachers answered a ten-question survey about which collaboration tools they use, how affected has their school district been with this transition between hybrid/virtual learning, and what they would like to see be done differently. As educators, we need to take the time to make sure that the material we are presenting to our students can be learned and mastered within the classroom. Having half of the student population fully virtual and then only seeing the other students once a week makes it that much more challenging. After going through all the teachers' results, examining research studies, and reading other helpful resources, there is a direct relationship between students' engagement and collaboration compared to the students' overall performance in a hybrid/virtual setting.

- **Timika Mills-Educational Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“Correlation between Sleep Deprivation and Behavior Disorders in Lower Elementary School Students in Grades Kindergarten through Second”

Sleep deprivation among school age children has become another challenge for educators to contend with, as they are also forced to compete with issues related to mental and physical health, excessive technology usage, family dynamics, and socio-economic status. When the added stress of sleep loss due to the commuting time of the underserved traveling to and from schools outside of their local districts for a better educational opportunity is factored in, the issue becomes more complex. Sleep problems significantly influence cognitive functioning and a person's well-being. This qualitative ethnographic research examines the relationship between sleep deprivation and behavior disorders among primarily African American and Hispanic lower elementary school students from a low socioeconomic background. A total of twelve essential staff members from the school, including principals, counselors, deans, and teachers, participated in the study by completing a survey or being interviewed by the researcher. In this study the guiding question is as follows: In the perception and experiences of the teacher, how might sleep deprivation impact the decisions made to refer students for special services regarding issues surrounding negative behavior among minority children from a low socioeconomic background in lower elementary school students in kindergarten through second grade? The results of this research will be available at the Symposium.

- **William Roth-Educational Policy and Leadership-School of Education**

Faculty Sponsor-Dr. Karen W. Coldwell

“Effective Practices for Engagement During Hybrid Learning”

Students are not actively engaged within a hybrid learning environment. Compared to traditional brick and mortar schooling, students are actively participating less – whether it is a silent participant on Zoom with a camera and a microphone off or an unmotivated participant in class who does not engage in the lesson. The purpose of this study is to find actionable best practices and solutions that can be used to help increase classroom dialogue, collaboration, motivation, and engagement in a hybrid learning where a teacher is simultaneously teaching students in person and virtually. The gap in learning, increase in apathy to learning, and negative social emotional health effects from teaching in a restrictive hybrid environment due to COVID-19 needs to be challenged and countered to help mitigate the damages. The method used in this study will be warmup activities, relating to the 7th grade course subject of public speaking, facilitated during the first 10 minutes of class each day. Surveys will be given to participating students at the beginning and end of the study to determine outcomes, and a physical checklist will be used for progress monitoring during the warmup activities to collect data. The results of this study will be available at the Symposium.

- **Marcia Vela and Co-presenters-Educational Policy and Leadership-School of Education**

Faculty Sponsor-Dr. Karen W. Coldwell

“Integrating Interactive Digital Media Resources to Promote Language Development, and Increase Student Engagement and Academic Achievement”

The purpose of my study is to integrate Interactive Digital Resources to promote language development and increase student engagement and academic achievement. I focused specifically on students' assignments and/or class activities and participation in the classroom. Findings indicate that online learner participation and patterns of participation are influenced by the following factors: technology, content area, experience, student roles, and instructional tasks. Monitoring student patterns of work completion and class engagement closely can help educators identify student needs. In-class participation, as well as virtual participation, were recorded and monitored to measure the effect. The two questions the results of this intervention sought to answer are:

1) Will integrating interactive digital tools in the Spanish classroom promote language development?

AND

2) If there is an integration of interactive digital tools, does it have any effect on student academic achievement?

There were four points of data collected in order to integrate interactive digital tools to promote language development and increase student academic achievement. An online pre-survey of each student provided data on how students utilized the resources placed on the web-based platform, and it allowed a baseline to be established so growth could be measured. A record was kept of each student's completion of each daily activity, and the results were compared to that of the pre-survey in order to measure if, in fact, there was an increase in language development as well as a post-survey to gather student input and perceptions. Results will be available at the Symposium.

