



Madonna University Center for Research
**Symposium for Research,
Scholarship and Creativity**

Wednesday, April 16, 2025 • 12-5 p.m

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UNIVERSITY

DIRECTOR'S WELCOME MESSAGE

11th Annual Madonna University Symposium for Research, Scholarship and Creativity!



It is with great pride and excitement that I welcome you to this year's Symposium, a celebration of the remarkable scholarly and creative achievements of our students and faculty. Since its inception in 2015, the Symposium has served as a vital platform for sharing knowledge, fostering innovation, and inspiring collaboration. This year, we continue that tradition by highlighting a diverse array of research, practice, performance, and artistic expression that reflects the depth and breadth of scholarship at Madonna University.

The Symposium offers students an opportunity to showcase their capstone projects, research initiatives, and creative works, while gaining valuable experience in presenting their ideas to the broader community. From insightful poster sessions and dynamic oral presentations to captivating musical performances and thought-provoking artistic

displays, this event embodies the spirit of curiosity and creativity that defines Madonna.

We are also proud to feature Madonna Talks—fast-paced, engaging updates on faculty and student research—alongside the Academic Awards ceremony, recognizing the outstanding achievements of our scholars. These presentations highlight the real-world impact of academic inquiry, demonstrating how research and creativity contribute to solving complex challenges and enriching our communities.

At Madonna University, we believe that scholarship extends beyond individual achievement—it is a means to serve others and contribute to the greater good. Whether tackling social issues, advancing scientific knowledge, or expressing creativity through the arts, our students and faculty are making meaningful contributions that reflect our core values.

Thank you for your participation and support. I encourage you to explore, engage, and be inspired by the incredible research and creativity on display. Together, we celebrate not only the pursuit of knowledge but also the power of discovery to transform lives.

A handwritten signature in black ink, which appears to read "Elena Qureshi". The signature is fluid and cursive.

*Elena Qureshi, Ph.D.
Interim Director, Center for Research
Interim Dean, The Graduate School*

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MADONNA TALKS

Nuisance and Invasive Species: Probing Human-Animal Conflicts in an Undergraduate Classroom

Presenters will discuss how a 2023 extension of the Michigan-DNR list of nuisance species to include beavers, rabbits, squirrels, muskrats, opossums, and weasels in addition to woodchucks, skunks, raccoons, and coyotes has provided a fertile ground for teaching a course titled Human-Animal Conflicts. The course is required for Animal Studies majors at Madonna University. Nuisance animals “doing damage or physically present where it could imminently cause damage” on a private property can be killed without permit. This legal standing or lack thereof mirrors the treatment of non-native species deemed invasive, yet all the species listed by the DNR as nuisance are native. This parallel begs a question what various rhetorical tools are employed in calls to kill different species and ultimately leads to probing the validity of claims used for that purpose. While one cannot use the term invasive in reference to Michigan opossums or racoons, the term nuisance implicitly applies invasion. Analyzing motivational factors behind extending a list of nuisance species also provides an important focal point for course discussions. Identifying the reasons for such actions, be they economic, cultural or emotional and exploring how they are framed in narratives help students formulate solutions to human-animal conflicts. Presenters will provide a set of exploratory questions probing the nature of human-animal conflicts that may prove useful in addressing such topics with college students.



Boguslaw Gatarek, Ph.D.

Director, M.S. in Non-Profit Leadership
College of Arts and Sciences



Andrew Domzalski, Ph.D.

Professor and Chair, Humanities;
Director, BA in Animal Studies
College of Arts and Sciences



Joanna Tremble, M.A.

Director, Physical Education and Health and Exercise and Sport Science

College of Education and Human Development

Curriculum Values and Decisions: A Multiple Case Study of Middle School Physical Educators

Curriculum is an essential component of physical education that should be guided by district or state content area experts (SHAPE America, 2015b). However, when not given a predetermined curriculum teachers often make curricular decisions on their own (Chen et al. 2017; Juhart & Kafol, 2021; Lounsbery et al., 2011) based on their value orientation (Zhu & Chen, 2018). In addition to value orientation, other environmental factors could also influence curricular decisions (Hastie & Siedentop, 1999; Chappell & Szente, 2019; Zhu et al. 2021). Bronfenbrenner’s Ecological Systems Theory, a lens to view people and their interactions with various environmental systems (Bronfenbrenner & Evans, 2000), along with teacher value orientations were used to examine three (n=3) middle school physical education teachers who were not provided a predetermined district curriculum. This qualitative explanatory multiple-case study explored how curricular experiences were influenced at each ecological systems level. The results indicate that value orientation and external environmental factors influence educator decisions.



Jessica Henson, DNP
Assistant Professor
College of Nursing and Health

Identifying Factors that Impact Maternal Mental Health in Breastfeeding Mothers

Breastfeeding is recognized for its manifold benefits to both mother and infant, fostering bonding, delivering optimal nutrients, and protecting against infectious diseases. However, research reveals a dual impact, as difficulties or failures in breastfeeding can lead to maternal mental health challenges such as sadness, depression, guilt, and shame. This study explores the significant factors influencing exclusive breastfeeding mothers and their impact on maternal mental health, particularly focusing on mental anguish. The research question aims to identify the most significant factors contributing to maternal mental anguish during breastfeeding. The study adopts a quantitative approach, employing a convenience sample of 81 participants recruited from a social media breastfeeding support group. Findings indicate that confidence, undersupply of breastmilk, and nipple trauma are the primary factors causing maternal mental anguish during breastfeeding. Notably, a statistically significant negative correlation is found between undersupply of breastmilk and breastfeeding duration, emphasizing the importance of addressing this issue to support prolonged breastfeeding. The study also reveals a significant association between mental anguish and employment status, suggesting the need for tailored interventions for working mothers. The findings underscore the complexity of the breastfeeding experience and its impact on maternal mental health, emphasizing the necessity for targeted support and interventions.

Leveraging AI Chatbots for Healthcare Education: A Scenario-Based Learning Approach

The chatbot was developed using a structured role-playing simulation template on the StudyAid.Store platform, enabling students to engage with real-world healthcare scenarios. These scenarios included patient data privacy, telehealth implementation, AI-driven diagnostics, and healthcare policy considerations. Students assumed key stakeholder roles—such as healthcare administrators, clinicians, policymakers, and IT specialists—to navigate complex decision-making exercises. The chatbot dynamically adapted responses based on user inputs, fostering engagement and prompting users to justify their positions using evidence-based reasoning.

The study followed an iterative design process, refining chatbot responses through multiple testing phases to ensure pedagogical effectiveness. Preliminary student feedback indicated that the chatbot significantly improved concept retention, ethical reasoning, and applied problem-solving skills in healthcare education. Additionally, the role-playing simulation was found to be particularly effective in enhancing student engagement and preparing learners for real-world healthcare decision-making.

This paper presents a detailed framework for implementing AI-driven learning tools in healthcare education, highlighting the chatbot's design, learning outcomes, and practical considerations for educators. The findings suggest that AI-powered simulations can complement traditional pedagogy, providing an interactive, scalable, and personalized approach to teaching complex healthcare topics.



Phillip Olla, Ph.D.
Adjunct Professor –
School of Business
Madonna University
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POSTER PRESENTATIONS

Undergraduate

Poster Number: 1

Parent's Knowledge of Injury Prevention in Children Less than Five Years Old

Kendall Ash, Ibrahim Al-Hathaf, Shadae Appling, Cire Gordon, and Hussein Wahab

Advisor: Bess Bertolis

Unintentional injuries, such as falls, burns, drowning, and poisoning are the leading cause of death among young children worldwide. Statistics show there are about 830,000 children under the age of five dying from preventable injuries every year (World Health Organization, 2021). The purpose of this poster presentation is to examine injury prevention knowledge in parents of children five years old or less. A survey was conducted among parents within the Madonna University community to assess their knowledge and awareness of safety awareness within their homes. Results have indicated that the majority of parent's surveyed had proper safety protocols in place for injury prevention within their household. Further recommendations to strengthen these practices can be applied. By recognizing and addressing injury prevention we can decrease pediatric injuries.

