



IMMACULATA
UNIVERSITY

RESEARCH SYMPOSIUM

Tuesday, April 23, 2024

POSTERS UNDER THE DOME

11 a.m.–1 p.m.

*Villa Maria Rotunda 1st & 2nd Floors,
Green Room, Music Room and Great Hall*

HONORS RESEARCH SYMPOSIUM

1:15–2:30 p.m.

Good Counsel Hall, Rooms 1, 2, 3 and 10

Dear Honored Guests,

Immaculata University is pleased to present Posters Under the Dome undergraduate research and Honors Symposium. Students from several academic disciplines have worked with faculty mentors to develop research, analyze data, and prepare posters for presentations. These student researchers are ready to engage in questions-and-answers related to their work after presenting their research.

We congratulate students on their accomplishment in completing a research project and sharing it with the campus community. We also congratulate the students who have prepared an honors symposium which encourages students to connect with their peers outside of the classroom to enhance their learning experience at Immaculata.

The Office of Sponsored Research supports students and faculty from all disciplines and stages of academic development which is a hallmark of Immaculata University. Faculty mentors encourage students to present at local, regional, and national conferences earning recognition and awards in their academic discipline. Faculty serve as scholar practitioners in their academic field and have made significant contributions to academia, to the student population, and to the world.

Learn more about the exciting and innovative research currently underway by Immaculata faculty. Research at Immaculata begins with curiosity, takes shape through vision, and grows through exploration leading to discovery. At the core of research are the inquisitive and innovative faculty of the University.

Faculty collaboration across interdisciplinary domains allows faculty to connect singular ideas and develop multidimensional solutions to scientific and social problems facing humanity. In support of individual research interests, Immaculata faculty strives to engage undergraduate students as active contributors to research projects. Faculty research thrives on national, regional and university levels as demonstrated through publications, conference presentations and university symposiums.

Sincerely,

A handwritten signature in cursive script that reads "Angela M. Tekely". The signature is written in black ink and is positioned above the typed name and title.

Angela M. Tekely, Ed.D.
Vice President for Academic Affairs and Provost

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Applied Technology & Mathematics

Title: How Data helps with Sports Betting?

Student Researcher(s): Alex LePage | Faculty Mentor(s): William Wagner

Poster #: 1

There is no doubt that the role of data analytics has grown in parts of everyone's life that no one expected it to have a role in. That includes sports betting, there is so much more data now than ever that can help an average sports bettor make quantitative decisions to help them make money. Factors such as a team's defensive strategy, how referee's call a game, and even individual player injury and performance can now be predicted with reasonable accuracy. There are many different formulas and methods that can go into every bet. Gathering and analyzing historical data related to various teams and players through statistical modeling can uncover trends that can help us win. To be a successful sports bettor, the bettor does their statistical analysis to identify variables that could impact the result of an event. There are different things that you should look at for each sport that help the bettor find the best way to make money. There are things for each sport that help the most. The analytics approach is the same regardless of sport: to factor in all of the variables that could impact the results to find the most likely outcome. A lot of people do not bet because of their lack of experience in the game; however, it all comes down to math.

Title: Health Benefits of Habitual Reading

Student Researcher(s): Arthur Gramlich | Faculty Mentor(s): William Wagner

Poster #: 2

In an age where digital media is at the forefront of our society's attention, the negative effects of excessive consumption are becoming increasingly more evident. This study advocates for the return to the timeless practice of reading for the positive health benefits that it can provide to our society. Using a literary review, the research presents the health benefits of reading at any stage in a person's life. The potential avenues for further research are advantages of fiction versus nonfiction or the impact certain authors have had on the emotions of their readers. The primary considerations for this study were the impact on sleep patterns, information retention throughout life, and the influence reading has on a person's emotions.

Title: Human Computer Interaction with Windows versus Mac: What is Ideal?

Student Researcher(s): Eleanor LeFebvre | Faculty Mentor(s): William Wagner

Poster #: 3

For this poster, a survey was conducted to discover why people prefer using a Mac or a PC. Human computer interaction creates an outline as to how simple or complex it can be for people to interact with a computer interface. Naturally, people are drawn to the more user-friendly interface. However, some interfaces are not compatible with all software types, hence the study as to why people may own one type of computer versus the other. This survey helped discover why students had a select computer type versus the other and explains their reasoning for it as well.

Title: The Piracy On The Streams

Student Researcher(s): Emma Philbin; Tim Tomlinson | Faculty Mentor(s): William Wagner
Poster #: 4

Illegal streaming services have become more popular throughout the years, which raises concerns for both those who own the copyrights to the content and those who do not. We chose to do our research on this topic to discover why people use these sites and why they are still running. While conducting our research, we discovered that some reasons why people use these sites are to save money or watch content that is either not usually offered or blocked out on legal sites. However, as mentioned before, this leads to threats for both the legal owner of the copyrighted content and the distributor and viewer of illegal content. Some threats to the legal owners of copyrighted content are losing popularity, viewers, and, in turn, money. Threats towards the distributors and viewers of the illegal content are being sued, hacked, having their personal information stolen, or the site being shut down. Although both the person who posts the illegal content and the viewer of it are at risk of being sued, the person posting the content has a higher risk of getting sued by the viewer. The popularity of illegal sites continues to increase, which means the more users there are, the harder it becomes to catch and stop those who use them. Although people are aware of the threats, they continue to use them, especially since the likelihood of being caught or sued, as a viewer, is low.

Title: Do College Students Get Enough Sleep?

Student Researcher(s): Evan Bunting | Faculty Mentor(s): William Wagner
Poster #: 5

This poster goes over some findings from three comprehensive studies that examined the sleep habits of college students and the factors that might be influencing how long they are sleeping. Sleep plays an important role in a student's cognitive function, emotional regulation, and overall well-being, yet college students often face challenges in achieving enough sleep. The first study utilized a review of scientific literature by an 18-member multidisciplinary expert panel, convened by the National Sleep Foundation, representing 12 stakeholder organizations, to evaluate sleep duration recommendations. The second study employed a cross-sectional online survey completed by 1,125 students from the ages of 17 to 24 years from an urban Midwestern university, providing insights into their sleep habits and related factors. Finally, the third study was conducted in Hong Kong and examined the prevalence of insomnia and its psychosocial correlates among college students. This study involved 529 Hong Kong college students who completed a self-reported questionnaire, allowing for a comprehensive assessment of sleep-related issues in this population. Overall, these studies offer important insights into the prevalence of sleep deprivation among college students and provide a foundation for developing targeted interventions to promote healthier sleep habits and improve overall well-being in this demographic.

Title: The 5 Data Analysis' and AI Enhancement

Student Researcher(s): Lauren Moatemri | Faculty Mentor(s): William Wagner
Poster #: 6

Data analysis techniques are critical in extracting meaningful insights from raw data across various fields, aiding decision-making processes, and uncovering patterns and trends. This abstract delves into five key data analysis methods: descriptive analysis, cognitive analysis, predictive analysis, prescriptive analysis, and diagnostic analysis.

Title: Social Media Algorithms in Relation to Teen Mental Health

Student Researcher(s): Makenna Piaskowski | Faculty Mentor(s): William Wagner and Joshua Weikert

Poster #: 7

Teens are the largest group that uses social media today. With this use of social media, it is important to understand how it works as well as its implications. A main aspect of social media platforms today is algorithms. Most commonly used are recommendation algorithms, which propagate information, determining which posts or content to show to users. Algorithms can show users content based on their demographics, behavioral data, and posts they have interacted with before. But is this beneficial, or detrimental? With teens' increased use of social media, algorithms must be considered in terms of the effects they may have on users. Previous research on social media and teen mental health has been examined, as well as multiple cases of teens who lost their lives to suicide because of social media. Teens were also surveyed on the topic of their social media use in relation to their mental health. Participants reported that social media affects them both positively and negatively. Additionally, it was found that algorithms can be both positive and negative, as viewing positive content will likely result in more positive content appearing on a user's feed, the same occurring with negative content. Both sides need to be taken into consideration as social media giants and lawmakers make decisions on social media. It is important to examine this topic as teens' minds are impressionable and the things, they are exposed to can have major impacts on them.

Title: Division III Athletics: Uncovering the Benefits

Student Researcher(s): Margaret Friend | Faculty Mentor(s): William Wagner

Poster #: 8

Division III Athletics have grown and along with this many benefits and impacts have come about. These benefits come not only throughout college, but also tend to help those involved with their future and future job. These benefits that can be gained in college are learning the balance between student and athlete, community or campus impact, flexibility, and passion driven performance. Each of these factors leads to a more well-rounded person and the development of these skills will also lead to a better future. In the research process, benefits beyond these on the athletes' futures have been uncovered. These benefits can be identified as leadership skills, experience, exposure, and time management. In the process of gaining these skills, the athlete is more likely to maintain their job and continue a bright path for their future. Since there are many positive benefits, it was important to research participation and how many people this affects, what types of benefits can be observed, and how it compares to other divisions of athletics. Many different studies have been done to find these conclusions and prove that there are many benefits that come from the hard work of a DIII student athlete in college. These skills are developed through experience and passion driven performance. Athletes at this level have found their sport and passion, which leads to the determination needed to work and succeed in life after school.

Title: How has Immaculata Athletics Improved

Student Researcher(s): Michael Azzarone | Faculty Mentor(s): William Wagner

Poster #: 9

Sports largely tie in with the success and profitability of a university. They help by selling tickets to games and with the publicity they bring by winning championships. Immaculata has long been known for the success of its Women's Basketball team that won three consecutive championships in 1972, 1973, and 1974. This was now 50 years ago, so this project looks at how our athletics have done more recently. We look at most of Immaculata's sports to see how they've done over the last 5 years. Using data from the IU athletics page and AEC official website, this project compiled select statistics from each sport as well as their conference finishes to see how they've changed over the last 5 years. Through this method, it was found that the baseball team turned out to be one of our most successful programs at the current moment, so if other programs here want a better chance of replicating their success, it may be beneficial to take a closer look at their methods.

Title: AI's Impact on the Workforce

Student Researcher(s): Samantha Mangiola | Faculty Mentor(s): William Wagner

Poster #: 10

The purpose of this project is to investigate how AI has impacted the workforce. The effects mentioned include unemployment and job creation. The poster itself does not contain bias towards opinions on this subject. Instead, it simply summarizes statistics and research related to its focus for the previously mentioned purpose of investigation. The information provided originates from reliable studies and articles written by experts in the fields of business and artificial intelligence. What makes this content unique is its amount of relevance in these areas of study. For instance, the discussions it has regarding changes in the labor force caused by this technology can supply leaders in the world of business with important sources to base their decisions about their organizations on. In other words, it can help important figures in business ensure the choices they make are optimal for their employees and their company. About artificial intelligence, the data has the potential to inform those designing AI programs of possible alterations they can make to their creations that benefit both corporations and workers. In short, the details on the poster have the chance to become driving forces behind advancements made in the worlds of business and artificial intelligence.

Arts, Languages & Letters

Title: Terrorism

Student Researcher(s): Erik Molinaro | Faculty Mentor(s): Joseph Sorgini

Poster #: 11

Trying to figure out why people have this hatred in their hearts to commit these attacks is difficult since terrorist attacks have been happening for hundreds of years. My research is to try to find out why these attacks happen. Why would someone join a terrorist attack? Are they rich or poor? Do they live in the city or the suburbs? Do they have friends, or are they loners? How much does social media play a part in the recruitment of terrorists and their radicalization? Out of all the countries in the world, in the last 20 years, terrorist attacks have happened most often in Iraq (20%), Afghanistan (12%), Pakistan (10%), India (8%) and Syria (2%). The remaining 47+% happen in other countries. Before the Middle East became the place for terrorist attacks, Latin America was where the most attacks happened in the 1980s and 1990s. At the time, they experienced 17,293 attacks. 1984 was the deadliest of that period. While we do not hear very much about terrorism in Latin America anymore, five years ago, they had over 200,000 people cross the border to the Middle East to join their terrorist groups. There are also some other countries we see becoming more terroristic. The number of deaths due to terrorism in Sahel in Africa and Myanmar in Southeast Asia has grown a lot. According to World101, two of the main reasons for the rise in terrorism in the Sahel are climate change and the drying up of Lake Chad. This has caused a lack of water for their crops and to drink, creating violence as more than 17 million people are living there. Myanmar's increase is because of a military coup.

Business, Fashion & Leadership

Title: Fashion Dream

Student Researcher(s): Burnice Davies | Faculty Mentor(s): Lina Castro and Sister Denise Mollica
Poster #: 12

Sustainability is the ability to be reused while retaining its good shape. Maintaining its quality and functionality through multiple uses is a crucial aspect of sustainability. Fabrics that retain their shape, color, and structural integrity over time reduce the need for frequent replacement and minimize generations of textile waste. Sustainable fabrics often require less washing and care, which can further reduce water and energy consumption over the fabric's lifespan.

Title: Sustainability

Student Researcher(s): Emma Hodges | Faculty Mentor(s): Lina Castro and Sister Denise Mollica
Poster #: 13

In our draping class, we learned about the importance of being sustainable, which is a big part of the fashion industry. This means the design and production of fashion respect the planet and the people who make it. I created a jumpsuit and dress from fabric that was donated. This showed that we can create fashionable and sustainable garments from unlikely sources.

Title: Sustainable Fashion

Student Researcher(s): Erin Hawthorne | Faculty Mentor(s): Lina Castro and Sister Denise Mollica
Poster #: 14

Sustainability is our focus when designing each garment. We have learned the effects that the fashion industry has on our environment and pollution. With this knowledge, we create our garments from used fabrics and materials. For my draping class, I purchased my fabrics and materials from a warehouse that resells used fabric rolls. After I completed my designs, I took home the remaining fabric and donated the scraps to be reused for other projects. For the future of our environment, we must carry our sustainability efforts on with us.

Title: What makes people pick up their phone

Student Researcher(s): Iverson Hernandez; Jason Hughes | Faculty Mentor(s): Mark McFadden
Poster #: 15

This study looked to determine the main cause of the average person's phone usage, while also looking to see the main reason individuals pick up their phone. Participants gave feedback on a short survey which asked about personal phone usage. By providing various options, including Tik Tok, Snapchat, Instagram, Twitter, Messaging apps, or boredom, participants summarized most used apps, as well as reasons and frequency for phone usage.

Title: Online vs. In Person Shopping

Student Researcher(s): John Flood; Matthew Kirkpatrick | Faculty Mentor(s): Mark McFadden
Poster #: 16

This study tries to identify a true understanding whether people prefer in person shopping or online shopping. We are mostly analyzing the idea of in person vs online shopping and analyzing what they prefer. The main question being asked is: Does convenience, store atmosphere, and reliability all matter when it comes to suiting the consumer's needs? The ways we will find these answers is by utilizing FactSet (for stores profit increase/decrease) Google Forms (to analyze the public's view), Word of Mouth (asking friends and family), and additional websites.

Title: How do college students use AI Assistance, like Chat GPT?

Student Researcher(s): Kristin Carter; Allison Hill; Amanda Gallini | Faculty Mentor(s): Mark McFadden
Poster #: 17

In this project, we studied the impact of the new type of technology that is constantly changing how we, humans, function in our daily lives: artificial intelligence. Our research specifically covered the magnitude of how AI assistance, like Chat GPT, is utilized by college students when completing coursework.

Title: Sustainable Fashion

Student Researcher(s): Mackenzie Lien | Faculty Mentor(s): Lina Castro and Sister Denise Mollica
Poster #: 18

The fashion industry can help create a more sustainable and healthier planet by implementing more ethical practices. In the Apparel Construction and Design class, we used fabrics that were donated to make our sweatshirts, sweatpants, blouses, and skirts. Since the color of our sweatshirts was black, we utilized block printing to create intricate designs to produce sustainable fabrics.

Title: Are students at IU using the meal plan?

Student Researcher(s): Nicholas Micciche | Faculty Mentor(s): Mark McFadden
Poster #: 19

The purpose of this project is to investigate how students at Immaculata University use their university meal plans. Understanding how students interact with meal plans supplied by universities is essential for making the most use of resources and guaranteeing the wellbeing of students, especially considering the growing costs of higher education and worries about food insecurity among students. The study uses a data-driven approach to examine the patterns in meal plan consumption by utilizing transactional data from university dining facilities, student surveys, and demographic data. The results of this study will give university administrators important information about how to improve the efficiency of meal plan offerings and remove any obstacles that might stand in the way of students' ability to get wholesome meals on campus.

