



Arts - Research - Scholarship

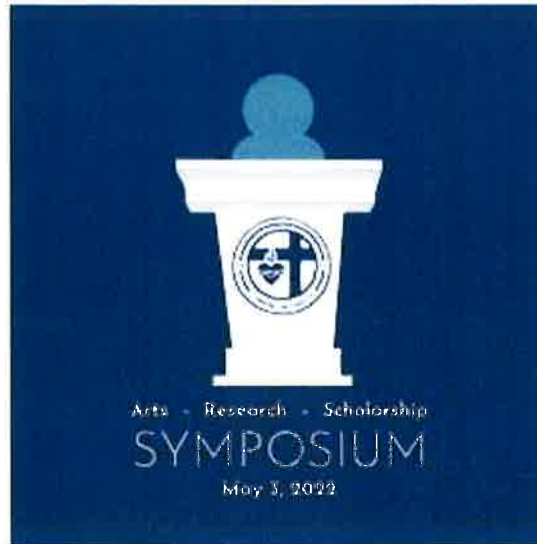
SYMPOSIUM

Cabrini University

May 3, 2022

Abstract Book





Arts, Research & Scholarship Symposium May 3, 2022

Abstract Book

Poster Presentations

Business Department The School of Business and Professional Studies

- Conley, Lauryn:
Faculty Sponsor: Dr. Erin McLaughlin
"People Planet Profit"
Throughout the 2022 Spring Semester the class of ECG 300 People, Planet, Profit has worked very hard organizing and leading community engagement activities. At the beginning of the semester, the class was divided up into six different groups each that had a different community involved. Along with the six groups we were also working alongside Enactus members at Cabrini University. This semester we went from students in a classroom learning to organizing events, connecting with leaders across the world, and brainstorming with some of the best that Cabrini offers. This poster presentation will describe the work and the impact that these engagements have had on the communities they represented.

- Gerace, Carly:

Faculty Sponsor: Dr. Kareem Tannous

"The Effect of Income Levels on Consumer Behavior of Residents in Pennsylvania"

In this study, I conducted a regression analysis to analyze the relationship between the overall level of income, since 1997, and its effect on the consumer behavior of residents in Pennsylvania. The purpose of this study was to determine whether or not income levels can predict consumer spending exclusively over the past 23 years in PA. I used Personal Consumption Expenditures for Goods and Services in accordance with the Real Median Household Income to investigate the relationship between these two variables. This analysis was done without consideration of the economic conditions during the years being studied, so the influence of other economic factors will not be analyzed in this particular study. The results concluded statistical significance of the interaction between these two variables since the year 1997 at level, $\alpha = 0.05$.

Communication Department The School of Business and Professional Studies

- Baker, Ethan and Marissa Watts:

Faculty Sponsor: Dr. John Cordes

"Mental Health Services"

The proposed research question is "what mental health resources are being offered at colleges to help guide students in crisis and do students have sufficient information about them?" The purpose of studying college counseling and psychological services at Cabrini University is to determine student awareness of all mental health resource amenities on campus and ask for student feedback about use and any suggestions for changes. This pilot study has three components: - a student survey of 16 questions using Google Forms distributed to a convenience sample through private social media accounts; - answers by a counselor in the Cabrini Counseling and Psychological Services (CaPS) to a set of written questions; - and a content analysis of selected websites devoted to mental health resources at other Schools in the Southeastern Pennsylvania Consortium for Higher Education (SEPCHE). The results will be presented at the Arts, Research & Scholarship Symposium.

- Canan, Cecilia and Wyatt Haney:

Faculty Sponsor: Dr. John Cordes

"College Students Identity Development Through Social Media"

Social media use by young adults is a phenomenon growing every day and beginning to gain world-wide attention. But research behind the influence of social media on its youthful users is just in its early stages. Generation Z is the guinea pigs to this new hyper-influence. This study uses a combination of theory and research to understand the significance of social media to college students' mental health. An online survey in GoogleDocs was created for a convenience sample of anonymous participants between the ages of 18-25 using private social media accounts . It contains multiple-choice questions and open-ended questions

focusing on the use and effects of the Instagram social media platform. This survey allows students to give an honest reflection on their personal identity and self-perception as related to social media. It evaluates the extent of their use of social media and unravels possible connections to mental health and their social media decisions, and asks how they feel social media has impacted their character. An understanding of the results will contribute to the ongoing investigation of one of the greatest influences on young adults of this era. The survey was fielded in March and April 2022. The results will be presented at the Arts, Research & Scholarship Symposium.

- Crossley, Brooke and James Mercante:

Faculty Sponsor: Dr. John Cordes

"Podcast usage in 18-24 year olds"

This pilot study answers the question, "What genre of podcasts are 18-24 year olds most interested in?" The use of podcasts has increased in recent years and we want to find out the current types of podcasts that people are interested in and why. A Google Forms questionnaire of 14 questions was developed and a convenience sample was recruited through placement on several social media platforms. The questionnaire included questions on the type of podcast – audio only or video -- the types of genres used, usage habits, and what media they might replace. The study was fielded in March and April, 2022. We will present an analysis of data at the Arts, Research & Scholarship Symposium.

- Dilks, James and Samantha Voelker:

Faculty Sponsor: Dr. John Cordes

"Social Media Screen Time Effects on Daily Mood"

This research studies the correlation between social media usage and daily mood in individuals. Social media usage is at an all-time high; researching its effects on mood, especially daily changes in mood, is fundamental to learning the effects of social media. This study will add to the body of knowledge about this. A 16-question survey was created and posted on private social media accounts asking about social media use including preferred platforms and the amount and time of day use of the preferred platform, mood states, sleep patterns and impact of COVID-19 restrictions. The pilot study was fielded in March and April, 2022. The results will be presented at the Arts, Research & Scholarship Symposium.

- Fridge, Jason:

Faculty Sponsor: Dr. John Cordes

"Presenting the Scene: Creating Parasocial Relationships in Sports Broadcasts"

Researchers Donald Horton and Richard Wohl introduced the theories of parasocial interaction and parasocial relationships in the 1950s. The theories revolve around a psychological state a television audience reaches where they feel an intimate mutual social interaction with a news anchor despite the audience knowing the relationship is an illusion. It is a phenomena that has been researched in news room settings to see how characteristics of anchors impact the presence of these faux relationships. The same relationships that can be formed with audience members and news anchors are also present in sports broadcasts with the commentators guiding fans through action on the playing surface. Few studies have

looked to identify the characteristics of a broadcaster that lead to the formation of long term parasocial relationships with their audience. The goal of this project is to find the characteristics of sports broadcasters that increase parasocial relationships in a college age audience (18-23 year olds). Understanding how to appeal to this next generation of audience members in the sports broadcasting world will help to not only maximize ratings but ensure the audience gets the best experience possible. Data will be collected using a survey with audio clips of sports broadcasting calls with a distinct characteristic identified by the researcher. After listening to the clips, participants will be prompted with 20 statements based on scales previously created to measure the presence of parasocial interactions. Results will be available at the Symposium.

- Houghton, Ben and Aarin McMahon:

Faculty Sponsor: Dr. John Cordes

“Medias Negative Impact on Body Image”

The purpose of the research is to answer the question “Does a lack of body inclusivity in social media create a negative impact on an individual’s body image?”. Having a wide range of models with different body types is important for the advancement of body positivity. Using a convenience sample to adults over 18 years old, this pilot study’s survey of 13 questions on GoogleDocs was posted to private social media accounts. The survey’s closed-ended questions and open-ended questions asked about the respondents use of social media on several dimensions and self-image perceptions. The survey was fielded in March and April, 2022. The results of this survey will be available at the Arts, Research & Scholarship Symposium.

- Mukova, Francisca:

Faculty Sponsor: Dr. John Cordes

“Social Media, User Gratification and Censorship”

This study considers if censoring mechanisms such as flagging affect user gratification on social media platforms. This question is of importance because it is relevant to our time and specifically to users of social media. Many people get their news of social events, political issues, entertainment gossip, etc. from one social media platform or the other and the information they get affects how they view various topics. In 2020, social media was close to the only way to socialize with people due to the lockdowns around the world; however, it was also in this period that more people became aware of the social media platforms’ ability to cover/ censor posts and deactivate accounts entirely. This calls to question whether users can actually gain the gratification they seek from social media if their intake of information is altered. The pilot study is a survey of 20 questions using Google Forms distributed to a convenience sample by posting on my personal social media platforms and email peers. Questions included ask about social media usage habits, political orientation, and response to censorship elements in social media. The study is fielded in March and April, 2022. The results of the study will be available at the Arts, Research & Scholarship Symposium.

- Rosario, Saige and Troy Scott:

Faculty Sponsor: Dr. John Cordes

“The Effects of Social Media in Relationships”

This study explores the influence of social media on relationships. The purpose of the research is to evaluate how social media actions (e.g. specific posts) affect past, current and potential romantic relationships. Using a convenience sample from private social media accounts, respondents answer a survey of 19 questions using the Survey Monkey software and taking approximately 10 minutes to complete. The survey asks for age, gender, and race and questions about the participant’s relationship status. The participants are then given hypothetical scenarios regarding social media use and their relationships and are asked to give their natural response to each scenario. The survey was fielded in March and April 2022 and the results will be presented at the Arts, Research & Scholarship Symposium.

Health and Exercise Sciences Department The School of Arts and Sciences

- Baker, Jonathan, Dakota Bauer and Rey Maisonet:

Faculty Sponsor: Dr. Anjuli Gairola

“Metabolic Effects of Intermittent Fasting”

This study was conducted to see the effects of intermittent fasting on metabolic aspects. This is an important study because the prevalence of obesity has risen and intermittent fasting provides a healthy weight loss strategy. Research suggests that intermittent fasting can help individuals not only lose weight and fat, but also improve other health factors. Studies included groups of individuals who underwent different fasting regimens. Intermittent fasting can improve body fat, body weight, total cholesterol, blood lipids, resting metabolic rate, cardiovascular health, and other metabolic factors within the body. With this research data and conclusions, a specific fasting regimen can be tailored to an individual’s specific bodily needs. This is important because each individual’s metabolic needs will differ, but the groundwork for intermittent fasting and its positive effects will remain the same.

- Christiansen, Spenser and Maura Tumelty:

Faculty Sponsor: Dr. Anjuli Gairola

“The Effects of Celiac Disease on Metabolism”

Celiac disease (CD) is one of the most common autoimmune disorders that can cause multiple medical conditions if the body is hypersensitive to gluten. Research was done on what celiac disease is, how it is diagnosed, how it affects patients, how it impacts their metabolism, and what a person with celiac diseases’ diet would look like. Celiac disease is diagnosed through two ways, mucosal changes detected by duodenal biopsy and positive serological tests. The literature suggests through different studies that CD causes chronic fatigue, weight loss, malabsorption, gastrointestinal difficulties, lack of energy, strength, and

malnutrition. Celiac disease goes hand in hand with metabolism, if there is a problem with the key regulators for metabolism, the person has a higher chance of having the disease. There is no cure for celiac disease however, it is manageable with a strict gluten free diet. A gluten free diet can help reduce chronic inflammation, increase energy, promote weight loss, relieve digestive system issues and the research proves that a gluten free diet can return the patients back to normal metabolism rates.

- Christiansen, Spenser, Maura Tumelty, Jocelyn Ramirez and Valerie Wisner:

Faculty Sponsor: Dr. Anjuli Gairola

“Cross Examination of Physical Activity Levels and Academic Field of Study in College Students”

Our research is based on Physical Activity Levels and Academic Field of Study in College Students. The purpose of our research project is to inform our audience that physical activity is classified as any movement of the body that demands energy expenditure. Physical activity among college students is crucial because of the numerous benefits it provides. Physical activity reduces obesity, stress, and anxiety, all while having many positive effects on the body as well. Our research will be developed in two phases: Phase 1- introduction this phase consists of a brief introduction to the topic and then an overview of what we are studying. Phase 2- analysis of the data we will collect. We will use the information gathered from our research to determine if there is any difference between these two groups of students. Our findings of this study will help us to understand how different types of physical activity affect academic performance. We will send a questionnaire to all Cabrini University students who must be at least 18 years and older to participate. We will have all majors be involved in this study. The results of the survey will be used to determine whether they have any significant differences between the two groups. (Results will be shown on the day of the symposium).

- Fazzini, Morgan:

Faculty Sponsor: Dr. Anjuli Gairola

“The Damage of Processed Foods”

Processed foods have become more common in households across America (Monteiro, 2017). They are typical snacks that kids eat at lunch, in between meals, and after school (Monteiro, 2017). They are much cheaper than whole foods, last longer and easily available (Monteiro, 2017). With this being said, processed foods have become a topic of conversation due to the lack of nutrients and high calorie content (Monteiro, 2017). Consuming these foods regularly is going to hurt the body instead of help it. This is especially true for people who do not participate in physical activity because the body is not receiving the nutrients it should to recover. In addition, the excess calories for someone who does not exercise is going to spike obesity, which is already an epidemic. Having processed foods so easily accessible and inexpensive is going to continue to increase obesity rates, especially in lower socioeconomic areas.

- Ferrara, Sean:

Faculty Sponsor: Dr. Anjuli Gairola

"Caffeine Performance in Sports"

Most people in the United States take supplements, whether it's vitamins or omega 3's or some other sort of supplement. There is one other supplement that is used more than any of the other ones in the U.S. and that is caffeine. Caffeine is the single most used supplement in the United States. The average adult consumes around 3 mg/kg daily through different sources like coffee, chocolate, tea and more. But what about the non-average person what about the athlete? Research has shown that caffeine is shown to boost performance when taken and used for the sake of sports. Caffeine when an athlete takes around 9 mg/kg it was shown to make an improvement in reactions within the CNS. It improves endurance, speed, power, HR, BP, blood flow, ventilation, cognitive mood, pain, fatigue. When looking at the SNS caffeine was shown to improve cross bridge attachment, lipolysis, decrease in reaction time, muscle force production. It was also shown to increase mental alertness decreases tiredness and head aches and leave you with a sense of jitteriness.

- Pensabene, Robert:

Faculty Sponsor: Dr. Anjuli Gairola

"Comparing a Ketogenic Diet and Vegan Diet in terms of Weight Loss"

The ketogenic diet and vegan diet have been practiced all over the world for many years. In recent years there has been a surge in diet use but, there is a lack of knowledge and research on these topics. When completing a diet, it is important to consider all the effects of the diet. Considering what you are giving up, how the diet makes the individual feel, and secondary benefits are important to consider when choosing a diet. Each diet has flaws and weak spots that should also be considered. Considering all these factors in a diet allows the individual to begin the diet with confidence and trusting the process.

- Pensabene, Robert, Conlin Groft, Jonathan Baker and Rey Maisonet:

Faculty Sponsor: Dr. Anjuli Gairola

"Effects of Physical Activity on Stress Levels of College Students"

Stress is becoming a struggle among college students and there are many ways to try to cope with it. Being physically active is one coping mechanism that is commonly used and can be cost free. Our study aims to link the relationship between physical activity and one's perceived stress levels. It is important to recognize that the study does not say physical activity will eliminate stress but those who are physically active will have lower stress levels. Our online survey will have 15 questions to determine the individual physical activity levels and perceived stress levels. In those 15 questions, participants will be asked about age, gender, physical activity levels, and stress levels. Physical activity will be scaled using the American College of Sports Medicine guidelines. Stress levels will be scaled using the Sheldon Cowan Perceived Stress Scale. The study will strictly involve college students at Cabrini University, these students must also be between the ages of 18 and 26.

Psychology Department The School of Arts and Sciences

- Capria, Alexis:
Faculty Sponsor: Dr. Melissa Terelecki
“Are Traditional Empirical Methods Sufficient To Provide Evidence For Psychological Practice?”
The combination of clinical psychologists’ therapeutic expertise and research training means that they are in an ideal position to be conducting high-quality research projects. The APA Presidential Task Force on Evidence Based Practice assumes that a variety of traditional empirical methods is sufficient to provide evidence for psychological practices. Meanwhile, psychologist Brent D. Slife and researcher Dennis C. Wendt contend that traditional empirical methods are guided by a single philosophy that limits the diversity of methods. This topic matters because research needs to be expanded out within different populations to include diversity. Also, psychological treatments need to be tested in order for patients to feel comfortable with receiving. In my opinion, I agree with the yes side because evidence is needed in order to conduct a successful and valid psychological practice.
- Carroll, Morgan:
Faculty Sponsor: Dr. Melissa Terelecki
“Are Father's Necessary for Children's well-Being?”
This poster will be looking at the question of whether fathers are necessary for children's well-being. This will look at both the supporting and opposing arguments. After that is discussed, it will go into any possible biases of the arguments. Then, the presenter's point of view will be stated. Finally, the discussion of future implications and how it related to social justice will be covered.
- Giannascoli, Alyssa, Julie Lopez, Orlyany Sanchez and Michelle Piccone:
Faculty Sponsor: Dr. Michael Corcoran
“The Affect Human-Animal Interaction has on Emotional Beings”
Students attending a university often have so much going on that their mental health gets neglected. Through many studies, human-animal interaction has been shown to better one’s mental health. Specifically focusing on dogs, 50 psychology major students enrolled at Cabrini University will take part in two sessions involving human-animal interaction. The majority of participants are in their early twenties, and no older than 30. Each session, being 20 minutes long, is expected to positively affect students by heightening mood, decreasing levels of stress, anxiety and depression, as well as decreasing any feelings of homesickness. A two-part survey will be filled out by each participant after both sessions. Part one of the survey corresponds to session one of the dog interaction and part two of the survey corresponds to session two of the dog interaction. Both interactions are expected to

positively impact the students' present emotions. This positive impact is expected to be shown in the corresponding surveys when participants are asked to recall past experiences. Survey questions will be answered using a series of 7-point likert scales ranging from "I strongly disagree" to "I strongly agree". Possible implications include the accuracy of this study, which may not be met to standards considering the low number of participants and the duration of the interactions being no longer than 20 minutes for each session. Participants who have a negative past experience with dogs may associate their interaction in this study as a negative one as well, which could also implicate the results. However, if a similar study were performed over a longer period of time and on many more participants, the outcomes are not likely to be drastically different from this study's results.

- Gillespie, Theresa:

Faculty Sponsor: Dr. Melissa Terelecki

"Is excessive use of Social Media a form of Narcissism?"

Today, social media websites, such as Facebook, are increasingly popular. Some psychologists believe that social media attracts and enhances narcissistic personality types. Some psychologists argue that the ability to cultivate an online presence is attractive to those who have low self-esteem. Some psychologists also argue that social media attracts narcissistic personality types, because they foster many shallow relationships, instead of a few more intimate relationships. On the other hand, some psychologists don't believe that social media attracts or enhances narcissism. These psychologists believe that social media allows individuals to form legitimate connections.

- Gudas, Sarah:

Faculty Sponsor: Dr. Melissa Terlecki

"Does an Elective Abortion Lead to Negative Psychological Effects?"

This topic has been studied by many different researchers. Priscilla K. Coleman says yes, an elective abortion does lead to negative psychological effects, while Jon Knowles and Deborah Golub say no, it does not. Coleman analyzed hundreds of findings on the mental health of women who have had abortions and concluded that the information shows that abortion does have significant mental health consequences. On the other hand, Knowles lists a number of research that shows post-abortion mental health difficulties do not occur in a wide range of groups and settings. The goal of this study was to conduct meta-analyses of the links between induced abortion and negative mental health outcomes. The use of different control groups in different research was considered. Participants in the control group had not experienced an abortion, an unplanned pregnancy, or a pregnancy delivered. Results show that when comparing women who have not had an abortion, to women who have had an abortion, there is an 81% greater risk of various types of negative psychological effects. This is an important topic to investigate because abortion is one of the most controversial topics discussed in today's society. Abortion was not legalized until 1973, and since then, the debate on what impact abortions leave on women's mental health has been discussed. Overall, according to most research, abortion does not raise a woman's risk of negative psychological effects.