Poster Number: 2

The Correlation Between Teaching Styles and Comprehension of Educational Material Among Nursing Students

Olivia Brierley, Jacob Canete, Makenzie Driver, and Alison Moore

Advisor: Dr. Adlah Hamlan

Effective teaching styles play a crucial role in shaping nursing students' comprehension. The educational delivery methods can significantly impact their ability to thoroughly understand material, develop critical thinking skills, and apply concepts in the clinical setting. Purpose: To identify the relationship between teaching styles and nursing students' comprehension of educational material at Madonna University. Correlational design was used to recruit a convenience sample of 34 nursing students at Madonna University. The tool QR code

was posted on the class Blackboard. The study tool was adopted from the Felder and Silverman's Index of Learning Style (ILS) questionnaire and the Walker/Delahoyde Teaching Method Survey. Ethical considerations were followed for the study. The results showed the participants' mean age is 23.3 years old, with 75.6% female. More than half of the study participants (73.5%) reported lecture and visual aids as their preferred teaching methods, while 14.7% reported activities with technology as a preferred method. 58.5% of the participants revealed they always prefer to hear an expert lecture on subjects they are not familiar with, 55.9% enjoy hands-on activities to facilitate their learning. The results showed that 41.2% of students perceive themselves as occasionally self-directed learners, and 50% of them reported that they do not prefer a totally web-based course of study. The study showed the significance of utilizing different teaching methods to help the students improve their comprehension of course content.

Poster Number: 3

Evaluation of Diamond Nucleic Acid Dye to Chemically Enhance Latent Fingerprints on Nonporous Glass Slides

Jasmine Brock

Advisor: Jessica Zarate

Modern fingerprint powders have become increasingly fine in size which increases the amount of visible detail within a fingerprint. Consequently, as these powders have become finer, they pose an inhalation hazard to users. This calls for alternative fingerprint enhancement methods that are safer yet provide high ridge clarity. Through the application and evaluation of Diamond Nucleic Acid Dye (DD), which is a safer alternative to fine metal fingerprint powders, latent prints can be chemically enhanced on nonporous glass substrates and thus act as a safer alternative to potentially hazardous fingerprint powders. This research was intended to determine whether DD could be used as a reliable chemical enhancement method to visualize latent fingerprints on a nonporous surface. Trials were conducted to evaluate component concentrations that yielded the best results. To optimize the formula, a 20-fold dilution was used to create dye mixtures with ethanol and the surfactant, Kodak Photo-Flo. Additionally, fluorescence and ridge clarity were

analyzed after applying the DD solution at varying concentrations. As the enhanced impressions required fluorescence to be properly visualized, a 500 nm Tritech Forensics light source and orange barrier filter goggles were used. The findings indicate that a 20-fold DD mixture diluted with 30-10% ethanol and 0.01% Kodak Photo-Flo provided the best ridge clarity and fluorescence. Ultimately, under specific mixtures, DD can be applied as a chemical enhancement method for latent prints. Future research is needed to determine the limitations of DD on varying substrates such as semi-porous and porous surfaces and whether this method can be used universally.

Poster Number: 4

The End of Nursing School: Mental Health of Graduating Seniors

Raeda Cherkaoui, Katelyn Lula, Ronald Quizon, and Alexander Wayne
Advisor: Dr. Rebecca Gibbs

Caring for others holistically is what Madonna nursing students are taught to do. How do nursing students do this well if they are not mentally healthy? Nursing school is stressful which may lead to negative impacts on the student. It is important to understand the mental health of graduating seniors to better understand ways to help them during this challenging time in their lives.

Poster Number: 5

How Income Disparities Influence Healthcare Outcomes

Olivia Cross, Ajahnee Harris, and Mari Landis
Advisor: Dr. Rebecca Gibbs

Our study - How Income Disparities Influence Healthcare Outcomes seeks to uncover the ways in which socioeconomic status impacts healthcare outcomes with a focus on access to preventative and primary care. Data has been collected via anonymous surveys and analysis is currently still underway with results to come prior to 3/31/2025.

Poster Number: 6

An Approach to Using Cytochrome B to Identify the Species of Unknown Bone Samples Recovered from France

Maya Janowicz
Advisor: Dr. Stephanie Gladysck-Julien

Bone samples can be used for DNA extraction and

analysis even if the DNA is highly degraded. The level of degradation can affect the extraction of the DNA as well as making a DNA profile. This research will explore different assays and extraction methods when isolating the cytochrome b gene that is commonly used for mammal species identification. The universal cyt b primers will be used to generate a profile of an unknown species. A multi-methodological approach will be used to identify the species of unknown bone samples that were recovered from France. The bone samples gathered for analysis were subjected to dirt and sun damage for an unknown amount of time. Varying experiments including DNA extraction, Polymerase Chain Reaction, gel electrophoresis, and capillary electrophoresis will all be used to help with this identification.

Poster Number: 7

Extraction of Mitochondrial DNA for Maternal Haplotyping: Spring Street Research

Bridget Kopenkoskey

Advisor: Dr. Stephanie Gladysck-Julien

Extraction of Mitochondrial DNA for Maternal Haplotyping: Spring Street Research This research project is a continuation of the research on the human remains (bones) recovered from the Spring Street Church, which once stood in Manhattan, NY. The research on these bones was performed in hopes of gaining more information about the human remains that have been recovered from the church's burial vaults. Currently, the maternal haplotypes for the individuals buried in the burial vaults of the old church grounds are unknown. Due to this, it is uncertain if whether or not, at the times of vault burials occurring, individuals were being segregated based upon their ancestry/heritage. Through this research, it was hoped that this gap of information about the remains would be filled, to better understand the history of the remains and the Spring Street church establishment in which the individuals were buried in association with. The leading research questions are, what are the maternal haplotypes of the individuals buried in the churchyard's burial vaults? Were any individuals buried who had an African American haplotype and if so, were they buried with individuals who do not have an African American haplotype? It is hypothesized the research will help answer these questions through the use of extracted mtDNA. This research is deductive and a mixed methods approach, gathering both quantitative and qualitative data. Research was performed through with DNA extraction, PCR, agarose gel electrophoresis, gel staining, PCR product purification, and DNA sequencing.

Poster Number: 8
**Touch DNA on Ammunition:
Investigating Recovery from Fired and
Unfired Cartridge Casings**
Georgina Malki
Advisor: Dr. Stephanie Gladyck-Julien

Useful in forensic science, DNA is used to identify suspects, victims, and establish biological relationships by analyzing genetic material from sources such as skin, blood, and hair. A major advancement is touch DNA, this refers to the trace genetic material left behind through contact. Touch DNA assists law enforcement with linking perpetrators to crime scenes and weapons. However, its application remains a niche area in the forensic analysis of ammunition and requires further research. Furthermore, when handling ammunition, touch DNA can be deposited, and its recovery can prove challenging due to contamination, environmental exposure, and degradation from firearm heat. Additionally, despite potential recovery from fired cartridge casings (FCCs), extraction and quantification processes may be hindered by inhibitors. Due to the highly sensitive nature of biological samples, it is imperative that first responders and scene technicians handle the evidence with care to assist the possibility of successful DNA profiling. Despite environmental inhibitors, modified extraction methods and qPCR, which detects DNA in femtogram quantities, can be used to enhance the scientists' capability to aid in gun violent investigations. With the goal of closing the knowledge gap, this study will take a longitudinal approach to investigate the detection and quantification of touch DNA from unfired and fired cartridge casings. Additionally, determinations will be made regarding saliva and sebaceous oil recovery from FCCs over time for the following intervals: 0 hours, 1 hour, 24 hours, 72 hours, and 1 week. These findings will deliver valuable insights to the scientific community as well as law enforcement for future gun-related crimes.

Poster Number: 9
**Health Literacy: Knowledge of Senior
ABSN Students**
**Magen Minak, Hanan Mujali, Michael
Schauer, and Brenna Sonnenberg**
Advisor: Dr. Rebecca Gibbs

Nurses play a critical role when it comes to assisting patients with their healthcare needs. Health literacy outcomes can be improved if nurses are aware of the barriers and challenges patients may face. Asking

graduating ABSN (Accelerated Bachelor of Science in Nursing) students questions about their knowledge about health literacy can identify current knowledge gaps.