Title: Sustainable Fashion

Student Researcher(s): Paul Gaudino | Faculty Mentor(s): Lina Castro and Sister Denise Mollica
Poster #: 20

Our class practiced sustainability using discarded fabric. The original owner no longer needed the use in a heap of perfectly good fabric, so our class utilized it to make clothing. Each of us created a beautiful set of pajamas, as well as a sharp button-up top with a skirt to accompany it. The material we used would have been otherwise thrown out. We saved this fabric, considered "waste," and turned it into something beautiful.

Title: Sustainable Fashion

Student Researcher(s): Reba Feroz | Faculty Mentor(s): Lina Castro and Sister Denise Mollica
Poster #: 21

In the fashion industry, textile waste has a negative impact on the environment. Sustainability in fashion is essential to addressing the industry's environmental and social challenges. The garments we constructed were made from 100% recycled fabrics. We personalized our sweatshirts by adding printing to enhance the look.

Title: Unveiling Customer Preferences: A Study of Marketing Elements in the Landscaping Industry

Student Researcher(s): Robert Wishart | Faculty Mentor(s): Mark McFadden
Poster #: 22

In today's ever-evolving market, landscaping companies are continuously exploring innovative marketing strategies to attract and engage customers effectively. This study dives into the realm of landscaping marketing, specifically focusing on the impact of different marketing elements on customer preferences. Through the deployment of a survey, this research aims to gather data from a diverse pool of participants, presenting them with multiple advertisements showcasing various marketing elements commonly employed by landscaping companies. These elements include pricing strategies, promotional offers, brand reputation and communication channels. By analyzing the responses gathered, this study seeks to uncover insights into the effectiveness of different marketing strategies in influencing customer preferences within the landscaping industry. By understanding which marketing elements resonate most with customers, landscaping companies can refine their approaches and enhance their competitiveness in the market landscape.

Title: Sustainability in Fashion

Student Researcher(s): Sarah Klaproth | Faculty Mentor(s): Lina Castro and Sister Denise Mollica
Poster #: 23

The Fashion Industry is one of the most harmful industries in terms of Sustainability. To keep fabric out of the landfill I used fabrics that were either donated or remnants from previous projects. Using recycled fabric opposed to brand new fabric helps keep my project sustainable and aligns with the goals of our department. For the black dress I used fabric found in the fashion lab along with the trim. For the skirt and the top, I used fabric bought from a recycled fabric store. The sleeves of the top were made from fabric found in the fashion lab.

Title: Do people prefer Chick-fil-a or McDonald's?

Student Researcher(s): Tessa Liberatoscioli | Faculty Mentor(s): Mark McFadden
Poster #: 24

With prices constantly rising, the question is do people prefer the taste of food or do they prefer lower prices? Chick-fil-A supplies less food for a higher price, but McDonald's has lower prices, and you get more food and can expect to pay less, but is the quality up to the same standard as Chick-fil-A? So, this leads to the question do people prefer Chick-fil-A over McDonald's?

Title: Lifting

Student Researcher(s): Jake Klosinski | Faculty Mentor(s): Mark McFadden
Poster #: 25

The abstract of what I am looking for within my research is to figure out exactly how and what influences mood and behavior based physical activity such as cardiovascular training like running or weightlifting. The goal of this whole presentation is to try to express the importance of physical activity and by also showing why it is so important exercise.

Civic Engagement

Title: Cycle of Abuse and Bullying

Student Researcher(s): Alexis Raymond | Faculty Mentor(s): Joseph Sorgini

Poster #: 26

Bullying is becoming an increasing problem in schools. If we want to put an end to it, we must first understand why it is done in the first place. There are various reasons as to why some bully others. Every person is different as well as every situation, however, some may share common backgrounds, we can take that fact and eliminate one target which will lead us closer to a solution for the problem. Abuse in the home is a concept I think increases the risk of someone being a bully or even a victim. The objective of my research is to prove that there is a correlation between previous/current abuse at home and the individual becoming a bully. To find a solution, I looked at previous data collected by other scholars. With this, I can investigate past research and see if there are any possible connections I can find. If there are, it can help further prove the point and hopefully get answers to age-old questions. Also, I will release a survey to get new data from the selected groups I have. With this, I will be able to either prove or disprove my hypothesis. I have no findings currently, but when I conclude, I hope to be able to use what I find for good and help people understand the science behind bullying. The findings may not be able to stop bullying completely but they may prove useful for putting a stop to some of it.

Title: The Impact of Political Crisis on Political Assassinations

Student Researcher(s): Ashley Elizabeth Finkbiner | Faculty Mentor(s): Joshua Weikert

Poster #: 27

This study looks to analyze the relationship between political turmoil, more specifically the intensity of the events mentioned, and how those events could have acted as a catalyst for the assassinations of certain political figures. This thesis investigates the idea that when more severe cases of turmoil occur, the likelihood of an assassination increases. Looking through the assassinations of President Abraham Lincoln, President James Garfield, President John F Kennedy, and social rights activist Martin Luther King, Jr., the thesis aims to allow for a deeper understanding of the often-intricate relationship between times of political crisis and political assassinations. Each scenario of assassination is further broken down, based on the political turmoil seen prior to the death of the political figure. The severity of the turmoil is based on a scale ranging from nonviolent monthly protests to violence towards the targeted political figure. From there, the instances of turmoil are categorized into major or minor disruptions to society, violence, and assassination attempts. Through the analysis of such events and their underlying patterns, it can be reported that during times of high societal turmoil, an assassination is likely to occur. This conclusion further highlights the importance of understanding the risks political instability may have within a country.

Title: Red Light Cameras in Traffic Safety

Student Researcher(s): Erin Duffey | Faculty Mentor(s): Joseph Sorgini

Poster #: 28

The topic of this research concerns the efficiency of red-light cameras in intersections: Is red-light camera enforcement an effective tool in reducing crashes in intersections? A literature review was conducted with over 10 scholarly articles that showcase previous findings on red-light cameras. An article from the Journal of Traffic Injury Prevention (2003) produces a study with findings that show a reduction in total crashes, injury crashes, right-angle crashes and right-angle injury crashes after the implementation of red-light cameras in designated intersections. However, an article from Transportation Research Part A: Policy and Practice (2014) shows from their findings that after the implementation of red-light cameras in studied intersections, rear-end and right-angle crashes have increased. When it comes to the topic of privacy and photo enforcement, there are differing opinions.

Title: Adverse Childhood Experiences and Correlated Physical Complications

Student Researcher(s): Erin Hooper | Faculty Mentor(s): Joseph Sorgini

Poster #: 29

Adverse Childhood Experiences (ACES) have a significant impact on the physical health of children and adults who have experienced trauma in the past, which is largely ignored by healthcare professionals. To support this stance on the correlation between physical health effects and adverse childhood experiences, the exploration of well-known traumatic accounts and individuals' personal physical experiences later in life in the physical realm should be analyzed and researched more effectively. It is furthermore crucial to research findings as to whether medical professionals are taking ACES seriously by performing further qualitative research. A comprehensive research approach is necessary to close the current knowledge gap on the long-lasting effects of ACES on physical health.

Title: The Effects of Bystander-Initiated Cardiopulmonary Resuscitation on A Victim in Cardiac Arrest.

Student Researcher(s): Ethan Tartaglio | Faculty Mentor(s): George Schwartz

Poster #: 30

The American Heart Association's "Is The Public Ready To Act?" (2009) research examined the effectiveness of bystander-initiated Cardiopulmonary Resuscitation (CPR) for people in cardiac arrest. The success rate of CPR is about 12% for cardiac arrests that occur outside hospitals but, bystander-initiated CPR is still critical to improving survival rates for people experiencing cardiac arrest. The most important factor in the success of CPR is how quickly it is initiated. The purpose of this research, data collection, and analysis is to identify and understand the readiness of college students to initiate CPR on a victim in cardiac arrest. Readiness will be examined in terms of knowledge & training and will to act.

Title: The Impact of Media's Portrayal of Crime

Student Researcher(s): John Debes | Faculty Mentor(s): Joseph Sorgini

Poster #: 31

The purpose of this research project was to find a relationship between what the media shows on their platforms about crime and what the public perceives. There were two main research collection methods used for the project. The first being a literature review of other research done on the subject and secondly a survey conducted. The literature pieces collected for this project help to better show how what the media reports on has an impact on the public's thoughts as well as their views on crimes being committed and the criminal justice system. The survey conducted aimed to find a direct relationship between the types of media individuals use and their opinions on media in general. It also garnered results from a mostly 18-24 age group, while the literature used was from older generations. Comparing the views on media from different age groups helped to see the impact of what they show.

Title: The Lack of Investment in High-Speed Rail in the United States

Student Researcher(s): Joseph Collins | Faculty Mentor(s): Joshua Weikert

Poster #: 32

High-speed rail lines are a common and efficient method of transportation utilized throughout multiple European and Asian countries. Despite their prominence in Europe and Asia, the United States, a vast country with multiple major metropolitan areas, does not have a system of interconnected high-speed rail lines between major cities and regions. This research seeks to understand why the United States has never invested in a high-speed rail system. Due to the increasing popularity of high-speed rail systems throughout and between many countries in Europe and Asia, this question is relevant in the discussion of contemporary methods of transportation. Three key potential reasons addressed in this research are the distance between major cities, the geography of the United States, and how these two factors affect the cost of building high-speed rail lines. This research hypothesizes that the cost aspect is the primary deterrent to high-speed rail investment in the United States.

Title: Decriminalizing Drugs

Student Researcher(s): Joseph Martell | Faculty Mentor(s): Joseph Sorgini
Poster #: 33

This paper critically examines the current drug policy approach in the United States, emphasizing the failures and shortcomings of a punitive strategy centered on criminalization and law enforcement. It is argued that this approach has led to mass incarceration, disproportionately affecting vulnerable communities, while neglecting the root causes of addiction. Proposing a paradigm shift towards a public health approach, the paper advocates for drug decriminalization as an alternative that prioritizes prevention, treatment, and harm reduction. Drawing on global examples, the paper explores the potential benefits of decriminalization, such as reduced stigma, increased treatment-seeking behavior, and improved public safety. Additionally, it delves into the economic aspects, considering the financial implications and revenue potential associated with drug decriminalization. Finally, the paper proposes a survey to gauge college students' attitudes toward drug decriminalization, aiming to provide valuable insights into public perceptions for further policy considerations.

Title: Memory & History

Student Researcher(s): Kelly Capobianco | Faculty Mentor(s): Joshua Weikert
Poster #: 34

This study is going to look at the relationship between how often a college age student watches the news and how well they remember certain historical events. This thesis looks at the idea that the more that people watch the news or read articles, the more they remember historical events that have happened. This looks at how people remembered some events such as 9/11, the invasion of Iraq, hurricane Katrina, the recession, Barack Obama's election, Etc. Each survey taker was asked how often they watch the news and how well they remember each event. Each person was asked on a scale how much they remembered an event from not at all to very well. Looking at how well students remembered each event it was a positive correlation between the amount of time people watched the news and how well they remembered historical events that took place. The conclusion supports the hypothesis that the more people watch or read the news the more that they remember historical events that have taken place.

Title: The Catholic Church's Response to World War II

Student Researcher(s): Kyle Steinfield | Faculty Mentor(s): Joshua Weikert
Poster #: 35

Germany's invasion of Poland sparked a complex global conflict that lasted for six years. As the conflict and holocaust continued the world appeared to remain silent, including the Catholic Church lead by Pope Pius XII. This paper seeks to answer the question, why did the Catholic Church appear to not speak out against Nazi Germany and the atrocities of the Holocaust? The hypothesis is as fear of Hitler and Nazi Germany increased; the Catholic Church spoke out less against Nazi Germany. The written record was analyzed to determine if the Church spoke out against Nazi Germany or if Nazi Germany threatened the Church. Pope Pius XII speeches and letters, survivor testimony, Hitler's speeches, and other Nazi officials' statements were analyzed looking for key words. The data collected showed the Church never addressed Hitler or Nazi Germany about the Holocaust while the Nazis did not make any threats against the Church. It is crucial to discern why the world remained silent so a Holocaust can never happen again.

Title: Social Media and Mental Health

Student Researcher(s): Matthew Pfister | Faculty Mentor(s): Joseph Sorgini
Poster #: 36

The focus of this study is to see how social media benefits or negatively effects the mental health of males and females. First, we conducted research along with this topic and found ten academic sources. Along with this we examined how social media and the interaction on posts affect mental health, how people compare themselves to others, screen time, and more along these lines. To answer these hypotheses, we released a survey that had ten questions with fourteen responses. Within this survey we asked multiple choice, scaled, and open-ended questions. Once we received our data, we inserted it into SPSS and conducted descriptive statistics testing. This was done through a One-Way ANOVA test. While our testing found that there was no statistically significant data within age/gender and does the amount of interaction on a post affect their mental health. From our data gathered it can be argued that social media does negatively affect mental health, but from our SPSS testing it can be argued that it does not have negative affects due to there being no statistically significant.

Title: Homelessness

Student Researcher(s): Maximus Cummings | Faculty Mentor(s): Joseph Sorgini
Poster #: 37

The main goal of the research is to comprehend the root causes and ongoing variables that lead to homelessness, as well as the ways in which this social issue affects the accessibility of vital criminal justice resources, such as first responders, the US jail system, and the US court system. The decision to investigate homelessness as a research topic stems from a profound concern for those Americans who do not have access to secure housing. We think that a variety of intricate social and economic variables, such as the COVID-19 epidemic, the housing crisis of 2008, drug misuse, abusive domestic settings, and a dearth of sufficient social services and criminal justice resources, are the root causes of homelessness. Our study question aims to explore the complex aspects of homelessness. What is homelessness, what causes it, and how long does it last? it, and how does this matter affect the resources available for the criminal justice system?" We think this question provides a solid basis for investigating the complexity of the problem, having been refined via several rounds. Quantitative and qualitative variables are used in the suggested methodology to answer these queries and hypotheses. We'll use academic sites to collect information and look for possible linkages. Furthermore, interviews pertaining to the topic will be carried out in regions with a homeless population to gather important primary data. Qualitative data is available through publicly accessible media, in the form of pre-existing interviews. This research project aims to shed light on the complex problem of homelessness in the US and how it affects the accessibility of vital resources for the criminal justice system. Examining the origins and consequences of homelessness, we seek to gain a deeper comprehension of this crucial cultural issue.

Title: The New Perspectives of Policing

Student Researcher(s): Nia Jones | Faculty Mentor(s): Professor Lisa Brown
Poster #: 38

The research paper ultimately explores a recent development in the relationship between police officers and the African American community, highlighting a more effective way to address this issue. With the assistance of Mayor Cherele Parker and an interview with her Deputy Public Safety Director, Adam Geer, the paper identifies new changes and initiatives implemented by the city of Philadelphia as a start to combat the relationship issue. They include addressing high crime rates, drug use, gang affiliations, and the unfair advantages presented by police, which cause a strain on the relationship with the public. The paper advocates for a return to traditional community policing methods as a viable solution to address the shortcomings of the current system. It emphasizes the significance of accountability, training, and community outreach to achieve the desired results. By understanding historical challenges and the challenges faced during the COVID-19 pandemic, I can accurately establish the issues caused by this nature and ultimately promote recognition and efforts of reconciliation between the police and this community.

Title: Pinpointing Political Polarization: Does Media Exposure Matter?

Student Researcher(s): Nicole DeOrzio | Faculty Mentor(s): Joshua Weikert

Poster #: 39

With the convergence of politics and media, it seems that the United States has faced increasing polarization. Current scholarship in this topic area lacks investigation into the impact of social media exposure and non-news related television entertainment on polarization. This present study aims to close this gap in the existing research by offering a cultivation theory-informed analysis of the media's impact on people's personal polarization and their perceptions of political polarization in American politics. To determine whether media exposure impacts polarization, an asynchronous survey was administered to 45 participants. Survey questions gathered information about participants' demographics, media viewing habits, personal levels of polarization, and perceptions of polarization in America. These responses were analyzed in Microsoft Excel through various charts and graphs to determine if any patterns emerged. This study found a weak overall correlation between increased media exposure and increased levels of polarization, either personal or perceived. However, greater correlations emerged when heavy media viewers and light media viewers were further sorted by political party affiliation. Therefore, party identity and media exposure combined seem to impact personal polarization and perceptions of polarization. Additionally, this study found that participants consistently made a distinction between political parties, policy positions, and party members. This suggests that although participants hold negative attitudes toward the opposing party, they can separate feelings associated with national politics from their personal lives and relationships.