- Gudas, Sarah, Miranda Liebttag and Paige Zimmerman:
 Faculty Sponsor: Dr. Michael Corcoran
"Puzzles and Personality"
 Does receiving a specific type of feedback effect a person's performance? This study investigated if acquiring positive or negative feedback will affect a person's performance when completing an activity. This is important because if a person performs better to one of those two types of feedback, that is the type of feedback a person should typically be provided with. Participants will complete a series of puzzles under a time limit, and while being observed, will receive either optimistic or pessimistic comments. These comments are not based on how they are performing, but just made to see how the participant will react. We will examine how their performance alters after receiving one of the two types of feedback. Time and performance are going to be measured by looking at how long participants take to complete each puzzle, and how accurately they are able to complete it. We will look to see if participants who are mentored by someone with an optimistic attitude will perform better or worse, compared to participants who are mentored by someone with a pessimistic attitude. Our results will be available at the Symposium.
- Johnson, Kabreya:
 Faculty Sponsor: Dr. Melissa Terelecki
"Can sex be addictive?"
 Sex addiction is when an individual has little to no control over sexual thoughts, urges, or impulses. An individual could possibly be addicted to sex and may not even notice it. Some sex experts believe that people can become addicted to the enjoyable feeling during sexual activities, however some may disagree. Yes, sexual impulses are known to be natural, yet having a sex addiction could impact an individual's life in a negative way. There are many reasons why we involve ourselves in sexual intercourse or activities, such as pleasure, stress relief, exercise, an attraction to another individual, revenge, love, or even commitment. There has been research which indicates that excess sexual behavior could develop like a chemical addiction. Pros and cons are presented.
- Johnson, Tiera:
 Faculty Sponsor: Dr. Melissa Terelecki
"Are All Psychotherapies Equally Effective?"
 The question will be answered from a "yes" perspective, and a "no" point-of-view. The "yes" side was investigated by psychologists Mark Hubble, Barry Duncan, and Scott Miller. They argued that all psychotherapies are equally effective because they have similar outcomes. The outcome is to relieve the suffering of one's patients. The "no" side was investigated by psychologists Jedidah Siev, Jonathan Huppert, and Dianne Chambless. They argued that not all psychotherapies are equally effective because of the different outcomes that can occur. The outcome can be whether one therapy or technique is deemed better than the others. My opinion on which side I am choosing would be the "no" side. The reason that I chose this side is because not all psychotherapies can be claimed equally effective if there are different techniques being used. The social justice issue is whether it is a promising

idea to label all psychotherapies as being effective because that could have a negative outcome on patients' expectations of treatment.

- Karluah, Amenta:

Faculty Sponsor: Dr. Melissa Terlecki

"Should Neuroscience Research be used to Inform Law Practices?"

This poster will provide insight into the advantages and disadvantages of using neuroscience in law practices. I will provide a "Yes" and "No" side to the topic. The "Yes" side argues that cognitive neuroscience offers an exciting and ambitious research agenda for addressing a variety of political and social issues relating to law and the American Justice System. The "No" side argues that cognitive neuroscience fails to truly understand the link between brain activity and behavior or memory formation and cannot solve important legal and ethical questions relating to law. I believe that neuroscience has advanced to a point where it can make a significant difference in the brain-based issues that the criminal justice system commonly encounters.

- Lenet, Max:

Faculty Sponsor: Dr. Melissa Terlecki

"Eclectic Therapy for Autism Spectrum Disorder"

Eclectic therapy is a flexible, integrated type of psychotherapy that is customized to the unique requirements of each patient, depending on what the problem is, the treatment objectives are, and the person's personality. Researchers and clinicians who support eclectic therapy argue that for psychotherapy to improve and progress, it is imperative to use an eclectic approach. Those against it believe that eclectic therapy is an unstandardized array of psychological theories and methods that prevent therapeutic effectiveness. When therapists make their own decisions about which evidence-based therapies to implement for treatment schedules, they make choices based on instinct, rather than evidence. The purpose of this project is to identify the value and efficacy of eclectic therapy compared to standardized therapeutic strategies by assessing arguments on both sides. This will be evaluated through a literature review of papers that support or criticize eclectic therapy for autism spectrum disorder. The results of this study should help advocate for therapists to be expected to be a part of continuing education courses on eclectic therapy, in order to give patients the best possible treatment regimen and to show an objective perspective of therapy.

- Lewis, Angelique:

Faculty Sponsor: Dr. Micheal Corcoran

"The Effects Social Media has on Self-esteem"

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 students 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 Cabrini university students 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.

- Lewis-Wimberly, Angelique:

Faculty Sponsor: Dr. Melissa Terelecki

"Should solitary confinement be considered as psychological torture"

This study tries to identify if Instagram has anything to do with the decrease in self-esteem for users in college and the correlation of Instagram usage on self-esteem, life-satisfaction, and Instagram addiction. Regardless of the growth of Instagram there are few studies done on it. Authors assess self-esteem and life satisfaction alongside Instagram addiction scale. Pros and cons are presented.

- Lopez, Julie:

Faculty Sponsor: Dr. Melissa Terlecki

"Is ADHD a Real Diagnoses"

The question being presented is as followed " Is ADHA (Attention-Deficit Hyperactivity Disorder a Substantial Disorder". This research article analyzes this question and reviews the topic from two different lenses. The National Institute Of Mental Health argues that ADHD is a neurological disorder that is tied to genetics. In addition throughout the article, they argue that although all most children exert a lot of energy, yet those with ADHD have more impulsive and inappropriate lash-outs. Sami Timimi and Nick Radcliffe argue their point through a different lens. They believe that ADHD does not hold enough evidence to be seen as authentic. Throughout the article it is explained as a "westernized idea" that will soon be outdated. They also hypothesize that most of the outbursts of impulsivity could stem from fatigue or stress.

- Martinez, Megan:

Faculty Sponsor: Dr. Melissa Terelecki

"Are Violent Video Games Harmful to Children and Adolescents?"

Video games are a form of entertainment that children and adolescents engage in. There is controversy regarding whether or not violent video games can be harmful to these children and adolescents. According to Steve E. Gruel, violent video games are harmful. On the other hand, Patricia A. Millett believes they are not harmful. Gruel supports his argument by providing research that shows violent video games increasing aggression, decreasing prosocial behavior, poor performance in school, and MRI's showing a decrease in focus, concentration, and inhibition. Millett supports her argument by supporting evidence that the "no" side ignores. Millett shows numerous studies that show no correlation between violent video games and harmful affects on children and adolescents. These concerns are important

to psychology and social justice because there is an increasing amount of video games that include more graphics due to advanced technology. It is important to understand the psychological role that these violent video games have in children and adolescents.

- Martins, Barbara, Kathie Flores and Katie Cappola:

Faculty Sponsor: Dr. Ruta Clair

“Ebony flies Response to Thermal Stimuli of 44°C and 48°C in Seconds”

Pain is a protective function of the human body when extreme stimuli such as chemicals, high and low temperatures and mechanical objects that may cause injury to the body. There are two types of pain, acute and chronic, which have different effects on the body. Acute pain is temporary and followed by a recovery period whereas chronic pain does not have a recovery period and continues on for weeks and months at a time which can be debilitating for a person. Chronic pain can be exacerbated by a lack of sleep, hormone instabilities especially dopamine, and certain disorders such as diabetes. For this research project, we will be further analyzing data from Dr. Seol Hee Im’s research in thermal pain assay using *Drosophila* larvae. The research focuses on thermal heat pain and the reaction the *D.* larvae have to this type of pain under different circumstances, specifically temperature. Larvae exhibit thermal pain sensitization following UV injury. This project will focus on comparing the second replicate of *Ebony Drosophila* flies in two different temperatures, which is 44 degrees celsius and 48 degrees celsius, and their response to thermal stimuli (in seconds). Results will follow.

- Moreno, Annalise:

Faculty Sponsor: Dr. Melissa Terlecki

“The relationship between parents' sexual orientation and child development”

During childhood development, we are greatly influenced by our parents and our upbringing. However, over the last few years, this topic has become more controversial due to there being more same-sex parents. There has been research discussing whether it has a positive and negative effect on child development. There have been two prominent articles that discuss the effects parents' sexual orientation has on child development. Those articles are “New Study On Homosexual Parents Tops All Previous Research: Children of Homosexuals Fare Worse on Most Outcomes” and “Brief of Amicus Curiae of the American Sociological Association on Behalf of Appellants.” Both articles compare a study called “The New Family Structure” conducted by Mark Regnerus to discuss the effects of parents' sexual orientation on children.

- Moreno, Annalise:

Faculty Sponsor: Dr. Michael Corcoran

“The Relationship between race and perceived criminality”

In today’s world, society is protected through our criminal justice system. The criminal justice system is meant to protect citizens from those who deviate from the accepted norms of society and rehabilitate them in order to put them on the correct path. Unfortunately, our criminal justice system is flawed. After crimes are committed, society tends to generalize those who offend. This creates a stereotype of who the offender is and causes us to profile

those groups of people. People are profiled based on their ethnicity and racial identity. Doing this causes society to create a sense of perceived criminality. Perceived criminality can also influence how people view society. Our view of society and perceived criminality can be influenced by media representation. Media representation is meant to induce fear in the public, creating the association between fear and perceived criminality. In the study that is being conducted, it strives to understand the relationship between race and perceived criminality in society. This is being observed by asking participants to reaction to news stories and to photos of possible offenders. The participants will be randomly assigned to one of the three news story. The news stories have the same story about top ten violent offenders in the Philadelphia area. Each story has a different racial makeup of the top ten violent offenders in the Philadelphia area. After reading the story, participants are instructed to self-report their feeling and agreeance to the statements and questions asked. The expected results will display biased criminality estimates. Criminality estimates will vary based upon the racial composition of the news story. This is to help us understand the relationship between race and perceived criminality. Understanding this relationship can help us to understand how it can influence our behaviors, values and thought processes. This can be seen in the real-world through the treatment of minorities in society by those who are superior and are a part of the majority race. This needs to be corrected so there is equality amongst people of different races in society.

- Neiman, Emily:

Faculty Sponsor: Dr. Melissa Terlecki

“Can Positive Psychology Make Us Happier?”

Positive psychology is generally regarded as the scientific study of what makes life most worth living, and emphasizes positive experiences, positive states and traits, positive institutions, and prioritizes strengths over weaknesses (Ackerman, 2022). There is controversy in the psychological field as to whether positive psychology interventions (PPIs) can really make us happier. Their supporters argue that they have demonstrated an ability to increase individual levels of happiness (Lambert et al., 2019; Schueller & Parks, 2014), whereas their dissenters claim that the validity and sustainability of PPI methodology is questionable, and that most of what influences our long-term happiness is outside of our individual control (Newman & Larsen, 2009; White et al., 2019). More research—and more nuanced research—into PPIs is needed, as there are several important social justice implications with regard to accessibility and sociocultural contexts.

- Neiman, Emily, Megan Martinez and JaLisa Gibson:

Faculty Sponsor: Dr. Ruta Clair

“Factors Affecting Social Functioning and Depression in Elderly Populations”

Depression among elderly populations is of particular concern due to the lack of structure associated with employment, social isolation, health concerns, and a number of other factors (National Institute on Aging, n.d.). It is possible that sex may also influence social functioning and depression scores, although the relationship between sex and depression among elderly populations is less studied and therefore less well known (Girgus et al., 2017). Secondary data analysis was performed in order to examine the relationship between sex and

employment status, and social functioning and depression. The original online survey research data was collected via Qualtrics and Amazon's Mechanical Turk (MTurk) from 63 adults aged 50 and over who were recruited and screened for inclusion/exclusion criteria. The 33-item Cognitive Assessment of Social Interaction (CASI) scale was created by the original researcher to measure social interaction abilities. Depression was measured using the well-validated Geriatric Depression Scale (GDS). Results will be presented at the 2022, 16th Annual Arts, Research, and Scholarship Symposium.

- Pezick, Andrea, Malik Bailey, Alyssa Mancini and Clare Johnston:

Faculty Sponsor: Dr. Michael Corcoran

"Cognitive Performance of Personalities with Music"

This experiment will examine the effect music has on comprehension and learning abilities of students and will also experiment how personality types of introversion versus extroversion influence this. College students are always finding ways to multitask to make things easier for them. This experiment will examine student's abilities to multitask and will seek to determine whether music playing in the background is deterring students from efficiently learning and comprehending. Students were first asked to take a personality test to determine whether they exhibit more extroversion or introversion. In a setting of either silence, music playing with lyrics, or music playing without lyrics, college students were asked to complete two tests of comprehension, a memory and reading test. The experiment sought to distract certain students while they worked to see if they performed worse than the students who had no distractions while working. We expect that when comparing results we will find the highest success rates of the tests will be in the quiet environment with no distractions and no music playing. We also predict that extroverts will perform better than introverts in a noisy environment, and introverts will perform better in quiet environments. Results will be available at the symposium.

- Piccone, Michelle:

Faculty Sponsor: Dr. Melissa Terlecki

"Is American Psychological Research Generalizable To Other Cultures?"

The topic that is being questioned within this issue is if American Psychological Research is Generalizable to Other Cultures or not. Authors, Gerald J. Haeffel, Erik D. Thiessen, Matthew W. Campbell, Michael P. Kaschak, and Nicole M. McNeil written the "yes" side portion of this debate which was arguing that psychological studies are able to cover every race and ethnicity when using American samples. Jeffrey Jenson Arnett voiced the "no" side which argues that it's not possible to cover all the cultures just by using American samples. It is important that all cultures are considered within psychological studies that researchers test because if not then the results will not be representative. The social justice issue psychologists fear is that only a small percentage of the world's cultures are being included and the rest are left out. If this is the case then we need to find out if we need to be more diverse in our sampling.

- Taylor, Saralyn and Kabreya Carroll-Johnson:
 Faculty Sponsor: Dr. Ruta Clair
“Relationship Between Aging, Social Interaction Skills and Anxiety”
 It is important to investigate social functioning in aging adults because as they get older they can face a severe decline in their social behavior. This can be caused by many different cognitive disruptions and physical barriers. In this research, we examined data from self-reported surveys taken by 63 adults aged 55 and older. More specifically, we analyzed the relationship between age, social interaction abilities, and anxiety. Age related difficulties in social behavior are likely affected by executive dysfunction. Along with a decrease in executive function and decrease in social interaction skills, an increase in anxiety is expected in aging adults as well. While analyzing the data from these surveys, we were able to compare the relationship of this decrease in social skills and increase in anxiety.
- Tucker Young, Cyantaé:
 Faculty Sponsor: Dr. Melissa Terlecki
“What is emotional intelligence?”
 Emotional intelligence is the capacity to be aware of, control, and express one's emotions, and to handle interpersonal relationships judiciously and empathetically. The yes side says some people have a greater ability than others for complicated information processing connected to emotions and emotion-related situations, as well as employing this knowledge to impact their thoughts and behavior. The no side evaluates the current state of the art in EI theory, research, assessment, and applications, as well as contemporary thinking on the nature, components, determinants, and consequences of EI. This poster will focus on both the yes and no side of why EI is or is not valid.
- Villegas, Sofia:
 Faculty Sponsor: Dr. Melissa Terelecki
“Is Evolution a Good Explanation for Psychological Concepts”
 This poster will examine the controversy of accepting evolutionary theory in psychology. Looking at both advantages and disadvantages allows us to see the benefits or possible downfalls of allowing evolution in psychology. Evolutionary psychology has gained more explanatory power, but is it reliable and effective? There are social justice issues regarding evolution and how much we can control in our own psychology.

Science Department The School of Arts and Sciences

- Anarfi, Margaret:

Faculty Sponsor: Dr. Maia Magrakvelidze

“Placenta Previa and its Associated Disorders on the Effects, Risk and management on Maternal and Fetal Health”

Placenta previa and its associated disorders while uncommon have a high maternal and fetal morbidity as well as mortality rate. There are many risk factors associated with Placenta Previa and its Associated disorders which are Accreta, Increta and Percreta. Associated disorders at times equally affect the mother as well as child. Studies suggest placenta previa and its associated disorders have a high risk of intraoperative massive hemorrhage. It's been proposed that an increased performance of cesarian sections, maternal age, and cigarette utilization is a contributing factor to the increase of placenta previa. Thus, this review assesses the effects, risk factors and management of the condition. In determining the effects, risk, and management of placenta previa and its associated disorders a systematic review and meta-analysis was the methodology used to assess this. Data sources used were obtained from PubMed, Google scholar, Journal of perinatal medicine and springer nature after 2008. A total of 20 published articles ranging from clinical trial to retrospective study designs of random effects model was used in this analysis. The Data suggests the prevalence of placenta previa to increase with an increase in cesarian deliveries and maternal health and age prior to pregnancy. An increase in preterm delivery and neonatal intensive care unit admission was seen across diagnosed mothers. Mothers were also affected usually post-delivery mostly due to hemorrhage and a higher risk of reoccurrence. Management of the disorder include, induced delivery and surgically used hemorrhage controlling procedures.

- Ashiru, Ifeoluwa:

Faculty Sponsor: Dr. Vinayak Mathur

“The correlation between Tuberculosis and HIV and its prevalence in Africa.”

The purpose of this research is to learn about the correlation HIV and Tuberculosis and its prevalence in Africa. HIV is a virus that attacks the body's immune system. This virus makes the body vulnerable to infections and diseases. As the virus destroys the function of the immune cells, individuals infected gradually become immunodeficient. HIV can be transmitted through the exchange of a variety of body fluids from infected people such as blood, breast milk, semen, and vagina secretions. AIDS occurs when the infected patient immune system is has been severely damaged. HIV becomes AIDS by destroying CD4 cells, white blood cells that play a larger role in helping the body fight the disease. The fewer CD4 cells the person has, the weaker the immune system becomes. Without treatment, people with AIDS typically survive about three years. With HIV leaving patients vulnerable and most susceptible to infections, the leading cause of death among people living with HIV and accounting for around one in three AIDS-related deaths is tuberculosis or better known as TB. TB is a serious and contagious infection that affects mainly the lungs. Mycobacterium

tuberculosis is the species that causes tuberculosis. HIV is Africa's leading cause of death, but tuberculosis is the most common coexisting condition in people who die from AIDS. Autopsy studies show that about 30 to 40% of HIV-infected adults die from tuberculosis. Among HIV-infected children, tuberculosis accounts for up to one in five of all deaths.

- Ashiru, Ifeoluwa, Praise Yormie and Margaret Anarfi:

Faculty Sponsor: Dr. Vinayak Mathur

“Drosophila Insulin receptor regulates the persistence of injury-induced nociceptive sensitization.”

The purpose of the research is to understand pain in a way that was never understood. Pain is characterized as the physical suffering or discomfort caused by illness or injury. Pain protects living organisms and ensures the longevity of life. The effects of pain are so strong that humans who have lost their limbs can feel this sensation in absent limbs. Although unpleasant, pain known as nociception is a way in which the body may signal a malfunction in many of its systems. In deciphering the genetic components of nociception *Drosophila* was used and assessed based on their diabetic and non diabetic status. Diabetes induced *Drosophila* nociception/nociceptive sensitization assays was used to investigate the role of Insulin receptors in nociceptive hypersensitivity. Genetic isolating analysis suggested InR function to be essential in nociceptive neurons. Sensory neuron-specific expression of InR rescues the persistent thermal hypersensitivity of InR mutants and constitutive activation of InR in sensory neurons ameliorates the hypersensitivity observed with a type 2-like diabetic state. In our study, we were interested in investigating how sensory neuron specific function of InR regulates the persistence of injury-associated hypersensitivity. The initial results suggest that InR mutants exhibit a highly specific phenotype whereby baseline nociception and the normal acute nociceptive sensitization response are unaffected.