Poster Number: 10
**The Relationship between Sleep Hygiene
and Academic Performance in Nursing
Students**
**Alexandria Preiss, Samantha Freese,
Claire Peters, and Leah Slowik**
Advisor: Dr. Adlah Hamlan

Nursing students face rigorous academic demands that require high levels of concentration, critical thinking and cognitive function. However, many nursing students struggle with poor sleep hygiene due to irregular clinical shifts, long study hours and high stress levels. Insufficient and poor-quality sleep can negatively impact academic performance. The purpose of this study is to identify the relationship between sleep hygiene and academic performance in nursing students Methodology: A correlation design was used to measure the study variables by recruiting 85 nursing students at Madonna University for two weeks duration in March 2025. The data was collected through a Google Forms questionnaire posted for the students via QR Code. The tool is composed of 3 parts and measures the demographic, sleep hygiene and academic performance. Ethical considerations were followed. The results showed that the participants mean age was 22 years old, 9.3% female. More than half of the participants (57.6%) reported sleeping 6-8 hours per night. Most of the study participants (88.1%) reported that their sleeping habits impacted their academic performance negatively and 82.1% of them feel fatigued during class. However, 9.5% of participants reported that they have missed class or clinical hours due to lack of sleep. The study showed a relationship between sleeping habits and academic performance of the students. There is a need to counsel the students about time management and the appropriate sleep hygiene to improve academic performance.

Poster Number: 11
**Technological Interventions for
Diabetes: Knowledge of the Senior
Nursing Student**
**Amina Saad, Raneen Hakim, and
Breanna Skuratovich**
Advisor: Dr. Rebecca Gibbs
Technological Interventions for Diabetes: Knowledge

of the Senior Nursing Student Nurses routinely care for patients with diabetes. In 2025, there are a variety of technological advances that provide support to diabetic patients. Some of the innovative strategies include ways to communicate real-time blood glucose data, tracking of glucose numbers, delivery of insulin, and communication of health data to providers. It is necessary for senior nursing students to be aware of the modern technology that is available to assist diabetic patients in their healthcare journey.

Graduate

Poster Number: 12

How Do Online vs. In Person Courses Affect Student Satisfaction, Enrollment, and Revenue

Collin Allor

Advisor: Dr. Andrew Malec and David Piasecki

This study examines how online versus in-person courses affect student satisfaction, enrollment, and revenue at the undergraduate level. The research question guiding this study is: How do online vs. in-person courses affect student satisfaction, enrollment, and revenue? A survey was conducted among 100 Madonna University undergraduate students aged 18–25, with 53 male and 47 female respondents. Administered on campus, the survey gathered insights into student preferences and behaviors regarding course format choices. Results show a preference for in-person courses when the same course is offered in both formats, with 57% of students indicating they are more likely to choose in-person classes. However, 75 out of 153 responses highlight flexibility in scheduling as a key reason students choose online courses. A t-test assuming unequal variances revealed a statistically significant difference in course format preference by gender ($p = .044$), indicating that female students are more likely to choose in-person classes, while male students are more likely to choose online courses when both formats are available. Additionally, 73% of students believe increasing the availability of online courses could boost enrollment and enhance university revenue. Furthermore, 60% of respondents agree the cost of online courses influences enrollment decisions. These findings highlight the complex relationship

between course format and student satisfaction—students value the convenience of online learning but still prefer traditional classroom settings for certain experiences. This study provides insights for universities aiming to optimize student engagement and institutional growth by finding a strategic balance between in-person and online course offerings.

Poster Number: 13

Exploring Influencer Impact on Trust and Loyalty in Royal Oak’s Restaurant Scene in the Digital Age

Rami Attaallah Laham

Advisor: Dr. Andrew Malec and David Piasecki

In the dynamic culinary scene of Royal Oak, social media influencers are reshaping the restaurant industry. These digital figures craft engaging narratives and share genuine experiences, significantly impacting consumer trust and loyalty. As the digital landscape evolves, their influence continues to grow. This study, “Exploring Influencer Impact on Trust and Loyalty in Royal Oak’s Restaurant Scene in the Digital Age,” investigates the critical role these influencers play in shaping dining choices and fostering brand loyalty. By exploring the relationship between social media influence and consumer behavior, this research seeks to illuminate how digital personalities redefine trust and loyalty in Royal Oak’s competitive restaurant market.

Poster Number: 14

Knowledge and Perceptions of Ultra-processed Food Consumption and Health Impacts Among University Students

Angelica Aycock

Advisor: Dr. Karen Schmitz

Ultra-processed foods (UPFs) are common in student diets and linked to health risks like obesity, cardiovascular disease, and type 2 diabetes. Due to busy schedules and easy access, university students may consume UPFs frequently. This study assessed their awareness, consumption patterns, and perceptions across different academic disciplines. A structured 15-question survey was administered to 120 students majoring in nursing, social work, forensic science, and business at Madonna University. The survey collected data on dietary

habits, frequency of UPF consumption, preferred UPF types, and knowledge of associated health risks using Likert scale, multiple-choice, and true/false questions. Descriptive statistical analysis was performed using Microsoft Excel to summarize trends in consumption and awareness. Findings revealed that 97% of students included UPFs in their diet, with Business majors exhibiting the highest consumption and Nursing majors the lowest. While 45% of students demonstrated some knowledge of UPFs, this suggests limited awareness with UPF consumption and knowledge about its impacts in health. A weak positive correlation ($p = 0.27$) indicated that higher knowledge levels had not significant influence on reducing UPF consumption. Chips and fast food were the most frequently consumed UPFs, while fruit yogurt was the least common. Despite acknowledging potential health risks, students' UPF intake remained high, primarily due to convenience, affordability, and taste preferences. These findings underscore the need for targeted nutrition education initiatives to improve awareness and encourage healthier food choices among university students.

Poster Number: 15
Store Brands vs. Name Brands: Consumer Perceptions, Quality, and Savings
Maci Best
Advisor: Dr. Andrew Malec and David Piasecki

This study examined the impact of branding on consumer decision-making between name-brand and store-brand grocery products, focusing on cost savings and perceived quality. With grocery expenditures comprising a significant portion of household budgets, understanding these purchasing behaviors was essential for both consumers and retailers. The research investigated whether consumers perceived store-brand products as lower in quality and how higher-tier store-brand options influenced these perceptions. A survey was conducted with individuals aged 25 and older who identified as primary grocery shoppers. Participants answered questions about their shopping habits, brand loyalty, and price sensitivity. They also provided assessments of product quality based on their experiences with store-brand and name-brand products. Data analysis included statistical testing to determine: (1) whether cost savings influenced preference for store-brand products, (2) whether store-brand products were perceived as lower in quality, and

(3) how premium store-brand products compared to name-brand items in consumer perception. Demographic subgroup analysis identified variations in purchasing behavior based on age and gender.

Poster Number: 16
Gen Z Work Productivity and Social Media Distractions
Nicole Clawson
Advisor: Dr. Andrew Malec and David Piasecki

The title of the project is called "Gen Z Work Productivity & Social Media Distractions". This project aims to explore how social media negatively impacts the work productivity of Gen Z employees in the post-pandemic era, using the SOAR model (Specify, Obtain, Analyze, Report). Gen Z, the first generation to grow up with technology, faces unique challenges in balancing social media usage and work responsibilities. The research will focus on understanding how excessive social media use affects mental health, employee engagement, time management, and innovation in the workplace. The central research question is: How has social media negatively impacted work productivity among Gen Z employees in the post-pandemic era? The target demographic for this study will be Gen Z employees (ages 18-27), who are entering the workforce and experiencing these challenges. Data will be collected through an online survey, assessing social media usage, mental health impacts (such as anxiety and stress), and work productivity. The survey will be distributed via social media and professional networks, with a sample size of 100-200 responses from various industries. Data analysis will include both qualitative and quantitative methods, such as multiple regression analysis and a T-test, to understand the correlation between social media use and work productivity. The findings will provide businesses with insights on how social media distractions affect employee performance and offer recommendations for fostering a more focused and productive work environment.

Poster Number: 17
Stress Management Among College Students: Gender Differences in Coping Mechanisms at Madonna University
Marlon de Freitas
Advisor: Dr. Andrew Malec and David Piasecki

This study explores the coping mechanisms employed

by college students aged 18 to 25 at Madonna University to manage stress and examines how these mechanisms differ by gender. Given the rising prevalence of mental health challenges among young adults, particularly within higher education settings, understanding stress management strategies is crucial for both individual well-being and institutional support efforts. The research employs a survey-based methodology to assess sources of stress, coping strategies, and help-seeking behaviors. Quantitative analysis will be conducted using Excel to identify trends and gender-based differences in coping strategies. The results will be demonstrated through a research paper, presentations, and participation in Madonna University's Research Symposium. This study aims to understand how different genders deal with stress.