Title: Artificial Intelligence and the Legal System

Student Researcher(s): Rema Ereifej | Faculty Mentor(s): Joseph Sorgini

Poster #: 40

The legal system is a component of one of the oldest kinds of society. The judicial system dates back thousands of years, including biblical periods. The legal system, like life itself, has evolved over time. Even while the judicial system has advanced dramatically, one aspect has been lacking: its integration with modern technology. AI, a technology that simulates human intelligence and problem solving, is applied in a variety of disciplines. Both the legal system and artificial intelligence play important roles in our daily lives; nevertheless, in this article, both artificial intelligence and the court system will be examined, as well as any potential overlap. Should artificial intelligence play a role in the US court system, and if so, how? How would adopting artificial intelligence affect the legal system? Would introducing artificial intelligence have an impact on what is fair and right in the legal system that our founding fathers worked so hard to construct and build? Because this is a relatively new topic and there is a dearth of research on it, I will use a qualitative research method with case studies and secondary research to answer this question.

Title: Historical Engagement and Education

Student Researcher(s): Ryan Pringle | Faculty Mentor(s): Joshua Weikert

Poster #: 41

There is a commonly held belief, both in the press and in broader American society that the public has a poor understanding of history. This assertion has been shown to be true, at least by several polls and studies. This research explores one possible explanation for this deficiency in historical literacy, that being historical engagement. The author hypothesizes that a person's engagement in history has a positive effect on their performance. During the research process, statistics about the academic performance of students in social studies were examined to establish the current state of historical learning in the United States. Prior research in this field was also reviewed, to show that this deficiency cannot be explained by a simple disinterest in the subject matter. Finally, a survey was conducted to obtain information not found in preexisting research. The survey results show that people generally have had a positive experience with history, and a significant majority of respondents believe their ability to engage with history affected how well they performed academically. The results also show that people find history only somewhat engaging, which could contribute to the statistics promulgated in the press. The results of this research are useful in establishing general conclusions, but further research will be needed to refine the exact nature of the relationship between engagement with history and academic performance.

Title: College Students' Perceptions Regarding the Parole of Convicted Murderers

Student Researcher(s): Sophie Truitt | Faculty Mentor(s): Joseph Sorgini

Poster #: 42

Many factors influence parole decisions, including severity/type of crime, institutional behavior, mental health, aggression, and age at the time of crime commission. Much research on this subject was either old or non-existent. Even fewer were studies regarding the parole of convicted murderers. The purpose of this study was to examine college students' perceptions of parole and the parole of convicted murderers and to compare their perceptions with parole decisions in hypothetical scenarios. It was hypothesized that most participants would choose to give an individual parole in different scenarios, however, their perceptions would not align with these parole decisions. An anonymous online survey was conducted, with 27 participants aged 18 to 25. Participants were asked questions about their perceptions of parole factors, whether they believe convicted murderers should be granted parole and when they should be granted parole, and then were given three scenarios where they had to decide whether someone should be granted parole. Any missing responses to questions were removed from their respective data sets. Parole perceptions and decisions were then compared using chi-square tests of independence and linear regressions. There were significant differences between the answers participants gave regarding whether they believe convicted murderers should be granted parole and deciding to give them parole in two of the scenarios ($p=0.029<0.05$, $p=0.036<0.05$). Most students also decided to give parole to individuals in hypothetical situations. Further research should be conducted with a larger sample size.

Title: Taiwan's Defense: Will America Rise to the Challenge?

Student Researcher(s): Steven Lytle | Faculty Mentor(s): Joshua Weikert

Poster #: 43

This poster provides a rudimentary but essential look into the possibility of American aid being provided to Taiwan in the event of an invasion by mainland China. This looks at the statistics, historical context, geopolitical dynamics, and most importantly the possible outcomes regarding the three nations mentioned. Examinations of the prior incidents, invasion attempts of Taiwan's various island holdings, modern political positions of the parties involved, and recent/ongoing conflicts allow the uninitiated to gain a clearer picture to a complex topic. Personal interviews and written sources provide the information necessary to draw better rounded inferences. It begins with some post-1949 history of Taiwan, Republic of China (ROC), including the repeated antagonism of the People's Republic of China (PRC). From there goes into the political relations between the United States and Taiwan, and for that matter the current dynamic in the Indo-Pacific region. That leads to the present moment, where the world finds itself in a state of strained relations and even open conflict between moderate and global powers. The information compiled therefore determines that America is certain to intervene on Taiwan's behalf.

Title: Childhood Environments Effect on Criminality

Student Researcher(s): Camryn Oliver | Faculty Mentor(s): Joseph Sorgini

Poster #: 44

My goal of this research is to disprove the long-believed connection between childhood environment and criminality. Becoming a product of one's environment has been a stigma for decades. Previous studies have been conducted on similar topics regarding the environment and crime. This research will aim to disprove that a life of crime is the only way to succeed, when coming from traumatic backgrounds. I will look to interview test subjects to discover correlation between childhood trauma and environment in relation to future criminality. The questionnaire was given to ten subjects. Each subject was of a different age, race, gender, and grew up in different neighborhoods. Results of these questions could not come to one concise conclusion. The majority of the group interviewed was from a low-crime neighborhood. While they experienced trauma and abuse, none of them had ever been convicted of a crime. They all had one common factor, their environment. Two subjects grew up in high crime rate areas as well as they suffered from abuse, they both had different outcomes. One subject never committed any crime while the other was involved in crime for a time. All subjects of the questionnaire are currently not engaging in any criminal activity. This would lead me to draw the conclusion that their childhood trauma and environment did not have an effect on their criminality in 90% of the cases. However, more research is needed to have a clear conclusion.

Education Division

Title: Effective Writing Instruction for All Students

Student Researcher(s): Aiden Kollar; Caroline Troise; Andrea Petito

Faculty Mentor(s): Kelly Doyle and Karen Miscavage

Poster #: 45

Recent Research indicates that the instruction in and use of handwriting has steadily decreased in classrooms. However, research proves handwriting can benefit a student's learning performance overall. Handwriting is used in things like notetaking, test-taking, and classroom work. Not only is it important in all school subjects, but handwriting is also a life skill used outside the classroom. When handwriting is taught properly, students are more successful in their learning. Proper handwriting promotes the growth of writing skills across all subjects. Effective handwriting skills can help students progress in their reading and spelling skills. However, for students to succeed at handwriting, they must be explicitly taught numerous handwriting topics, including pencil grasp, letter formation, size, and word spacing. Dedicating instructional time to practicing these handwriting techniques with students is crucial. Students cannot demonstrate proficient handwriting without these components mastered first. There are research-based strategies for these topics that have been proven to be effective in improving handwriting skills. Teachers should dedicate time to teaching handwriting as it is used across all subjects.

Title: The Relationship Between Developmental Spelling and Writing Instruction

Student Researcher(s): Allison Guzik; Lauren Carboni | Faculty Mentor(s): Kelly Doyle and Karen Miscavage

Poster #: 46

Fostering student's literacy growth requires effective writing teaching. Developmental spelling is the process in which students progress through certain stages of spelling development based on how they acquire knowledge about written language. To clarify how spelling competency affects the acquisition of writing abilities, this study investigates the connection between developmental spelling and writing instruction. Research suggests that students move a specific way through stages of spelling development. There are names for each stage of development, and each stage is supported by a study. Instruction should make sure each stage the student is in is mastered so that students' progress to the next stage. Intentional instructional activities should be included so students can generalize their knowledge (Young 2007). Researchers address how writing proficiency is affected by phonological awareness and orthographic knowledge. The full impact of developmental spelling research on the classroom is yet to be fully recognized. It is ever evolving and continues to be implemented in classrooms daily. This study offers suggestions for educators by providing insights into the relationship between spelling and writing education by combining the results of recent studies.

Title: Dysgraphia: Navigating Students' Needs

Student Researcher(s): Ashley Harris; Joseph Chesnik | Faculty Mentor(s): Kelly Doyle and Karen Miscavage

Poster #: 47

The central question we are looking to answer in this presentation through our research is: How Can Teachers Support Students with Dysgraphia? Students with dysgraphia face unique challenges in the classroom when it comes to writing and literacy development. The purpose of our research is to provide instructors and students with information about the disability and interventions that can act as supports to guide students toward mastery of literacy and the fundamentals of writing. After exploring and understanding the complexities of dysgraphia as a disability, and the challenges students who struggle with dysgraphia can face, we found numerous intervention strategies. We completed extensive research about many of the interventions suggested in research, compared them, and eventually collectively concluded that there are multiple interventions that can thoroughly address the needs of students with dysgraphia in more significant ways than others mentioned. Research-based interventions such as: Ask, Reflect, Text (Art), Drill and Practice, Self-Regulation (student confidence/self-motivation) were found to be extremely effective in supporting students struggling with dysgraphia in the classroom.

Title: Meeting the Writing Needs of Students with Dysgraphia

Student Researcher(s): Erin O'Neil; Gabby Harner; Emely Jimenez

Faculty Mentor(s): Kelly Doyle and Karen Miscavage

Poster #: 48

Writing is an essential skill that all students possess in their way, yet those diagnosed with dysgraphia are often challenged due to being unable to write clearly and effectively. According to research at Cleveland Clinic, dysgraphia is a neurological condition where an individual has illegible handwriting, which can sometimes affect their thought-to-paper process, brain functions, academic skills, and more (2024). Due to having underdeveloped handwriting skills, students who have dysgraphia have larger amounts of needs that their educator(s) need to address. Some strategies to help with these needs include practicing tracing letters and words properly, using graphic organizers to improve both organization and thoughts-to-paper process, and the overall accommodations needed when completing writing assignments. The teacher can easily monitor the student's progress over a specific amount of time to see how their writing is progressing with these accommodations and adjust any modifications or strategies. To conclude, dysgraphia can make writing significantly difficult for students and it is the teacher's job to identify what strategies and accommodations need to be implemented to help these students succeed.

Title: Technology in Writing Instruction to Meet All Student's Needs

Student Researcher(s): Jessica Oldham; Francesca Marrone | Faculty Mentor(s): Kelly Doyle and Karen Miscavage

Poster #: 49

Technology is vitally crucial to many parts of our lives, such as access to information, economic growth, efficiency, improved communication, and above all educational writing development. Research states that "Technology has made it possible for people from all walks of life to have access to different resources" (Simplilearn 2024). Research indicates that technology is especially beneficial regarding writing instruction. Classroom examples of uses of technology in writing instruction include accessing information and resources, connecting the students to the real world, preparing students for this modern workplace, creating global and cultural awareness, supporting different learning styles, teaching students responsibility, and adding a fun and different experience to learning. Using technology can provide helpful strategies, enhance writing skills, and improve elementary school students' writing quality and quantity. Furthermore, technology in writing is becoming a staple/necessity in classrooms and educational settings; technology amplifies writing by allowing teachers to meet the needs of all students. Further research will incorporate resources teachers can use to enrich writing instruction for student's needs and provide individualized instruction. Technology in writing instruction can assist students in becoming more proficient in meeting their needs.

Title: Adapting Instruction to Support Struggling Writers

Student Researcher(s): Julia Levasse; Alexa Mazzola; Keith Lambert

Faculty Mentor(s): Kelly Doyle and Karen Miscavage

Poster #: 50

In the field of education, research suggests many ways to adapt instruction to support struggling writers. Struggling writers are students who are experiencing issues with using the writing process in written expression. Adapting instruction is a way of changing the way teachers deliver content and accommodate students who are struggling. There are many informational resources to guide teachers in adapting their instruction. Research suggests that using inquiry-based learning, data-driven instruction, and implementing fun and engaging writing strategies is most effective in adapting instruction to support struggling writers. Inquiry-based learning is a method of having students complete self-discovery learning while reading and then taking their findings to create a writing piece of their own to display their findings. This method engages and motivates students, which is a big aspect when supporting students. Data-driven instruction is using data from assessments to determine a baseline of where students are academically to differentiate instruction to meet students' individual needs. Additional classroom implementation includes self-regulated strategy development which is a specific and interactive way to approach writing and incorporating daily writing to increase fluency and confidence. Researchers will be discussing their findings for classroom implications as well as further research.

Title: Adapting Writing Instruction Throughout the Content Areas

Student Researcher(s): Kayla Wagner; Rory Watson; Madelyn Balko; Nicholas Fleming

Faculty Mentor(s): Kelly Doyle and Karen Miscavage

Poster #: 51

Writing Across the Curriculum or WAC is an implementation of strategies and skills to help students succeed in later years. The WAC framework contains three major principles; Writing to Learn, Writing to Engage, and Writing in the Disciplines. This method lays the foundational skills for writing, while also introducing discipline-specific language and style. Research suggests that students can improve their writing when given the opportunity to apply their knowledge across a multitude of content areas. When educators provide their class with ample opportunities to write in a variety of settings and genres, they therefore have more freedom to "create, question, explain, and even challenge their environments" (Childs, 2020, pg. 46). By utilizing this framework, students can demonstrate comprehension of new content through low stakes writing. Students understand information when engaging with their writing by building upon their previous knowledge. Then, when students successfully create an in-depth understanding of a topic, they use this knowledge in a specific discipline using high stakes writing. There are several different ways in which the WAC framework can be implemented to better ensure student confidence and proficiency in writing.

Title: Teaching Writing to Special Education Students

Student Researcher(s): Lucilia Salam; Cassandra Henderson

Faculty Mentor(s): Kelly Doyle and Karen Miscavage

Poster #: 52

What is the research-based methods to effectively teach writing to students with disabilities, who may present various challenges in this regard? Students in special education often have low levels of engagement with writing. Additional challenges during the writing process include emotional and behavioral difficulties, writing intimidation, lack of self-confidence, and negative attitudes towards the subject (Harris et al., 2017). The purpose of the study was to determine how writing affects students in special education, as well as find the best practices educators can use in their classrooms. Research suggests that student engagement, explicit instruction, visual guides, and peer engagement are crucial to student success. These findings are applicable to implications for classroom purposes. Ashley Golley and her fellow researchers state, "Students need to be working hands-on with materials and need the opportunity to discuss and question the material at hand" (2015, pg. 17). To conclude, to effectively teach students in special education, studies show that teachers need to ensure students are engaged, enthusiastic, and supported.

Title: Effectiveness of Training on Preservice and Inservice Educators in the Area of Special Education Transition Planning

Student Researcher(s): Madison Borkowski | Faculty Mentor(s): Laura Eisemann and Karen Miscavage

Poster #: 53

This qualitative research explored pre-service teachers' understanding of special education transition planning. Transition planning for students with disabilities is a critical component of the Individualized Education Program (IEP) and is mandated by special education law. Many secondary special education teachers do not feel prepared in effective transition plan writing and special education preparation programs show a lack in the instruction and training on transition standards, transition planning, and documentation of transition planning within a student's IEP (Anderson et al., 2003; Black et al., 2000). Researchers formulated a pre and post online Google Forms survey for participants to complete prior to the start of a Special Education Transition Conference and at its conclusion. Findings suggest pre-service teachers increased their understanding of transition planning, accessing post-secondary services, and supporting students obtaining and maintaining employment. By including expert community members, pre-service teachers made connections to the content and complexity of this process.

Title: Effective Strategies for Pre-Writing

Student Researcher(s): Madison Borkowski; Kaitlin Gale | Faculty Mentor(s): Kelly Doyle and Karen Miscavage
Poster #: 54

The first stage in the writing process, pre-writing, allows students to engage with materials prior to writing large amounts of information (Zorfass & Gray, n.d.). A closer look into pre-writing strategies aims to determine the effectiveness in supporting student literacy and writing skills. According to a study by O'Mealia (2011), pre-writing becomes effective when students are taught how to use it, why it's important, and what difference it makes. Even though individual students learn differently, a commonality is that most young writers can find the writing process to be intimidating, frustrating, or confusing without proper guidance. For teachers to support more students through the writing process, multiple pre-writing strategies can be taught to offer variety. O'Mealia (2011) continues to say that some strategies, such as graphic organizers, the "plan, organize, write" process, and brainstorming, encourage routine, focus, and organization during writing practice when carried out successfully. Research analysis will determine how such strategies support pre-writing expectations like deciding a topic, considering the purpose of writing, and being aware of the intended audience for the writing (Tompkins & Jones, 2019). Research will be evaluated for the effectiveness of pre-writing and how it should be used to yield the best possible results.