- Barycki, Nicole, Georgina Ramirez Bamaca and Daisy Morquecho:

Faculty Sponsor: Dr. Sheryl Fuller Espie

“The utilization of heterotrophic plate count technique to identify potential food pathogens present in store-bought raw chicken”

Chicken is the number one food product consumed by Americans, and most individuals will trust it if the date and appearance are satisfactory. It is important to remember that food products act as the biggest vehicle of transmission of microbial diseases, which is why food must be examined regularly. While organizations such as the FDA establish regulations for the number of bacteria that can be present in food, it is not always guaranteed to be effective, or that these standards will remain the same upon purchase at the supermarket. The objective of this experiment was to perform a heterotrophic plate count, a professional technique, to determine the number of viable bacteria in a sample of raw chicken from the supermarket, and then compare it to current standards already established. The sample of raw chicken was obtained from a supermarket local to Cabrini and tested using plate count agar to create plates for the experiment. Through this, an understanding of the importance and necessity of food safety and food regulations to avoid contamination and subsequent illness is achieved. Chicken should contain no more than an average of 100 colony-forming units per gram. Upon comparison with what was tested, the results from the plate count confirm that the chicken was safe, as the experiment resulted in no colony formation,

therefore no viable bacteria to count. Based on these findings, the supermarket chicken is deemed safe for consumption and the risk of exposure to disease-causing bacteria is low.

- Bonner, Lily:

Faculty Sponsor: Dr. Vinayak Mathur

“Ovarian Cancer: Diagnosis and Treatment”

Ovarian cancer is a cancer that begins in the female organs that produce eggs (ovaries). It is known to be one of the most common gynecological malignancies and is the leading cause of death for all gynecological cancers. The hereditary factors that are typically involved with Ovarian Cancer are the mutations of both BRCA1 and BRCA2 at 27-44% along with Breast ovary syndrome at 10-44%. In order to inherit this cancer, there must be a predisposition or susceptibility to the specific germline mutation. One of the methods of diagnosis includes Transvaginal Ultrasound which involves the insertion of a wand into the vagina. This method has a general risk for generating false positives which can lead to repeated TVUS and CA125 testing or unnecessary surgery. One of the methods of treatment includes the use of intra-operative intra-peritoneal chemotherapy with cisplatin. The main site of disease that is involved in ovarian cancer is the peritoneal cavity. This type of treatment can cause infection of the urinary system or pulmonary infection. There can also be chances of peritonitis, intra-abdominal abscesses, intra-abdominal bleeding and intestinal necrosis. It is important to understand the severity of ovarian cancer because it is one of the deadliest cancers gynecologically and the survival rate for those who are diagnosed in the advanced stages is poor. This is comparable to the women that are diagnosed in earlier stages.

- Conan Virtue, Rachel:

Faculty Sponsors: Dr. Alexander Davis and Dr. Joseph Smith

“Customized 3D Printed Molecular Modeling Kits for Visually Impaired Students”

With the advent of affordable 3D-printers, we are now able to create customized molecular model kits that are designed to fit specific needs. This poster will describe the production of two modifications to standard commercially available model kits. The first is the development of large model kits that are more amenable to a lecture setting. The second modification is the inclusion of braille and surface textures onto large model kits with the intention of assisting visually impaired students in identifying three-dimensional structure. Each of these kits differs from most previously published work in that the printed structures are modular components that can be used, like a traditional model kit, to construct any molecule post-print.

- Conan Virtue, Rachel:

Faculty Sponsor: Dr. Maia Magrakvelidze

“Examining dance movement therapy as a nonpharmacological treatment for individuals diagnosed with developmental disorders, mental health disorders, and neurodegenerative disorders”

As an expression of emotions through rhythmic movement, dance is a form of physical activity. Dance movement therapy (DMT) uses the rhythmic movement of dance as a psychotherapeutic treatment to promote physical health, emotional health, and the overall well-being of an individual. As its primary language is movement, DMT is able to

communicate with those who have decreased social/communication skills. When it comes to developmental disorders like autism and down syndrome, DMT had assisted individuals with these diagnoses by providing positive developments in their developmental delays and physical movement tests. Compared to neurodegenerative diseases, individuals with Parkinson's disease, after several sessions of DMT, showed decreased depression levels while also showing increases in quality of life (QOL). Patients with mental health disorders, specifically depression and anxiety, had lowered dopamine, increased serotonin, and decreased cortisol levels resulting in decreased depression and anxiety levels after DMT sessions. Also, these individuals saw increases in their QOL based on the results of self-administered questionnaires. Overall, these results showed the positive impact DMT had on the anatomy and the physiology of the human body as a nonpharmacological treatment for persons diagnosed with developmental disorders, mental health disorders, and neurodegenerative disorders.

- Coppola, Katie:

Faculty Sponsor: Dr. Vinayak Mathur

"Multiple Sclerosis and its Treatments"

Multiple sclerosis is an autoimmune disease that progressively breaks down myelin sheaths in the central nervous system. It effects people all across the globe and the numbers are rising as diagnosis techniques are becoming more well known throughout the medical community. When the myelin sheaths begin to break down on axons it has effects on all of the bodily systems resulting in physical, mental, and emotional effects. There is no cure for multiple sclerosis and consists of three different types called primary progressive, secondary progressive, and relapsing-remitting which is the most common. There are various ways to treat multiple sclerosis to try and slow symptoms and allow the person effected to maintain a level of independence as long as possible. This includes pharmacological methods and testing the effectiveness of triamcinolone-acetonide, interferon beta therapy, plasma protein profiling, and comparing medicines Avonex, Rebif, and Betaferon. There are other treatments which include stem cell transplantation, physical therapy, and therapy to work on the emotional impacts of having a progressive disease with no cure. Each therapy is compared to find benefits and disadvantages that come with choosing a treatment and studies to support these conclusions.

- Dini, Theodora, Patrick Quinn and Tien Tran:

Faculty Sponsor: Dr. Sheryl Fuller-Espie

"Host specificity: How T2 and ϕ X174 infect two different strains of Escherichia coli and determine plaque morphology"

Bacteriophages are a type of virus specialized to infect bacteria. Phages may follow a lytic or lysogenic life cycle. In the lytic cycle, bacteriophages use host cell protein synthesis machinery to reproduce, before lysing the cell. In the lysogenic cycle, bacteriophages integrate their genome into a host cell's, preventing lysing and instead causing viral DNA to become part of the host's chromosome. When bacterial cells reproduce in culture, they often form colonies. In a similar manner, bacteriophage reproduction creates plaques, small clear zones around infected bacteria colonies. This experiment was designed to observe different

plaques formed by bacteriophage reproduction. The bacteriophages studied were Φ X174 and T2, two types of coliphage. This experiment was carried out by inoculating plates tryptic soy agar plates with *Escherichia coli* and then various dilutions of Φ X174 and T2 samples. It was hypothesized that the plaques formed would correlate with the type of reproductive cycle carried out by the phages. It was impossible to prove or disprove our hypothesis, however, as the cultures used did not grow on our plates.

- Fiore, Elise:

Faculty Sponsor: Dr. Maia Magrakvelidze

"Synthetic alternatives to Horseshoe crab blood and the Limulus Amoebocyte Lysate Assay for the detection of Endotoxins"

The horseshoe crab is a primitive ancient creature that has survived 350 million years without undergoing any significant changes in appearance. The blood of the horseshoe crab can be used in determining whether endotoxin, more specifically lipopolysaccharide (LPS) is present through the Limulus amoebocyte lysate test (LAL). This test is used in the pharmaceutical industry to test the sterility of vaccines, drugs, and prosthetics. Because of the taxing nature of the bleeding of the horseshoe crabs, many organizations are concerned for the species and the impacts it could have on the coastal biodiversity in the Delaware Bay. As the horseshoe crab is a vulnerable species, scientists have set their focus on creating synthetic alternatives to horseshoe crab blood and alternative methods to the LAL test. There are alternatives but they are not widely used. The LAL test is susceptible to interference from substances that are not bacteria. Beta-glucans and polysaccharides from fungi and plants were shown to have high readings of lipopolysaccharide when tested with the LAL test. Some alternatives include utilizing Factor C cDNA, which is an intracellular serine protease that initiates the coagulation or gelation cascade system when in contact with an endotoxin. The recombinant factor C assay can be used as an alternative to the LAL assay as the rFC assay showed even more sensitive results between each of the sources of lipopolysaccharides.

- Flores, Kathie and Barbara Martins:

Faculty Sponsor: Dr. Sheryl Fuller-Espie

"Enumeration of soil microorganisms"

The goal of this laboratory was to become familiar with microorganisms that are present in garden soil. With this the students were able to determine the number of bacteria, actinomycetes, and fungi in the garden soil using the plate count method. The method consisted of pouring 0.1ml or 1.0ml of the designated dilution into each corresponding petri plate. After pouring the mixture a sterile glass rod was used to streak and spread the mixture of soil-water. The incubation time was 3 to 7 days at room temperature, it was observed that after the fifth day of incubation colonies began to form and fungus started to grow rapidly on all of the petri plates but mostly on Sabouraud dextrose agar and tryptic soy agar plates. Most of the plates were considered TNTC or TFTC, there were three plates that grew visible colonies between 10 to 11 CFUs. There was a variety among the colonies, different shape, size and color. Although there was a lot of fungus growing in the petri plates bacteria constitute the largest group of microorganisms in the soil. In this laboratory an aseptic streak

technique was performed due to necessary changes in the procedure. The recommendations are that aseptic pour plate technique is used instead of the streak technique.

- Ford, Ellen, Ariana Rivera and Jake Newsom:

Faculty Sponsor: Dr. Sheryl Fuller-Espie

“An investigation into antibiotic resistance of Escherichia coli to ampicillin and streptomycin via bacterial conjugation”

Bacterial conjugation is a major driver of evolution as it is the transfer of genetic material. Conjugation plays a role in developing antibiotic resistance, which can be difficult to handle within professional, medicinal settings. Bacterial conjugation was measured through the use of two different Escherichia coli strains. Strain I contained the streptomycin-resistance gene on its chromosome while strain II contained a nalidixic acid-resistance gene on its chromosome and an ampicillin-resistance gene on a plasmid. Both strains were cultured on various plates containing each antibiotic to test their viability. Then the strains were mated and subsequently grown on two plates that contain streptomycin and ampicillin and nalidixic acid, respectively. After the incubation period, growth was observed on the streptomycin and ampicillin plate, but not on the nalidixic acid plate. Therefore, we were able to conclude that strain II was the donor and it transferred its ampicillin-resistance plasmid. If the chromosome was transferred from either strain to the other, then growth would have been seen on the nalidixic acid plate.

- Ford, Ellen:

Faculty Sponsor: Dr. Vinayak Mathur

“The Past, Present and Future of HIV Treatment”

The Human Immunodeficiency Virus (HIV) is a retrovirus that attacks human T helper cells and is spread through contact with infected blood. HIV was first identified in the early 1980s, and has been a serious threat to public health ever since. This paper takes a look into the history of HIV treatment from a pharmacological lens and explores how HIV was treated in the past, how the past has led to present day treatment options and some potential future developments to look forward to. The first drug to be developed for the treatment of HIV was called zidovudine. Research showed it was effective in preventing vertical transmission, but lacked in its ability to prevent new infections through more traditional exposures. This led scientists to develop a host of medications, known as antiretrovirals, that contain various different mechanisms to prevent virus attachment and replication within its host cell. While these current treatment methods are very successful, they are not perfect and better delivery modes and dosing schedules are being explored. The greatest challenge the future still faces is creating an effective vaccination. An mRNA vaccine is currently undergoing clinical trial and seems to have real promise in finally making HIV fully preventable.

- Frino, Tara:

Faculty Sponsor: Dr. Maia Magrakvelidze

“The Theory of Raman and Infrared Spectroscopy and its Uses in Various Fields”

The study of spectroscopy is a topic of discussion in the science field. Spectroscopy observe the interaction between matter and radiation. There are many types of spectroscopies with some of the more well-known ones being X-ray, UV/Vis, and MRI. Two that are being focused on in this paper are Raman and Infrared. Raman looks at how radiation scatters when it hits a sample by observing the polarizability of the molecule. Whereas Infrared looks at how the radiation is absorbed into the matter and the dipole moment between the bonds of the molecule. The Raman and Infrared spectrometers are of common use in the pharmaceutical and forensic fields, as well as undergraduate labs. They help aid in work like quality control, identifying blood samples, and identifying proteins. The data from the two instruments provides vital information on the configuration of a sample run on them and how they can be used for future use. The set-up of the instrument is also important in understanding what the output will provide and how light is refracted from the sample to the readout. By being aware of all this information, it provides a better understanding of the improvements in the science field and where it can go from here.

- Hernandez, Leslie, Tien Tran and Yaneska Reyes:

Faculty Sponsor: Dr. Sheryl Fuller- Espie

“New discoveries in DNA forensic methodologies: Artificial vs authentic DNA differentiation and metabarcoding”

DNA forensics involves DNA profiling, aiding in criminal justice cases or in federal law enforcement agencies. It is used to correctly identify a person or help investigate convicted felons. Recently, there has been a new molecular approach in this field, metabarcoding. It has been used in wildlife ecology to determine a species diet based on feces or gastric samples found in the stomach, small, or large intestines. In a recent study by Schneider et al., samples from medicolegal autopsies of 48 human stomachs were analyzed. Results revealed 34 vertebrate and 124 vegetable sequences that were further condensed to 9 and 33 operational taxonomic units, OTUs, leading to the determination of ingested material prior to death and a better understanding of biomedical dietary components. DNA forensics has also be used to differentiate between artificial DNA and authentic (natural) DNA by applying methylation analysis using different gene identifying software. In a second study conducted by Frumkin et al., three different methods for generating artificial DNA included polymerase chain reaction (PCR), whole genome amplification (WGA), and cloning from a gene library to mimic blood and saliva samples. These samples contained artificial and natural DNA which were then swabbed onto replicated, but different, crime scene objects. Both types of DNA were placed onto one object to determine if DNA could be fully recovered and differentiated. Researchers found that it could be differentiated and fully recovered; artificial DNA only contained unmethylated gene loci whereas natural DNA contained both unmethylated and methylated gene loci.

- Holden, Ashton, Jordan Brown and Brian Fuller:
 Faculty Sponsor: Dr. Sheryl Fuller-Espie
“Implementation of the HeliScope single molecule sequencer in precision medicine applications”
 Prior to advances in genome sequencing including single-molecule sequencing (SMS) and the implementation of the Heliscope Single Molecule Sequencer (HSMS), sequencing genomes was a long and arduous task. Dated efforts required large assemblies of instruments and machine runs ranging from 35-40 runs. SMS and HSMS both greatly increase throughput and decrease cost of sequencing a genome due to their inherent process simplification. These factors make it possible to use genomics to improve treatment efficacy. The results of two studies will be presented that address the implementation of SMS and HSMS in pharmacogenomics. Pushkarev’s team present recent advancements in SMS and HSMS that permit researchers to rapidly track approximately 1 billion DNA molecules. They were able to detect single-nucleotide polymorphisms (SNPs) at a 99.8% overall accuracy. Ashley’s group discussed the implementation of HSMS and its ability to trace single molecules. The patient in this study was a 40 yr. old male, 180cm in height, 80kg in bodyweight, with a resting heart rate of 63 and a blood pressure of 128/80 (systolic/diastolic). The patient also had a family history of coronary artery disease and sudden death. Implementing HSMS and its SMS capabilities, researchers detected rare variants in genes associated with sudden cardiac death: TMEM43, DSP and MYBPC3. HSMS and the use of SMS in clinical settings has drastically improved the ability of researchers to sequence genomes quickly and at a reduced cost per genome. Advancements in genomics such as these are implemented in the field of precision medicine to effectively treat heritable disease states.
- Holmes, Nicholas, Avery Byrnes, and River Harper:
 Faculty Sponsor: Dr. Sheryl Fuller-Espie
“Gene therapy using CRISPR-Cas 9 and a retrovirus vector to treat sickle cell anemia and junctional epidermolysis bullosa”
 Gene therapy can be used to treat rare genetic disorders. Numerous genetic disorders are untreatable via conventional means. With consistent results, gene therapy can be used to treat, or cure, diseases which have no real treatment due to the perpetual nature of genetic disorders. This project explored several such studies. The objective of the first study by Denver et al. was to find a way to treat sickle-cell disease using CRISPR/Cas9 to force homologous recombination at a mutated locus. β -hemoglobinopathies occur due to a mutation in the β -globin gene (HBB). With CRISPR/Cas9, it is possible to delete the mutation on this gene. This technique was successful in replacing the mutation via homologous recombination. The second study by Hirsch et al. explored in this project attempted to treat junctional epidermolysis bullosa (JEB). A 7 year old boy had a life-threatening case of JEB caused by a deletion mutation in the gene encoding the laminin-332 protein. Skin samples were taken and a cell culture was derived from his basement membrane cells that were genetically modified using a retroviral vector to express the normal form of the otherwise defective protein. The resulting cell culture was used to create skin grafts with an exact genetic match to the patient that were successfully placed over time replacing over 80% of the patient’s skin surface without complications. Both studies show that gene therapy can be used as a treatment for debilitating genetic disorders which have no

other treatment. In conclusion, research advancements in gene therapy are continuously being made to help treat genetic disorders.

- Ignaszak, Sydney, Abaigeal Staniewski and Jasmine Martinez:

Faculty Sponsor: Dr. Sheryl Fuller-Espie

“Cutting-edge advances in CRISPR/Cas 9 technology provide potential clinical therapies for Huntington’s Disease”

This project focuses on the neurogenetic basis of medical advances to reduce the symptoms of Huntington disease, an inherited autosomal dominant disease exhibiting complete penetrance. Anyone carrying the mutant Huntingtin gene (HTT) will develop the disorder later in life with a delayed onset in symptoms including prominent progression of brain deterioration causing reduction in mental abilities, and changes in behavior and involuntary movements. The progression of the illness usually lasts ten to fifteen years before resulting in death. Two research studies are described in this presentation. The first investigation by Yang et al. sought to alter mutant alleles by permanently inactivating the gain-of-function mutations in HTT to discover a therapeutic approach to Huntington disease. This was done using CRISPR/Cas 9 by targeting the mutant allele that was subsequently knocked out and silenced, resulting in lower levels of Huntington associated proteins. These results lend support of this technology as a potential therapeutic strategy. The objective of the second investigation conducted by Shin et al. was similar with a focus of discovering possible therapeutic treatments to remove the polyglutamine expansion associated with Huntington’s disease, along with the suppression of the mutant HTT gene. The methods in this study also included the use of CRISPR/Cas 9 in a mouse model to target specific DNA regions. The findings of the second study also verify that CRISPR/Cas 9 is a possible therapeutic approach for alleviating Huntington disease symptoms. This project will focus on these important advances in neurogenetics and review the results of these two scientific studies in detail.

- Kargbo, Jessie, Steven Morency, Bryan Koshy:

Faculty Sponsor: Dr. Sheryl Fuller-Espie

“Investigation of Bt toxin resistance and biofortification benefits in genetically modified organisms (GMOs)”

The purpose of this project was to understand the functional benefits and disadvantages of genetically modified organisms (GMOs). Scientists have been able to identify beneficial plant genes that can be introduced into unrelated plants using recombinant DNA technology in order to confer newly acquired beneficial effects. This project focused on two peer-reviewed sources that studied the effects of GMOs on other living organisms. Both studies used different methods to provide evidence as to how GMOs can also have a negative effect on the environment. Genetic modifications of plants have the potential to improve crop yield, express natural insecticides, and exhibit better resistance against hard growing conditions such as drought. GM crops are known to be very useful, and scientists hope to use GMOs to solve the worldwide food crisis. A study by Whitty et al. used biofortification to increase nutrients that would not usually be found in normal crops. They found that the consumption of GMO crops for people that were malnourished increased vitamin and mineral levels significantly. On the other hand, environmental resistance can have negative

effects. Research conducted by Gassmann et al. on the Bt toxin produced by the bacterium *Bacillus thuringiensis*, showed its effect on the Western corn rootworm that displayed adaptability to the Bt toxin. The resistance trait proved to be a dominant heritable trait passed on to later generations. The results of this study have important implications for pesticide resistance and implicates the need for more research to discover stronger pesticides for already adapted Bt resistant crops.