Poster Number: 18
Critical Factors for Athletes to Secure a Professional Contract in Soccer
Renan Henrique De Sousa Paiva
Advisor: Dr. Andrew Malec and David Piasecki

This study explores the critical factors that contribute to athletes securing a professional soccer contract. Recognizing the highly competitive nature of the sport, this research aims to identify the key determinants that influence a player's progression from amateur to professional levels. Through a comprehensive analysis of qualitative and quantitative data, the study examines variables such as technical, tactical, physical, mental attributes, and external support systems. Additionally, the role of networking, agency representation, and exposure in professional scouting will be assessed. Data collection includes surveys with current and former professional players, coaches, and agents. Analysis and interpretations are in progress and will be completed by the designated timeline. Preliminary findings suggest that a combination of exceptional performance metrics, mental fortitude, and strategic career management significantly enhances an athlete's likelihood of securing a contract. This research aims to provide valuable insights for aspiring athletes, coaches, and sports management professionals seeking to navigate the path to professional soccer.

Poster Number: 19
Qualitatively Identifying Counterfeit Drugs via Gas Chromatography-Mass Spectrometry
Christopher Federlein
Advisor: Dr. Wayne Jiang

Counterfeit drugs pose an increasing threat to American citizens due to industry monopolization, rising costs, and limited accessibility.¹ As a result, many consumers turn to foreign and online vendors for over-the-counter (OTC) medications, increasing the risk of exposure to counterfeit drugs.^{2,3} Millions of these products, often mass-produced and widely distributed, are seized annually while numbers continue to rise.⁴ Due to lack of regulation, these drugs may omit active ingredients, contain falsified compounds, or introduce unapproved harmful additives. Without the correct active compounds, these drugs may cause unexpected biological effects, ranging from mild to life-threatening reactions.⁵ Various samples from seven online vendors were labeled, dissolved and diluted in dichloromethane (DCM) or ethyl acetate (EtOAc), and analyzed using Gas Chromatography-Mass Spectrometry (GC-MS). The Selective Ion Recording (SIR) mode of the GC-MS probed for the specific masses of the compounds with the highest concentrations. Peak masses and intensities of the obtained mass spectra were used to identify and verify the presence or absence of active ingredients. After each mass peak was identified, confidence levels were applied to determine each sample as counterfeit or genuine. Further analysis examined correlations between drug type and producer to determine the legitimacy and potential risks of these products. This project aimed to assess the risks of foreign medicines, including common wellness supplements and pain relievers. Findings from this study will be used to raise public awareness about counterfeit drugs, highlighting those that should be avoided.

Poster Number: 20
Nutrition Knowledge, Media Influence, and Impact on Female Fertility
Jessica Golding
Advisor: Dr. Karen Schmitz

Women's reproductive health is deeply influenced by nutrition, yet education on this relationship remains insufficient. Despite the critical role of diet in fertility, many women lack access to evidence-

based nutritional education. This study examines how education level impacts women's understanding of the connection between nutrition and fertility and identifies the resources that contribute to their knowledge. The research assesses participants' beliefs about food and fertility, examines where they obtain nutritional information, and evaluates how this information shapes their perceptions. A survey-based methodology was used, incorporating a 20-question questionnaire to collect qualitative and quantitative data from women aged 18–45. Participants' educational backgrounds, sources of nutritional information, and fertility knowledge were assessed. Findings from 179 respondents revealed that 50.6% held a bachelor's degree, 25.3% had a master's degree, and 24.1% had some college or a high school diploma. Despite varying education levels, only 12.4% felt knowledgeable about nutrition's impact on fertility, while 46.1% felt somewhat knowledgeable, and 39.3% reported little to no knowledge. The most cited barriers were a limited understanding of fertility (43.6%) and a general lack of available information (41.9%). However, 87% of participants could list a balanced meal including protein, carbohydrates, and healthy fats, suggesting general nutritional awareness does not equate to fertility-specific knowledge. These results highlight the need for accessible, evidence-based fertility nutrition education. Addressing this gap through targeted interventions could empower women to make informed dietary choices that support reproductive health.

Poster Number: 21
Does the Emergence of AI in the Auto Industry Impact Jobs Within the Industry?

Troy Jordan
Advisor: Dr. Andrew Malec and David Piasecki

I intend to conduct surveys with three distinct categories of people who all have opinions about the automobile sector. These would include current auto employees, members of the general public who are not employed in the automobile sector, and executives of automakers. To conduct this survey, I will create a link/QR code that includes the survey questions and a thank you in advance for participating. Researchers can obtain primary data from surveys that are reliable and helpful in business decision making. Both positive and negative information about your stated intention will be provided by a well-designed survey. The reality is that surveys allow for enormous sample sizes and

provide quick, real-time findings is another reason I decided to conduct one. Finding trends or patterns that can guide me in the correct way and provide the most dependable results is what I aim to get out of this survey. I will be able to provide a clear and trustworthy assessment of how each of those three groups of people feel about this topic and if they or someone they know is impacted, regardless of whether the response is that AI does or does not harm jobs in the automotive industry.

Poster Number: 22
That's Some Pig: Protocol Optimization for the Analysis of DNA in Unpulverized Cremains

Kendall Kroha
Advisor: Dr. Stephanie Gladysck-Julien

Extracting a genetic profile from cremains can provide valuable information in criminal investigations, contributing to the positive identification of cremated unidentified decedents, including situations where cremains have been comingled or switched. Additional usage of DNA extraction methods can be employed to assist the military in identifying decedents killed in action and by law enforcement for burnt remain identifications in arson cases or mass disasters. This study aimed to assess the efficacy of using unpulverized cremated *Sus scrofa domestica* (pig) remains as a proxy for human cremains to optimize a protocol for the extraction of mitochondrial DNA (mtDNA). Porcine bone is frequently used as a proxy for human bones due to similarities in size, structure, and genetic makeup to that of humans. The cranium of a pig was selected for cremation based on bone volume and privately cremated at 1600°C. After cremation, samples were evaluated for compact versus spongy bone with only compact bone samples being chosen for extraction. After extraction, samples were amplified by traditional polymerase chain reaction (PCR) and sequenced. The optimized protocol demonstrated that a mtDNA genetic profile can be isolated from unpulverized cremated remains and successfully sequenced for identification purposes. Due to preliminary success, the optimized protocol will be used on human unpulverized cremated remains donated to Madonna University. DNA will be extracted from the donated cremains to confirm the identity of the individual using a familial mtDNA reference sample to determine if there is a common maternal lineage between the decedent and the familial sample.

Poster Number: 23
Student Knowledge and Intake of Dietary Fiber

Emily Marron

Advisor: Dr. Karen Schmitz

Fiber is an important nutrient, obtained only through the diet, that is needed for lowering cholesterol levels in the body. Research shows that most adult Americans do not consume the Dietary Guidelines of American s(DGA) recommendation of 25-30 grams of fiber per day, with college students reporting the least amount of dietary fiber intake daily. This study investigates the association between student knowledge of fiber rich foods and dietary fiber intake among college students at Madonna University in Livonia, Michigan. Through a cross-sectional survey involving 38 participants, the researcher aimed to determine if student dietary fiber intake is affected by knowledge of fiber rich foods. Administered anonymously using Microsoft Forms, the survey was distributed through QR codes that were printed and distributed on the Madonna University campus. The collected data was analyzed through Excel to determine if there was a correlation between knowledge and overall intake of dietary fiber. Analysis showed that students' knowledge of dietary fiber importance and the benefits of dietary fiber do not correlate with intake.

Poster Number: 24
Leveraging Bitcoin for Financial Innovation

Carlos Martinez-Rodriguez

Advisor: Dr. Andrew Malec and David Piasecki

This research explores the integration of Bitcoin into corporate financial management, focusing on its potential to enhance liquidity, protect against inflation, and improve cross-border transactions. As companies seek new ways to strengthen their financial strategies, Bitcoin offers unique benefits due to its decentralized nature and limited supply. The study examines how holding Bitcoin can provide businesses with an additional liquid asset, increasing financial flexibility and potentially boosting shareholder value over time. Furthermore, Bitcoin's scarcity makes it a strong hedge against inflation and currency devaluation, particularly in economies experiencing monetary instability. Its global, borderless infrastructure also simplifies

international payments, reducing reliance on traditional banking systems and cutting transaction costs. To better understand these dynamics, this research will analyze ten companies — some that have invested in Bitcoin and some that have not — to assess the financial impact and strategic implications of incorporating Bitcoin into corporate balance sheets. Ultimately, the study aims to offer insights into Bitcoin's growing role in corporate finance and its potential to support long-term financial stability and growth.