Title: Effective Writing Instruction for Students with Dyslexia

Student Researcher(s): Olivia Watson; Amanda Cannon | Faculty Mentor(s): Kelly Doyle and Karen Miscavage
Poster #: 55

Dyslexia is a condition in which people's brains work differently, causing difficulty in terms of the foundational skills of matching letters/letter combinations with sounds, decoding words, and reading fluently. It is estimated that 80-90% of students with learning disabilities have dyslexia. (What is dyslexia? n.d.) Dyslexia impacts the writing process in specific areas including spelling, legibility, diverse vocabulary, idea development, and organization in writing. It is important for teachers to follow students' IEP requirements and provide any additional help or assistance that students need. It is important to adapt the writing instruction to fit the students' needs and challenge their abilities. If teachers focus on transcription with spelling and handwriting, it can help students build relationships between dyslexia and the executive function and working memory needed for writing. (Hebert, M., Kearns, D. M., Hayes, J. B., Bazis, P., & Cooper, S. (2018). Future research can be directed towards making writing easier for students with dyslexia. Future research can also be geared towards making writing more enjoyable, and a creative outlet for students with dyslexia.

Title: Adapting Writing Instruction For English Language Learners

Student Researcher(s): Raven McCoy; Margaret Ahern | Faculty Mentor(s): Kelly Doyle and Karen Miscavage
Poster #: 56

In elementary school, writing instruction is crucial to a student's future success with writing skills. Understanding writing concepts and what goes into being a successful writer can be difficult for students, especially for those who are English Language Learners (ELLs). ELLs are students who have limited English Language proficiency, and who speak a language other than English as a first language. These students often need additional or different instruction with concepts like vocabulary and grammar. This struggle can decrease their confidence and cause negative feelings about writing. Teachers often wonder how to support students who struggle with various concepts of the English language. Research has determined that some of the best adaptations for teachers include differentiating instruction, incorporating more group-centered instruction, and targeted activities. These accommodations can help support ELL students and prevent frustration and embarrassment, in addition to better preparing them for higher education. Implementing these different strategies will help English Language learners feel more comfortable in the classroom, improve their interactions with their classmates, and allow them to improve their ability to learn writing skills.

Health, Nutrition & Exercise Science

Title: The Impact of Improving Lower Body Muscular Strength on Overall Balance among Adults with Intellectual and Developmental Disability

Student Researcher(s): Cassandra DeFeo | Faculty Mentor(s): Laurie DiRosa and Nicholas Racich

Poster #: 57

Balance is essential to everyday functioning. Without adequate balance, one would be at increased risk of injuries and falls. Not only can resistance exercises be used to improve static balance, or balance when standing or sitting in one position; but it has great benefits for dynamic balance as well, or one's ability to keep from falling while in motion. A systematic review performed from January to April of 2021 noted that while poor dynamic balance has been known to be a limiting factor in the daily functioning of individuals with intellectual disability, when these individuals performed consistent strength training exercises, improvements were seen in their walking speed and their ability to balance while walking. (Jacinto, et al., 2021)

The GetFIT program at Immaculata University provides one on one exercise sessions to adults with intellectual and developmental disabilities; through which clients get to work on everything from balance and strength training to flexibility and endurance. The 8–10-week sessions are led by IU student trainers who are assisted by Exercise Science faculty members. The purpose of this research is to demonstrate a positive relationship between an increased score in the Dynamic Gait Index and lower body strength. Four clients who have attended GetFIT consistently were included in this study. Results confirm the hypothesis that as muscle strength increases, dynamic balance increases. This result is promising, as any increase in dynamic balance indicates an increase in independence and a reduction in fall risk.

Title: Assessment of College Student's Knowledge of Heart Disease

Student Researcher(s): Elizabeth Detweiler | Faculty Mentor(s): Cecile Adkins

Poster #: 58

Heart disease is on the rise in the United States, with one in five people being affected. Heart disease is defined as an overarching word for multiple heart conditions. Many modifiable and unmodifiable risk factors can increase people's risk of heart disease. One of the most vulnerable groups are students aged 18 to 24. This group has a high prevalence of risk factors and behaviors related to contracting heart disease when older. Behaviors such as poor dietary habits, weight gain, excess alcohol, and sleeping patterns. College students believe they are invincible due to young age, but studies show many college students have at least one risk factor. This study was conducted to generate a better understanding of college students' knowledge about heart disease. Almost half (42%) of students did not know what the Mediterranean diet was. Commuters were found to have no significant difference between residents in knowledge of heart disease.

Title: The Effectiveness of Static vs. Dynamic Stretching on the Performance of Female Soccer Players

Student Researcher(s): Hannah Phillips | Faculty Mentor(s): Laurie DiRosa and Nicholas Racich

Poster #: 59

Soccer is a demanding sport requiring much movement strength, speed, coordination, and endurance from players. It has become a year-round sport putting more demand and stress on the player thus increasing the risk of injury. This experiment aims to provide data on how the proper training and warm-up before practice or competition can maximize performance in female soccer players while helping decrease injury. As part of the study, participants were guided through a dynamic stretching program before the start of practice. Participants will go through a series of three performance tests similar to demands they face as a soccer player following the dynamic stretching intervention. These three tests include a shot for speed with their dominant and non-dominant foot, a 40-yard sprint, and a technical drill that tests the participant's technical ability. This study aims to prove or disprove the hypotheses that players who have a vigorous physical activity level and players who play three or more positions on the soccer field have a faster shot speed, physical speed, and better technical ability upon completing a dynamic stretching program. Results from this study hope to help influence how a soccer player should stretch before competition or practice to optimize their performance.

Title: Research study about observed eating behaviors among professors and students in the psychology and business departments

Student Researcher(s): Josephine Buehler | Faculty Mentor(s): Cecile Adkins

Poster #: 60

Eating habits are influenced by factors that can act as barriers to health. Barriers include socioeconomic and subjective social statuses, university environment, lack of health-related knowledge, and price/availability of healthy foods. Negative long-term health effects that lead to chronic non-communicable diseases have been associated with the lack of established healthy eating habits. Research has shown that although differing reasons may occur, both professors and students are prone to the development of unhealthy eating habits. This research study was to gain a better understanding of the eating habits of university professors versus students.

Title: Where do senior nursing students get their nutrition information?

Student Researcher(s): Kaitlyn Carter | Faculty Mentor(s): Cecile Adkins

Poster #: 61

The nursing profession is a crucial part of clinical care. During nursing school, each student is taught an extensive amount of medical information to prepare them for their clinical practice. However, nutritional content does not account for many credits in the standard nursing education curriculum. As nurses participate in the nutrition-based care of each patient, it is important to understand where nursing students are finding their nutritional information both personally and professionally. This research study was to answer the question: where senior nursing students find their nutrition information. The aim of the study was to generate a better understanding of where Immaculata University's senior nursing students find their nutrition information for both personal and professional reasons. This information will help provide a better perspective on how the students access nutrition information for themselves and their patients.

Title: Evaluating the Impact of the Special Olympics Young Athletes Program on Children with Intellectual and Developmental Disabilities

Student Researcher(s): Liza Laxton; Julia Carter; Dylan Roberts

Faculty Mentor(s): Laurie DiRosa and Nicholas Racich

Poster #: 62

Children with Autism Spectrum Disorder (ASD) typically experience many challenges with social communications and interactions. It is common to see impaired and delayed motor skills, motor coordination, movement skills, fine and motor skills. Motor skills like running, jumping, skipping, hopping, object control skills, coordination, balance, and agility, as well as fine motor skills like precision and integration are essential when trying to develop these children into living healthy lifestyles. It is beneficial to expose children to these skills early on. The Special Olympics organization provides year-round sports training and competition for children and adults with intellectual disabilities to give them an opportunity to develop physical fitness, friendships, and a supportive community. This research study focuses on the Special Olympics Young Athletes program's impact on the overall development of children with intellectual disabilities, and the changes that can be identified and implemented based on motor skills assessments to improve its effectiveness.

Title: Eating Patterns Among Nursing and Health Related Majors

Student Researcher(s): Madelyn Moore | Faculty Mentor(s): Cecile Adkins

Poster #: 63

The role of health care professionals ideally includes the ability to promote health to patients and the general population. Part of this involves following a healthy lifestyle and partaking in healthy eating habits. Preparation to be a health care professional includes many different areas of study to develop well-rounded future practitioners. While nutrition majors get the most nutrition education and have the most focus on healthy diet and eating habits, little is known about the eating patterns of other health majors. This research study was to generate a better understanding of the eating patterns of Immaculata University students majoring in different areas of health, specifically Nursing, Nutrition and Dietetics, Exercise Science, and Allied Health.

Title: Evaluating the Dinner Time Eating Habits of College Students (Still in progress)

Student Researcher(s): Stephanie Buchanan | Faculty Mentor(s): Cecile Adkins

Poster #: 64

There are many factors that can affect a person's food intake. For college students these include the taste of food, appetite, the cost of food, income, availability of foods, health status, activities, culture, religion, time, etc. When people are time-restricted, they may eat less home cooked foods which can result in them choosing quick, unhealthy food options. Resident and commuter students are both susceptible to developing unhealthy, disordered eating habits, and forgoing physical activities, but commuter students have the added burden of spending more time in a car or on public transportation. Commuting to a college campus (requiring anything more than walking or riding a bike for a few minutes) can add up to a significant amount of non-productive time. This can take time away from building healthy habits like cooking at home, packing food, and eating healthy meals. This research study was to gain a better understand of the dinnertime eating habits of resident and commuter students.

Honors Colloquium

Title: The Power Dynamics between LGBT Youth and their Peers

Student Researcher(s): Marissa Kampanis | Faculty Mentor(s): Dr. James Siburt

Poster #: 65

The power dynamics between the LGBT youth and their peers is through the process of bullying and discrimination. The LGBT youth are bullied verbally, physically, or relationally, causing an imbalance of power between them and their peers. This bullying reflects the broader issue the community faces in society with not conforming to norms and expectations. The specific norm in discussion is heteronormativity where it dictates the gender norms, appraises those who follow it, and punishes those who don't. The appraisal for following heteronormativity gives them a bigger capacity for power. People in the LGBT community are going against the social norm, so their capacity of power is viewed as less. Those with the capacity for power can use it onto other people. The bullies in school use their power against the LGBT youth through bullying and influencing other students to discriminate them as well. From the bullying, the LGBT youth face physical, mental, and social consequences. In addition, internalized homophobia can arise where they may cooperate with those who are dominating them to spread hate towards other LGBT people. From this power imbalance, schools have tried to find solutions to make school safer by implementing GSA clubs, LGBT topics in curriculums, etc.

Music

Title: The effect of live meditative music on undergraduate music therapy majors

Student Researcher(s): Avery Valenta; Caleb Willard; Madilynn Grenier; Caitlin Clayton

Faculty Mentor(s): Daniel Benonis

Poster #: 66

The purpose of this study was to determine if music assisted progressive muscle relaxation can be used to reduce measures of stress within undergraduate seniors majoring in music therapy. During college a student stress level can rise for a variety of reasons including the increase in class work, anticipated graduation, post-graduation expectations, engaging in a social life, adjusting to living independently, and disagreement with mentors (Yikealo et al., 2018). In a study assessing sixty undergraduate students' perceived stress levels before and after many different interventions of relaxation, it was found that those receiving music assisted progressive muscle relaxation had the largest change regarding their anxiety levels and perceived relaxation than any other offered method of relaxation (Robb, 2000). In this study, four undergraduate music therapy seniors engaged in a six-minute-long progressive muscle relaxation script that was accompanied by a continuous progression of six guitar chords. Each participant filled out a perceived stress score as both a pre and posttest. When comparing the pre and post test scores, one subject experienced no change in stress level, one subject experienced a negative change of three, and two subjects experienced positive changes of five and one respectively. Limitations of the study include the small sample size which cannot be generalized, and the research conducted for educational purposes only without IRB approval. In addendum, further research needs to be conducted with a larger sample size in order to generalize our research.

Title: The Experiences of Recreative Music Activities for Undergraduate Music Therapy Seniors

Student Researcher(s): Marchello Barile; Marco De Lucia; Julie Gilligan; Micah Greene

Faculty Mentor(s): Daniel Benonis

Poster #: 67

Recreative Music Therapy is defined by the client actively playing an instrument or singing pre-composed music (Bruscia, 2014). Two recreative experiences are Instrumental Recreation and Singing Recreation. This qualitative study explored the methodology of recreative music, utilizing Immaculata University's Senior Undergraduate Music Therapy students' and their perceptions of stress, from the start of a recreative activity, examining the concluding experiences of each participant. Prior to the study, when verbally prompted by a facilitator, participants shared their experiences with stress over the week prior. Participants shared experiences of high stress levels relating to academic coursework, extra-curricular activities, and balancing coursework and extra-curricular activities. After the experience, when verbally prompted by a facilitator, participants shared experiences of stress during the activity relating to identity and focusing on numerous tasks at one time. Based on our findings, the data suggests that college students experience stress related to identity and a sense of belonging, as well as learning to balance and focus on numerous tasks concurrently. Due to the small sample size and educational purposes for this study, these results cannot be generalized. However, further research can be done to examine themes of identity and focus on numerous tasks during music experiences for specific populations, comparing the use of various music experiences for this purpose, and more.

Natural Sciences

Title: Comparing beetle (Insecta: Coleoptera) biodiversity at different sites on Hog Island, Maine

Student Researcher(s): Aidan Doyle; Liam Semmler | Faculty Mentor(s): Stephen Mason

Poster #: 68

Healthy ecosystems rely on the foundation of high biodiversity. Since insects are the most biodiverse animal group in the world, they make ideal study organisms when testing ecological and conservation hypotheses. For this research, we focus on beetle (Insecta: Coleoptera) species richness and abundance to compare different habitats on Hog Island, Bremen, Maine managed by the National Audubon Society. We predict that the site with the most even vegetation community will have different beetle biodiversity than the most uneven vegetation communities. During July 2023, we visited Hog Island for 10 days and sampled five different sites (spruce high elevation, spruce low elevation, spruce blowdown, deciduous mainland, and milkweed field). We set up 4-5 pitfall traps at each site to collect epigeic beetle species. A pairwise comparison for each site was then conducted by using an Analysis of Variance (ANOVA) on beetle abundance. Across our five sites, 182 beetles were collected. The milkweed field had significantly (<0.05) higher beetle abundance than the other four sites. There was no difference between the other four sites when doing a pairwise comparison with beetle abundance. Our original prediction was supported when looking at beetle abundance since the milkweed field had the most even vegetation community. We expect that the milkweed field will also have higher beetle species richness (which will also be presented at PAS). Our research helps to determine the biodiversity on Hog Island. This will directly benefit the National Audubon Society by giving them greater insight into making more effective conservation management decisions for the Island.

Title: Testing for Presence of Coliform Bacteria in Immaculata Drinking Fountains

Student Researcher(s): Aidan Doyle; Louis Faia; John Wilhelm | Faculty Mentor(s): Kelly Orlando

Poster #: 69

Coliform bacteria can inhabit water sources students and faculty frequent, which can lead to illness at certain concentrations. By filtering the water from fountains such as (Fig.1) on the campus of Immaculata University at different test sites, we can see if coliform bacteria are present. Filtering three separate water fountains four times, there were no results positive for coliform bacteria contamination despite colony growth on 2 plates. Upon completion of the experiment, there is no evidence to support that the water on the campus of Immaculata University is contaminated with coliform bacteria in concentrations large enough to conduce illness.

Title: Can DNA damage be detected by measuring UV absorption of extracted chromatin?

Student Researcher(s): Athena Kritikson | Faculty Mentor(s): Daniel Ginsburg

Poster #: 70

It is important to understand DNA repair because it is critical for normal cellular function. To understand DNA repair, it is necessary to be able to detect DNA damage. We were interested in whether we could use UV spectrophotometry to detect DNA damage in yeast cells. We expected damage to increase absorbance at 260 nm (A260) of DNA extracted from yeast. We purified DNA from yeast that had been treated with the damaging agent MMS as well as an untreated control strain. After measuring the A260 of the samples, we unexpectedly found that the untreated samples had approximately 10-fold higher A260 values than the MMS-treated samples. It is possible that MMS killed a number of cells so that there was less DNA in the treated samples or that the DNA in the treated samples was fragmented into pieces too small to recover. Further investigation is needed to determine whether UV spectrophotometry is a feasible technique for measuring DNA damage.