Session 2E

- **John Simmons-Educational Policy and Leadership-School of Education**

Faculty Sponsor-Dr. Karen W. Coldwell

“Comfortability of Students during Math Instruction”

Some students tend to lack the willingness and/or ability to discuss math and in general do not demonstrate strong number sense. Math is seen as procedural and simply a subject where the teacher does something and the student repeats it and then is tested on the procedure. In this view, there are

wrong answers and a right answer, which may lead to student discomfort in speaking and sharing during math instruction. This view does not allow students to truly discuss the math, which makes it harder for them to communicate using math. This action research project will aim to measure the effect of a teaching style and lessons that focus more on discussion, number sense, and error analysis rather than procedure. The ultimate goal is to help students be more comfortable asking questions and discussing math, while realizing being “wrong” is okay. The purpose of the study is to answer the question, “How can math instruction be adjusted to alleviate any factors that negatively impact comfortability?” Data will be collected via surveys, based on interventions aimed at making students more comfortable during math instruction. Student responses will determine the level of effectiveness of the interventions. Results are pending and will be available at the symposium.

- **Gregory Orapallo-Educational Policy and Leadership-School of Education**
Faculty Sponsor-Dr. Karen W. Coldwell

“Using Historical Inquiry to Keep Middle School Students Engaged in Learning Social Studies”

Many social studies teachers face the challenge of keeping their students engaged in the subject matter. This stems from the fact that in the 21st century there is an abundance of technology and information at the fingertips of all students. The traditionalist model of teaching no longer fits within the framework of society today. Teaching students to be active thinkers is essential to being successful in all aspects of life. Using inquiry can get students to develop active thinking skills and to come to conclusions about certain historical events without the bias of the educator telling students these truths; instead, they arrive at those truths on their own. This action research study focuses on the implementation of historical inquiry in a middle school social studies classroom using collaborative-based learning activities. The goal of this study is to investigate the impact these activities have on both student engagement and achievement. The research questions that were addressed in this study are: Does the implementation of historical inquiry in a middle school social studies class lead to greater student engagement compared to traditional teaching strategies? Does using collaborative-based learning activities lead to greater student understanding and achievement? Through incorporating relevant material and experiences, therefore promoting student participation in their own learning, they are likely to engage in their own method of inquiry which will result in them pursuing truth and lasting knowledge. Qualitative research methods were used in this research study. Methods such as surveys and first-hand observation were employed to learn about the student experiences of being involved in different collaborative inquiry-based learning activities. The results of this study will be available at the Symposium.

- **Julie Taddeo-Educational Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“Academic and nonacademic supports needed for first-generation, low socioeconomic, minority students to persist in general science courses”

First-generation, low socioeconomic, minority students may not be accepted into nursing programs because they may be unable to successfully complete nursing prerequisites, which include rigorous science classes (Nadeau, 2014). There are many contributing reasons for this phenomenon; the present study will examine the role of the college in supporting students through their science courses. This is a concern not only for colleges, but also for under-served communities. The United States has a need for diversity in the healthcare field of nursing, and with so many first-generation, low socioeconomic, minority students not being accepted to nursing schools, we will continue to see these inequities in the healthcare delivery system (Ackerman-Barger & Hummel, 2015). The United States has a diverse population, yet the number of White registered nurses far outweighs the number of Black registered nurses. There is not a shortage of minorities applying for nursing programs, but persisting in the sciences has proved to be challenging, and students often leave college before earning a degree. This phenomenological study will consist of a survey, interviews, and focus groups with students in the allied health science program, to learn how, from the student’s perspective, the college can better support these students to persist in their prerequisite courses. The preliminary results from this study will be shared at the Symposium.

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- **Gloria Thompson-Educational Policy and Leadership-School of Education**

Faculty Sponsor-Dr. Jennifer Gaudioso

“Financial Literacy Education”

Students are leaving formal education without any experience in making financial decisions. Financial literacy is omitted from most curricula in public schools, because it is not valued highly against other core curricula. This omission may be leaving a generation of students saddled with the repercussions of poor financial decisions. An examination of the impact of these decisions on financial literacy education was proposed. Discussion of findings will be provided at the Symposium.

Session 2F

- **Megan Desjardins-Educational Policy and Leadership-School of Education**

Faculty Sponsor-Dr. Karen Coldwell

“Resiliency Strategies for Students in the Coronavirus Pandemic”

This research project is going to examine resiliency strategies and their effectiveness for both elementary and middle school students. How can I incorporate and help them utilize resiliency strategies to overcome hurdles they are facing because of the coronavirus pandemic? The purpose of my research is to help students utilize resiliency strategies to overcome challenges. This research is needed because students have been forced to adapt and change the way they live their home and school life in the past year. This has caused tremendous stress and new challenges that are unknown to them. Providing resiliency strategies and ways to cope with this pandemic are essential to our students' mental health and success in school.