Poster Number: 25
Revolutionizing Operating Room Efficiency: A Literature Review and Proposal for a Proxy Staffing Model

Timothy Nguyen

Advisor: Dr. Andrew Malec and David Piasecki

Operating room efficiency is critical to hospital performance, influencing surgical throughput and cost-effectiveness. This capstone project, "Revolutionizing Operating Room Efficiency: A Literature Review & Proposal for a Proxy Staffing Model," challenges the modus operandi of conventional staffing paradigms, seeks to capitalize on an opportunity cost, and strives to lay the foundation of a data-driven solution to previous attempts to maximize surgical throughput. Integrating the analytical approach of a literature review grounded in existing research and theoretical foundations, the academic rigor of a thesis, and the practical application innate in a business proposal, this research explores the limitations of current staffing strategies and proposes a novel approach to enhance efficiency. The study employs a mixed-methods approach, incorporating quantitative analysis of surgical turnover times and financial metrics alongside qualitative insights drawn from case studies, workflow assessments, and organizational change management literature. While findings highlight the complexity of OR staffing—shaped by interdisciplinary dynamics, financial constraints, and institutional variability—preliminary analysis optimistically recognizes that a proxy staffing model holds transformative potential for improving staff utilization practices. Final conclusions remain uncertain due to the immeasurable and confounding factors that comprise interpersonal and interdisciplinary dynamics, financial intricacies, non-standardized institutional processes, evolving patient needs, and variable staff skill sets. This

research underscores the need for subsequent pilot studies and real-world applications. Future research should seek to bolster the current literature with quantitative evidence and subsequent case studies, such as operational trials, that evaluate the proposed staffing model's adaptability in diverse hospital environments.

Poster Number: 26
Beyond the Game: The Business of a Winning Soccer Franchise

Joseph O'Sullivan

Advisor: Dr. Andrew Malec and David Piasecki

This study explores the critical business components that contribute to the long-term success of a soccer franchise beyond on-field performance. While winning games is essential, the financial sustainability and brand strength of a club rely heavily on strategic business decisions in areas such as fan engagement, marketing, and revenue generation. This research investigates how social media interactions, merchandise sales, ticket revenue, and loyalty programs influence a club's profitability and fan retention. Data collection includes social media engagement metrics to assess digital reach, merchandise sales figures to determine revenue trends, and survey responses from fans regarding their game-day experiences and loyalty to the club. Additionally, a ten-year financial analysis of ticket sales and merchandise revenue provides insights into long-term growth patterns. Preliminary findings suggest a strong relationship between a club's online presence and its ability to generate revenue through merchandise and ticket sales. Higher engagement on social media appears to enhance brand visibility and strengthen fan loyalty, leading to increased financial returns. However, a deeper analysis is required to establish causation and uncover additional influencing factors. The study aims to provide strategic recommendations for soccer franchises seeking to optimize their business models, enhance fan relationships, and create sustainable revenue streams. The findings may offer valuable insights for club executives, marketers, and stakeholders in the evolving landscape of sports business.

Poster Number: 27
Story Retelling in Early Childhood Religious Education
Genevieve Pajulio
Advisor: Tess Kelly

In this Action Research Project, "Story Retelling in Early Childhood Religious Education," the Research Question is: Is story retelling a successful strategy for teaching religious content to elementary aged children in a Montessori early childhood education setting? The research took place at an elementary classroom located in a Catholic Montessori early childhood education school within a suburban community. There were nine participants between the ages of six to eight years old. It was a multi-aged classroom. The students have individualized learning plans. The students participated in the faith enrichment Young Children's Worship Class one day a week for 45 minutes. Story Retelling was used to teach religious content during Young Children's Worship (YCW) to nine children in the elementary classroom. It was done four weekly times, during 45 minutes of Young Children's Worship classroom instruction classes. Four books were chosen based on the weekly theme of the religious/moral faith-based lesson. Story retelling showed that after four weeks of working with Montessori students between the ages of six to eight years old, six (6) of the nine (9) students scored 100% on their assessments. One student scored 80%. One student scored 60% and one student scored 40% on their assessment. It was deemed significant if the children scored three out of five questions in an assessment which is 60%. Story retelling strengthened children's faith because it helped them remember key concepts about faith, the importance of influential Biblical themes/characters, and increased students' interest in spirituality.

Poster Number: 28
Interrogating Identity of Donated Remains using Macro and Molecular Approaches in Forensic Science
Samantha Pashigian
Advisor: Dr. Stephanie Gladyck-Julien

Quantitative polymerase chain reaction duplex (qPCR-multiplex) targets and co-amplifies two genetic markers in a single reaction for sex determination of DNA from human skeletal remains. Further information on unidentified remains can be obtained by determining ancestry through single nucleotide polymorphisms (SNPs) in the D-loop region of mitochondrial DNA (mtDNA).

This study utilized qPCR-multiplex to develop rapid molecular sex determination methods using testis-specific Y-encoded protein 1 (TSPY) and steroid sulfatase (STS) genes, enhancing sensitivity of current molecular sexing techniques. Additionally, traditional PCR aided in ancestry determination, with sequencing identifying SNPs matching established mtDNA haplogroups. Modern DNA from the Madonna University exclusionary database (ED) served as positive controls for reaction optimization and accuracy testing. Bone powder from femora of anthropologically sexed teaching skeletons (six females, one male) obtained from Clay Adams Company tested the multiplex reaction's ability to verify sex in degraded DNA. These femora, likely from South Asia, predate India's 1984 human osteology export ban. Degraded DNA was defined in the context of this 40-year-old restriction, acknowledging potential deterioration over time. Sex determination was visualized via UV transilluminator staining, with PCR displaying one amplicon for female DNA and two for male DNA. Real-time PCR produced one peak for female DNA and two for male DNA on high-resolution melting curve. Validation using Madonna databases confirmed successful sex primer amplification. Preliminary results indicate effective degraded sample extractions, supporting sensitive molecular methods for rapid skeletal remains analysis.

Poster Number: 29
The Impact of Inflation on Consumer Purchasing Behavior in Canada and the United States: Implications for Businesses
Mary Philimona
Advisor: Dr. Andrew Malec and David Piasecki

As inflation rises, its effects on consumer purchasing behavior have become increasingly evident. This study examines how inflation has influenced spending on essential goods (food, healthcare, housing) and discretionary goods (luxury items, electronics, leisure services) in Canada and the United States. A survey of 230 respondents across both countries, using an online questionnaire, was conducted to assess changes in spending habits, brand preferences, financial adjustments, and consumer confidence from 2019 to 2024. Preliminary findings indicate that consumers have faced significant increases in essential goods spending, particularly in 2023 and 2024. Many

respondents reported switching to lower-cost brands (68%) and postponing major purchases (76%) due to inflation. Additionally, 67% adjusted their budgets to prioritize necessities, while 55% used personal savings for everyday expenses. Discretionary spending has declined, with 58% of respondents purchasing non-essential goods less frequently than in 2019. Consumer confidence in affording both essential and discretionary goods has weakened, and 70% believe government policies have exacerbated inflation's impact. These findings suggest that businesses, particularly in the retail and service industries, should need to implement pricing strategies, targeted discounts, and alternative financial solutions to maintain consumer engagement.

Poster Number: 30
Exploring Gender Disparities in Social Media Ad Engagement
Megan Rankin
Advisor: Dr. Andrew Malec and David Piasecki

Social media has become a powerful driver of consumer behavior, influencing marketing budgets and customer decisions alike. This study examines gender-based differences in social media purchasing habits, focusing on spending patterns, platform influence, credibility, and purchase regret. The research aims to answer the question: Are women ages 18-25 more likely to be influenced to purchase items through social media ads compared to men in the same age group? To investigate this, a survey was conducted using Microsoft Forms, targeting 18-25-year-old students at Madonna University. 100 students (57 females, 43 males) participated. Findings indicate that females are more likely to make small purchases (\$1-\$49) via social media, whereas males are less likely to purchase at all but are slightly more inclined to spend \$100 or more. TikTok emerged as the most influential platform across both genders with Instagram playing a stronger role in male purchasing decisions. Additionally, purchase regret was higher among females (65%) than males (53%), suggesting potential differences in impulse buying behavior and product expectations. Statistical analysis, a two-sample t-test assuming unequal variances, confirmed a significant gender-based difference in spending ($p = 0.0455$), rejecting the null hypothesis and reinforcing the conclusion that social media ads have a greater impact on female spending. These findings offer valuable insights for businesses and marketers,

emphasizing the importance of platform and gender in advertising strategies to optimize ad spend on social media marketing campaigns.