- Labroschiano, Darian:

Faculty Sponsor: Dr. Vinayak Mathur

“Horizontal Gene Transfer Between Wolbachia and Aedes aegypti and its Effect on the Transmission of Dengue Virus”

Horizontal gene transfer (HGT) is the nonsexual transmission of genes from one organism to another. This typically occurs between two organisms that contain DNA in the same genome with different evolutionary histories. In this thesis, the horizontal gene transfer between *Wolbachia* and *Aedes aegypti* are being examined, along with the effect on Dengue virus. *Wolbachia* is one of the most common endosymbiotic bacteria that has a symbiotic relationship with arthropods. *Aedes aegypti* is a mosquito species that is one of the largest vectors for Dengue fever. There is evidence that when *Aedes aegypti* are infected with *Wolbachia*, there is lower transmission rates of human arboviruses such as Dengue. In this paper, the prevalence of Horizontal gene transfer will be examined through literary analysis. Studies have been looked at to better understand how HGT works and its effects on the organism's genes. The functionality of *Wolbachia* in organism were also examined through literary analysis to observe the effect *Wolbachia* is having on its host and its functionality. The relationship between *Wolbachia* and *Aedes aegypti* was also looked at through literary analysis to better understand how one effects the other and its effect on the transmission of Dengue virus. In conclusion, it can be seen that Horizontal gene transfer between *Wolbachia* and *Aedes aegypti* can affect and ultimately decrease the transmission rate of dengue virus through the blockages *Wolbachia* creates in the system of *Aedes aegypti*.

- Mazza, Samantha:

Faculty Sponsor: Dr. Vinayak Mathur

“An Investigation of Antibiotics and Antibiotic Resistance”

Antibiotic-producing microbes have been used to help treat infection for many years with earliest mention in the oldest known medical document, the Eber's papyrus. Target bacterium will react differently depending on the antibiotics being used to treat them, however, bacteria have managed to survive post treatment. Thus, antibiotic resistance has become a prevalent issue in recent years and has even been accelerated by some practices. Factors such as improper use, inadequate knowledge about antibiotics, doctors prescribing antibiotics when they are not needed, and patients not finishing their dosages, have contributed to this issue. There has also been an environmental and farming impact on rates of antibiotic resistance which include improper disposal of antibiotics, therefore, causing leakage into the environment. The overuse of antibiotics in the farming industry as preventative measures has led to trace amounts of antibiotics that are passed throughout the food chain. Some potential future methods that could be used to treat antibiotic resistance

include creating more antibiotics, using natural modes to combat resistance, and more education on, and how to properly use them. This thesis aims to look at how some natural modes could be further developed including the use of earthworm extracted proteins and peptides that exude antimicrobial properties, the use of CRISPR-Cas to edit the bacteria's DNA, and the application of naturally occurring bacterial inhibitors.

- McDonald, Matthew:

Faculty Sponsor: Dr. Maia Magrakvelidze

"Engineering Plastics and Polymer Nanotechnology"

This investigation is concerned with engineering plastics, polymer nanocomposites, carbon nanotubes, and their impressive ability to be nanocomposited, resulting in a wide array of chemical, physical and electrical properties that are not usually characteristic of polymers. Essential background in structure morphology is reviewed to understand how polymers are arranged on a molecular level, introducing new species evenly throughout this polymer matrix can result in more desirable, superior properties than their non-altered counterparts. The nature of these new properties is a combination of their physical morphology and the material it is composited (or filled) with. Lastly, their potential applications are explored in fields ranging from being used as purpose-built chemical catalysts to radiation shielding on nuclear and orbital infrastructure.

- Milavec, Julia:

Faculty Sponsor: Dr. Maia Magrakvelidze

"The Biochemistry of Alzheimer's Disease"

Alzheimer's Disease, or AD, is a neurodegenerative disease that affects many individuals and families in our society. AD is neurodegeneration resulting from astrogliosis, microglial cell proliferation, amyloid plaques, and neurofibrillary tangles (Gokce et al., 2019, p. 464).

Gaining a better understanding of AD and the connections to biochemistry is of the utmost importance. The first topic explored in this thesis is proteomics. More specifically, cerebrospinal fluid (CSF) proteomics is extremely important in the research of AD and the identification of biomarkers in AD CSF. Also, gene perturbations combined with protein interactions can provide a more complete look at AD. The second topic includes various stem cell-based therapies. The results from preclinical studies of human neural crest-derived nasal turbinate cells as well as mesenchymal stem cells exposed to AD environments have been particularly promising. The final subtopic of the thesis is the exploration of various novel therapeutic approaches to AD, from the use of *U. rhynchophylla* and *U. tomentosa*, to the drug Aducanumab. Many studies have been reviewed to provide the most complete picture of AD. In summation, AD affects many families in our society; 47 million people suffer from AD worldwide, with this number estimated to triple by 2050 (Xu et al., 2021, p. 1). AD is extremely complex; there is no cure or disease-modifying treatment for it currently, which makes its research all the more essential.

- Morquecho, Daisy:

Faculty Sponsor: Dr. Maia Magrakvelidze

“The Impact of Poor Oral Health on Various Groups”

The basis of good oral health encompasses many factors, many of which are associated with overall systemic health. There are many groups of people who become directly affected by poor oral health in a variety of different ways. Some of the groups of people who will be discussed include pregnant women, children, the elderly, and disadvantaged communities. Currently, plenty of research exists supporting the claims that poor oral health can result in significant adversities among these particular groups of people in different aspects of life. Various research studies have found that poor oral health may decrease the quality of life of pregnant women, cause poor school performance in children, lead to heart diseases, among other complications. This subject matter is of utmost importance in order to comprehend the risks of poor oral health and find ways to help groups that are most vulnerable. This literature review attempts to provide information and evidence from research articles that support the idea of the effects of poor oral health among particular groups of individuals.

- Mukova, Francisca:

Faculty Sponsor: Dr. Maia Magrakvelidze

“Comparing the efficacy of vaccine-acquired immunity to innate immunity”

Our bodies are under constant threat of invasion by microorganisms like bacteria, viruses, fungi and parasites. We have the immune system which eliminates infectious pathogens and protects the body. The human body's ability to recognize pathogens and prevent illness or infections is what is known as immunity. The immune system is complex and contains many different levels of defense; however, it can be divided into two main types of immunity: innate and acquired/adaptive. For this research we will consider 4 diseases: Malaria which is caused by Plasmodium falciparum, Covid-19 caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), Mumps caused by paramyxovirus and Influenza caused by influenza virus (influenza A virus (IAV)/ influenza B virus (IBV)). The diseases were selected based on their relevance in populations today. We'll delve into the vaccine-acquired immunity associated with each disease, the prevalence of the diseases in the population and the alternative treatments or medications that can be used.

- Newsom, Jake:

Faculty Sponsor: Dr. Maia Magrakvelidze

“Vaccine Development”

Vaccines are a tool used in medicine to combat infectious diseases that spread around communities. Vaccines originated in the late 1800s when Edward Jenner treated a young boy with pus from a milkmaid's hand to combat smallpox. This launched the science of working towards vaccinations against various problematic diseases. There are four classes of vaccines: live, inactivated, toxoid, and subunit/conjugate. The three phases of creating a vaccine include phase I, evaluation of the vaccines safety, phases II, testing hundreds of people, and phase III, testing thousands of people. Some of the most important vaccines created include HPV, the Flu Shot, and COVID vaccines. The COVID-19 pandemic and vaccine development provided a lot of insight into future vaccine created such as mRNA vaccines.

- Profrock, Victoria, Patrick Quinn and Gianna Haldaman:

Faculty Sponsor: Dr. Vinayak Mathur

“Investigating the correlation between nociceptive sensitization and pain response in Drosophila melanogaster.”

The detection of pain, known as nociception, is a sensation experienced by all. Nociception stimulates sensory neuron activation, which changes the body's behavior in response to pain. Pain sensation can become altered in the presence of disease, such as diabetes. The investigation of diabetes-associated pain response using a Drosophila model was performed by a researcher from Haverford College. Third instar larval stage Drosophila melanogaster were used in the current research study, to observe the effects of injury-induced thermal nociceptive sensitization. These effects were further studied by observing physical and chemical changes in Drosophila class IV multidendritic neurons. In conclusion, a disease state contributes to a loss of function in md neurons, which induces a hyperalgesic state in response to pain in Drosophila. The overall findings of this paper displayed a correlation between insulin signaling and pain sensation in Drosophila, which can be further explored with other chronic disease models.

- Profrock, Victoria:

Faculty Sponsor: Dr. Vinayak Mathur

“The application of gene therapy for the treatment and potential prevention of cystic fibrosis, lung cancer, and eye disease.”

The application of gene therapy has been an area of active research, as it has the ability to treat incurable diseases in ways that current medicine cannot. Genetic mutations induce the expression of a defective gene which gives rise to a variety of monogenic and polygenic diseases, such as cystic fibrosis, lung cancer, and eye disease. In recent years, gene therapy has proven to be effective in both in vitro and in vivo studies. In cystic fibrosis, gene therapy has been able to restore the wild-type function from a mutated cystic fibrosis transmembrane conductance regulator (CFTR) gene, improving lung function. Gene therapy has been able to significantly reduce SOX2 gene expression within A549 non-small cell lung cancer (NSCLC) cells, decreasing the lung cancer cell population. Gene therapy has also been able to restore the wild-type function from a mutant RPE65 gene that contributes retinal degeneration, resulting in partial vision restoration. In conclusion, gene therapy has the potential to treat a variety of genetic diseases which provides further understanding of disease mechanisms for effective treatment options.

- Qureshi, Adam:

Faculty Sponsor: Dr. Vinayak Mathur

“The different types of bone substitutes and determining which bone is the best substitute for natural bone”

The significance of this study is to understand bone grafts and comparing the different bone substitutes and concluding which bone substitute is the best. This study focused on allograft, autograft, and artificial bone substitutes and how much each cost, the availability, the biocompatibility, and the surgery and recovery time for each bone substitute. As of right now the golden standard stands to be autograft which simply means that taking a piece of bone from yourself is the best way to replace other bone; however, synthetic, or artificial

bone is continuing to grow and seems that it will eventually become the golden standard. One study found that artificial bone possesses osteoconductive properties, the same study also found that artificial bone works with growth factors in the body which means it can also achieve osteoinductive and osteogenic properties leading to strong biocompatibility. Artificial bone also has less fusion time as well as less healing time when compared to autologous bone; one con of artificial bone is the cost to make them which has a significantly larger price in comparison to autologous procedures. The hope is that with further studies, artificial bone will advance as well as become cheaper and become the new golden standard.

- Ramirez, Georgina, Daisy Morquecho and Lily Bonner:

Faculty Sponsor: Dr. Vinayak Mathur

"The mystery of pain"

The concept of pain is a mystery and there is a variety of research to determine the cause or common source. Pain is defined as a feeling of physical suffering originating from injury or illness. Researchers have found that there are many types of pain including chronic, acute, and phantom. The neurological pathways and genetic factors of pain have been studied extensively, leading to the development of different treatments for pain. Currently, there are researchers that use different methods to study pain. For this specific study, a researcher from Haverford College used Thermal Pain Assay to study pain on two different strains of *Drosophila melanogaster* larvae, Canton-S and ebony1. The main focus for this study was to analyze the larvae response to pain over a certain time frame and at different temperatures ranging from 40°C-48°C. From the data accrued, it was found that increased calcium level causes mitochondrial damage, leading to a reduction of pain sensation. It has also been found that loss of the ebony function causes poor quality sleep, causing poor pain modulation and increasing risk of chronic pain. Ebony was also seen to be an important factor in high dopamine levels; ebony flies were seen to have defects in sensing noxious chemicals. Studies such as these are important to have because it provides a better understanding into the sensory experience that everyone goes through at some point in their life. Such studies could allow scientists to discover different ways to treat pain.

- Ramirez, Georgina:

Faculty Sponsor: Dr. Vinayak Mathur

"Causes and treatments for neurodegenerative diseases"

Neurodegeneration is a progressive loss of neurons, cells in the brain, that occurs over time. Even though the research done has uncovered the causes behind these diseases, there is still much that is not understood when it comes to stopping its progression. The loss of these neurons over time leads to varying degrees of diseases such as Alzheimer's, Parkinson's, and Huntington's. While each of these diseases have similar symptoms such as memory loss or loss of mobility, each have different mechanisms and pathways that are affected in the brain. In Alzheimer's diseases, there is a buildup of beta amyloid plaques and tau tangles that causes toxic effects in the brain, which impacts an individual's memory and cognitive skills. Much like Alzheimer's, Huntington's impacts an individual's cognitive skills, behavior, and physical movements. Unlike Alzheimer's, Huntington's disease occurs when there is a mutation in the Huntington gene which causes CAG repeats. Parkinson's disease is different

from the other diseases because movement and coordination are affected first with cognitive loss occurring in the later stages of the disease. It is caused by the loss of nerve cells in the substantia nigra which are responsible for producing dopamine and the formation of Lewy bodies. It is important to study these diseases because it affects millions of people around the world. More research could potentially lead to a cure or to better treatments that help to slow down these diseases to allow individuals to live a normal life for as long as possible.

- Reyes, Yaneska:

Faculty Sponsor: Dr. Maia Magrakvelidze

"How cardiomyopathy occurs"

Cardiomyopathy is a condition of the heart muscle that can cause different diseases that may result in heart failure. The muscles of the heart may thicken, stiffen, become thinner or even filled with substances that our body produces. This resulted in the reduction in ability for the heart to pump blood, leading to heart failure and arrhythmias. There are five different types of cardiomyopathy: hypertonic, which occurs when the heart muscle thickens, restrictive, occurring when the heart muscle stiffens, dilated, occurs when the heart muscles enlarge, unclassified, when myocardium is affected but there are no specific causes found, and arrhythmogenic right ventricular dysplasia, when there are irregular heartbeats or rhythm caused by the disease.

- Rivera, Ariana:

Faculty Sponsor: Dr. Vinayak Mathur

"Evidence of horizontal gene transfer amongst Drosophila melanogaster and its endosymbiont Wolbachia"

Horizontal gene transfer (HGT) is the transmission of genetic material among organisms, other than by vertical transmission from parent to offspring. HGT is thought to be an important factor driving evolution. While extensively studied among prokaryotes, there is growing evidence that HGT is also prevalent in eukaryotes. Particularly of interest, the endosymbiont bacteria Wolbachia, and the Drosophila species that it infects were examined. Based on a literature review we identified certain proteins in Wolbachia that have shown evidence of HGT and tested them using the Community Science Project pipeline. We found a particular Wolbachia protein, functionally annotated as DDE-type integrase/transposase/recombinase, which was also present in Drosophila melanogaster. This protein in Drosophila melanogaster was defined as a putative gag-pol protein based on functional annotation in the UniProt database. Using in depth literature analysis, the evolutionary relationship between these two organisms were explored and the instance of HGT was confirmed. Further investigations in this system will focus on understanding the mechanism of HGT and expanding our study to other genes, to discover the extent of horizontal gene exchange.

- Rivera, Ariana, Adam Sayed and Ellen Ford:

Faculty Sponsor: Dr. Vinayak Mathur

“The impact of socioeconomic factors such as years of education and current employment status on depression and anxiety”

Depression and anxiety has widespread effects throughout the world, particularly the geriatric population. Throughout history, it has been the “American Dream” to work hard while young and retire at age 65, and live the golden days happily with socio-economic stability. In order to determine if this is true, we plan to analyze data collected by a graduate student that surveyed 63 older adults aged 55-77. Their years of education and current employment status (“full time” (40 hours/week), “part time” (>35 hours/week), or retired) were collected alongside their scores on the Geriatric Anxiety Index and the Geriatric Depression Scale. We plan to analyze these raw data points in order to determine if a correlation exists. We hypothesize that less years of education and a full time employment status, suggesting a lower socio-economic status, will correlate with higher depression and anxiety scores. Our results are to follow upon research completion.

- Sayed, Adam:

Faculty Sponsor: Dr. Maia Magrakvelidze

“The different types of bone substitutes and determining which bone is the best substitute for natural bone”

The significance of this study is to understand bone grafts and comparing the different bone substitutes and concluding which bone substitute is the best. This study focused on allograft, autograft, and artificial bone substitutes and how much each cost, the availability, the biocompatibility, and the surgery and recovery time for each bone substitute. As of right now the golden standard stands to be autograft which simply means that taking a piece of bone from yourself is the best way to replace other bone; however, synthetic, or artificial bone is continuing to grow and seems that it will eventually become the golden standard. One study found that artificial bone possesses osteoconductive properties, the same study also found that artificial bone works with growth factors in the body which means it can also achieve osteoinductive and osteogenic properties leading to strong biocompatibility Artificial bone also has less fusion time as well as less healing time when compared to autologous bone; one con of artificial bone is the cost to make them which has a significantly larger price in comparison to autologous procedures. The hope is that with further studies, artificial bone will advance as well as become cheaper and become the new golden standard.

- Szupper, Michaela:

Faculty Sponsor: Dr. Maia Magrakvelidze

“The Effectiveness of Animal Training in the Field”

Animal training helps with conservation programs, education, protection, medical care, and research. Zoological animals, farm animals, and domestic animals are often trained to perform specific tasks. Before training can begin, a plan is created to outline the specific steps necessary for the animal to achieve its goal. Training techniques such as positive and negative reinforcement are often implemented. Depending on the circumstances of the studies, goals, or animal species, the effectiveness or success rate of the training can vary, and plans may need to be modified to accommodate unexpected animal behaviors. Studying

animal behaviors is essential not only for animal training but for learning how to preserve many animal species. Specific species of animals have already benefitted from animal training.

- Taylor, Saralyn:

Faculty Sponsor: Dr. Vinayak Mathur

“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. 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. 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.

- Thomas, Savante:

Faculty Sponsor: Dr. Vinayak Mathur

“Non-Smoking Associated Lung Cancer”

It is important to research non-smoking associated lung cancer because there is a heavy use of nicotine products in young and older adults, but more commonly younger adults today. The use of nicotine products can not only effect the user, but the people who the user smokes around can also be negatively impacted health wise. In this research, we look at lung cancer statistics from people who are effected by second-hand smoke. Through this research, the relationship between second-hand smoking, environmental factors, types of lung cancer, and the treatments for lung cancer will be investigated. Also, through this research the relationship between the use of nicotine products and prevention for those who smoke nicotine products will also be investigated. The results of this research is not available at this time due to this research being information evaluated from different peer-reviewed sources.