For this research, I will be including a total of six teachers to assist me with this project. Three elementary and three middle school educators will be my participants. They will be given surveys and lessons to incorporate in their classroom. The surveys will be qualitative and they will be able to show me the effectiveness of the lessons and if they helped students. Results of my project and research will be shared during my symposium presentation.

- **Noelle Porco-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Student and Faculty’s Perception of the Arts Education Program in a high achieving High School”

This phenomenological study poses the question: how do staff and students of an academically high performing high school view their access to arts education? Additional probing questions were asked to assess their perception of art programs in schools of different demographics and how the arts have been beneficial in their lives. Art teachers were also interviewed to find connections between student and teacher perception. Many scholars have discussed the incredible potential the arts hold for enhancing children’s learning, development, and positive identity formation in the contexts of racial, linguistic, and economic marginalization (Chapell and Cahnmann-Taylor, 2013; Gadsden, 2008, as cited in Acuff, Kraehe, and Travis, 2016). Do students who participate long term in the arts believe this to be true? Additionally, this research will strive to illuminate the need for arts programming across all education settings, for both academic and emotional growth. There were seven students and two art faculty who participated in 25-30 minute recorded interviews. All student participants have been actively engaged in the school's arts program all four years of high school. The results will be available at the symposium.

- **Laura Avila-Educational Leadership-School of Education**

Faculty Sponsor-Dr. Michelle Szpara

“Teaching for Transformation: How can a curriculum development tool support suburban high school humanities educators teaching for transformation and social justice?”

Teaching for transformation and cultivating agents of empathy and change in society is a daunting, yet crucial role for teachers who believe in a better tomorrow. Unfortunately, there are many challenges to overcome that often prevent teachers from accomplishing such a worthy effort, despite their desire to

do so. Some of these obstacles may include lack of training, minimal support from administration, teacher and student passivity, and standardization, among others. Given recent events and social unrest in the United States, some districts are now more open to addressing issues of social justice and equity from a curricular perspective, yet teachers are still widely unprepared to implement the kind of teaching strategies that this work requires. This phenomenological study evaluates the effectiveness of a curriculum development tool designed to support the work of teaching for transformation and social justice. English, social studies, and world language teachers from suburban high schools in three different states used the curriculum development tool to plan one unit. Teachers were not asked to teach the unit for this study, however, the researcher interviewed the teachers about their experience and the impact of this tool on their planning process, confidence to teach for social justice, and resulting curriculum for their unit. Data will be analyzed using critical theory and transformative learning theory frameworks. Results will be available at the symposium.

- **Isabel Portelli-Educational Policy and Leadership-School of Education**
Faculty Sponsor-Dr. Karen W. Coldwell

“Growth Mindset in World Language Acquisition”

Students struggle with focusing on growth and overcoming challenges that can lead them to higher confidence and clearer understanding in developing language proficiency. An intervention that helps students build higher confidence in ability to learn a foreign language, and is student-centered, is depicted in the “Growth Mindset” program. The intervention in this Action Research project is to change or improve students’ perspectives and ideas about language learning to help in the understanding that “Fixed mindsets can hold us back from learning” (Mindset Works Inc., 2017). To guide this research project, and propose solutions for increasing the effectiveness of students' learning, answers to the following inquiry questions will be sought:

- How can I emphasize and make clear to my students that it is acceptable to make mistakes that help a person learn a foreign language?
- What resources and self-assessment tools can I provide for my students to improve their growth mindset and improve language proficiency?
- How can I use current trends/patterns to help them focus on increasing proficiency to communicate better in the target language?
- What language practice opportunities can I use to develop confidence and perseverance to support my students' growth mindset in learning the target language?

To measure the effectiveness of the intervention, when the lessons and activities are completed, students will engage in a 10-minute formative and qualitative activity answering “I Can” Statements to rate their understanding of Student Objectives in the lessons. Results of the intervention will be available at the symposium presentation.