Title: Effectiveness of Different Types of Hand Sanitizers against *S. aureus*

Student Researcher(s): Berrangere Saintillien | Faculty Mentor(s): Kelly Orlando

Poster #: 71

Staphylococcus aureus (*S. aureus*), a common microbe implicated in skin and soft tissue infections, prompts significant concerns regarding public health. The widespread usage of hand sanitizers, purportedly capable of eliminating 99% of skin bacteria, underscores their pivotal role in hygiene practices. However, a systematic evaluation of their efficacy against *S. aureus* remains essential. This research aims to address this gap by assessing the effectiveness of various hand sanitizer formulations gel, wipes, and foam against *S. aureus*. Employing a controlled experimental design, *S. aureus* is swabbed onto gloved palms, followed by exposure to each sanitizer type. Subsequently, palm swabs are streaked onto Mannitol Salt Agar plates for bacterial growth assessment. Each experiment is repeated thrice to ensure robustness. Additionally, a control group is included to ascertain baseline *S. aureus* growth without sanitizer exposure. Incubation at 37°C facilitates bacterial proliferation, with plate examination at predetermined intervals 48 hours, 72 hours, 96 hours, and 168 hours enabling colony detection indicative of *S. aureus* presence. Unexpectedly, minimal growth is observed across experimental plates, contradicting initial hypotheses. Notably, only one colony emerges by 168 hours on a gel sanitizer-treated plate, deviating from expectations. The absence or limited growth of *S. aureus* colonies on experimental plates substantiates the conclusion that all three hand sanitizer types effectively eliminate *S. aureus*. Moreover, the research proposes avenues for future inquiry, including investigating alcohol concentration effects, assessing sanitizer practicality against diverse skin microbes, and exploring the potential development of *S. aureus* resistance to hand sanitizers upon repeated exposure.

Title: Using DNA Barcoding to Analyze Ant (Hymenoptera: Formicidae) Biodiversity on Immaculata University's Campus

Student Researcher(s): Diana Geditz; Brianna Hong | Faculty Mentor(s): Kelly Orlando and Stephen Mason

Poster #: 72

There are approximately 16,000 ant (Hymenoptera: Formicidae) species in the world. Immaculata University can hold up to 100 species of ants, but there has yet to be a systematic insect study for the campus. We start this study by using DNA barcoding to determine the different ant genera and species that have formerly been collected at Immaculata. Ant specimens have been collected from pitfall traps by Immaculata's 2022 Biodiversity and Ecology class. We extracted DNA from 11 specimens and used PCR to amplify the COI gene and ran the PCR products on agarose gels for verification. We sent our samples for sequencing and compared them to known sequences to identify the ant species. We first used the whole organism for DNA extraction, but as we perfected the DNA extraction technique, we determined we could extract DNA from one ant leg so that we could keep the rest of organism to confirm its species and potentially pin for long-term storage. We have been able to sequence and identify four ant species from the pitfall trap: Winnow Ant (*Aphaenogaster rudis*), Ferruginous Carpenter Ant (*Camponotus chromaiodes*), Wood Ant (*Formica subaenescens*), and Winter Ant (*Prenolepis imparis*). We will continue to use DNA barcoding methods to learn more about the ant biodiversity for Immaculata University.

Title: Does Chromatin Protect DNA from UV Light Exposure?

Student Researcher(s): Gabriel Bocaj; Liam Semmler | Faculty Mentor(s): Daniel Ginsburg

Poster #: 73

Chromatin is the DNA-protein complex that makes up eukaryotic chromosomes and limits what proteins can access DNA. We hypothesized that chromatin might prevent DNA damaging agents from accessing the DNA and thereby protect the DNA. We tested the hypothesis that more compact chromatin would protect the DNA against damage from UV light that less compact chromatin. We found that nocodazole treatment to compact chromatin did not significantly protect DNA from UV-mediated damage. Perhaps UV light is too small for chromatin to protect against it.

Title: Testing The Plant Vigor Hypothesis after Wildfire in the New Jersey Pinelands National Reserve

Student Researcher(s): Jessica Wolfgang; Francesca Giardini | Faculty Mentor(s): Stephen Mason
Poster #: 74

The Plant Vigor Hypothesis states that rapidly growing plants, particularly after a disturbance, are less structurally and chemically defended, and therefore will be more susceptible to phytotroph attack. Last year, we supported that oak leaves (*Quercus* spp.) at our wildfire site were growing more rapidly than oak leaves at our unburned site in NJ Pinelands National Reserve. This year, we wanted to determine if the leaves at the wildfire or unburned sites would have more plant pathogen and insect herbivore (phytotroph) damage. We predict that the leaves at our wildfire site will have more pathogen and insect herbivore damage since they grew more rapidly. To test this, we counted the number of pathogen and insect herbivore damage (e.g., leaf miners, gall makers) on 140 oak leaves from each of our study sites (n=280). We then conducted a Wilcoxon signed-rank test to compare the phytotrophic damage on the leaves from both study sites. Our preliminary results show that pathogen damage was higher at the unburned site ($p = <0.0001$) than at our burned site. There was no difference for insect herbivory between the two sites ($p = 0.14$). Based on these preliminary results, our prediction for the Plant Vigor Hypothesis was rejected for both plant pathogens and insect herbivory. The wildfire likely decreased most of the plant pathogens and insect herbivores that would have caused the damage to the leaves we were analyzing, and they could not immediately recolonize the burned site to take advantage of the potentially undefended leaves. In contrast, the plant pathogens and insect herbivores at the unburned site were never negatively affected. We plan to continue analyzing more oak leaves for phytotrophic damage and will be testing if the leaves in the burned site are less structurally and chemically defended.

Title: Do Essential Oils Reduce Oxidative Stress in Yeast?

Student Researcher(s): Joselyn Ruiz | Faculty Mentor(s): Daniel Ginsburg
Poster #: 75

Essential oils are often used in aromatherapy to promote relaxation, stress relief, and mood enhancement. We were interested in understanding whether essential oils help alleviate stress at the cellular level. We analyzed the effects of essential oils on *Saccharomyces cerevisiae* growth in response to oxidative stress from treatment with hydrogen peroxide. While some essential oils have been reported to have antimicrobial activity, we found that 10% of lavender, eucalyptus, chamomile, bergamot, and hemp oil did not inhibit yeast growth over eight hours as compared to a vegetable oil-treated control, with bergamot and chamomile oils stimulating growth. Bergamot and chamomile oils also stimulated growth (10- and 5-fold respectively) in the presence of hydrogen peroxide as compared to vegetable oil, suggesting that they may alleviate oxidative stress in yeast. Further work is needed to determine the mechanism by which they may help relieve stress at the cellular level.

Title: The relationship between DNA repair and mutation rate in yeast

Student Researcher(s): Lauren Hagen | Faculty Mentor(s): Daniel Ginsburg
Poster #: 76

DNA is subject to several kinds of damage, all of which require repair so that the cell can continue to function correctly. This project examines the relationship between DNA double-strand break (DSB) repair pathways and mutation rate. Of the four DSB repair pathways, only one, homologous recombination (HR) repairs the break accurately. The other three leave mutations of varying size. The most commonly used DSB repair pathway is non-homologous end-joining (NHEJ), which leaves small insertions and deletions at the repair site. We used an assay that allowed us to measure mutations in the *URA3* gene in the yeast *S. cerevisiae* in strains lacking HR repair protein Xrs2, NHEJ repair protein Ku80 or with all repair pathways intact (wild type). We expected that the strains lacking HR would have a higher mutation rate while the strain lacking NHEJ would have a lower mutation rate than the wild type (WT) strain. We found that the WT strain had 6.93×10^{-6} mutations/site/cell, while the *ku80* Δ strain had $\sim 10,000$ -fold and the *xrs2* Δ strain had $\sim 27,000$ -fold more mutations. The dramatic increase in mutation rate demonstrates the importance of having all four DSB repair pathways intact. Further work is needed to understand how the type of mutation changes when the repair pathways are missing.

Title: Exploring the differences in plant communities across Hog Island, Maine

Student Researcher(s): Liam Semmler | Faculty Mentor(s): Stephen Mason

Poster #: 77

Plant communities provide critical ecosystem services to biodiversity across the planet. Learning how to determine different plant communities from the macroscale to the microscale is essential to understanding other species' distribution, patterns, and functional roles. By using foundational ecological metrics such as species richness and abundance we can start to compare differences between plant communities and habitats more effectively. For this research, we identified various habitats based on plant diversity metrics across Hog Island, Bremen, Maine, managed by the National Audubon Society. In July 2023, vegetation data was collected over ten days on Hog Island across five separate sites (spruce high-elevation, spruce low-elevation, spruce blowdown, deciduous mainland, and milkweed field). A 1x1m quadrat was used to collect plant species richness and abundance around insect pitfall traps for each site. We then conducted a one-way analysis of variance (ANOVA) for the plant abundance and a Shannon Evenness Index (SEI) across all five sites to attain the differences between the sites. There were significant differences ($p < 0.05$) in plant abundance between our spruce low-elevation site and three other sites: spruce blowdown, deciduous mainland, and milkweed field. Additionally, for the SEI, we found significant differences between the milkweed field and three other sites: spruce high-elevation, spruce blowdown, and deciduous mainland. By knowing the vegetation abundance and evenness of different sites, the information can be used to help the National Audubon Society make better predictions about how other organisms (e.g., insects, birds) utilize these sites.

Title: The Antimicrobial Properties of Various Oral Solutions

Student Researcher(s): London Lonsinger | Faculty Mentor(s): Kelly Orlando

Poster #: 78

Maintaining a healthy oral microbiome is crucial because an excess of microbes, especially harmful yeast, or bacteria, can cause plaque formation (biofilm), gum disease, and other problems related to oral health. In this experiment, the yeast species *Candida albicans* was cultivated, and the effectiveness of different oral treatments to inhibit biofilm was measured. Tests were performed both on microtiter plates and using ceramic tiles that mimicked teeth, and biofilm was stained using crystal violet. Spectrophotometric measurements of the crystal violet pulled off with destain was used to assess the concentration of biofilm following treatment with various solutions. Overall, it appeared that mouthwash and hydrogen peroxide led to a clear decrease in the concentration of biofilm as compared to sterile water, indicating that these oral treatments are effective in removing plaque.

Title: Do Greenies Dental Chews Help Reduce Oral Bacteria in Dogs?

Student Researcher(s): London Lonsinger; Tessa Kane | Faculty Mentor(s): Kelly Orlando

Poster #: 79

Maintaining a dog's healthy oral microbiome is crucial to prevent excess bacterial growth and negative health effects from excess bacteria. To test bacteria amounts before and after Greenies dental chew ingestion, we plated saliva samples taken from Sarge, 5-year-old English Bulldog, on blood agar plates and counted bacterial colonies. Less bacterial colonies grew on the post-ingestion plates than the pre-ingestion plates. From these results, we can conclude that less bacteria are present in the dog's mouth after ingestion of the Greenie. To further this research, we would test difference in bacterial levels every day over a prolonged period of dental chew ingestion to test if consistent ingestion of the Greenies dental chew decreases unhealthy bacteria long term.

Title: Developing a more specific histone deacetylase inhibitor

Student Researcher(s): Louis Faia | Faculty Mentor(s): Daniel Ginsburg
Poster #: 80

SAHA (Vorinostat) is a histone deacetylase inhibitor (HDAi) which is FDA-approved to treat T-cell Lymphoma after the failure of other treatments. Because SAHA inhibits many different histone deacetylases, it comes with side effects including nausea, diarrhea, fatigue, thrombocytopenia, dehydration, and pulmonary embolism. The goal of this project is to test the ability of SAHA-derived potential HDAis to increase histone acetylation in yeast. Yeast were treated with SAHA or derivatives previously shown to affect yeast growth and histone acetylation was measured by western blots. Preliminary results suggest that SAHA derivatives that affect yeast growth do not have a significant effect on histone acetylation levels. This could indicate that they are more specific than SAHA. Further tests are needed to determine what, if any, histone deacetylase they are inhibiting.

Title: Open chromatin desensitizes *S. pombe* to DNA alkylation

Student Researcher(s): Maddy Trainor, Jillian Humphries | Faculty Mentor(s): Daniel Ginsburg
Poster #: 81

Chromatin, the DNA-protein complex that makes up eukaryotic chromosomes, allows the DNA to fit into the nucleus and regulates DNA access. Chromatin has been shown to prevent proteins from accessing the DNA and we hypothesized that it would have the same effect on DNA damaging agents. Using the fission yeast, *Schizosaccharomyces pombe*, we probed chromatin's role in the cellular response to the DNA alkylating agent methyl methanesulfonate (MMS). Contrary to our hypothesis, we found that yeast treated with the chromatin opening agent sulfometuron methyl (SM) showed evidence of 2 - 3-fold less DNA damage than control cells. This may be due to increased repair with more open chromatin. The relationship between chromatin and DNA damage may be useful in developing cancer therapies that use DNA damaging agents.

Title: The Effect Different Soaps Have on the Growth of *Escherichia coli* and *Staphylococcus epidermidis*

Student Researcher(s): Madison Hansell | Faculty Mentor(s): Kelly Orlando
Poster #: 82

This experiment aimed to evaluate the antibacterial properties of commonly used soaps on *E. coli* and *S. epidermidis*, focusing on their effectiveness in terms of successfully killing bacteria. The hypothesis was that the antibacterial soaps, Dial and Softsoap, would demonstrate more bacterial inhibition than the Bath & Body Works soap due to their antimicrobial components, and that higher concentrations would be more effective. To assess this hypothesis, broths were inoculated with bacteria coated beads previously exposed to different concentrations of Bath & Body Works, Dial, and Softsoap along with a sterile water control. The results obtained indicated that with *E. coli*, Dial soap was most effective at reducing bacterial growth, and Bath & Body Works was the least effective. For *S. epidermidis*, all the soaps were relatively equal.

Title: The effect of DNA alkylation on mutation frequency and type in yeast

Student Researcher(s): Siera Cruz | Faculty Mentor(s): Daniel Ginsburg
Poster #: 83

Nucleated cells are subject to 10 to 50 DNA double-stranded breaks every day. There are four repair pathways responsible for fixing those breaks, but only one of those four repairs the DNA accurately. We were interested in understanding the relationship between the four double-strand break repair pathways and how a cell determines which to use. URA3 gene mutations were detected on 5-FOA plates in yeast treated with the DNA-alkylating agent, methyl methanesulfonate (MMS), and untreated control yeast. Yeast treated with MMS had ~4-fold higher ura3 mutation rates than untreated controls.

Title: Analysis of Vitamin C Antioxidant Activity

Student Researcher(s): Thuy-Tien Tran | Faculty Mentor(s): Jiangyue Zhang

Poster #: 84

The purpose of this research is to quantify antioxidant activity in multiple Vitamin C supplement brands and determine if there are any differences in efficacy.

The existence of different Vitamin C supplement brands emphasizes the importance of researching differences in antioxidant efficacy between brands and to explore whether one certain brand is more effective. There aren't many studies that specifically explore the antioxidant properties of different brands of supplements.

The research methodology used in this study is utilizing the redox reaction with Iron where the presence of an antioxidant like Vitamin C stops the oxidation of Iron (II) to Iron (III). When Vitamin C is added to the reaction, it is converted into dehydroascorbic acid after the antioxidant interaction, and HPLC can be used to accurately determine the initial quantity (before antioxidant interaction) and final quantity of Vitamin C present (after antioxidant interaction when drops of H_2O_2 -which produces oxygen radicals - are added). Then concentration can be calculated using the equation derived from the standard curve of stock Vitamin C solution.

We predicted that there will not be any significant differences in antioxidant efficacy between the Vitamin C brands. However, the experiment proved it incorrect as the RiteAid supplement ended up having the relatively highest antioxidant efficacy. However, there are many factors to consider such as the additional ingredients and sources of error such as loss of product in solution preparation and the instability of Vitamin C.