- Thomas, Shilpa:
 Faculty Sponsor: Dr. Vinayak Mathur
"How Drug Repurposing is Effective in COVID-19"
 The purpose of this research was to understand if drug repurposing was effective in COVID-19. The SARS-Cov-2, otherwise called the Coronavirus has caused a worldwide pandemic with countless lives lost. SARS-Cov-2 affects mostly elder adults and also people with serious underlying diseases. As time progressed the Coronavirus has mutated and created numerous variations. The new variations can now affect younger people too. Drug repurposing is an approach for discovering new uses for approved or investigational medications that aren't related to their original medical indication. Drug repurposing has its own benefits, such as the timeline for the drug to make it to the market is decreased because there is already information on these drugs from the previous time. Also, the cost of the drug being produced is less than making a drug from the start with no knowledge of it at all. The three different drugs researched are Veklury, which is also called Remdesivir, Valproic Acid, and Sildenafil. Many articles have done experiments using these drugs and have concluded that these drugs do help patients with COVID-19. Therefore, drug repurposing is effective in COVID-19.
- Trizonis, Evan:
 Faculty Sponsor: Dr. Vinayak Mathur
"Investigating the Relationship between Nicotine & COVID-19 and Potential Therapeutic Treatments"
 The COVID-19 pandemic, which officially began March 2020 is caused by SARs-CoV-2, a viral disease of the respiratory tract that causes unregulated macrophage recruitment known commonly as 'cytokine storm', resulting in inflammation. People at increased risk of severe symptoms include those with comorbid factors such as hypertension, obesity, lung and/or heart disease. COVID-19 is damaging to many organ systems, mainly the lung epithelial tissue where COVID-19 interacts with ACE2. ACE2 is a peptide of the Renin-Angiotensin system, known for its role in balancing blood pressure and immune response by modification of associated peptides. Hyperinflammation is also controlled by the cholinergic anti-inflammatory system (NCS) by the CNS using neurotransmitter Acetylcholine (Ach) for intercellular communication. The Nicotine-COVID-19 hypothesis states that SARs-CoV-2 can interact with these nicotinic Acetylcholine receptors (nAChRs) directly. This leads to the possibility of cholinergic anti-inflammatory pathway agonists, such as nicotine, for inhibiting the binding affinity of SARs-CoV-2 Spike Glycoprotein. This may correlate with the surprisingly low prevalence of smokers hospitalized, which was less than anticipated by researchers. Nicotine is already an approved medication that has other therapeutic uses, and cholinergic mixtures are currently being investigated as methods of treatment as case severity increases in at-risk COVID-19 patients. As the understanding of SARs-CoV-2 and the connectivity of RAS & cholinergic anti-inflammatory pathway continue to develop, the role of nicotine will become more evident as a treatment method.

- Virtue, Rachel, Kenzi Eldabh and Katie Coppola:

Faculty Sponsor: Dr. Sheryl Fuller-Espie

“The Determination of bacterial numbers in Escherichia coli using a quantitative plating procedure and a spectrophotometer”

The objective of this experiment was to quantify the number of bacteria in a sample from different methods, the two that were chosen being colony plate counting of various dilutions and absorbance using a spectrophotometer of various dilutions. The plate counting technique involved diluting a soy broth culture of Escherichia coli, plating it using the pour technique, and counting viable cell colonies. The spectrophotometric technique involved diluting a soy broth culture of E. coli and finding the absorbances of each sample. The plate counting resulted in only the 10⁻⁵ dilution plate having the correct range with 120 colonies to calculate 1.2 x 10⁸ colony forming units/ml. The spectrophotometer absorbances resulted in a positive correlation which follows the Beer- Lambert Law. These techniques were applied in two articles that used different bacterial counting techniques to determine the colony forming unit count in the soil as well as on hospital surfaces which will be reviewed in this study.

- Vo, Kim, Theodhora Qyshkollari and Shilpa Thomas:

Faculty Sponsor: Dr. Sheryl Fuller-Espie

“Examining the effects of Pasteurization on the sanitary quality of milk”

The objective of this experiment was to assess the sanitary quality of unpasteurized and pasteurized milk samples via a coliform analysis and methylene blue reductase test. The coliform analysis was performed by carrying out a serial dilution of both unpasteurized and pasteurized milk samples, and then plating 1 mL of each dilution into a violet red bile agar (VRBA) medium. After 24 hours of incubation at 32°C, the number of colonies was counted for the plate containing between 25 and 250 colonies, and the cfu/mL was calculated. The methylene blue reductase test was done by adding a drop of methylene blue dye to each of the 10 mL of unpasteurized and pasteurized milk samples. After five minutes of incubation at 37°C, the samples were monitored every hour for eight hours. It was found that the pasteurized milk did not contain any bacteria after incubation, whereas the unpasteurized milk was calculated to have 57 cfu/mL. This result is significant, as it shows a vast difference in sanitary quality between the unpasteurized and pasteurized milk samples.

- Wainwright, Emily, Geraldine Brown and Shanise Wilkerson:

Faculty Sponsor: Dr. Vinayak Mathur

“Measuring Pain Sensations of Ebony Drosophila”

Pain is a feeling that comes from your nervous system telling your body something is wrong (U.S. National Library of Medicine, 2022). Pain is not all bad, it is rather necessary in light of the fact that if a person does not feel pain then there is a risk of further risk and injury to the body. Congenital insensitivity to pain is a concept that describes the condition in which one is unable to perceive physical pain. Furthermore, chronic pain is a type of pain that continues past the time it is supposed to heal and the protective function of pain no longer exists in chronic pain (Treede et al, 2015). Pain either acute or chronic, has been studied in humans and within the data, the pain response within drosophila and their larva are used for

this study. This data was provided to us by Dr. Seol Lee Im, a researcher from Haverford College. For the purpose of this study, data and previous research from drosophila larva will be taken to further analyze how impaired sleep can predict the development of chronic pain. More specifically, we are interested in looking at the effects of dopamine on sleep as well as pain response and the results of this study will lead to a greater understanding of how sleep correlates to pain, in turn supporting a new direction of pain management and treatment.

- Yormie, Praise:

Faculty Sponsor: Dr. Maia Magrakvelidze

"The effects of lead exposure in developing countries"

Lead (Pb) is a silver gray or blue metal that has been mined for thousands of years. It occurs naturally in the environment, most commonly in coal and ore alongside other metals such as zinc, silver, and copper. Over the previous five centuries, it is estimated that 300 million tonnes of lead have been discharged into the environment as a result of mining and ore processing. Lead's ubiquitous use has resulted in widespread human exposure to this deadly element. There are no natural processes for the breakdown of lead, and it stays in the environment for very extended periods of time once released. Lead poisoning can cause developmental delays, learning difficulties, behavioral issues, hearing loss, high blood pressure, and death. Lead can reach even the most remote parts of the planet due to air transmission. Overexposure affects 240 million individuals, with 99 percent of those with blood levels exceeding 20 g/dl living in underdeveloped countries. Lead exposure causes 853,000 fatalities per year, compared to 852,000 deaths caused by all other occupational risk factors combined. People in underdeveloped nations are exposed to lead through their working environment, inhaling lead-contaminated air or dust. Oil spills, water pollution, and food contamination are examples of environmental disasters.

Sociology & Criminology Department

The School of Arts and Sciences

- Ardizzone, Richard:

Faculty Sponsor: Dr. Katie Farina

"Smoking and Vaping in College Students with Mental Health Issues"

The research conducted examines how smoking and vaping are related to mental health issues in college students. Recently, there has been an increase in nicotine use among college students (Pulvers et al., 2021). Electronic cigarettes, which are often shortened to "vapes," have risen in popularity since 2007 (Kenne et al., 2017). Individuals with mental health issues such as post-traumatic stress disorder, anxiety, depression, and many others use smoking as a form of self-medication when it comes to their mental health conflicts (Tzabi, et al., 1999). Primary research was conducted by the administration of surveys to Cabrini University students. Results will be presented at the symposium.

- Coston, David:
 Faculty Sponsor: Dr. Katie Farina
"Victimization and the effects on Punitiveness"
 When examining punitive attitudes, most studies today focus on either victimization or fear of crime, which ultimately fails to explore other areas that could be affect an individual's perception. Punitiveness dominates both the criminal justice system and justice considerations because of the absence of reparative options that are accessible as a response to criminal behavior (Gormet, 2011). In today's system, harsh punishment is one common way to deal with issues in society such as violent crime. In addition to victimization, the media has a strong influence on an individual's perception towards punitiveness. The purpose of this study is to examine the relationship between victimization and the effects it has on punitiveness. This study utilized primary quantitative data by the use of surveys that were distributed to Cabrini University students during the spring semester of 2022. It was hypothesized that individuals who experienced victimization are more punitive than those who have not experienced it and the more exposure individuals have to the media, the more punitive attitudes they hold. Results will be presented at the symposium.
- Gramlick, Alexia:
 Faculty Sponsor: Dr. Katie Farina
"Stress and Mental Health in College"
 The research conducted looks at how stress and mental health are related among college students. The development of mental illness can result from the constant worrying and pressures of being a student (Musabig & Karimah, 2020). Individuals aged 18 to 24 are the target range for experiencing the effects of social relevance and academic responsibilities (Musabig & Karimah 2020). The transition into higher education has been linked to emotional instability and high levels of anxiety, depression, and stress (Bento et al., 2021). The pressures of being a student include things such as being in a new environment, the constant need to fit in and feel social acceptance, more responsibilities in terms of assignments and time management, etc. (Bhujade, 2017). Primary research was conducted by administering surveys to Cabrini University students. In-depth details will be presented at the symposium.
- Harahan, James:
 Faculty Sponsor: Dr. Katie Farina
"The Impact of Race & Gender on Perception of Gun Control"
 The issue of gun control has been a major topic of discussion for a long while especially during the twenty first century. It is not thought of as a political issue because it is prominent in our culture. Inevitably, Democrats and Republicans clash and cannot agree on solutions. As such, when alternative solutions are proposed, they do not usually become legislative action. In addition to the relationship between political orientation and gun control, race and gender are also known to predict support. Primary research will examine the relationship between these predictors and perceptions on guns and gun control. The results of the survey are not available yet but will be presented at the symposium.

- McCloskey, Tara:
 Faculty Sponsor: Dr. Katie Farina
“Race, Gender, and Individuals’ Perceptions of the Death Penalty”
 The primary goal of this research project is to examine if race and gender affect an individual’s perception of the death penalty. Race is at the forefront of research in relation to death penalty sentencing (Williams & Holcomb, 2004). In previous years there have been multiple different studies that have shown a significant difference in race and their perceptions of the death penalty especially within the African American community (Michel & Cochran, 2021). Individuals’ perceptions of the death penalty can differ in terms of gender as men are more supportive of the death penalty than women (Lambert et. al, 2016). Primary data was collected, and results will be presented at the Symposium.
- McGeary, Ariana:
 Faculty Sponsor: Dr. Katie Farina
“Television and perceptions of criminal justice”
 Television shows, movies, and documentaries demonstrate a large number of content related to crime and the criminal justice system. With the growing number of crime-related media, the validity of the portrayal of forensic science and the criminal justice system has come into question. The subsequent portrayal can shape public attitude towards the criminal justice system and can lead to false perceptions (Werner, 2015). To investigate whether this is the case among college students, a survey using non-probability availability sampling was administered to 100 Cabrini University students. Results will be available at the Symposium.
- Orr, Alexandra:
 Faculty Sponsor: Dr. Katie Farina
“Mental Health and Substance Abuse”
 Mental illness affects thousands of people that often struggle with their symptoms. In this way, substance abuse can be used to self-medicate. This research is important because of the number of people that are affected by mental health struggles on a daily basis and this study can help to lead to understanding what may cause them to turn to substance use. This study utilizes nonprobability availability sampling methods to survey Cabrini students. This study hypothesizes that students who struggle with their mental health are more likely to use illegal substances. Results will be made available at the Symposium.
- Reinacher, Skye:
 Faculty Sponsor: Dr. Katie Farina
“Gendered Perceptions in STEM/Mathematics”
 Historically, science, technology, engineering, and mathematics (STEM) have been male-dominated fields. This separation of genders in STEM leads many women to not pursue careers in these fields and leaves them at a disadvantage when they do decide to pursue a STEM career. A female view on mathematics is vital to introduce more women into the field and give them the same opportunities as men. This study analyzed quantitative data through a survey conducted at Cabrini University during the Fall 2021 semester. Based on prior publications, three hypotheses were generated: females would have lower perceptions of

mathematics than males, females with more female STEM teachers would have stronger perceptions of mathematics than those with less, and the sample would show gendered differences in perceptions of mathematics. Results from independent t-tests and ANOVAs show that females had significantly lower personal math interest than males. There were no other significant differences in gender with math self-efficacy, the number of female STEM teachers showed no significance, and there was no significant difference between men and women on views of gendered differences in mathematics.

- Ruk, Jessica:

Faculty Sponsor: Dr. Katie Farina

"Mental Health and Substance Use"

A quantitative research study will be conducted by surveying one-hundred and fifty students at Cabrini University. The sampling design will be a non-probability sampling design called availability sampling. The students participating will complete the questions by filling out a paper form of the survey. The paper surveys will be given in undergraduate classes, sports teams, and clubs at the University. Cabrini's IRB must grant approval before allowing me and my research team to distribute our surveys. Prior to asking students to fill out our survey the purpose of the survey will be explained and encourage, but not force, students to complete the survey. The research question being asked is "Is there a co-occurrence between mental health disorders and substance abuse among college students? The hypotheses for this research study are, students who struggle with anxiety are more likely to engage in substance use and students who struggle with depression are more likely to engage in substance use. Results will be presented at the Symposium.

- Vardanyan, Anri:

Faculty Sponsor: Dr. Katie Farina

"Privacy & Surveillance"

The purpose of this research project is to understand how criminology majors view privacy & surveillance compared to non-criminology majors. The independent variable is the major of each student. The dependent variable is the opinion of each student regarding privacy and surveillance. The survey will be conducted within Cabrini University. Final results are pending and will be presented at the Symposium.

Undergraduate Oral Presentations

Session #1 12:30 - 1:30 pm

1.1 Founder's Hall Room 351

Moderator: Dr. Gifty Key

- Katherine Alvarez

Faculty Moderator: Dr. Gifty Key

"Racial Disparities within Maternal Health"

The documentary presented in the academic symposium will be about a pending public health issue impacting black maternal health outcomes. According to the CDC, "Black women have a higher risk of having a pregnancy-related death compared to their White counterparts." The documentary will present statistics, educational videos of a health care specialist speaking on these issues and presents the different approaches to closing this health care gap. The documentary will include various resources that talk about what causes these issues and explaining systemic racism. The first interviewee included in the documentary will be a midwife or a doctor that will give insight on the issue and what they believe are important steps to reduce this health care gap. Next, the other interviewee will be a community health care worker who works in the women's centering program. She will talk about the program and explain how it works. The documentary will include film of the centering room, pictures of the educational activities used, and the medical equipment needed for each meeting, used by the midwives. The centering program has educated women about nutrition, birth control options, breastfeeding, postpartum depression, and includes a tour of the labor room to help familiarize them. The documentary will educate students about racial disparities within maternal health care and hopefully start conversations about this issue to further make an impact on changing these outcomes.

- Nicole Barycki

Faculty Moderator: Dr. Gifty Key

"Thirty"

First responders, such as firefighters, EMTs, or police officers, are involved in some of the most intense situations on a daily basis and have been there for us in our darkest moments, but what individuals do not realize is that this consistent ongoing exposure over time, can severely hinder mental health and well-being to the point of burnout, exhaustion, and in some instances, suicidal ideations. According to SAMSHA, as of 2018, 30% of first responders go on to develop behavioral health conditions as a result of consistent exposure to the intense situations of their jobs. The purpose of "Thirty" is to illuminate, through film, the lack of awareness and support of first responder mental health and why, as a society, we must recognize, emphasize, and prioritize their mental health and well-being and work to provide more resources to these individuals. "Thirty" will involve testimonials from the likes of the Upper Darby Police Department and the Chester County Critical Incident Stress Management Team to share stories and personal thoughts as to what we can do to improve the mental health of first responders. If we do not act now to support first responder mental health, then we are only increasing the chances of poor mental health and a subsequent decline in the overall well-being of said individuals.

- Patrick Costa

Faculty Moderator: Dr. Gifty Key

"Depression"

I am creating a documentary on depression to educate and show the seriousness of this mental health disorder. The documentary will have two participants. One of the participants is a counselor at Cabrini University. The interview will show the different reasons on why students develop depression and why it is important to promote mental health at a young age. Furthermore, throughout this documentary I will interview someone who has had a direct experience with this disorder. It will allow for people to connect with her personal experience and the impact depression had on her. The documentary will also show stats, facts and videos of depression and it can affect someone's everyday life. Another participant in the documentary will be a counselor and she will help with ways to get through depression. Mental health should be taken very seriously and is why my documentary will show the impact depression has on many lives.

- Marleigh Davis

Faculty Moderator: Dr. Gifty Key

"Dialing Down Diabetes"

Millions of Americans are diagnosed or undiagnosed with diabetes or prediabetes every year. Diabetes is on the list for being one of the top ten leading causes of death. There are multiple types of diabetes, and each type affects the body differently. Diabetes can lead to various harmful health conditions such as heart disease and/or stroke. Type 1 diabetes cannot be prevented; however, prediabetes and type 2 diabetes can be prevented by eating a healthy diet and exercising daily. Having a healthy diet and daily physical activity can also help one manage his or her type 1 diabetes symptoms. Dr. Elizabeth Tenison, Nutrition Program Coordinator/Director, coordinated master's program in dietetics at Rowan University, will be featured to discuss her journey in the nutrition and dietetics field and the negative and positive effects a healthy and nonhealthy diet can have on diabetes. In conclusion, I will share my personal experience with how I have been helping the diabetic community through my internship with Rowan University's campus dietitians.

1.2 Founder's Hall Room 207

Moderator: Dr. Sheryl Fuller-Espie

- Noah Carter

Faculty Moderator: Dr. Katie Farina

"Death Penalty Support and Its Intricacies: Interactions Between Support, Racial Prejudice, Political Affiliation, and Christian Religious Ideology"

Death Penalty support among Americans has been a point of severe contention since the onset of the nation. As such, there are many facets to understanding said support, anywhere from political affiliation to religious ideologies to inherent racist beliefs. Thus, this study set out to establish two understandings: if race and political affiliation positively or negatively correlated with death penalty support and racial prejudice; and two, if Christian religious ideology is a reliable predictor of death penalty support. In order to facilitate this establishment, this study conducted availability sampling through an electronic survey of 100 Cabrini students and compiled the resulting data. This data was then run through a Pearson

Correlation, then a multiple regression, and finally through a stepwise multiple regression. Results from these tests negated all hypotheses and determined that gender was the only significant factor amongst religiosity, racial prejudice, and political affiliation. Although gender was not an independent variable but simply a control variable, its mere presence made all other variables insignificant. Thus, this study concluded from the results that gender is a significant factor in how an individual decides to support the death penalty.

- Samantha Mazza

Faculty Moderator: Dr. Sheryl Fuller Espie

“Flow cytometric and microscopic analyses of antimicrobial properties exhibited by protein extracts purified from Eisenia hortensis”

Antimicrobial resistance has become a major issue in recent years due to the liberal and improper use of antibiotics leading to antibiotic and antimicrobial resistance. Alternative antimicrobial therapies are thus in need of discovery and development to combat this issue, including but not limited to, invertebrate sources. Earthworms lack adaptive immunity, but have been able to survive and mount efficient non-specific defense responses against pathogens due to elements of their robust innate immune system including cellular responses such as phagocytosis by coelomocytes, and chemical responses mediated by lysozyme, antimicrobial peptides, and agglutinating components found in the coelomic fluid. This study used flow cytometry and microscopic methodologies to investigate the antimicrobial effects of a crude protein extract isolated from the earthworm *Eisenia hortensis*. Both cell morphology and viability of the bacterium *Bacillus megaterium* were examined. Using the cell viability dye propidium iodide (PI), preliminary flow cytometry results obtained from duplicate experiments showed significant cell killing ($p < 0.05$) occurred when *B. megaterium* was treated with either a high (2.5 mg/ml) or a low (1.25 mg/ml) concentration of extract for 2 hr. The high concentration exhibited cytotoxicity between 26-37%, whereas the low concentration showed killing between 19-38% in assays A and B, respectively. Fluorescence and phase contrast microscopy revealed that following exposure to the extract for 4.5 hr, bacterial cells exhibited noticeable differences in light refraction, substantive clumping, and high levels of PI uptake compared to untreated controls. Future studies aim to focus on purification of the specific protein(s) responsible for the observed cytotoxic effects in the antimicrobial earthworm extract.