Guest Presentations by Doctoral Candidates and Alumni - 8:00 pm - 9:00 pm

- **Chaka Moore, Doctoral Candidate-Educational Leadership-School of Education**
Faculty Sponsor-Dr. Michelle Szpara

“The Classroom Experience of Queer Women of Color at Historically Black Colleges and Universities”

The purpose of this study is to explore what openly lesbian and queer female students experience in classrooms at historically Black colleges and universities (HBCUs). Using a phenomenological methodology to understand the experiences of both masculine and feminine women who openly identify as queer or lesbian, the study will evaluate how society's norms may play a role in how these students are treated, based on the openness of their sexuality, and comfortability with participation in

classroom discussions. The study will also evaluate how participants' interactions with classmates and professors may affect with their learning, based on the level of heteronormativity/homophobia in the classroom. The LGBTQ community faces many adversities in society regarding diversity and inclusion issues in organizations. For many lesbians or queer women of color, they find difficulties in being fully themselves during everyday interactions. Loiacano (1989) demonstrated the quandaries that Black lesbians face in finding a community that offers acceptance for all aspects of their identities. In addition to being lesbian, identifying as masculine or feminine based on appearance can also add to the level of potential harassment. Greene and Boyd-Franklin (1996) argue that compared to White lesbians, Black lesbians experience "triple jeopardy" in dealing with multiple forms of oppression (i.e., gender, race, and sexual orientation). The proposed phenomenological study will explore the voices of Black lesbian and queer students at HBCUs, utilizing surveys, interviews, and focus groups to understand their classroom experiences and how the intersectionalities of race, gender, and sexual orientation may impact their learning.

- **Dr. Kathleen Ann Newman DiMichele**

"Supports and Challenges for Lesbian, Gay, Bisexual, Transgender, Queer/Questioning and Asexual Middle School Students"

Lesbian, gay, bisexual, transgender, queer/questioning, intersex, and asexual (LGBTQIA+)- identifying students are at increased risk for depression, suicide ideation, suicide, truancy, and academic failure. Youth, identifying as non-binary in gender identity and/or sexual orientation face unique challenges and need for supports, which are grossly underestimated by staff in middle schools, manifesting in policy inadequacies, and unethical allocation of limited resources. The publication and sharing of the recommendations made in this study may impact the lives of the participants, middle school institutions, and this researcher through the raising of consciousness. This study provides a voice to this at-risk population from a critical framework, resting on the presupposition that informed educational leaders can be a vehicle with the goal of improved acceptance of diversity of values. A transformative approach, starting with the assumptions that this group is marginalized, under or not supported by the current laws, and are in need of advocacy was employed. Emailed surveys and interviews were used to answer the primary research question: What supports and barriers to academic, social, and physical health exist on middle school campuses for LGBTQIA+ youth and their allies? University students anonymously provided the participants for this phenomenological study, completing Likert scale questions in addition to open-ended questions on SurveyMonkey. LGBTQIA+ students participated in recorded interviews, with responses and transcripts analyzed for emergent themes. Findings indicate that exposure to discrimination, homophobic slurs, physical and verbal harassment were varied in frequency and intensity, and LGBTQIA+ students had little confidence in competence of staff to competently handled these incidents. The average age of questioning fell within the middle school years, and close friends were chosen for outing adults in the building or parents. The impact of non-traditional identification in middle school was not perceived to be uniform in the areas of academic health, absences, and physical health, yet social health was negative for all. Finally, access to social supports, queer literature, gender-neutral restrooms, nonheteronormative sex education and certified guidance counselors was low. Educational implications of the findings and recommendations for action are made.

- **Dr. Ism'il Ar-Rahman Lamarr**

"The Voices of At-Risk Low Socioeconomic High School Students on Weighted Homework"

The focus of this dissertation is the educational policy of weighted homework and its impact on the perceptions and experiences of at-risk, low-socioeconomic (low SES) high school students. The Glossary of Education Reform (2013) refers to "weighted" as "different levels of 'weight' given to particular

assignments within a course” (p. 1). Harris Cooper (1989) defines homework as “schoolwork that a student is assigned to do at home” (p. 1). The problem that is being addressed by this research is the unfair educational policies that contribute to the achievement gap. Weighted homework directly affects the academic success of the students attending underperforming high schools in impoverished neighborhoods. This problem has been viewed through the lens of three theoretical frameworks: Maslow’s (1943) “hierarchy of needs” theory, Eccles et al.’s (1983) “expectancy-value model” theory, and Critical Race Theory (Ladson-Billings, 1998). Using a qualitative research approach and a grounded theory research design, the researcher utilized interviews, surveys, and focus groups to triangulate and examine the perceptions of weighted homework from 30 students who attended high schools that are deemed at-risk and low socioeconomic status. The research question is: What are the perceptions of weighted homework from high school students deemed at-risk from low socioeconomic backgrounds? The results revealed that weighted homework has had a perceived negative impact on the experiences of at-risk low SES high school students’ achievement, motivation, and homelife. Recommendations from the findings focus on equitable education policies, restorative grading, optional homework assignments, or elimination of the policy of weighted homework.

Acknowledgments

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