Division of Nursing

Title: Fetal Alcohol Syndrome

Student Researcher(s): Alyson Lowe; Heather Mozzani; Taniesha Williams

Faculty Mentor(s): Tiffany Harris and Pamela Hudson

Poster #: 85

Newborns with NAS experience a wide spectrum of clinical manifestations due to withdrawal from intrauterine drug exposure. Data from the Healthcare Cost and Utilization Project (HCUP) revealed approximately one baby is diagnosed with NAS every 24 minutes in the United States, with 59 newborns diagnosed with NAS every day. This study is to explore the effects of non-pharmacological nursing interventions compared to pharmacological interventions to decrease suffering in newborns with NAS. Morphine is a common pharmacological treatment for NAS. After review of the literature, Mangat et al. (2019) reveals how non-pharmacological interventions are more effective without the use of morphine. The article showed how nonpharmacological interventions, such as breastfeeding and skin-to-skin contact to comfort the newborn, decreased the severity of NAS. These methods helped reduce the use of morphine treatment, length of hospital stays, and admission to Level II NICUs. Based on the findings, pharmacological interventions, such as morphine, have long-term negative effects on newborns suffering from NAS. Non-pharmacological interventions are safer to use and have more positive results in the infant to decrease suffering. Non-pharmacologic interventions are safer for treating newborns with NAS and should be first line for planning care. Educating the nurses on the importance of implementing nonpharmacological interventions over the use of pharmacological interventions is essential. Nurses can educate and empower parents of NAS newborns to implement nonpharmacological treatment methods to decrease suffering in the newborn leading to successful growth and development in the future.

Title: For school aged children diagnosed with ADHD, what is the impact on academic performance for children with an IEP compared to children without an IEP?

Student Researcher(s): Audra Pundt; Samantha Kolen; Olivia Simmons | Faculty Mentor(s): Tiffany Harris

Poster #: 86

To focus on school-aged children diagnosed with ADHD and the academic performance deficit due to the lack of implementation of treatment in the classroom. Most untreated school-aged children with ADHD struggle in the school environment. To explore the challenges of a child with ADHD in the school classroom and focus on examining how a child performs academically without intervention compared to their performance after interventions are implemented. The methods of research for this paper were through research articles through PubMed Central, and ScienceDirect. Search words included: ADHD, school-aged students, and interventions. The literature was evaluated and compiled to supply evidence that explores interventions that impact the performance of school-aged children. The literature supported the concern of school aged students with ADHD needing interventions placed to succeed and perform better in school. The results show that children with ADHD without any interventions implemented were more off task in the classroom setting. The students who had interventions implemented in the classroom setting increased their focus and their performance. The interventions for ADHD have a positive impact on school-aged children who are struggling with focusing at school and their overall academic performance. The research has shown that most school-aged children with ADHD who are not being treated with the available interventions, are struggling in the school environment and need the public's awareness. This is a significant topic that requires more awareness, which will be brought to the attention of parents and teachers.

Title: Revitalize Your Nights: How Regular Exercise Elevates Sleep and Well-being for Fibromyalgia Warriors

Student Researcher(s): Bogdan Makar; Dorin Shams; Hau Ting

Faculty Mentor(s): Tiffany Harris and Pamela Hudson

Poster #: 87

In a groundbreaking trial, personalized exercise and patient education resulted in symptom relief for 49% of fibromyalgia patients, enhancing their quality of life for one year. This underscores the impactful role of tailored interventions in fibromyalgia management. This study aims to explore the most effective treatment modality for fibromyalgia, with a focus on enhancing various dimensions of individuals' quality of life through customized exercise regimens. Anticipated findings suggest that over 50% of patients may experience symptom alleviation, potentially altering the disease trajectory and bringing symptoms to a pre-symptomatic state.

Title: Transformational Leadership and the Impact on Nurse Satisfaction and Outcomes

Student Researcher(s): Brandon French; Natassja Resnick; and Peter Kollie | Faculty Mentor(s): Pamela Hudson

Poster #: 88

The healthcare environment requires staff contribution and leaders. Transformational leadership style, which focuses on fellowship is suggested to facilitate effective engagement and interactions between leaders, staff, and patients which may improve patient satisfaction. This study aims to explore the impact of transformational leadership on patient satisfaction.

Title: Music therapy as a non-pharmacological pain management

Student Researcher(s): Corina Kosowski; Alyssa Vigiolto; Sophia Shayeghi | Faculty Mentor(s): Tiffany Harris

Poster #: 89

Chronic pain has been controlled for years using opioids and other forms of pharmacological methods. However, within this practice, pharmacological pain control aids in long-term patients suffering from negative side effects and increased risk for chronic problems to develop. "Chronic pain is a disease with complex causes, high prevalence, and plagues people of all ages" (Zhang, J., Shi, P., Du, J., & Yu, H., 2023). Living with chronic pain presents difficulties with activities of daily living, reduced mental stability, and addiction to pain medications. In examining music therapy as a nonpharmacological method for pain reduction in patients with chronic illnesses, there is hope for positive results with significant pain reduction. To determine the effects of pain reduction using music therapy, interviews were conducted before implementing music therapy and after implementation. Patients with chronic pain due to fibromyalgia, myofascial pain syndrome, and chronic pain due to older age were asked to describe their pain and] how it affects their daily living and mental health. Using Kolcaba's Theory of Comfort to guide the study, it is recognized that specific comfort needs of patients and their sense of relief are of priority. Kolcaba defines comfort as the "immediate experience of being strengthened through having the needs for relief, ease, or transcendence" (Lin, Y., Zhou, Y. & Chen, C, 2023). Results are expected to present as positive with the hopes of decreased pain leading to an increase in activities of daily living, a positive mental state, support in the reduction of addiction, and improved quality of pain.

Title: Effectiveness of Pediatric Triage Protocols in Emergency Departments

Student Researcher(s): Diana Behrens; Alex Smeins; Julia Hallman | Faculty Mentor(s): Pamela Hudson

Poster #: 90

This study is significant to show how pediatric triage protocols are effective in determining the acuity of patients in emergency departments. This is important to nursing care as determining the acuity of pediatric patients effectively leads to increased patient outcomes. The effectiveness of pediatric triage protocols in identifying the acuity of patients in emergency departments.

Title: The impact of screen time on children's language and social skills

Student Researcher(s): Grace Lorenz; Morgan Falcone; Nicole Brennan

Faculty Mentor(s): Tiffany Harris and Pamela Hudson

Poster #: 91

The impact of social and motor skills by technology for children under the age of five. It is recommended children under 18 months avoid screens and children up to the age of five should be limited to one hour per day of educational programming. Excessive screen time can be linked to obesity, sleep issues, depression, and attention deficit disorders. This research will examine how children under five develop their social skills when using significant technology, which is considered more than an hour per day, versus not using technology. The study will consist of assessing the social and motor skills of children ages five and under. Prior to the assessment a survey will be conducted among parents about when they give access to technology and for how long. To compare there will be a group of parents who allow their children to have electronics and parents who do not allow electronics. In assessing the children's development compared to standard levels, they will perform five tasks oriented around milestones they should be meeting or exceeding. Within the study there should be an expected decline in social and motor skills for children who have more screen time versus children with limited screen time. Children with increased screen time are at higher risk for impaired social competence and promotion of aggressive behavior. Overall, technology is deteriorating children's brain development and social skills. Parents allow overuse of technology at a young age which results in decreased brain development and social skills.

Title: Birthing positions during labor

Student Researcher(s): Hayley Evans; Lauren Vandenbraak; Isabella Ridgell | Faculty Mentor(s): Tiffany Harris

Poster #: 92

Birthing positions carry significance in modern nursing practice and have varying impacts on the process of vaginal delivery. As lithotomy position decreases in popularity, pregnant women want freedom of positioning and less complications in labor. According to Gediya, out of 300 patients assigned alternate birthing positions, only 42.67% of those patients required episiotomy. Conversely, out of 300 patients assigned a lithotomy position 66% of them required episiotomy (Gediya et al., 2022). To examine the effects of positioning in decreasing maternal and fetal complications including pain, lacerations, and fetal distress during the second stage of labor.

Title: Effectiveness of Cognitive Behavioral Therapy in Adults Struggling with Opioid Addiction

Student Researcher(s): Jared Truett; Kayla Recchiuti; Christina Pham | Faculty Mentor(s): Pamela Hudson

Poster #: 93

Opioid addiction has become a significant epidemic within the United States, with prescription opioids detected in up to 77% of opioid-related overdose fatalities (Klimas et al., 2019, p. 1). As a result, healthcare providers are responsible for implementing effective interventions to reduce these fatalities (Klimas et al., 2019, p. 1). Therefore, the purpose of this study is to explore the effectiveness of cognitive behavioral therapy (CBT) for reducing opioid misuse in adults struggling with opioid addiction. The ACADEMIC OneFile (GALE), PMC PubMed Central, Sage Journals, and ELSEVIER databases were used to find peer-reviewed research articles on the topic. Through a literature review, the information from these articles was then compiled to examine the effectiveness of cognitive behavioral therapy in mitigating opioid misuse. Compared to other treatment modalities such as Methadone Drug Counseling (MDC), the literature review found that a higher proportion of patients treated with CBT remained abstinent from non-medical opioid use. Patients also reported having greater confidence to change substance use after attending cognitive behavioral therapy sessions. Based on the literature, there was a reduction of opioid misuse in patients who participated in cognitive behavioral therapy. After exploring the effectiveness of cognitive behavioral therapy on opioid misuse, CBT is shown to reduce the risk of opioid-related fatalities and relapses. Bringing this evidence to the hospital administration of local mental health facilities can encourage greater implementation of CBT for treating opioid use disorder. Further research should also be done on other therapy modalities that can benefit patients struggling with opioid addiction.

Title: Workplace Violence in the Health Care Setting

Student Researcher(s): Jeffrey Baldwin; Justine Britt; Mary Fletcher | Faculty Mentor(s): Pamela Hudson
Poster #: 94

Workplace violence, in the healthcare setting, is on the rise and has led to an increase in employee turnover rate. This issue is relevant since there is an urgent need for more healthcare workers in the United States. A study showed that over 50% of the 196 nurses surveyed who have experienced violence at work intended to leave (Saadawi El-Sawy et.al., 2020). This study is to evaluate how workplace violence affects nursing retention rate.

Title: When caring for dementia family members, does the use of respite care have an impact on mental health status?

Student Researcher(s): Jessica Italiano; Marissa Estelow; Arianna Ciciretti
Faculty Mentor(s): Tiffany Harris and Pamela Hudson
Poster #: 95

Taking care of a family member with dementia can contribute to burnout among caregivers and create role conflict and overload. Respite care allows periods of rest and relief for caregivers, which is widely used in nursing practice today. Research shows that the effect of carer status on psychological distress was around a 40% decrease for full-time carers and a 60% decrease for part-time carers when there was perceived social support compared to caregivers with no resources (George et al., 2020). The purpose is to explore the mental impact on caregivers with the use of respite care. Primary sources were obtained through Proquest using key words: dementia caregivers, respite care, mental health strain on caregivers, and benefits of respite care. More than 100 articles were found and three were selected. The articles demonstrated the need for respite relieving caregiver stress (George et al., 2020). The results supported the proposed question demonstrating that Caregivers utilizing respite care for family members with dementia have a higher mental health acuity. With the use of respite care, caregivers have a lower risk of experiencing burnout from the mental and physical aspect of providing care for family members with dementia. This information could assist providers in counseling caregivers of demented family members decreasing burnout.

Title: Spiritually Sensitive Care in the ICU: effects on client morbidity

Student Researcher(s): Julia Darlak; Rita Kulemekka; Alexis Moore | Faculty Mentor(s): Pamela Hudson
Poster #: 96

Out of 136 physicians and nurses, "70.6% considered spiritual care to be influential in the patients 'quality of life,' yet " 64.7% had received no spiritual care training' (Farahani et al., 2019). In healthcare today, there is a significant training deficit in addressing the complex spiritual needs of ICU patients. Spiritually sensitive care is a phenomenon by which nurses holistically integrate patients' spiritual needs into their care plan, which improves patient satisfaction, quality of life, and health outcomes. This research is to explore how spiritually sensitive care influences morbidity in ICU patients.

Title: Policies and procedures to reduce the spread of COVID in the ED

Student Researcher(s): Kathryn Karnes; Rachel Lankford; Chad McMahon | Faculty Mentor(s): Pamela Hudson
Poster #: 97

The COVID-19 pandemic has had lasting impacts on the healthcare field which are still being dealt with in 2024. Currently, COVID-19 ranks as the 3rd leading cause of death in the United States, and its transmission rates remain elevated. The emergency department (ED) has a high volume of patients who run the risk of passing along COVID-19 to other individuals. Research suggests that compliance with personal protective equipment (PPE) protocols is less than satisfactory in hospitals, particularly in the ED. The researchers aim to define proper PPE usage for healthcare personnel working with individuals who have or are suspected of having COVID-19, identify hindrances to PPE usage, and investigate how to increase compliance of proper PPE.

Title: How to Survive Your First Year as a New Grad Nurse: 101

Student Researcher(s): Kristin Weckerly; Madison Edwards; Sophia Carlin | Faculty Mentor(s): Pamela Hudson
Poster #: 98

Studies show that "48% of novice RNs leave their position within the first year of practice due to increased stress, primarily attributed to the gap between education and practice" (Crismon et al., 2021). Mental health is a crucial aspect of job satisfaction, performance, and understanding the role of nurse residency programs (NRP). This project explores the effect of a NRP on the mental health of new-to-practice nurses (NTP).

Title: Postpartum Depression

Student Researcher(s): Mary Charnichko; Katherine Cellini; Catherine Thomas
Faculty Mentor(s): Tiffany Harris and Pamela Hudson
Poster #: 99

One in five women experience postpartum depression (PPD) symptoms, making it a significant women's health issue. PPD affects both the mother's and child's well-being. There is a 20% death rate from mothers who experience PPD, as stated by Johns Hopkins. Although usually treated with selective serotonin reuptake inhibitors (SSRIs), pregnant women may prefer to consume herbal products because they are perceived as safer for the fetus. Herbal medicine can be a preference due to cultural influences. With many women opting for a drug-free birth plan, women need guidance on the safe usage of non-pharmacological treatment plans. St. John's Wort (SJW) can be an alternative to treat PPD. The purpose is to examine whether SJW alleviates PPD as an alternative treatment to SSRIs. Research articles were collected from Proquest and Gale databases. Studies used Likert scales to generate quantitative data using large sample sizes of women with PPD. Results show SJW having a positive effect providing an alternative option for PPD treatment. Future research should focus on other nonpharmacological techniques to treat PPD and strengthen the mother-baby bond.

Title: Maintaining Dignity at the End of Life

Student Researcher(s): Maura O'Dea; Gia Laber; Maria Russo | Faculty Mentor(s): Pamela Hudson
Poster #: 100

Terminally ill patients (37.8%) with advanced disease have the desire or wish to die depending on the resources available (Monforte-Royo et al., 2024). Individuals with a terminal illness have the right to decide whether continuing treatment is beneficial. It is imperative for the health care system to consider ethical principles and all treatment options for end-of-life care. This research is to explore what end of life care entails and how to appropriately advocate for the patient's wishes.

Title: Disability Accessibility in Nursing Workplaces and Education

Student Researcher(s): Nicole Pinera; Weslyn Greene; Jamie Petrella | Faculty Mentor(s): Pamela Hudson
Poster #: 101

In the United States, 1 in 4 people have a disability. Although the number of registered nurses with disabilities is unknown, it is likely that many are. Nurses rank fifth in the incidence of workplace-related musculoskeletal injuries, which may lead to short or long-term disability. (Neal-Boylan & Miller, 2020) This literature review is to explore interpersonal and organizational factors that lead to nurses concealing and self-accommodating for disabilities.

Title: What are strategies for nurses to employ that minimize the use of catheterization?

Student Researcher(s): Ohenewaa Akyeampong; Alpha Diallo; Oumou Nayete

Faculty Mentor(s): Tiffany Harris and Pamela Hudson

Poster #: 102

Every year hospitals experience countless CAUTIs with some cases progressing to sepsis and if not properly managed can lead to death. Catheters are being placed without physician's orders. A standardized protocol showed a decrease in the incidence of catheter use. (Wooller et al., 2018). The purpose of our project is to explore interventions to prevent the use of unnecessary catheterization in the ICU population.