1.3 Founder’s Hall Room 210 Moderator: Dr. Natacha Bolufer-Laurentie

- Nicole Barycki

Faculty Moderator: Dr. Natacha Bolfuer-Laurentie

“What Spanish means to me”

The purpose of "What Spanish means to me" is to express, through speech, the significance of the Spanish language, how it has impacted me, and how it will impact me in the future. Studying the language has shaped who I am, and has contributed largely to my fascination with language and how we communicate as humans, as well as opened new culturally immersive opportunities that I did not know about previously. Learning language is not easy, however, it is not impossible, and through this project, I hope to illuminate what language

means to me in hopes of inspiring others to open their eyes and challenge themselves in a positive way.

- Sandra Irene Manrique
Faculty Moderator: Dr. Natacha Bolufer
"What spanish mean to me."
My oral presentation will reflect on what Spanish mean to me, what is the significance of speaking Spanish and how I feel about my beautiful native Spanish language.
- Gabriela Chauca
Faculty Moderator: Dr. Natacha Bolufer-Laurentie
"Que significa el espanol para mi (What spanish mean to me)"
In a monologue, I will be reflecting on what the Spanish language means to me. Having lived in different countries, using my native Spanish language always makes me feel at home no matter where I am.
- Yeredith Cruz
Faculty Moderator: Dr. Natacha Bolufer
"My Spanish"
I will be presenting a monologue about what Spanish means to me while leaving in an English-speaking country.
- Capriana Murphy
Faculty Moderator: Dr. Natacha Bolufer
"Las Similitudes y Diferencias Entre la Novela y la Película del Guardián Invisible"
Un análisis de las similitudes y las diferencias entre la novela y la película de El guardián invisible (An analysis of the similarities and differences of the novel and the film The Invisible Guardian).

Session #2 1:45 - 2:45 pm

2.1 Founder's Hall Room 351

Moderator: Dr. Gifty Key

- Solimar Frias
Faculty Moderator: Dr. Gifty Key
"One Drink Is All It Takes"
Individuals are using alcohol excessively and it is causing many forms of diseases, death, and injuries. The National Institute of Alcohol found that "An estimated 95,000 people (approximately 68,000 men and 27,000 women) die from alcohol-related causes annually, making alcohol the third-leading preventable cause of death in the United States" (U.S. Department, 2021). Alcohol is affecting the health of people mentally, socially, and physically. Alcoholism can have preventative measures improved and I hope this

documentary motivates people to do so. Hopefully more people will understand why alcoholism is a disease; and the people watching can be given courage to end the alcohol abuse they may be facing or even to help the individuals around them.

- Yarlyn Hierro Mieses

Faculty Moderator: Dr. Gifty Key

"Experiencing Homelessness in America"

There is an estimated 500,000 individuals who are homeless in America today. Experiencing Homelessness in America will uncover the health concerns, growing numbers, negative effects on youth, impact on criminal justice and race that homelessness has in society. This documentary will bring awareness and provide information about resources that are available to those in need. Many people experience homelessness in America or are at risk due to low income, age, health status, and environment. One of the significant issues is the lack of primary and preventative care which leads to the development of diseases and deaths. Other issues include but are not limited to the growth of criminal activity and drug abuse, the lack of childhood development, and the psychological impact on families. This documentary will include a testimony from a previous victim of homelessness, and statistical evidence of groups who are vulnerable.

- Kiara Moore

Faculty Moderator: Dr. Gifty Key

"You are Enough"

The topic of this documentary is the mental health crisis in regards to depression and suicide rates. The documentary's purpose is to help those who are struggling by informing them of resources near Cabrini, as well as, online services. Most importantly, the documentary hopes to share the reminder with others that they are enough, and they do matter. To execute this documentary, clips from a Ted Talk that shares the definition of depression, and how important a support system is were incorporated. These clips are specifically for individuals who may feel alone. Eye opening statistics showing how serious the mental health crisis is were also included. Interviews from three different standpoints and backgrounds in regards to the mental health crisis will be used as the basis of the documentary. Suicide is the 10th leading overall cause of death in the United States with one death by suicide every 11 minutes. Through this documentary, the goal is to help at least one person seek the help they need, or help someone else in need.

- Anousha Qureshi

Faculty Moderator: Dr. Gifty Key

"Living with Hepatitis B: Resilience in the Face of a Silent Epidemic."

In the United States, more than 2 million people are living with Hepatitis B, and many are unaware of their status. Influx of migrants from countries with high infection rates, worsening of the opioid crisis, and rise in vaccine hesitancy has led to an increase in hepatitis B transmission rates among adults living in the United States. The goal of this documentary is to inform the public about hep B and highlight the experiences of individuals living with hep B in the United States, with assistance from the Hepatitis B Foundation. The documentary is composed of three sections. The first section is focused on research and

statistical data introduced in the form of graphics. The second section will consist of an interview with a public health professional as they explain the mission, purpose, and work of the Hepatitis B Foundation. Finally, the third section consists of a second interview with an individual living with hepatitis B as they narrate their personal journey with the disease. The hope for this documentary is to increase awareness about hep B among immigrant communities to raise opportunities for research and counter public misinformation to improve lives for those living with hep B.

2.2 Founder's Hall Room 207 Moderator: Dr. Michael Corcoran

- Amenta Karluah

Faculty Moderator: Dr. Michael Corcoran

"The Media's Influence on Well Being"

Individuals' health and connections are closely related to their wellness and well-being. We live in a technologically advanced era. Many social networking platforms' foundations are the power it offers members to utilize and unite the world, making communication easier. Living in an "online" environment though, has its drawbacks: the lack of true privacy. The research was taken to examine the impact of social media on well-being and mood. Numerous studies have linked frequent social media utilization to an elevated risk of unhappiness, anxiety, isolation, subconscious, and even suicide ideation. Despite the adverse effects of using social media, various positive consequences have been displayed; in circumstances, it can be beneficial to one's psychological health and well-being. In our study, we analyze the rate the students utilize social media and the influence it has on self-esteem and life satisfaction. We also examine how a hypothetic number of likes on an impromptu selfie posted to social media influences mood. Results will be provided at the Symposium.

- Jhadah White

Faculty Moderator: Dr. Michael Corcoran

"The effectiveness of virtual and online learning"

The purpose of this project is to examine how the perceptions of learning effectiveness and engagement differs based on classroom modality (in-person vs. virtual). This topic is important because many students have to adjust to new learning styles and learning virtually can alter a students learning and make them less motivated. It is important to determine which learning process is more effective because virtual learning requires time management and provides multiple pitfalls for learning that are not present in in-person learning. In this study, participants are shown a short lecture either in-person or virtually and then their perceptions of learning, motivation, and engagement are assessed. The results will be available at the Symposium.

- Regan Hoyt

Faculty Moderator: Dr. Amy Persichetti

“Representation of Same-Sex Couples in American and Japanese Animation: A Study of History, Artistic Intent, Culture, and Audience Influence”

The LGBTQIA+ community has made great strides in media representation since the beginning of movies and television shows. Animated television, which greatly differs in separate countries, has been a very sensitive space for queer representation until recent years. This representation, though it may seem unimportant to those outside of the LGBTQIA+ community, is vitally important to queer youth. While this representation has often been researched, the art of animation is often missing from this conversation. When examining the historical context of this topic, one can see that both American and Japanese animation have been plagued by stereotypes and censorships over the years. Homosexuality was seen as something "adult," and animation was, for a time, seen as being made for children. Due to this censorship, many artists, writers, and creators have had to use subtext and implicit representation of same-sex couples throughout the history of animated television. With this topic, it would be impossible to ignore the cultural differences between America and Japan. Where American culture is more sexually open, Japanese people often prefer to keep romance behind closed doors. This difference impacts the weight of representation in these two countries as well. Perhaps the most important part of this research comes about with the audience interpretation of the source material. Many animated couples that have or have not been "officially" in a romantic relationship have provided comfort for queer individuals all around the world. In this paper, I examined six shows through these four lenses of historical context, subtext, cultural differences, and audience interpretation. The shows were Legend of Korra, She-Ra and the Princesses of Power, SK8 the Infinity, Attack on Titan, Yuri on Ice, and Given.

- Benjamin Braun, Michael Taylor, Colin Taggart, Alim Josiah and Daly Ewing

Faculty Moderator: Dr. Erin McLaughlin

“Financial Literacy Cabrini Instructional Presentation”

As part of ECG 200: People Planet Profit, our team, Financial Literacy Cabrini, has been tasked with the assessment of the financial literacy of the Cabrini Student population. Based on a study done by our group, there are areas in which the student body remains significantly unaware. These areas are crucial to the future autonomy and success of the graduating students as they progress in their lives. Our group conducted a survey that used our class as a representative sample of the Cabrini Student body. We concluded that while there are areas of basic finance that the average student understands, there are several critical areas that need to be supplemented. Our group endeavors to fill those holes and expand their knowledge into other more advanced but no less, crucial areas. These areas will include banking, credit cards, credit scores, interest, student loans, IRA/401k, and the benefits and consequences of investing/saving.

2.3 Founder's Hall Room 210 Moderator: Dr. Bret Shepard

- Keziah Landis , Isaiah Saddler, Cass Graff, Kelly Martin and Kate Durot

Faculty Moderator: Dr. Bret Shepard

"Woodcrest Magazine Launch"

Woodcrest is a selective literary arts publication dedicated to showcasing the extraordinary talents of writers through poetry, fiction and non-fiction writing, art, and photography. This year Woodcrest became an international literary journal, receiving around 500 submissions from talented writers and artists.

Over the past decade, Woodcrest has been a silver or gold award winner for the Columbia Scholastic Press Association. The last two years running, it is the only online literary journal to receive the gold medal in each year.

This session will unveil the 2021-2022 issue of this award-winning publication.

Session #3 3:00 - 4:00 pm

3.1 Founder's Hall Room 351

Moderator: Dr. Gifty Key

- Madison Stief

Faculty Moderator: Dr. Gifty Key

"Mental Wealth"

Around 40 million adults in the US suffer from anxiety disorders. Despite being considered a highly effective treatment, only around 38% of those with anxiety disorders receive proper care. This statistic alone is why I created this documentary and spread the word of the rising epidemic that is anxiety and depression. This film was made to show the other sides of these disorders that may be overshadowed by today's stigmas. Getting real testimonies from those like us, who suffer from anxiety and depression will directly target those stigmas and biases. Using statistics and recent data, I can compose a documentary that is not only accurate but also impactful for those who are watching. The focus for this documentary is college students and young adults who may have been made to feel different for having these disorders and ashamed for wanting to get help. This film will also focus on healthy ways to cope through these disorders while still persevering through daily tasks such as work and school and even interacting with others. Since there will be interviews with specific questions I feel as though the audience will be able to sympathize and even change their own outlook that they have surrounding this topic. Since anxiety and depression is on such an incline for young adults, I feel that the more information and spotlight on this is best. The goal for this documentary is to spread the word, kill the bias and provide ways of healthy help.

- Alaina Kline

Faculty Moderator: Dr. Gifty Key

“Ending the Pink Tax”

The pink tax is a tax that is on imported goods for women. These products include feminine hygiene products, pads, tampons, women’s clothing and many other women products. A total of 38 states still have this pink tax and Pennsylvania is not one of those states, which got rid of the pink tax in 1991. This tax is a invasive to women because women spend on average a total of \$2,000 extra a year on necessary products. This price per year does not include flow of period and whether buying organic or generic prices.

The health issue with the pink tax is that because of how expensive products are like pads and tampons women will tend to buy less. If women buy less of the products that could lead to UTIs, toxic shock syndrome and many other infections, that are very dangerous. Another health issue would be that the “cheaper” or generic products have harsh chemicals in them like wood chips and other harsh chemicals.

The purpose of this documentary is to end the pink tax and make companies and politicians understand that they are hurting women’s pockets. Women are wanting this issue to be solved because these items are a necessity not a luxury. Wanting to educate the Cabrini community on this issue, so more people are aware of this.

Graduate Poster Presentations

- Abt, Emily: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
"Social Emotional Instruction within an Elementary School Classroom"
This research specifically targeted how the explicit instruction and practice of socialization skills within an elementary school setting help students with their socio-emotional learning. The importance of social emotional instruction within the school setting has become even more important now than ever before. Especially following the pandemic, where many have suffered unimaginable trauma, the students in our schools require access to social emotional learning. With technology becoming an important role in the way children interact with one another, it is important that we equip our students with the tools necessary to handle misunderstandings, conflict, emotions, etc. Many districts have begun to incorporate social emotional learning (SEL) within their own curriculum. The goal of this research was to examine how beneficial explicitly taught social emotional skills with the opportunities for guided practice are outside of the classroom. This qualitative research study included the use of surveys, observational studies, and interviews conducted with elementary school teachers and therapists. Beginning with an initial questionnaire, teachers and therapists were asked to reflect on how effective explicit instruction on social emotional skills is taught within their classrooms. Based on the results from the survey, a focus group was created, along with observations for three weeks to see how explicit instruction occurs within their classrooms, with a focus on teaching methodology and practice. At the end of the research period, the teachers within the focus group were interviewed on how they perceive the overall effectiveness of the instruction within their classroom. Results available at symposium.
- Basile, Danielle: Teacher Education, The School of Education
Faculty Sponsor: Dr. Crystal Anderson
"Students and IEPs - Who really gets a say?"
My presentation will explore the population of students who have IEPs (or need IEPs) and will ask who really has a say in the services they receive. Oftentimes, parents and teachers are thought to be able to have a say in their student's/child's IEP and the services they need. However, more often than not, I have found that what parents and teachers have to say is not taken into account when making these decisions. I have seen time and time again, the phenomenon of a Child Study Team making decisions regarding a student they have never even met before and not listening to the parents or the child's teacher to guide these decisions. For my presentation, I will interview all preschool teachers in my school district and ask them about students they have, that they feel as though could have benefitted from services but did not receive them due to the Child Study Team's decisions. Results will be available at the Symposium.
- Cummins, Susan: Educational Policy & Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
"Impacts of Student Participation in Their IEP Process"
The purpose of this study was to examine the impacts of elementary-level student participation in their Individualized Education Plan (IEP) process via a student-prepared presentation on strengths and areas for growth. This research was conducted in the Spring

of 2022 at Starfish Elementary School, in the Blue Ocean School District (pseudonyms). Four students, and their parents, with an annual IEP meeting occurring during the time of the research study, were asked to participate. With guidance from the Special Education teacher, students prepared a presentation on their strengths and areas for growth and then presented this at their annual IEP team meeting. After the annual IEP team meeting, students and parents were asked to reflect on the impacts of student involvement in the IEP process through surveys and interviews. Qualitative data was collected in various forms: student surveys, parent surveys, student interviews, and anecdotal notes. This paper also briefly outlines policies concerning the Individuals with Disabilities Education Act (IDEA), Special Education supports and services, IEPs, and the annual IEP team meeting, that are relevant to the research study. The results of this research study will be available at the Symposium.

- Fichter, Emily: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“Implementation of the Zones of Regulation in Upper Elementary Classrooms with Students Who Have IEPs”
This study explored the methods in which upper elementary teachers are implementing a program called the Zones of Regulation in their classrooms with students who have Individual Education Plans (IEPs). The study also explored the effectiveness of this program as it pertains to behavioral and academic performance. I conducted this study in the winter and spring of the 2021-2022 school year at Rydell Elementary School (pseudonym). Ten general education teachers from 3rd, 4th, and 5th grade participated in the study. Each teacher has an inclusion classroom which contains a mix of general education students and students who receive special education services through an IEP. The purpose of this study was to explore how general education teachers are using the program to implement and support self-regulation and coping strategies within their classrooms. I wanted to study whether the use of Zones of Regulation is leading to higher academic achievement and lower behavioral issues and concerns. The results of this study will be presented at the symposium.
- Kaplan, Shawn: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“Examining the Impact of Teacher Belief in Neuromyths on Instructional Practice”
This phenomenological study defines neuromyths as “misconceptions about learning, or beliefs in falsehoods about learning, that stem from scientific facts that are either misquoted or taken out of context” (Macdonald, et. al., 2017; Sankey & Kim, 2017). Recent research shows that a significant number of teachers strongly believe in neuromyths. However, there is limited evidence in regards to the extent to which beliefs in neuromyths actually impact lessons daily in our classrooms. Understanding how these beliefs may affect lesson planning, and in turn, student achievement, has important future implications for both teacher education and professional development for in-service teachers. For this study, four teachers were interviewed to understand where their primary focuses are when planning lessons, and how their thoughts on certain neuromyths play out on a typical day of instruction.

- Klein, Jakob: Educational Leadership, The School of Education
 Faculty Sponsor: Dr. Michelle Szpara
“The Study of Participation in Extracurricular Activities and their Effect on Academic Performance”
 Almost every high school in the United States offers some form of extracurricular activity for their students, such as band and orchestra, academic clubs, sports, and many more. These activities offer opportunities for students to learn and practice many values like teamwork, individual and group responsibility, physical strength and endurance, competition, diversity, and a sense of culture and community, many of which prove to be a crucial part of being a successful and functioning member of our society. Extracurricular activities provide a channel for reinforcing the lessons learned in the classroom, offering students the opportunity to apply academic skills in a real-world context, and are considered as a part of a well-rounded education. If, indeed, participation in extracurricular activities can lead to a better daily academic approach and success in school, then the availability of these activities to students of all backgrounds becomes an important equity issue that our schools must acknowledge. In this study, I will use a series of surveys, interviews, observations, and student academic assessments to explore the effects that a student’s participation in extracurricular activities has on their well-being and their academic performance. The results for the study will be provided at the Symposium.
- Liberatore, Robert A.: Teacher Education, The School of Education
 Faculty Sponsor: Dr. Michelle Szpara
“Cell Phones in Middle School Classrooms Impact on Learning and Behavior”
 This study explored the ways that student cell phone usage impacts learning and behavior of students at the middle school level. The research was conducted in the Spring of 2022 using teachers from two Middle Schools: Stars Hollow Middle School and Dragonfly Middle School (pseudonyms). The case study includes three teacher interviews from each school and roughly seven to ten teacher surveys from each school. Both schools are from similar demographics in an east coast suburban county. Teachers of 6th, 7th, and 8th grade students were selected from each subject area to explore how they perceive that students are impacted by cell phone usage within the classroom, both academically and behaviorally, across different grades in middle school. As smart phones have become more common among middle school students over the last few years, middle schools in this specific county have developed varying procedures to deal with the impacts. Interview and survey questions focus on teachers' experiences with cell phones in their classrooms, how their schools handle cell phone violations per their student handbook, if they use cell phones throughout their lessons, and if they perceive that phones impact student behavior and learning. This qualitative research includes teacher interviews, teacher surveys, and schools' code of conduct policies regarding technology in the classroom. The findings will be shared at the Symposium.
- Simonelli, Samantha: Educational Policy & Leadership, The School of Education
 Faculty Sponsor: Dr. Michelle Szpara
“Cultural Representation in 7th Grade Humanities Courses and the Impact on Minority Students”
 This study investigated the impact that cultural representation in curriculum has on students from minority groups. The curriculum focus for this study was the humanities, social studies and English Language Arts (ELA). This research was conducted in the Spring of 2022 at Great Mountain Middle School and Ocean View High School (pseudonyms). Selected

teachers of social studies and ELA, from both schools, were asked to participate in interviews. There were a total of eight teachers who participated, four social studies teachers and four ELA teachers. The interview was focused on if students were culturally represented, whether or not teacher feel comfortable talking about topics that surround minority students, and if teachers have the flexibility to change classroom materials to culturally represent more students. Approximately 30 students from Great Mountain Middle school were invited to participate in a survey, which asked about their experience in the classroom and whether or not they felt culturally represented. Qualitative data was collected in various forms: teacher interviews, student surveys, and curriculum maps. The findings will be shared at the symposium.