Poster Number: 31
Knowledge of the Role of Iron in Sports Performance and Iron-Rich Foods within Collegiate Distance Runners

Olivia Rice

Advisor: Dr. Karen Schmitz

The role of iron in the diet has been shown to be vital within athletes who put extreme stress on their bodies, such as collegiate distance runners. Having adequate levels of iron has been shown to improve endurance times, increase energy efficiency and play other roles in oxidative metabolism such as blood lactate concentration of endurance athletes. With the high importance of an iron rich diet within collegiate distance runners, this study aims to determine the levels of nutritional knowledge of iron-rich foods and the role of iron within the diet of this population. Results were compared between different factors such as access to a sports dietitian or history of low iron. The sample size included 54 collegiate distance runners in three colleges in southeast Michigan. Nutritional knowledge was assessed by an electronic survey containing 20 multiple choices, Likert scale and short answer questions. The results did not include significant findings when comparing answers of different factors such as correlations between nutritional knowledge and access to a sports dietitian ($p=0.541$), age ($p = 0.637$) or running experience. However, there were significant results of those who have a history of low iron scoring significantly ($p=0.0066$). higher across most questions (average score of athletes without history of low iron= 66.7%, average score of athletes with history of low iron = 81.1%). Further research with larger sample sizes may strengthen the findings when comparing factors in this study such as running experience or access to a dietitian.

Poster: 32
Knowledge and Beliefs College Students Have About Endocrine Disruptors and Sleep

Anthony Saucedo

Advisor: Dr. Karen Schmitz

Endocrine disruptors (EDs) are chemicals that have the potential to interfere with the body's hor-

mones and are found in anything wrapped, heated, and stored in plastic, which includes an immense amount of the food supply and personal care products. Because proper hormone regulation is crucial for proper sleeping patterns, student knowledge regarding what EDs are and where they are found needs further exploration. To determine the knowledge and beliefs that Michigan college students have about EDs and their effects on sleeping patterns, a cross-sectional survey was sent out on Instagram and Facebook where it could be completed by college students in Michigan. A total of 51 surveys were completed using google forms. Analyses of the data collected showed: 29.4% of participants believe EDs do not interfere with the body's hormones, 25.5% of participants could not correctly identify where EDs are found, and 80% of participants on average sleep less than 8 hours per night. Students who displayed knowledge of the EDs effects on hormones documented an average of 6.74 hours of sleep per night, with a variance of 1.02. In contrast, participants who lacked knowledge displayed an average of 6.62 hours of sleep per night, with a variance of 0.65. A p-value of 0.17 indicates no significant difference in hours of sleep between students who displayed knowledge compared to those who lacked knowledge of EDs.

Poster: 33
Nutritional Knowledge of Coaches and Athletic Trainers at Madonna University

Alison Sobek

Advisor: Dr. Karen Schmitz

The nutritional knowledge of coaches and athletic trainers is crucial in supporting the dietary needs of athletes, influencing their performance, recovery and overall health. This research explored the nutritional knowledge of and beliefs about micro/macronutrients of coaches and athletic trainers at Madonna University in order to assess their competency in providing dietary guidance, identify gaps in knowledge, and determine the need for targeted nutrition education programs to enhance athlete support. The population size for this study was 54 coaches and athletic trainers total. The Madonna University athletic directory was utilized to obtain emails from each individual in the population size, and an online survey was included in each email. Out of 54 coaches and trainers, 8 surveys were returned and evaluated, producing a return rate of ~15%. Participants completed questions on personal views of importance of nutrition, confidence in their knowledge, and multiple-choice

questions assessing actual nutrient knowledge. The average knowledge score was 4.75 out of 7. Statistical analysis showed no significant differences in knowledge, confidence, or personal beliefs between those with bachelor's and master's degrees ($p > 0.05$). However, a strong positive correlation was found between confidence and knowledge ($r = 0.70$, $p = 0.051$). These findings suggest that while education level did not affect knowledge, confidence may be related to actual understanding. Larger studies are needed to confirm these results and provide a framework for nutrition education for the athletic staff at Madonna University.

Poster: 34

Finance Related Stress Within Higher Education: A Comparative Study

Lindsay Taipala

Advisor: Dr. Andrew Malec and David Piasecki

Higher education provides countless opportunities to many people across the United States. However, attending a higher education institution can also cause stress, especially regarding finances. The research study, "Finance Related Stress Within Higher Education: A Comparative Study", examined whether there are differences in the financial stress levels of students who attended a private 4-year higher education institution and students who attended a public 4-year higher education institution. The research also examined specific financial variables to determine whether they contributed to the overall financial stress levels of students. A 12-question anonymous survey was completed by 173 participants. 71 participants attended a private 4-year higher education institution within the United States for at least one year. 100 participants attended a public 4-year higher education institution within the United States for at least one year. 2 responses were omitted for not having attended either a public or private 4-year higher education institution. A two tailed T-test and two multiple regression analyses were completed using the survey data. The two tailed T-test proved that there was no significant difference between the stress levels of those that attended a private institution and those that attended a public institution. Both multiple regression analyses proved to be significant and found that tuition payments were a significant contributor to overall stress levels for both types of higher education attendees. Additionally, textbooks

and additional fees were found to be a significant contributor to the overall stress levels for public school attendees only.

Poster: 35

Visual Branding Influence on Sports Team Loyalty and How it Effects Fan Behavior and Team Revenue Generation

Nadia Troiani

Advisor: Dr. Andrew Malec and David Piasecki

This project examines the impact of visual branding on sports team loyalty and its subsequent influence on overall revenue generation. In a highly competitive sports industry, team branding plays a critical role in shaping fan perception, emotional connection, and long-term loyalty. The study explores how elements of visual branding—such as logos, color schemes, merchandise design, and mascot imagery—affect fan engagement and their willingness to spend on tickets, merchandise, and other team-related products. Using both qualitative and quantitative methods, including fan surveys and sales data analysis, this project investigates how well-executed visual branding fosters a sense of identity and belonging among fans, translating to increased team loyalty. The findings suggest that teams with strong, recognizable visual branding enjoy higher fan retention and more robust revenue streams, especially through merchandise sales and ticket purchases. The research emphasizes the importance of strategic visual branding in differentiating teams from competitors and building lasting relationships with fans. This study contributes valuable insights for sports marketers and business managers seeking to enhance brand equity and leverage fan loyalty for long-term profitability.

Poster: 36

The Impact of Language Barriers on International Students Across Academic Levels

Dien (Anna) Vu

Advisor: Dr. Lester Sharon

International students bring diversity and new perspectives to universities, but they also face challenges, especially with language. This study looks at how language barriers affect international students at a

Catholic university in suburban Detroit. It focuses on three groups: ESL (English as a Second Language) students, undergraduate students, and graduate students. Through surveys with students and professors, the study finds that language difficulties make it hard for students to understand lectures, participate in class, and complete assignments. ESL students struggle the most with basic communication, while undergraduate and graduate students face challenges with advanced vocabulary and class discussions. Professors recognize these difficulties and adjust their teaching to help. The study highlights the need for better language support, inclusive teaching methods, and mentorship programs. By improving these areas, universities can help international students feel more confident, engage more in class, and succeed in their studies.

Poster: 37

Understanding Consumer Motivation: Why Do People Purchase Athletic Shoes?

Bryan Walkes

Advisor: Dr. Andrew Malec and David Piasecki

My research project titled "Understanding Consumer Motivation: Why Do People Purchase Athletic Shoes?" explores the factors driving consumer motivation behind purchasing athletic shoes, aiming to uncover the underlying reasons and influences shaping buying decisions. Through a qualitative and quantitative method of approach, including surveys/questionnaires with a diverse group of consumers varying across the campus of Madonna University, the research investigates key motivators such as brand loyalty, comfort, price, performance, and social influence. The study reveals that while comfort and performance are primary drivers, brand reputation and social trends also play significant roles. These findings offer valuable insights for marketers and retailers seeking to better align their products with consumer needs and preferences in the competitive athletic footwear market.