Title: Treatment of ADHD ethics in pediatric care

Student Researcher(s): Rebecca Edgington; Nolan Debes; Nicole Wheeler | Faculty Mentor(s): Tiffany Harris

Poster #: 103

In school age children, the number of students who are diagnosed with ADHD is increasing yearly. Children with ADHD have a more difficult time succeeding in school due to symptoms such as trouble focusing on class and hyperactivity. This leads to low academic performance and higher dropout rates among this population.

Prescription stimulants can help control symptoms associated with ADHD allowing for greater academic success and a more prosperous future. The purpose of this study is to explore the effect of stimulants on academic performance compared to students who are unmedicated. This will be a quantitative research study based on test scores from Title I suburban elementary schools. The method for analysis will be correlation and secondary research. Existing state assessment scores will be gathered from students with ADHD and separated into two categories: medicated and unmedicated students. These test scores will then be analyzed to establish a relationship between prescription stimulants and academic scores. It would be expected to see higher test scores in medicated students compared to the unmedicated. In students with ADHD, those who are taking prescription stimulants received significantly higher scores on state assessments than those who are unmedicated. Optimal treatment of ADHD involves an accurate and early diagnosis and the use of prescription stimulants. This will increase their performance and ensure they are able to reach their maximum academic potential.

Title: What is the benefit of using ECT for Depression instead of medication?

Student Researcher(s): Riley Grogan; Emily Pablo-Medina; Kelly Teran-Flores | Faculty Mentor(s): Tiffany Harris

Poster #: 104

There is a high rate of mental health depressive crisis. With the high rate of medication-resistant depression, interventions such as ECT can benefit these individuals. ECT provides improvement to depressive symptoms by electrically stimulating the brain's chemistry. A report by the CORE Group 57 found that 65% of patients who under-went ECT 3 times per week, achieved remission by the tenth treatment. To explore the effects of ECT on medication resistant depression. Further explore the development of ECT and beneficially becoming a primary intervention instead of medication. A qualitative approach is used to understand the effects of ECT on those who have medication resistant depression. The study is conducted on 20 individuals who suffer from depression & have tried antidepressants. Study will determine if ECT would decrease their depression symptoms as treatment is conducted. After receiving treatment for 9 sessions, 95% reported a decrease in depressive symptoms. Individuals provided consent to the study and were educated on potential side effects. Following the study, researchers should expect an increased number of individuals who responded positively to ECT. These findings could potentially contribute to gearing away from medication and seeking ECT. Electroconvulsive therapy is rarely used as primary therapy intervention due to its bad stigma. Researchers have seen an increased ECT treatment in depression and decrease in medication resistant depression. ECT is effective with careful medical monitoring as risks may arise. If further research is conducted, ECT can potentially be a primary intervention.

Title: Clinical Pathways

Student Researcher(s): Ryan Scott; Nicole Moore; Loretta Butakis | Faculty Mentor(s): Pamela Hudson
Poster #: 105

Clinical pathways, or care pathways, are primary instruments used to control healthcare quality by standardizing care processes. Numerous studies have been conducted on the efficacy of clinical routes in shortening hospital stays in pediatric patients with respiratory exacerbations. Pediatric patients thrive in the home setting therefore shortening hospitalizations positively impacts their outcomes. Nurses provide better care when there are clear, structured care plans in place for the respiratory patient. This research aims to explore the impact of clinical pathways on length of hospital stay, as it relates to pediatric patients with respiratory exacerbations. In addition, this research questions whether clinical pathway use impacts patient outcomes or nursing confidence.

Title: The Effects of Alcohol Intake on Child Development

Student Researcher(s): Sophia Kane; Madison Paolone; Escarlet Lara-Lopez | Faculty Mentor(s): Tiffany Harris
Poster #: 106

In the United States, approximately 4% of the pediatric population is affected by Fetal Alcohol Spectrum Disorder (FASD) (Agnihotri, 2019). FASD is a life-long condition in children resulting from their mother's intake of alcohol during pregnancy. Hospitalization rates in children with FASD are higher than those without. Complications affect aspects of a child's physiological, cognitive, and behavioral development. The purpose of this research project is to identify the physiological, cognitive, and behavioral developmental abnormalities and delays associated with FASD in children. Researchers explored various databases that provided evidence-based texts and journal articles, including EBSCO and ProQuest. Search terms included FASD, alcohol and pregnancy, and childhood development to identified literature. Literature was selected based on evidence presented regarding physical, cognitive, and behavioral development of children affected by FASD. The students saw a wide range of mild to severe physiological, cognitive, and behavioral abnormalities and delays in childhood development. Effects can include abnormal facial features; neurodevelopmental disorders; and/or hyperactive behavior. There is a need for FASD-focused education for nurses. Students will hold an in-service conference about the signs, symptoms, and effects of FASD for pediatric nurses in the greater Philadelphia area. FASD poses a variety of physical, mental, and behavioral challenges on a child's development. With further education through an in-service, nurses will be more aware of the various effects of FASD, ensuring optimal patient care and better outcomes.

Title: The Effects of Nightshift on Healthcare Workers

Student Researcher(s): Theresa Arata; Faith Gillin; Peter McHugh | Faculty Mentor(s): Pamela Hudson
Poster #: 107

Health care is a 24/7 profession. Patients in all states of illness, acuity, and healing always require supervision and care, requiring overnight workers. The overnight shift contains its own set of challenges for health care workers both related to the care provided and the workers' physical health. This review is to examine physical health effects associated with working the overnight shift in healthcare.

Psychology and Counseling

Title: Perspectives of Accessibility and Inclusivity at Immaculata University

Student Researcher(s): Abigail Reese | Faculty Mentor(s): Erin Kirschmann

Poster #: 108

There has been a general movement towards more accessible and inclusive environments in higher education for all students, regardless of visible or invisible differences. Immaculata University is no exception, as the institution has been taking the necessary steps toward a more accessible campus and promoting an atmosphere of inclusion. This study aimed to gauge the perceived inclusivity of all individuals on campus to improve academic environments and foster access for all. Using an anonymous online survey in Google Forms, students, faculty, staff, and alumni were invited to share their perspectives on the degree of access and inclusion at IU. A sample of thirty individuals took place in the study with informed consent. The overall group averages demonstrated a positive perception of accessibility and inclusion issues, indicating the student and staff population is educated on accessibility and inclusion awareness and believes access is important for all people. Additional feedback from the participants indicated areas of improvement as well, including further work to increase accessibility in physical spaces at Immaculata and a desire to see more inclusive environments and support for diverse populations. Lastly, a relationship between disclosure of a disability or acknowledgment of an accessibility needs and awareness of the services on campus was found. These findings will allow the university to be aware of these issues and continue its efforts toward a more access-friendly campus for all.

Title: Music Genre Correlation with Musical Instrument Preferences

Student Researcher(s): Amy Egan | Faculty Mentor(s): Katherine Patterson

Poster #: 109

Music serves as a creative outlet for many individuals. Music is particularly significant for the development of students' emotional intelligence and prosocial skills. A study investigated the link between music genre preferences and the potential influence on the musical instruments that students play. The purpose of this research was to collect data on college students' music listening habits to determine if this influences the likelihood of musical instrument choice. It was hypothesized that students whose top music genres are pop, rock, and country, will also play guitar and sing. The research participants were a total of thirty Immaculata University students (28 female, 2 male) who filled out an online survey questionnaire. The survey included 12 questions to decipher which musical instruments students play, how often the musicians practice an instrument, the time when students began learning their instrument, and what music genres students prefer. By selecting their most listened-to music genres, students can determine if the music they enjoy listening to has any impact on their selected instrument of choice. The results of this research study can assist those deciding which musical instrument would be preferable to play, based on their music genre preferences. The findings suggest specific types of music genres that increase the probability of a student's selected primary musical instrument. Specifically, the hypothesis was supported by a strong correlation between singers favoring pop music as the top genre compared to other college students' primary musical instrument choice.

Title: Preoperational Reasoning in Four- and Five-Year Olds

Student Researcher(s): Coryn Turner | Faculty Mentor(s): Dawn Kriebel

Poster #: 110

Understanding how young children process information is very beneficial for parents, childcare workers, and educators. Adults who know where a child is in cognitive development would be more equipped to explain concepts to them. The present study examined logical thinking in 4- and 5-year-olds through a series of tasks. This project was done for PSY 205 Child Development.

Title: Self-Care Practices and Decreased Stress Levels

Student Researcher(s): Gabriella DiGiacomo | Faculty Mentor(s): Katherine Patterson

Poster #: 111

College students are under immense stress, and for students who are attending college full-time, this stress can be even more intensified. Full-time college students struggle to find time for themselves, whether it's due to academics, home concerns, or extracurricular activities. When students are stressed, they should seek out techniques to improve their attitude and motivate themselves. This study investigated the connection between frequent self-care use and decreased stress levels at Immaculata University. A total of 27 participants completed an online survey from a link posted on social media platforms Snapchat and Instagram. Most of the participants were from Immaculata University and all participants were between the ages of 18 and 22 years old. Participants in the survey were asked about their self-care practices, including if they used them, how often they did, and how they felt afterward. Results indicated that the majority of participants felt less anxious and worried after participating in self-care. The majority of students also participated in self-care often, meaning more than once a week. These results showcase that engaging in self-care activities regularly helps students' stress levels decrease. This study can help aid further research in understanding the benefits of self-care, both physically and emotionally.

Title: Evaluating Levels of Boys' Self-Esteem in Early and Middle Childhood

Student Researcher(s): Grace Mazza | Faculty Mentor(s): Dawn Kriebel

Poster #: 112

Self-esteem and self-concept are very important indicators of a child's well-being. They are also very vulnerable to outside influences. With the goal of observing how self-esteem is shaped and evolved and the outside factors that could play a role, I measured the self-esteem of three children for my PSY 205 course.

Title: Non-Resident Fathers and Adolescent Delinquent Behaviors

Student Researcher(s): Ivy Cieslak | Faculty Mentor(s): Toe Aung

Poster #: 113

Research shows that the absence of fathers from the home has a significant impact on adolescents' development. Using Add Health data, we examined whether the presence of a personal connection to non-resident fathers is associated with reduced behavioral issues. We hypothesized that talking with non-resident fathers about personal problems would be associated with reduced delinquent behaviors. In contrast to our prediction, adolescents who talked to non-resident fathers about personal problems are significantly more likely to lie about their whereabouts and have smoked at least 1 cigarette every day for 30 days. Talking with nonresident fathers about personal problems is not associated with reduced adolescent delinquent behaviors.

Title: Pleasure Reading and Stress

Student Researcher(s): Jaylynn Carey | Faculty Mentor(s): Erin Kirschmann

Poster #: 114

Many people use pleasure reading as a way to cope with stress. College students are often busy and feel high amounts of stress. This study aimed to analyze demographics and behaviors associated with pleasure reading and stress. A total of 28 college students completed an online survey investigating individuals' pleasure reading and stress behaviors. The majority of participants were female with an average age of 21. It was hypothesized that students who read for pleasure more often would have lower levels of stress. Of the 28 students, 50% reported feeling stressed during the week. Most participants reported reading for pleasure at least once a week. However, only 19 read to cope with stress. Findings suggest that students are aware of their stress and are trying to find ways, like pleasure reading, to help cope. A pilot study was also conducted with 6 participants, over 2 weeks. Participants were asked to read at least 30 minutes a day and complete a daily log. At the end of the week, participants answered questions from the Perceived Stress Scale. Only 4 participants completed week 1 while 3 completed week 2. Week 1 scores were scored resulting in all 4 participants having moderate levels of stress. Therefore, suggesting that one week of pleasure reading may not be enough to help reduce stress among college students.

Title: How ACE (adverse childhood experiences) affect the develop of introversion

Student Researcher(s): Kayla Myers | Faculty Mentor(s): Katherine Patterson

Poster #: 115

For my research, I am interested in looking at how adverse childhood experiences and their impact on developing an introverted personality trait. Based on my previous research I found that most of our adult behavior is affected by our childhood experiences and environment (Myers, 2023). This led me to believe in the importance of personality development based on childhood experiences, more specifically adverse childhood experiences (ACE). I conducted a study that included 39 participants taking a survey that identified whether they have experienced ACE and whether they showed characteristics of high or low introversion. My goal was to find a correlation between ACE scores and participants being introverted because of their ACE scores. I saw that there was no correlation between high ACE scores and introversion, but a correlation was found between those who grew up in a single parental household showing high introversion. This leads me to believe that further research can be conducted to look at how different parental styles affect introversion. Further research can also look at the effect of ACE on other personality traits other than introversion and extraversion.

Title: Perceptions of Cannabis

Student Researcher(s): Kieran Brackin | Faculty Mentor(s): Erin Kirschmann

Poster #: 116

Marijuana usage has been subject to major legal changes in recent years, leading to potential changes in attitude. This study examined the differing levels of knowledge surrounding cannabis and its related products and determined the opinions on various cannabis related issues on Immaculata's campus. An anonymous online survey was created in Google forms with questions regarding feelings towards cannabis products, general knowledge/perceptions about cannabis use, and comparison of cannabis to other substances. There were 24 participants, mostly female, that were between the ages of 18 and 54. Responses showed that an overwhelming amount of people know at least one person that uses cannabis products in some way. They also highlighted a potential lack of education regarding the actual effects of cannabis on the human body, specifically when compared to alcohol. The primary takeaways from the survey are that there should be increased education on cannabis products, and that there should also be increased education regarding it in conjunction with alcohol.

Title: Perceptions of Mental Health and Grief in College Students

Student Researcher(s): Kristen Dunn | Faculty Mentor(s): Erin Kirschmann

Poster #: 117

Mental health and grief continue to be prominent topics that can impact the lives of many undergraduate students. In fact, approximately 60% of students who are completing their undergraduate degree struggle with at least one mental health problem. This study examined perceptions of mental health and grief in 22 undergraduate students, (ages 18-24). Participants completed an anonymous online survey that included questions regarding perceptions of mental health and grief, factors relevant to obtaining support, and willingness to intervene in various situations. The results of this study indicated that undergraduates face challenges regarding mental health support. Most participants reported that, if they were to struggle with mental health, they would be most limited in getting help due to the financial cost, and how difficult it is to find a medication and or therapist that works for them. The results also indicated that participants were most likely to intervene if their friend was struggling with grief or mental health, compared to one of their family members, a staff member/teacher, or a counselor. This study helps show how an undergraduate student's perception of grief and mental health may not only impact themselves but potentially those around them as well.

Title: Moral Identity and Values

Student Researcher(s): Nina Dreng Hamrell | Faculty Mentor(s): Erin Kirschmann

Poster #: 118

Throughout one's life, people develop a sense of self or identity. It is believed that emerging adults from 18-25 years old are still exploring and committing to their own identity. One theory regarding identity statuses identifies four main categories: Achievement, Moratorium, Foreclosure, and Diffusion. It is also predicted that people fall into one category depending on the degree of crisis they have experienced and the level of commitment they have to their moral values. Moral values are principles that focus on the concepts of right or wrong. This study investigated what moral values were important to emerging adults and how these specific moral values contributed to healthy identity formation. An anonymous online Google Form survey was created, utilizing the Short Schwartz's Value Survey (SSVS) and Objective Measure of Ego Identity Status (OMEIS). A total of 25 people (21 females, 4 males) with a mean age of 21 years responded, and identity statuses were assigned to each participant based on their responses. Results indicated that benevolence was an important value to emerging adults, whereas power was not. Almost half ($n = 12$) of all participants fell into the Achievement status (high crisis, high commitment), suggesting that there are group differences in identity status in emerging adults. Lower rated values like tradition and conformity correlated positively with one's identity comfort compared to benevolence, the highest rated value. Future research in moral identity development should include longitudinal, experimental, and cross-cultural comparisons in emerging adults.