- Wilson, Bethany: Educational Specialist, The School of Education
Faculty Sponsor: Dr. Crystal L. Anderson
"Profile of a K-12 Teacher"

The purpose of my research project is to dive deep into my cooperating teacher's styles of teaching and the influences on her teaching. I will seek to learn about her background as an educator, as well as the district and community that she teaches 1st grade in. I chose this project in hopes to learn from her experiences, and discuss important factors in the education world today.

Graduate Roundtable Presentations

- Archie, Jennifer: Teacher Education, The School of Education
Faculty Sponsor: Dr. Crystal Anderson
"Contextual Factors and Teaching Practices"

This presentation will address how recent changes in contextual factors have influenced teaching practices that may have been shaped over years of teaching. A few contextual factors that have been considered include the higher demand for standardized test scores in recent years, the changes brought upon by the Covid-19 pandemic, and curriculum changes to address the need for more diverse materials.

- Bolden, Melissa: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara

"The Perceptions of School-based Mental Health Counselors' Views of, What are the Impacts of Socio-Emotional Learning Supports for Students in Grades K-12, in a Well-Resourced Public School?"

There are considerable research findings on Social-Emotional Learning from the perspectives of school-based services providers such as guidance counselors, social workers, and psychologists. However, there are limited research findings from the perspective of school-based mental health counselors. The purpose of this research is to explore the perceptions of school-based mental health counselors on the impacts of socio-emotional learning supports for students in grades K-12 in a well-resourced public school. School-based mental health counselors from one suburban school district were invited to participate in this phenomenological study. Participants were five school-based K-12th grade mental health counselors who provide individual and group counseling support to students during the school day. The researcher collected data through surveys and a focus group. The

findings showed that all school-based mental health counselors see evidence that school staff valued social-emotional learning in their school buildings. However, there is a need to improve Social Emotional Learning through schoolwide practices to support students. The mental health counselors found they have opportunities to assess student SEL needs during individual and group sessions. Thus it is imperative to include school-based mental health counselors in SEL planning, professional development, and staff coaching.

- Burt, Kathy: Teacher Education, The School of Education

Faculty Sponsor: Dr. Michelle Szpara

“Understanding the effects of PBL on the achievement and attitudes of students.”

The study will investigate Project Based Learning (PBL) and whether or not it can promote the development of critical thinking skills, problem-solving abilities, collaboration and communication skills of middle school students as well as increase their interest in learning. Published research indicates the benefits of PBL. However, there is a lack of implementation in public education, despite being a concept developed in the late 1960s and considering the numerous resources available online. PBL is a new concept for school district A, so this study will provide their schools and the wider county with valuable information that will be helpful in implementing this strategy. I am conducting research at Kind Valley Middle School (pseudonym) which has approximately 1,500 students in grades 6-8. Five years ago, this school was designated a PBL school. Twelve teachers were selected as a pilot group to receive professional development on PBL. The case study focuses on one middle school, its principal, five teachers, and approximately 200-300 students in their classes which have experienced PBL recently. The five teachers of ELA, Civics, and History were asked to participate in an online survey, and three of those teachers were asked to participate in an interview. I will also interview the principal, where questions will focus on the implementation of PBL. Qualitative data will be collected through teacher/principal interviews as well as the teacher/student surveys. Results will be available at the Symposium.

- Campbell, Renee: Educational Leadership, The School of Education

Faculty Sponsor: Dr. Michelle Szpara

“The Importance of Teacher-Student Relationships in K-2 Classrooms”

The topic of this research study is the importance of building student-teacher relationships in the K-2 classroom. The research was conducted to answer the following question: How does the student-teacher relationship impact the classroom environment in K-2 elementary classrooms? This study is important because it explores the effects of building relationships between the students and teachers, and how that impacts the classroom environment through student behavior and student engagement. My method for this study was phenomenology. The participants for this study consisted of elementary teachers that work with K-2 students. The teachers were sent a survey, to determine if the building of relationships between students and teachers has a positive impact on the classroom environment. Results will be available at the Symposium.

- Chisholm, Laura: Educational Leadership, The School of Education
 Faculty Sponsor: Dr. Alia Sheety
“A Triangulated Qualitative Inquiry of the Perceived Supports for and Barriers to Retention and Degree Completion: Hispanic Undergraduate Students between 2015-2021”
 With the large discrepancy between the undergraduate 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 retaining Hispanic students. This qualitative phenomenological study seeks to understand the barriers and supports that Hispanic college students and leader-practitioners perceive as affecting Hispanic undergraduate retention and timely degree completion at PWIs in a major metropolitan area in the northeastern U.S., specifically from 2015-2021, a period that included the Covid-19 pandemic and increased public bias against the Hispanic community. Through the lens of LatCrit and using the Multicontextual Model for Diverse Learning Environments (MMDLE) framework to guide the discussion, this seminal research regarding Hispanic students in higher education focused on the perceptions of current Hispanic undergraduate students, recent Hispanic graduates, and higher education leader-practitioners. The methodology included surveys, interviews, and focus groups. Data were analyzed qualitatively and compared to identify findings that note the dramatic effect of the COVID-19 pandemic on higher education learning, the mild effect of the socio-political environment on those who were not directly impacted, and the emotional effect of the socio-political environment on unauthorized immigrants. Other findings related to the strain of financial challenges and work obligations but also the benefits Hispanic students derived from individual relationships and student-support departments. Recommendations include keeping Hispanic students’ families involved, increasing scholarship opportunities, and ensuring culturally responsive resources are available. As guided by Cabrini University’s dedication to social justice, ensuring equitable access to education will constructively support our communities. Keywords: Hispanic, higher education, COVID-19, Trump era, supports, barriers.
- Cordero, Leni: Business, The School of Business and Professional Studies
 Faculty Sponsor: Dr. Todd Matthews
“A qualitative study of K-12 public Educational Leaders and their use of Organizational Development and Change Theory to responding to the Covid 19 Pandemic.”
 Since its inception, Organizational Development (OD) and Educational Development (ED) have been aligned. Forty years ago, these two fields were consciously aligned to facilitate faculty, instructional professional, personal and organizational development (Professional and Organizational Development Network (POD)). Although there remains a clear connection between Organizational Development and Educational Development, the combination and implementation of work across the two fields of study is quickly fading (Weston, Ferris & Finkelstein, 2017). In this research study, the researcher seeks to overcome the gap between OD and ED by engaging in a project to foster a deeper understanding of change management in the public educational system. Change has been defined as a flow from one state to another that could be initiated by both internal and external forces, involving either individuals or groups to the realignment of existing values, practices, and outcomes (Morrison, 2008). The Covid-19 pandemic has initiated the need to understand change in public education more than any other major disruption in history. This research study will seek to answer the question: “when faced with significant disruption that

forces change in organizations, how do educational leaders identify the levers of change management as guidance to their response?” Utilizing a qualitative thematic analysis approach, the researcher will conduct 20 interviews with educational leaders in urban, suburban, and rural K-12 school districts. These interviews will document the lived experiences of leaders in education during a massive disruption in education. The researcher will analyze the data from these interviews to see what themes arise, particularly around determining the potential need for the realignment of Organizational Development and Educational Development to address the concerns of today’s public educational institutions.

- Czyszczon, Lauren: Educational Leadership, The School of Education

Faculty Sponsor: Dr. Maria Schwab

“Exploring the Impacts of Special Education Assignment on Professional Satisfaction: Inclusion Versus Self-Contained”

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 immense job responsibilities have them feeling varying levels of occupational burnout and stress. The purpose of this qualitative study, employing an instrumental case study methodology, explored special education teachers to better understand potential variances in their experiences of professional satisfaction based on assigned classroom settings. Self-contained classroom teachers and inclusion classroom teachers completed individual interviews, weekly stress journals, and the Maslach’s Burnout Inventory- Educators Survey. Data were analyzed and compared to identify experiences of burnout and job stressors and factors that contribute to professional satisfaction. It was concluded that inclusion classroom teachers and self-contained classroom teachers have varying primary job responsibilities. Additionally, results revealed variances in challenges and stressors that decrease professional satisfaction, as well as factors specific to special education assignment that increase and decrease professional satisfaction. Recommendations from the findings focus on implementations by administrators to help prevent special education teacher burnout that are specific to job assignment. In alignment with Cabrini University’s commitment to lifelong learning and professional growth, tailoring supports that communicate respect and promote excellence can have positive impacts on communities.

- Davenport, Divine: Educational Leadership, The School of Education

Faculty Sponsor: Dr. Michelle Szpara

“Strategies taken to retain first year African American Students at PWIs”

This research study is to investigate the retention strategies African American higher education administrators are taking to retain first year African American students at four year predominately white institutions (PWIs). Current research indicates that enrollment for African American students in higher education is increasing by the year; however, some of those students do not succeed past that first year. Research suggests that the structure and formation of college campuses were designed to serve predominately white students. African American students were expected to adapt to the environment, although they may feel like they do not belong in the culture of the campus (Jones & Williams, 2004). In their first year, students establish relationships with their professors and colleagues, which supports their engaging in on-campus activities. When looking into this research, we must understand the first-year college student needs, the strategies for retention of college students, strategies for retaining minority students at predominately white institutions (PWIs), and the unique

perception of these strategies from African American administrators at predominately white institutions (PWIs). In this study, I conducted two phone interviews to gain insight on these strategies. In this phenomenological study, results consider that on campus programming -- both academic and social -- is essential to first year African American students; creating programming for affinity groups that introduce African American students to long-standing identifying student groups, and building relationships with African American students can both boost student retention.

- DePrince, Michael: Educational Policy & Leadership, The School of Education
Faculty Sponsor: Dr. Crystal Anderson
"Profile of a Teacher in Context"
This research study explores the question, "How does teaching in a school or district with students from a wide socioeconomic range impact daily teaching practices inside of the classroom?" Interviewing of teachers will provide data for this study, and results will be available at the Symposium.
- Duffy, Christine: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
"The Implementation of Social Emotional and Self Care Practices of Private, Public, and Parochial Elementary Teachers Influenced by COVID-19"
The world changed forever when the COVID-19 virus appeared across the nation in March of 2020. This time period was extremely uncertain due to the number of deaths climbing and households overcrowding. Students were now required to be a part of a "virtual" classroom that they were unfamiliar with while managing the emotions caused by the pandemic. The educators on the other side of the screen were challenged to spontaneously build a classroom community through a screen, while trying to keep their personal mental health in a stable state. This qualitative study focuses on the phenomenon of social emotional learning and self-care practices of teachers and its influence on their teaching practices across different school settings, including private, public, and parochial schools. There is little research regarding the self-care practices across school settings and how it affects educators. What practices and strategies do teachers implement for social-emotional health and self-care, across private, public, and parochial elementary schools? Teachers from private, public, and parochial school settings were interviewed to identify the different experiences of self-care and social emotional learning (SEL) in different school environments. The findings of the study uncovered how the public school setting in this small sample was the most supportive environment for teachers who are struggling with their social emotional learning and implementing self-care practices.
- Felder, Stephanie: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
"Teacher Perceptions of Social Emotional Learning in Secondary Schools"
Social emotional learning is prevalent in PreK-8 classrooms. However, despite the need, curricula and programming that address the needs of high school students is lacking. Through the lenses of Collaborative Classrooms Caring School Community (CSC) model and social emotional learning (SEL) advocated by the Collaborative for Academic, Social and Emotional Learning (CASEL), the researcher sought to answer an overarching question: What are secondary-level teachers' perceptions of the need for and use of social emotional

learning (SEL) in grades 9-12 in an urban charter school with one-hundred percent free and reduced lunches?” During a Zoom focus group, this study interviewed four educators in an ethnographic approach. The analyzed data identified the challenges that educators face and the opportunities that exist when urban high schools invite social emotional learning into classrooms. To mitigate these findings, the author suggests proper training for classroom teachers and educators, consistent communication, and the use of intentionally inviting processes for successful implementation of SEL.

- Fisher-Glass, M. Kathleen: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“Paraprofessional Perceptions of Their Role in Inclusion”
Paraprofessionals often support students whose educational programming involves instructional inclusion. Paraprofessionals are tasked with monitoring student performance and task demands while determining the potential need for the adaptation or modification of performance expectations in real time. The role of paraprofessionals is essential -- assuring student success in the context of dynamic inclusion settings. The presence of paraprofessionals further affords support for teachers whose instructional engagement is not disrupted by the needs of these included special education students. Paraprofessionals, however, often present with limited background knowledge and training. Paraprofessional limitations contribute to ineffective student support in the context of inclusion opportunities which may ultimately force students back into more restrictive instructional programming. The literature reflects limited research related to the vital role paraprofessionals hold in securing successful student inclusion. The aim of this qualitative study is to explore paraprofessional perceptions of this role. How do paraprofessionals in a well-resourced metropolitan suburban school district perceive and experience their role in facilitating inclusion of K-12 students in special area classrooms? Through participation in a focus group, six to eight paraprofessionals who support the inclusion of students in the context of special area classrooms at the elementary, middle and high school levels will provide insight related to their perceptions about their role, background knowledge, and training. The researcher will further garner insight related to the guidance, instruction and support these essential educational team members deem most salient. The results of this study will be available for the symposium.
- Fonzone, Dinamarie: Leadership and Organizational Development, The School of Business and Professional Studies
Faculty Sponsor: Dr. Todd Matthews
“Employer Sponsored Health Insurance, the Social Determinants of Health and Health Equity: A Quantitative Study”
Workplace diversity, equity, and inclusion strategies continue to include efforts to remedy various socio-dynamic issues within employee populations. One type of workplace socio dynamic issue that DEI strategies aim to improve is health inequity in employee populations. Emerging research examining the health inequity of employer-sponsored health insurance (ESI) continues to emerge in the scholarly literature. Health inequity in ESI plans manifests via increased mortality, morbidity, and health care expenditures specific to certain social determinants of health (SDOH). ESI strategic decision-making processes generally rely on financial analysis to guide leadership in choosing plans that will produce optimal organizational spending outcomes. The SDOH are typically an unrecognized component of

rising ESI plan costs and poor health outcomes, which result in health inequity within employee populations. This study examines the relationship between the social determinants of health (SDOH) and the unintended consequence of health inequity through the lens of health outcomes within ESI plans. The study will use a quantitative research design and include a randomized selection of employee records from an existing employer human capital management database. The research methods will include statistical regression to explore the relationships between certain SDOH (employee income and health care access) and health outcomes (health plan utilization, cost, and chronic disease prevalence). The discussion will include an application of the social gradient of health theory to the study findings, organizational transformation through changes in ESI decision-making mental models, and the connection of ESI health inequity to organizational development and change diversity, equity, and inclusion strategies.

- Higgins, Halle: Educational Policy & Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“How Explicit Instruction in Phonemes Impacts Kindergarten Students’ Phonological Awareness Skills in a Diverse School.”

This study explores the impact that explicit instruction primarily in phonemes can have on kindergarten students’ phonological awareness skills. Over the years there has been some research done on how children learn how to read and identify sounds in words. I am interested in seeing the effects that might occur when content is taught explicitly and repeated daily over the course of four weeks. I analyzed the students’ DIBELS (Dynamic Indicators of Basic Early Literacy Skills) scores from the mid-year benchmark to identify who would be most likely to grow in their ability to identify nonsense words and identify sounds for phoneme segmentation. The students who were selected received the same instruction as those not participating in the study. I continued to use the lesson plan template that was created by my school’s administration for our phonics curriculum, which allows for explicit instruction. During each 30-minute phonics small group, we will focus on identifying words in sounds using manipulatives and identifying nonsense words, along with dictating words for the students to write. For them to write words, they must have the foundation of being able to produce letter sounds and blend them together to write and read words. I progress-monitored students, both to collect a current score, and then at the end of each week, to track student progress on their ability to identify and produce letter sounds. The findings of the study will be included at the Symposium.

- Kane, Abigail: Educational Policy & Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“Effects of Intrinsic and Extrinsic Motivation on Upper Elementary Students both in the General and Special Education Classrooms”

This study explored the effect intrinsic and extrinsic methods of motivation have on upper elementary school students who participate in both general education and special education classrooms. The study also examined whether these motivational strategies have a positive effect on the participants or whether they present no real change in behavior or academic success. I conducted this research during the winter/spring of the 2021-2022 school year with my 4th and 5th grade students at Sunny Side Elementary School (pseudonym). A total of 8 students and 9 teachers participated in this study. Each of the student participants receive some level of special education services. The 9 teacher participants were lead

teachers in general education classrooms at the intermediate level of elementary education. The purpose of this study was to learn which intrinsic and extrinsic motivational strategies encouraged upper elementary students to meet their personal goals and increase their interest in school successes. A variety of both intrinsic and extrinsic methods of motivation were implemented over a 10-week period. Students developed personal goals to increase curiosity in their educational experience and making it more meaningful to them. A major part of student motivation is teacher support as well as teacher provided autonomous support and structure in the classroom. A survey was used in order to collect data regarding teachers' views on student motivation and strategies already being implemented. I wanted to discover ways to inspire students to be involved in their education, not because they have to be, but because they want to be. I used teacher surveys, student work, and student test results to triangulate and collect data through my research. The results of this study will be available at the symposium.

- Kelly, Janet Lynn: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
"What is the perception of Head Start PreK Teachers on the impact of STEM activities for developing critical thinking skills?"
This research study asks the question, "What are the perceptions of Head Start PreK Teachers regarding the impact of STEM activities for developing critical thinking skills?" Interview questions will be distributed to the Head Start teachers two weeks prior to the actual interviews, so as to focus educators' attention on the phenomenon that I will be examining. This will give participants time to reflect on their classroom practices. Results will be shared at the Symposium.
- Luthy, Robert: Educational Policy & Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
"The Value of Homework and its Effects on Student Well-being"
The purpose of this study is to give high school educators an idea of how the homework they assign affects their students with regard to their overall well-being: including their mental health, physical health, and performance in school. This research will seek to answer the question, "What value does homework have in a high school classroom, and how does it affect students' mental well-being?" High school students, teachers, and parents of high school students participated in the study. Each group was given a survey asking questions about how they felt about the current state of homework, as well as how they believe the current situation could be improved, if at all. The goal of this is to compare how each group views the homework that students complete, as well as if there are any positive aspects to keep, or negative aspects to change. The results of this research will be available at the symposium.
- Magarity Pando, Lizanne: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
"Supports for Higher Education Students Identified with Down Syndrome"
The inclusion of students with Down Syndrome (DS) in public school did not come about in the United States (US) until the mid-1970s, when parents and professionals advocated for a disabled child's right to attend school with their typically-abled peers (Grigal et al., 2018). This inclusive practice and several legislative actions are now influencing the formation of

Inclusive Postsecondary Education (IPSE) programs in Higher Education Institutions (HEI) and increasing the number of students with Down syndrome (DS) that are attending college over the past few decades. Presently, 5%, or 310 out of 5300 Institutions of Higher Education (IHE) in the US, admit students with disabilities, including those with DS (ThinkCollege.net, n.d.). This study aims to understand better what supports those with DS to reach their Person-Centered Planning (PCP) goals set upon entering IHE for their academics, social and independent living goals. How might be this system be improved to include more students with DS in this programming? This phenomenological qualitative research will explore the three types of IPSE models currently in place in IHE, DS learners' learning strengths and weaknesses, and influences on goal setting as a process. This research will use a theoretical lens of Presumed Competence and a conceptual theory of Universal Design for Learning (UDL). Interviews and surveys will be used to ask stakeholders and students with DS what academic supports, social/living supports, and independent supports are working for the students with DS to attain more significant outcomes. Results will be available at the Symposium.