Graduate - Virtual

Poster Number: 38

Key Factors Influencing Consumer Adoption of Electric Vehicles **Modeline Acreus**

Advisor: Dr. Andrew Malec and David Piasecki

The adoption of electric vehicles (EVs) is a key strategy in mitigating greenhouse gas emissions and addressing climate change. This research investigates the factors influencing consumer adoption of EVs using a mixed-methods approach, combining quantitative surveys and qualitative interviews with a diverse group of consumers. The findings highlight that, environmental benefits, such as zero emissions and reduced carbon footprints, along with economic advantages like lower fuel and maintenance costs, strongly appeal to consumers. Technological advancements, including quick acceleration, advanced features, and home charging, also enhance EVs' attractiveness. Furthermore, government incentives significantly improve affordability, while social influence and personal preferences shape consumer attitudes. However, barriers such as limited charging infrastructure, range anxiety, and high initial costs deter adoption. Concerns over battery degradation, environmental impacts of battery production and disposal, and challenges during natural disasters are notable deterrents. Efficiency issues in cold climates and skepticism about EVs' overall environmental impact further complicate decisions. Neutral or mixed opinions reflect a preference for hybrid vehicles, indicating the need for increased awareness and education. The study concludes that addressing these challenges through improved infrastructure, technological innovation, and policy support will be pivotal in enhancing EV adoption rates. These insights offer valuable guidance for policymakers, manufacturers, and marketers striving to accelerate the transition to sustainable transportation.

Poster Number: 39

Effectiveness of Remote Work versus In-Person Work on Employee Productivity and Engagement **Leslee Alexandre**

Advisor: Dr. Andrew Malec and David Piasecki

My research investigates the impact of remote and in-person work environments on employee productivity and engagement. The study aims to determine whether remote work enhances or diminishes employee performance and how these insights can inform organizational strategies. As remote and hybrid work models continue to grow in prevalence, understanding their effects is essential for informed decision-making. Using survey data from 100 participants recruited through my professional LinkedIn and WhatsApp network, I will conduct regression analysis to identify which work model fosters higher productivity and engagement levels.

Poster Number: 40
Comparing Free Shipping and Discounted Price Offers on Online Sales Total Revenue

Marie Estelle Cameau

Advisor: Dr. Andrew Malec and David Piasecki

E-commerce retailers often put in place promotional strategies such as free shipping and discounted prices to boost online sales, yet the comparative influence of these strategies on total revenue remains underexplored. This study aims to determine whether offering free shipping generates different average total sales revenue compared to discounted offers. The null hypothesis is that there is no significant difference in revenue between the two strategies, while the alternative suggests a significant difference. The sale data from major online retailers like Amazon, Walmart, Etsy, etc. will be analyzed, focusing on average transaction values, total sales revenue, and promotional type across different product categories and price points. Random sampling, the sampling technique that will be used, will control external variables like seasonality. A two-sample t-test in Excel will determine the existence of statistical significance in revenue differences. The total sales revenue is the dependent variable, and promotion type is the independent variable. Preliminary findings may indicate a more effective strategy for driving revenue, offering practical insights for e-commerce businesses for optimizing resource allocation and enhancing customer satisfaction. This research targets marketing teams, pricing strategists, and senior management in the e-commerce sector, offering data-driven guidance to maximize profitability.

Poster Number: 41

The Impact of Advertising Expenditure on Sales Revenue: A Comparative Case Study of Apple Inc. and its Competitors
Stephanie Constantin

Advisor: Dr. Andrew Malec and David Piasecki

This study investigates the relationship between advertising expenditure and sales revenue, focusing on Apple Inc. and its key competitors in the technology sector, including Samsung and Google. The research employs a quantitative approach, using regression analysis to examine how advertising spend impacts sales revenue, while controlling for external factors such as product launches and economic conditions. Data from financial reports are analyzed over a 5–10-year period. Anticipated findings suggest a positive correlation between advertising spend and sales, although the impact varies by company, with Apple's strong brand loyalty potentially reducing the direct influence of advertising. The study provides insights for businesses looking to optimize advertising investments and refine marketing strategies in a competitive market.

Poster Number: 42

The Impact of Madonna University's Scholarship on Haitian Education and Economy

Guirlaine Denis

Advisor: Dr. Andrew Malec and David Piasecki

This research evaluates the impact of Madonna University's scholarship program on Haitian students' education and economic contributions. The study aims to determine how access to higher education at a prestigious U.S. institution influences career progression and economic development in Haiti. Higher education serves as a critical driver of socioeconomic mobility, equipping individuals with advanced skills, professional networks, and global perspectives. For Haitian students, earning a degree from Madonna University provides not only academic enrichment but also exposure to international best practices, enhancing employability and entrepreneurial potential. A survey of 50 Madonna University alumni from 2011 to 2025, with 39 responses, revealed that 96% of graduates are employed, primarily in administration, finance, education, and healthcare.

52% have contributed to small businesses in Haiti, and 84% confirmed that the scholarship positively influenced their career growth. While regression analysis shows that 67.82% of the variation in career and economic progress can be attributed to the scholarship, statistical significance was not established ($p = 0.2478$), likely due to a limited sample size. Nevertheless, the positive coefficient (0.5) and strong t-statistic (7.82) suggest that the program plays a meaningful role in career advancement and economic engagement. This research underscores the transformative role of Madonna University's scholarship in empowering Haitian students and fostering economic progress. The findings provide valuable insights for expanding the program into additional fields like nursing and criminology, ensuring long-term economic and educational benefits and continued contributions to Haiti's workforce and development.

Poster Number: 43
Exploring the Factors Influencing Employee Motivation at Compassion International-Haiti

Onyl Gedeon

Advisor: Dr. Andrew Malec and David Piasecki

Employee motivation is a crucial determinant of organizational success, particularly in mission-driven nonprofits such as Compassion International-Haiti. This study explores the factors influencing employee motivation, with a specific focus on leadership styles and organizational dynamics. Using a mixed-methods approach, data was collected through an online survey with 60 respondents, incorporating both quantitative and qualitative elements. The research examines the impact of leadership styles—transformational, transactional, servant, authentic, adaptive, team, and situational—alongside organizational culture, recognition and rewards, job satisfaction, work-life balance, and managerial adaptability. The findings indicate that effective leadership styles, a supportive organizational culture, and recognition significantly enhance employee motivation. Job satisfaction and work-life balance also play pivotal roles in sustaining motivation and engagement. Additionally, professional experience, education level, and employment duration influence motivation in varying ways. The study provides valuable insights for organizational

leaders, policymakers, and stakeholders, offering strategic recommendations to foster a supportive and engaging work environment. By addressing motivational barriers and enhancing key drivers, this research contributes to the sustainability and effectiveness of mission-driven organizations in Haiti.

Poster Number: 44
Madonna University Campus Housing Survey

Kenneth Hill

Advisor: Dr. Andrew Malec and David Piasecki

Madonna University Campus Housing Survey This study aims to assess the overall quality, satisfaction, and experiences of students living in campus housing at Madonna University. The research employs a comprehensive survey to gather both quantitative ratings and qualitative responses from a diverse sample of residents. Participants evaluated aspects such as accommodation quality, maintenance efficiency, cleanliness, affordability, and safety, while also providing personal insights regarding their on-campus living experiences. Preliminary findings indicate a blend of positive feedback and constructive criticism. Many students appreciate the convenient location, community atmosphere, and access to essential facilities; however, issues such as inadequate air conditioning, inconsistent maintenance services, and concerns about dormitory cleanliness have emerged as common themes. Data analysis is currently underway, with both statistical evaluations and thematic interpretations being conducted. My analysis and interpretations are in progress and are scheduled to be completed by June 30, 2025. Early results will guide further inquiry into the factors affecting student satisfaction and will serve as a basis for recommending improvements to campus housing infrastructure and services. Ultimately, this ongoing study is expected to provide valuable insights for university administrators and policymakers. By addressing identified challenges and reinforcing areas of strength, the research aims to contribute to enhanced living conditions and a more supportive residential experience for current and future students at Madonna University.

Poster Number: 45
Understanding Gen Z Job Changes in the Job Market

Elisabeth Jean

Advisor: Dr. Andrew Malec and David Piasecki

This study examines the phenomenon of frequent job changes among Generation Z (Gen Z) and the reason for their job changes. As the newest entrants into the workforce, Gen Z is characterized by distinct values and expectations that challenge traditional employment models. Through a mixed-methods approach, including surveys and interviews, we analyze the motivations behind Gen Z's propensity for job-hopping, such as the desire for meaningful work, work-life balance, and professional growth. Findings reveal that the primary reason for Job Changes is Career advancement and the main factor that determine Job satisfaction among Gen Z is Benefits (PTO, Health Insurance, Retirement Plans and other company provided benefits). Limitations of the study include the sample size, external factors such as economic downturns, and the fact that the employer's response was not included as well. This research contributes to the understanding of generational workforce trends and offers actionable insights for organizations aiming to attract and retain Gen Z talent in an evolving labor market.