Title: Developmental profile of locomotor response to novelty and anxiety-like behavior in male and female mice

Student Researcher(s): Payton Conard | Faculty Mentor(s): Erin Kirschmann

Poster #: 119

Rodent models of human conditions, such as novelty-seeking or anxiety-like behaviors, can provide valuable information, particularly regarding how traits emerge developmentally. This project examined the stability of locomotor exploration of a novel environment and anxiety-like behavior across development in mice, and the role of biological sex in conservation of those behaviors. The stability of novelty-response and anxiety-like behaviors was assessed in male and female C57BL mice during adolescence and adulthood. Individual mice were exposed to a novel open field (OF) chamber for 90 minutes four times during adolescence and adulthood (postnatal days 25, 27, 60 and 116). Visual, tactile, and olfactory cues were changed in each exposure to preserve novelty. Total distance traveled (novelty-seeking behavior), and time in center (anxiety-like behavior) were recorded. Results suggest that novelty-seeking behaviors in mice are not stable in adolescence. Anxiety-like behaviors in mice are stable in adolescence with a similar pattern shown in adulthood. Recent studies have linked the gut microbiome to anxiety-like behaviors in mice, and there may be sex-dependent effects. The relationship of the gut microbiome to developmental stability of novelty-seeking and anxiety-like behaviors in male and female mice has not yet been examined, so a future goal of this project is to investigate this relationship. Fecal samples of individual mice were collected after each OF test to be next generation sequenced. Analyses will compare microbiome profiles across the four developmental time points and between sexes; and comparisons will be made between mice with stable and variable behavioral profiles.

Title: Anxiety and Insomnia in College Students: Meta-analysis

Student Researcher(s): Samantha Santangelo | Faculty Mentor(s): Toe Aung

Poster #: 120

Research suggests a positive association between anxiety and insomnia. This study examined the link between anxiety and insomnia in college students. We hypothesized that there is a significant positive correlation between anxiety and insomnia among college students. We used the Google Scholar database to identify relevant research articles and conducted the random-effects meta-analysis model on the reported correlation across 12 studies. Overall, a significant positive correlation was observed between anxiety and insomnia in college students $r(5023) = 0.36$ [95% CI: 0.24-0.49], highlighting the importance of sleep health in the student population.

Title: Full time students with part time job effects on stress and academic performance

Student Researcher(s): Soraya Amara Soto-Mora | Faculty Mentor(s): Professor Kirshmann

Poster #: 121

Having a job while in school has become quite common in today's society. While it may not be ideal for students to have a job in addition to the academic demands they face, many need to work to pay for school. This study examined student perspectives about working while in school. It was hypothesized that students who had a full-time job while attending school would be more likely to recommend against having a job, because of the additional stress and a negative impact on their academic performance. An anonymous online survey was created in Google forms that asked about employment status, academic performance, and stress levels. A total of 35 participants responded (29 reported some current level of employment, 6 were not currently employed). The participants were both male and female and all were over the age of 18. There was a mix of all majors ranging from mechanical engineering, nursing, education, and psychology. They listed where they worked and if it had any correlation with their current major. The results showed that most students, whether they were employed full time or part time, did not recommend going to school and advised that, if it can be avoided, that would be the ideal situation. The results of this study can help to identify areas of support for those students who do need to work while in school.

Title: Attention and Employment/Performance

Student Researcher(s): William Pentek | Faculty Mentor(s): Erin Kirschmann

Poster #: 122

Attention Deficit Hyperactivity Disorder (ADHD) and related attention disorders can dictate a great deal of a person's behavior and life and extend their influence into an affected person's occupations. This study investigated the relationships between attention, energy, and aspects of job performance to see if participants with high levels of inattentiveness/hyperactivity would perceive their performance as better in occupations with high levels of activity, and worse in occupations that were more sedentary. Participants completed an anonymous Google forms survey that measured attention and energy using eighteen Likert scale formatted statements (higher scores indicated worse attention and more hyperactivity). Participants then listed their occupation/hobby and how they and their peers would rate their performance on a scale of one to ten and were asked for any relevant attention disorder diagnoses. Responses were separated into four sections and measured based on levels of inattentiveness and hyperactivity, low/medium/high activity occupations, and ratings of perceived performance in the occupation. Results were compared to identify any relationships between the four values; it was found that people who scored higher in attention and energy or listed an attention disorder diagnosis were more confident in their performance in high activity occupations than people who scored lower in attention and energy. Additionally, perceived performance trended higher in medium/low activity occupations for those who scored low in attention and energy. These results indicate that people who score higher (i.e., worse) in attention and energy perform better in environments that stimulate and keep them active. Future research could use diagnostic measures of attention disorder diagnoses instead of the general measures of attention and energy used here. Should significant results be found, this information could help with advising the careers of people diagnosed with attention disorders.

Title: The Relationship with Quality-of-Life Satisfaction and Early Adulthood, Middle Adulthood and Old Age

Student Researcher(s): Zoe Abe | Faculty Mentor(s): Erin Kirschmann

Poster #: 123

Throughout life, a collection of experiences contributes to life satisfaction. The purpose of this study was to investigate the factors that affect the quality of life in adults. It was hypothesized that young adults (aged 18-26) would have higher life satisfaction ratings compared to older individuals aged 45 and older. A total of 60 females, 21 males, and 1 individual, who did not disclose their gender, completed an anonymous Google Forms survey. The survey explored four categories of quality of life: Physical and material well-being, relationship with Self, Personal Development and Recreation, and Social and Civic Activities. Participant responses were separated into three age groups: 18-26, 27-44, and 45 and older. Results indicated high levels of satisfaction with quality of life across all age groups.

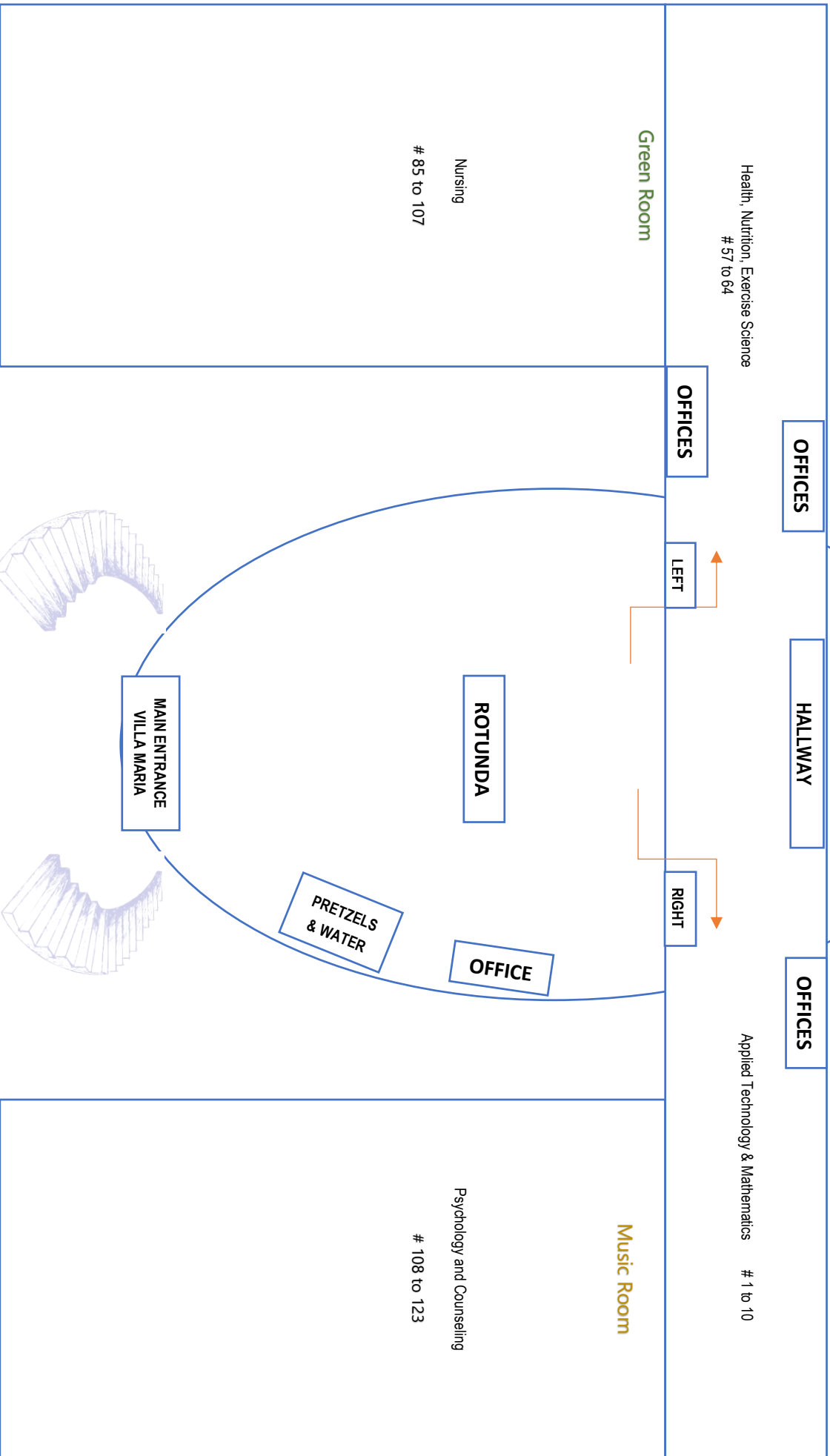
Theology & Philosophy

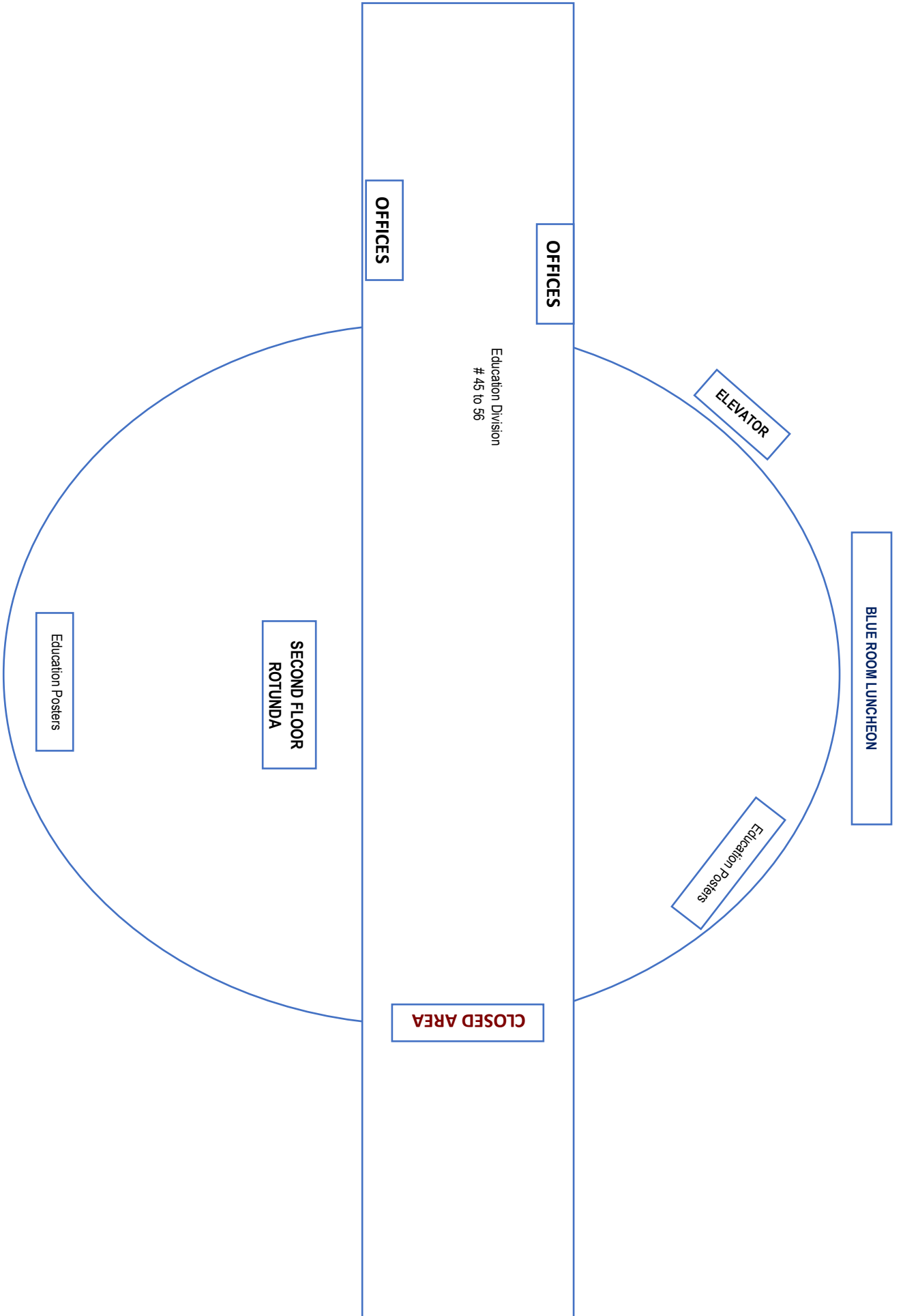
Title: Who Controls Whom? Social Media and Autonomy

Student Researcher(s): Angele Oye-Mba | Faculty Mentor(s): Sister Judith Parsons

Poster #: 124

For my poster, "Who Controls Whom? Social Media and Autonomy", I will be working with Sr. Judith Parsons as my mentor. My poster comes from the film pitch I did for my PHIL338 Philosophy and Film class. For the film pitch, I created characters and a storyline to demonstrate the catastrophic effects of social media in the presence of a deteriorating family structure.





IMMACULATA ROOM

DOORWAY - TERRACE

HALLWAY TO RESTROOMS

Fashion and Business
12 to 16

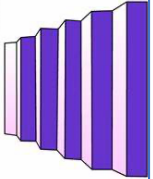
Fashion and Business
17 to 25

RESTROOMS

EXIT

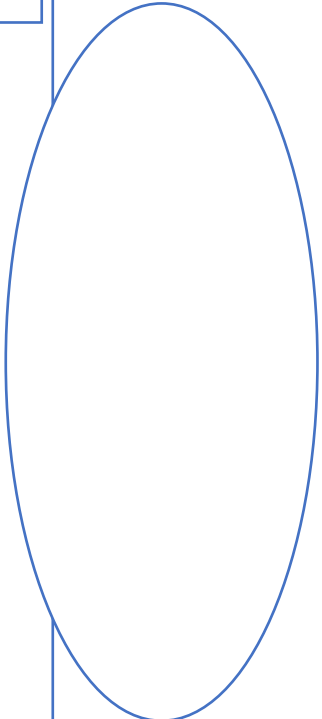
Civic Engagement
26 to 44

PODIUM &
MICROPHONE



ENTRANCE
GREAT HALL

Natural Sciences
68 to 84



KITCHEN AREA

PRETZELS & WATER

ELEVATOR

REFRESHMENTS

HALLWAY

Honor Colloquium
65

Theology
65

Arts & Languages
124

IU Honors Research Symposium

Tuesday, April 23, 2024

1:15 pm - 2:30 pm

Room	Session	Start Time	Presenter(s)	Presentation Title
Good Counsel 1	Power Dynamics and the Role of Self-Image	1:15	Abigail Lentowski, Stephanie Kelly	Student-Athletes and Power Dynamics
		1:40	Olivia Thorpe	Pant Suits and Power Dressing
		2:00	Makenna Piaskowski	The Effects of Social Media on Teens and Mental Health
Good Counsel 2	Power Imbalances	1:15	Madison Hansell	Power Imbalances Within the Criminal Justice System
		1:30	Payton Conard	Medical Schools Admissions Power Should Be Shifted to Applicants: Consideration of Personality Traits
		1:45	Sophie Truitt	Power Dynamics within Prisons
		2:00	Faith Gillin	The True Nature of the Patient-Provider Relationship
Good Counsel 3	Power Dynamics and Human Nature	1:15	Marissa Kampanis	The Power Dynamics between LGBT Youth and their Peers
		1:30	Stephanie Gonzales-Rojas	The power within gender roles
		1:45	Skye Dreng Hamrell	The Power Death Has Over Us
Good Counsel 10	Power Dynamics in Health Care	1:15	Cassandra DeFeo	Power Barriers in Physical Therapy: Impacts on Patient Motivation
		1:30	Kaitlyn Cronin	Why nurses need to be empowered to empower others
		1:45	Hannah Phillips	Power Dynamics in Physical Therapy
		2:00	Alexis Moore, Sophia Shayeghi, Laura Nolan	Power Relationship: Nursing Shared Governance Decreasing Nurse Burnout Potential

Directions from Posters Under the Dome Event:

- Exit building from Villa Maria (3) or Nazareth (4).
- Sessions are in Good Counsel Hall.





**IMMACULATA
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