- Masoodi, Saher: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“Retrospective Study of Adult English Language Learners’ Perceptions of Experiences in U.S. Secondary Public Schools”
In the U.S., Asians have the lowest number of high school dropouts compared to other major ethnic groups of White, Black, Hispanic, Pacific Islander, and American Indian/Alaska Native (Fry, 2014; National Center for Education Statistics, 2017; Rumberger, 2006). Furthermore, while only 30% of all Americans 25 years of age and older possessed a bachelor’s degree or higher in 2015, South Asian Americans had the highest level of educational attainment when compared with Whites, African Americans, and Hispanics (Rasool & Zhang, 2020). Analysis of census data revealed that over 72% of Asian Indians, 55% of Pakistanis, and over 51% of Bangladeshis had completed college degrees (Rasool & Zhang, 2020). Despite the educational achievement of South Asian Americans, there are still subsets of that population who continue to struggle in American secondary schools, especially those who are learning English as a second language. Secondary English Language Learner (ELL) students are faced with increased challenges at school such as disengagement, displaced academic settings, communication barriers, and race relations, more so than their non-ELL peers (Keiffer & Parker, 2017; Rodriguez et al., 2020; Sheng et al., 2011; Tamer, 2014). This study examines the experiences of Pakistani and Indian women who have shifted to the States during their high school years. The researcher interviewed two adults of South Asian descent who were identified as ELLs, to learn about their academic and socio-cultural strengths and struggles in U.S. classrooms. In this study, the researcher explored the reasons for those barriers. It also explored the impact of these barriers on South Asian women. Results will be available at the symposium.
- Miller, Jacqueline: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“Supporting All Students Through An Equity Lens: Impact of Direct Instruction on Learning and Behavior”
Public school districts are challenged to establish academic and social-emotional learning experiences that are equitable for all students. Bias and discrimination around race, ethnicity,

gender, sexual orientation, disability, individual learning needs, socioeconomic factors and other identified specific factors adversely affect students' achievement and mental health. Teachers from the school district cited in this research partnered with administration, students, families and members of the community to identify and remove instructional barriers and promote a safe space for ALL to thrive socially, academically and emotionally. Teachers committed to support ALL students to be inclusive, empathetic, resilient and collaborative members of their community. This qualitative phenomenological study investigated elementary teacher perceptions regarding how direct instruction in the following four themes impacts student learning and behavior: being inclusive, empathetic, resilient and collaborative. The themes were defined as follows: Being Inclusive (including all parties or groups involved in something), Being Empathetic (the ability to understand and share the feelings of another), Being Resilient (the ability to recover quickly from difficulties – GRIT) and Being Collaborative (understanding the importance of working together). The four themes are taught to ALL kindergarten through fifth grade students via monthly lessons. There is little research regarding the impact of direct instruction on learning and behaviors at the elementary level. The teachers participating in the study joined on a volunteer basis. The teachers represented an upper-middle class, suburban Pennsylvania school district. Focused monthly instruction began September 2021, and seven teachers participated in this study. Generally, the findings demonstrated positive results; however, unconscious biases were identified and more research is recommended to understand the impact of equity instruction on learning and behavior. The research conducted in this study is consistent with Cabrini's mission of education of the heart and dedication to academic excellence, leadership development and a commitment to social justice.

- Mills, Timika A.: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“Demonstration of Behaviors Linked to Sleep Deprivation Resulting in the Qualification for Special Education for Elementary School Students from Low-socioeconomic Backgrounds without Comorbidities”
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 socioeconomic status. Furthermore, sleep problems significantly influence cognitive functioning and a person's well-being. When the added challenge of finding teachers who are trained to address minority students of a different ethnic group is factored in, the issue becomes more complex for the teacher, as well as the student, impacting teacher-student relationships. This qualitative phenomenological research examines the relationship between behaviors linked to sleep deprivation and the qualification for special services for emotional and behavior disorders in elementary school students from a low socioeconomic background, without comorbidities. A total of 12 staff members -- six regular education teachers and six deans from elementary schools on two different campuses of the school, serving primarily minority students -- participated in the study by completing a survey or being interviewed by the researcher. All participating teachers were selected at random, based on which campus they worked on. In this study, the guiding question is: How does the demonstration of behaviors that are linked to sleep deprivation result in the qualification of special education services for elementary school students from low-socioeconomic backgrounds, without comorbidities? The results of this research will be available at the Symposium.

- Murray, Jill: Educational Leadership, The School of Education
 Faculty Sponsor: Dr. Michelle Szpara
“The Impacts of a Required Mentoring Program in a Well-Resourced School District on New Teachers’ Sense of Belonging in Grades 7-12”
 This study examined the influence of mentoring on new teachers and their sense of belonging to the school and district. According to the research of Cobb and Krownapple in 2021, a sense of belonging within an environment refers to the extent a person feels accepted, validated, appreciated, and treated fairly. With studies showing that new teachers are likely to leave 40 to 50% of the time in the first five years of teaching (Ingersoll & Strong, 2004), we need to look at components that affect job satisfaction. When a person feels like they belong, they are more apt to stay and feel satisfied with their career. The researcher conducted interviews with four new teachers in a well-resourced suburban school district in grades 7-12. A phenomenological research design was utilized to understand what these new teachers experienced and how the mentoring relationship affected their sense of belonging. The findings of this study will add to the research on new teacher attrition and may give direction for future studies on job satisfaction. The results will be available at the Symposium.
- Omosule, Johnson: Educational Leadership, The School of Education
 Faculty Sponsor: Dr. Michelle Szpara
“STEM Fields of Academic Faculty Influence Perceived Training Needs for Students with Disabilities in Distance Learning.”
 As the number of STEM programs increases and the number of programs taught through online learning increases (Mohr-Schroeder, 2019), understanding teachers' perceptions regarding students with special needs in STEM and distance learning becomes critical. Prior research has indicated the importance of research on STEM education, with a systematic review of trends in STEM education supporting the importance of further research involving school policy and curriculum (Li et al., 2020). The current study can help understand STEM faculty's preparation to instruct students with disabilities through an online learning curriculum in higher education. The general problem this qualitative case study will address is the experience of STEM faculty receiving preparation for teaching students with disabilities through distance learning. The research question is as follows: How do faculty in STEM fields perceive the distance learning needs of students with disabilities (SWDs) in their community college courses? Phenomenological interviews will be conducted to explore this question, and results will be available at the Symposium.
- Posner, Saburah: Educational Leadership, The School of Education
 Faculty Sponsor: Dr. Michelle Szpara
“The Importance of Mirrors: Understanding the Impact of Out Queer Teachers and Administrators on LGBTQ+ Students”
 Statistics show that lesbian, gay, bisexual, transgender, and queer (LGBTQ) youth are more at-risk with regard to their emotional and mental well-being. According to GLSEN’s National School Climate Survey in 2019, an overwhelming majority of LGBTQ students felt unsafe at school because of their sexual orientation. Additionally, almost all LGBTQ+ students (98.8%) heard “gay” used in a negative way (Kosciw, et al., 2020). During a time in which nurture, safety, emotional/mental well-being, and acceptance is vital to the development of children, it is our job as educators to do all that we can to ensure a sense of

belonging for all of our students, especially those whose identities fall within marginalized categories. At this time, there is little research on whether or not there is a correlation between LGBTQ+ students' experiences and having LGBTQ+ role models within their schools. Additionally, research shows the importance of having adequate windows (learning about others' experiences) and mirrors (seeing one's identity reflecting back at them) within the curriculum. If seeing one's identity represented both in the curriculum and in educators can help students succeed, what might this mean for LGBTQ+ students who are marginalized and more at-risk than their heterosexual peers? Through a phenomenological approach, this study will focus on LGBTQ+ adults who will detail, retrospectively, their experiences having had access to out educators within their private schools. The results of this study may benefit teachers, administrators, and schools at-large as they aim to create nurturing and welcoming schools.

- Rausch, Alex: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
"Cyber Middle School Teachers' Perceptions of Effective Synchronous Instructional Practices"
The purpose of this proposed qualitative research project is to explore the perceptions of effective synchronous instructional practices held by cyber charter middle school teachers. This research is important because cyber schools are expanding in number and enrollment, yet there is a lack of research that details synchronous instructional practices implemented by cyber teachers. This research will be conducted using a qualitative survey instrument and archival data about cyber school teachers' instructional practices. The results will be available at the Symposium.
- Rivelli, Nicole: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
"Public School's Funding and Implications on Student Achievement"
What are the impacts on students who attend under-funded public schools in America? This question is important to address because it could potentially expose another element to the existing achievement gap in American public schools. This project takes a look at two public high schools in Pennsylvania that, based on public information, have different amounts of funding. There is a survey created for the faculty and administrators of each school regarding their funding and student achievement. Results will be available at the time of the symposium. In conclusion, this project will explore whether or not public school funding can impact student achievement rates, and how these disparities can potentially be corrected in the public school education system.
- Roth, Ian: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
"The Continuing Impacts of the COVID-19 Pandemic on Instructional Technology"
This phenomenological study explores the continuing impacts that the COVID-19 Pandemic has had on Instructional Technology in a well-resourced middle school. Prior research on education during the on-going pandemic focuses heavily on the fully remote experiences during the Spring of 2020. Some scholars suggested that the profession would be transformed by this time, but there is little research that explores how the shift to Emergency Remote Instruction (ERT) is impacting the implementation of Instructional Technology in the return to in-person learning. Interviews were conducted with four middle

school teachers to gain an understanding of their experiences. The Technological Pedagogical Content Knowledge (TPACK) theoretical framework is used in better understanding the impacts COVID has had on technology integration. The four interviews went through several rounds of coding to identify phrases that could be categorized into themes. In doing so, the researcher found that teachers are confidently using technology in a more frequent and blended approach, have an increased level of technological empathy towards their students, but are limited by time in opportunities for future growth and application. The pandemic has surely benefited the technological knowledge of educators, but future research will uncover if this trajectory continues, plateaus, or decreases.

- Roulhac, Cynthia: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“Charter School Teachers’ Perceptions on the Impact of Unionization”
Teacher retention continues to be a contentious topic impacting the field of education, and teacher retention in charter schools is higher than traditional public schools (TPS). This presents a problem for charter administrators charged with leading the teachers and the students who attend public charter schools and who are expected to achieve academically with high teacher turnover. After an extensive literature review, charter school teachers’ perspective on the impact of unionization specifically is lacking. The purpose of this qualitative study is to investigate public charter school teachers’ perceptions of the impact unionization may have on teachers, students, and the charter school entity. This study interviewed five charter school teachers to answer the research question on how will the participation in a union impact charter school teacher retention in a major metropolitan area, in order to elicit the participants’ thoughts and ideas on how a teacher union could innovate practices and policies in charter schools. At this time, findings will be available at the symposium. Examining this phenomenon is significant to social justice because charter schools educate mostly Black and Brown marginalized students who need stable teachers in order to succeed and close the achievement gap.
- Schaefer, Amanda: Teacher Education, The School of Education
Faculty Sponsor: Dr. Crystal Anderson
“Teacher Profile -- Teaching students from a wide range of socioeconomic backgrounds”
I will be completing a teacher profile on the question, "How does teaching in a school/district with such a wide socioeconomic range affect daily teaching practices inside of the classroom?" I will also be looking at how the various socioeconomic ranges affects students in receiving extra supports. This will include looking at who receives Tier Time, Learning Support, etc. Results will be available at the Symposium.
- Smith, Constance: Leadership and Organizational Development, The School of Business and Professional Studies
Faculty Sponsor: Dr. Celia Szelwach
“Manager Burnout Within Hospital Systems: A Critical Realist Retroductive Grounded Theory”
Hospital managers are significant contributors within healthcare organizations (Embertson et al., 2006). Distinct in role, hospital managers are the lynchpins between hospital leadership and frontline staff and are responsible for daily operations within hospital systems. However, experiences of job burnout, described as the psychological response to chronic and prolonged stress in the workplace (Lubbadeh, 2020; Maslach & Leiter, 2017), can result in

negative consequences, affecting the individual manager and the organization. Research (Hamouche & Marchand, 2021; Membrive-Jiménez et al., 2020) in understanding job burnout in hospital management has focused on antecedents and outcomes of burnout, without acknowledging the deeper underlying causal powers embedded in social structures, known as mechanisms, that when activated can shape generative processes and experiences. As a result, burnout mitigation is often reduced to self-care strategies based on a partial and superficial understanding of job burnout.

- Stefan, Alexa: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara

“School Administrators as Support Systems in Early Literacy Instruction”

The intent for this phenomenological qualitative study was to explore the ways in which building and central administrators of education in public, private, and parochial schools support early literacy instruction. For more than a century, reading instruction has been involved in a high-stakes battle between supporters of two opposing methods for teaching a child to read. Currently, there is a national spotlight on literacy in the United States, especially as the country prepares for the 2022 NAEP for reading. In 2019, NAEP scores demonstrated a continual decrease rather than increase in proficiency levels among fourth grade students nationwide. Despite this trend, there is very little research on the impact that administrators have on reading proficiency. To explore this impact, ten administrator interviews were conducted through a semi-structured interview process. The data analysis for this study consisted of quality organization, efficient searches for patterns, effective categorization, and synthesis of the data. Findings from the analysis of the interviews revealed that the participants had positive effects on early literacy instruction. The results also indicated that explicit and systematic phonics programs play an important role in reading achievement. This study provided a rationale for having a basic understanding of the effects that administrators have on early literacy instruction in grades K-3 and set out to answer the following research question: In what ways do administrators in public, private, and parochial schools support evidence-based reading strategies in early reading instruction (grades K-3) within their schools/school district?

- Taylor, Nicholas: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara

“Exploring the Racialized Experiences of Black Educators Working in Predominantly White Suburban Public Schools”

Despite the growing diversity in the student population in American public schools, the teacher population continues to be culturally homogeneous—i.e., most teachers are White, middle class, and female. The widening incongruity in teacher-student demographics is particularly evident in suburban public schools where students of color make up a little more than 50% of the total student population. Specifically, Black educators make up less than 2% of the teacher workforce in suburban public schools. The lack of diversity in the teaching workforce is concerning because it coincides with the well-known achievement gap among White and Black students. Nevertheless, a myriad of literature sources shows that student-teacher ethnoracial matching yields positive educational outcomes for all students, especially for Black students. However, most of these studies were focused on increasing Black representation in the teacher pipeline for urban public schools. There is a paucity of research on improving the recruitment and retention of Black educators specifically in predominantly

White suburban public schools. Thus, the purpose of this study is to use a phenomenological approach to capture the lived experiences of Black educators working in predominantly White suburban public schools to better inform the recruitment and retention process of Black educators for this educational environment.

- Thornton, Tamaqua: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“First Generation College Students”
The research focus for my study is supports being offered to first-generation college students by colleges and universities. I am planning to use Active Community Support as my site for data collection; Active Community is a residential habilitation facility for adults with intellectual disabilities, and a college degree is required to work there. The staff are all African American, mostly female, and live in the Philadelphia urban areas. My method will be collecting data from a focus group with voluntary participants through a series of questions and answers. The questions are designed to obtain information that may be useful for first-generation college students. Participants will consist of five former First Generation College students. Results will be available at the symposium.
- Webster, Mykola: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“Teacher perceptions of yoga and mindfulness practices impact on student behavior in the classroom.”
Teachers expect students to perform executive functions while not considering the challenges that students may face outside of the school community. In today’s age of overstimulation, teachers must be mindful of children having as much stress as adults, who may struggle to manage difficult emotions that arise from stress. Educators should teach children in school settings ways that they can cope with all the stressors that they are living with and may arise throughout their day. The purpose of this research study is to understand the phenomena of perceptions of middle school teachers working in a low socio-economic, urban environment, serving majority African American students, asking the question of how yoga and mindfulness practices work in a behavioral intervention room (B.I.R.) to impact student behavior in the classroom. Yoga and mindfulness practices are shown to improve the overall well-being of humans that practice with the tools learned through certified experts in the field of yoga and mindfulness. The proposed methods that will be used for this mini-research project will be to have brief check-ins with the students and teachers by way of digital surveys, journaling or video logs (VLOG), and interviews before and after students are referred to the B.I.R. Teachers will then be interviewed about what they noticed when the students return to the classroom, and if they witnessed any noticeable behavioral changes. Findings will be available at the Symposium.
- William, Samina: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“In the perceptions and experiences of Immigrant students in higher education in the U.S., what are the academic challenges they face?”
This phenomenological study explores the academic challenges that immigrant students often face in their college learning in the U.S.A., and their strategies to succeed and overcome these challenges. This study not only provides insight into immigrant students' lived experiences around coping with these issues; it also seeks to explore how various

stressors, such as financial concerns and legal status, as well as potentially protective factors such as peer support and faculty support, may impact anxiety levels while studying. The main research question asks, in the perceptions and experiences of immigrant students in higher education in the U.S.A., what academic challenges and supports do they encounter? Findings will be shared at the Symposium.

- Wilson-Albright, Carolyn: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
“Trauma-Aware Professional Development and its Impact on Middle School Teachers' Understanding of Student Behaviors”
The purpose of this project is to discover whether or not participation in Trauma-informed professional development has an impact on middle school teachers' perceptions of student behavior. This is important to the field of education because the prevalence of trauma is widespread, and the need to understand how a student's trauma history may cause their behavior to present in a negative perceived way. For this part of the study, interviews will be conducted with educators that have participated in this type of professional development. Results will be shared at the Symposium.

Graduate Alumni Presentations

- Pardini, Tricia: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Carolyn Berenato
“The Impact of the Success for All: Reading Edge Program on Student Achievement at a Title I Middle School”
This quantitative quasi-experimental study was completed to identify the impact the Success for All: Reading Edge (SFA) program had on student achievement at a Title I middle school. To improve literacy and student achievement in reading in schools, scripted reading programs were created and implemented. As the popularity of these programs grows, research needs to continue to be completed on their impact on student achievement at the middle school level. This study used scores on assessments from before and during the implementation of the program to determine if there was a statistically significant difference in student achievement after implementation. The results indicated that the SFA: Reading Edge program did not have a statistically significant difference on student achievement on the Pennsylvania System of School Assessment (PSSA), but the program did have a statistically significant difference on Lexile levels on the Scholastic Reading Inventory (SRI). It was discovered the SRI aligned to the focus of the SFA: Reading Edge program, which allowed students to demonstrate growth in their reading abilities. When the sample school was compared to the Pennsylvania average it was discovered that they could not close the gap present before implementation and the school as not able to achieve higher than a “Basic” performance level. By analyzing the research through the lens of the Capitol Theory of School Effectiveness and Improvement theory, this study was able to look at the school reform program as a whole and determine if it helped the school become a more effective school for students. This study followed the mission of “education from the heart” to implement research that would benefit all students and continue the push to close the opportunity gap present in education.

- Parris, Jaime: Educational Leadership, The School of Education
Faculty Sponsor: Dr. Michelle Szpara
‘Exploring the Perceptions and Experiences of Young African American Males in Under-resourced Public-School Districts’
This dissertation examined how African American males, in grades five through twelve, perceive their public-school educational experiences in an under-resourced school district. Possible misconceptions from those African American males in regards to the concepts of education and the educational system were sought out. The qualitative phenomenological research study examined how young African American males in grades five through twelve understood and valued education in their lives. The central research question that guided this study was: How do African American males, in grades 5-12, perceive their public-school education experiences in an under-resourced school district? The theoretical frameworks that served as the lens to this study are Critical Race Theory and the Need to Belong Theory. The sample size for the study included 12 one-on-one interviews with young African American males. Data collection included journaling before interviews, and 2 focus groups with 4 young African American males in each group. The research results discovered six overarching findings, which will be presented at the Symposium.