Poster Number: 46
Breaking Barriers: Understanding and Promoting Women's Involvement in Esports

Andre Junior Laine

Advisor: Dr. Andrew Malec and David Piasecki

This study examines women's participation in esports, asking: "Why should more women get into esports?" Despite comprising 46% of casual gamers, women form only 5-10% of professionals in this \$1.5 billion industry. Employing a mixed-methods approach, it surveys 1,000 respondents— players, fans, stakeholders—and reviews web-based literature. Key barriers include harassment (72%), stereotypes (65%), and scarce role models (60%), with representation rare (52%). Opportunities emerge: 75% support mentorship, with mixed views on female tournaments (25% Yes, 35% Maybe). The research introduces the Esports Gender

Equity Ecosystem (EGEE) model, mapping individual, community, institutional, and economic dynamics; the Esports Inclusivity Index (EII), scoring inclusivity at 42/100 (North America 48, Asia 35); and the Esports Equity Incubator (EEI), a transformative hub integrating training, visibility, policy, and sponsorship. A North America-Asia case study highlights regional disparities, advocating tailored strategies. These innovations extend beyond quantifying issues, offering predictive tools and bold interventions to reshape esports. Proposing anti-harassment policies, role model campaigns, and the EEI, the study bridges empirical data and actionable solutions, enhancing diversity, equity, and growth. Conducted under Madonna University's IRB approval (BUS 6950), this work redefines gender equity discourse in esports, providing a foundational framework for stakeholders to unlock its full potential.

Poster Number: 47
Gender Difference in Leadership Styles and Decision-Making Effectiveness

Sara Michel

Advisor: Dr. Andrew Malec and David Piasecki

Abstract Women's leadership roles in organizations continue to evolve, yet challenges persist in achieving true equity. Workplace stereotypes and biases often shape how female leaders are perceived, influencing their opportunities and career trajectories. While leadership styles and decision-making approaches differ between men and women, these distinctions should not serve as a basis for exclusion or inequality in executive roles. Women frequently adopt transformational leadership and collaborative methods, while men are more likely to employ transactional or directive strategies. However, leadership effectiveness depends on adaptability rather than rigid gender-based assumptions. This study explores how leadership styles and decision-making effectiveness vary among professionals in executive positions such as Chief Operating Officer (COO), Chief Financial Officer (CFO), and Head of International Operations (CEO). While research has shown an increase in women assuming leadership roles in recent decades, the proportion of female executives remains significantly lower than that of men. Many organizations still struggle with gender disparities in leadership, which can be attributed to both systemic barriers and ingrained cultural perceptions. Understanding these differences is crucial for fostering inclusive leadership that aligns with organizational goals. In today's global business

environment, leaders must navigate complex challenges, requiring flexibility in both strategic direction and decision-making. The effectiveness of leadership in high-level corporate roles is closely tied to decision-making processes that affect operational efficiency, financial stability, and long-term organizational success. Companies that embrace diverse leadership styles and perspectives are often better positioned to adapt to economic shifts, regulatory changes, and market demands. However, gender biases continue to influence how leadership qualities are assessed, potentially limiting the advancement of qualified women in executive positions. By examining gender dynamics in leadership, this research aims to highlight the impact of diverse leadership styles on corporate success. The findings will contribute to discussions on gender inclusivity in leadership and provide actionable recommendations for organizations striving to create more balanced and effective executive teams. Addressing gender disparities in leadership is not only a matter of fairness but also a strategic imperative for businesses seeking to enhance innovation, performance, and workplace equity.

Poster: 48

Gender and Leadership Style

Donita Stephens

Advisor: Dr. Andrew Malec and David Piasecki

The purpose of this research is to explore the potential influence of gender on leadership style preferences—specifically, with respect to transformational versus transactional leadership—among principals, department heads, and administrators in a public school in Detroit, Michigan, serving grades Kindergarten through 12th. To address this research question, a survey was distributed to 75 individuals, with 14 participants from the school completing the survey. The collected data will be analyzed using Excel to categorize responses and conduct regression analysis. The hypothesis, informed by 20 years of field observations, is that gender may significantly impact the preference for either transformational or transactional leadership styles. Should the analysis support this hypothesis, it would support gender as a key factor in shaping leadership styles. Conversely, if the analysis fails to support the hypothesis, it may indicate that alternative factors,

beyond gender, are more influential in determining leadership preferences within this particular educational context.

Poster: 49

The Future of Workforce

Michael Victor

Advisor: Dr. Andrew Malec and David Piasecki

This study examines the transformative effects of hybrid work and automation on employment dynamics, driven by advancements in technology and accelerated by the COVID-19 pandemic. A survey of 106 professionals from diverse industries reveals critical trends shaping the modern workforce. Hybrid work has emerged as a dominant model for 70% of respondents, offering significant benefits such as improved work-life balance (54%) and increased productivity (42%). However, it also introduces challenges, with 41% citing difficulties in collaboration and 39% expressing concerns about over-reliance on technology. These findings highlight the need for effective communication strategies and balanced policies to optimize hybrid work environments. Automation presents a dual narrative, simultaneously creating and displacing jobs. Forty percent of respondents view automation as both an opportunity and a disruption, while 14% see it as purely destructive. Skills such as critical thinking (50%), technical proficiency (48%), and creativity (43%) are identified as crucial for workforce readiness in a rapidly evolving job market. Regression analysis reveals that hybrid work adoption positively impacts work-life balance ($\beta = +0.573$, $p = 0.030$), though productivity demonstrates a marginal negative effect ($\beta = -0.167$, $p = 0.065$), potentially indicating burnout risks. Collaboration challenges exhibit no significant effect. This study underscores the importance of proactive organizational policies, reskilling initiatives, and equitable employment practices to address the complexities introduced by hybrid work and automation.

Poster: 50

Visual Branding

Alexandria Zimmerman

Advisor: Dr. Andrew Malec and David Piasecki

I will be presenting strictly online. This research explores how different marketing styles influence

consumer perceptions of product safety across various age demographics. Using AI-generated advertisements to eliminate brand bias, participants rated perceived product safety on a 7-point Likert scale after viewing marketing materials in three distinct styles: scientific/technical, emotional/relational, and minimalist/trust-based. The survey gathered responses from a diverse sample segmented by age group (18–24, 25–34, 35–44, 45–54, 55+). A two-way ANOVA was used to assess the effects of marketing style and age on safety perception scores, as well as any interaction between the two variables. Results will inform how marketers can tailor safety-related messaging more effectively for different age demographics. This research offers actionable insights for industries where product safety is a key consumer consideration, including healthcare, automotive, consumer goods, and more.

articles that did not focus on undergraduate nursing students and articles that did not have an intervention mentioned. Results Many studies utilized standardized testing programs and protocols to determine remediation. The literature demonstrates that remediation interventions are successful to increase scores and performance in nursing courses and during standardized testing. However, more research should be completed on how these interventions can improve student learning and performance on course exams. Implications for Practice The implications for research show that there is a need for further research into exam remediation. There is a gap in the literature regarding remediation interventions for exams during nursing undergraduate nursing courses.

Faculty

Poster: 51

Undergraduate Nursing and Testing Remediation

Chelsea Girolamo

Problem Remediation has been found to be useful helping nursing students identify mistakes and gaps in their knowledge (Mee & Schreiner, 2016). However, research supporting specific remediation interventions after exams are hard to find. Purpose This scoping review is focusing on remediation interventions after exams during nursing school. The research question used to guide the scoping review was as follows: What is known about the interventions used for exam remediation for undergraduate nursing students? Search Strategy This scoping review was conducted in accordance with the JBI methodology for scoping reviews (Peters et al., 2020) and in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) (Tricco et al., 2018). An initial limited search of MEDLINE (PubMed) and CINAHL (EBSCO), and ERIC (EBSCO) was undertaken on September 20, 2023 to identify articles on the topic. 13 articles met the inclusion criteria. The inclusion criteria included original qualitative, quantitative, mixed methods, and opinions that focused on undergraduate nursing students and included remediation and an intervention. The exclusion criteria was literature reviews, articles that were not peer reviewed,

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Acknowledgement

We extend our sincere appreciation to Donna Bryden, Senior Coordinator of the Graduate School and Research, for her exceptional contributions to the organization of the 2025 Annual Symposium for Research, Scholarship, and Creativity. Her professionalism, meticulous coordination, and steadfast commitment were integral to the success of this event. We are truly grateful for her continued support of scholarly research and academic excellence at Madonna University.



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