



## Spring 2024 Senior Honors Thesis Presentations

### Location: TNSC 108

Session	Presenters
<b>Thursday, March 14</b> <b>2:00pm – 3:30pm</b>	1) <b>Sydney Braunscheidel</b> - <i>The Correlation of Hip Strength and Core Strength on the Likelihood of a Lower Extremity Injury in College Athletes During One Season</i> 2) <b>Abby Eifrid</b> - <i>The effects of a 10-minute treadmill walk compared to 10-minutes of High Intensity Interval Training (HIIT) on self-reported mood and cognitive function</i> 3) <b>Allison Sabol</b> - <i>Physiological Effects of Wearing N95 Masks During Exercise to Mimic Physical Demands During Occupational Hazard Exposure</i>
<b>Thursday, March 14</b> <b>3:45pm – 4:45pm</b>	4) <b>Kayla Testa</b> - <i>Perspectives of Undergraduate Nursing Students and Faculty: YouTube Usage for Academic Purposes</i> 5) <b>Jack Shanor</b> - <i>Essay Formats: How Structure Impacts Academic Writing</i>
<b>Saturday, March 16</b> <b>1:30pm – 3:30pm</b>	6) <b>Nick Leonatti</b> - <i>Beyond the Game: The Impact Visual Branding has on College Baseball through Social Media</i> 7) <b>Hannah Lesko</b> - <i>Utilizing Visual Communication Design to Support Sustainability on College Campuses Through Repurposed Clothing</i> 8) <b>Anthony Toskin</b> - <i>Betulin Extraction Processes and Functionality as a Paint Additive with Reflective Properties</i> 9) <b>Isaac O’Rielley</b> - <i>An In-Depth Analysis of Bitcoin: Is it Speculative?</i>
<b>Monday, March 18</b> <b>2:00pm – 4:00pm</b>	10) <b>Natalie Yoder</b> - <i>Addressing the Relationship between Alcohol Use and Community on College Campuses using a Restorative Approach</i> 11) <b>Claire Martin</b> - <i>Comparing Involvement to Feelings of Community and Belonging in College Students</i> 12) <b>Bailey McGinnis</b> - <i>A Hidden Path to Success? The Impact of Prosecutors Background on Success in Appeals Cases</i> 13) <b>Katie Flickinger</b> - <i>The Relationship Between College Students’ Perceptions of Academic Stress, and Their Levels of the Character Strengths of Persistence and Enthusiasm</i>
<b>Monday, March 18</b> <b>4:30pm – 5:30pm</b>	14) <b>Lucas Jorstad</b> - <i>The Relationships Among Schooling, Family Structure, and the Financial Socialization of Young Adults</i> 15) <b>Oskar Hauger-Johannessen</b> - <i>ESG Investing in the Oil and Gas Industry</i>

<p><b>Wednesday, March 20</b> <b>2:00pm – 3:30pm</b></p>	<p><b>16) Rachel Harker</b> - <i>Exploring the Relationship Between Employee and Employer Wants Following the COVID-19 Pandemic</i>  <b>17) Ethan Frost</b> - <i>Self-Evaluation of Speech Pathologists Opinions on Additional Time and Different Types of Stuttering Therapy Needed to Increase Fluency in Their Clients</i>  <b>18) Elizabeth Howard</b> - <i>An Analysis of Nursing School Disciplinary and Assessment Policies on Upperclassmen Undergraduate Nursing Student Behavior and Stress Levels</i></p>
<p><b>Wednesday, March 20</b> <b>4:00pm – 6:00pm</b></p>	<p><b>19) Olivia Vuyancih</b> - <i>Evaluating What Current Educators and Parents Know Regarding the Science of Reading and How to Make Programs More Readily Available</i>  <b>20) Sara Scavuzzo</b> - <i>The Impact of Patient’s Sleep on the Healing Process and Its Protection Through Nursing Interventions</i>  <b>21) Claire Campbell</b> - <i>Five Times Sit to Stand Reference Data for Young Adults</i>  <b>22) Ben Fantauzzo</b> - <i>Confronting Cosmic Existentialism: Using Camus’ Revolt to Accept Human Insignificance in the Universe</i></p>
<p><b>Monday, March 25</b> <b>3:00pm – 4:30pm</b></p>	<p><b>23) Justin Nienaber</b> - <i>Evaluation of Singlet Oxygen Generation, Chemical Analysis, and Comparison to Other Synthetic Dyes of Anthraquinone as a Photosensitizer in Photodynamic Therapy</i>  <b>24) Louis Gentile</b> - <i>Evaluation of Phenyliodosyl Benzene Tosylate Dihydrate as an Antimicrobial Agent</i>  <b>25) Elisa Accordino</b> - <i>Investigating the Role of Coaches in their Student Athletes’ Mental Health</i></p>

**Please scroll down for the presentation abstracts.**

## Thesis Presentation Abstracts

### 1) Sydney Braunscheidel

“The Correlation of Hip Strength and Core Strength on the Likelihood of a Lower Extremity Injury in College Athletes During One Season”

Thesis Advisor: Meredith Joplin, PhD, Assistant Professor of Exercise Science

Reader: Jonathan Naylor, PhD, ACSM-CEP, Associate Professor of Exercise Science

College athletes undergo copious amounts of training throughout their entire career. With growing bodies of literature on injury prevention, it is important to be knowledgeable on what leads to injury. Understanding this is crucial as athletes who suffer an injury experience decreased happiness in their everyday life and it may severely impact their psychosocial state. Therefore, to help athletes have a better quality of life by attempting to decrease the number of injuries sustained, previous research examined correlations between injury and various areas of strength. This study aims to determine if there is a correlation between core strength and hip strength and the likelihood of lower extremity injury in fall sport DII collegiate athletes. In examining these variables, it is hypothesized that (1) individuals who have worse scores on multiple core strength and hip strength tests will have an increased likelihood of sustaining a lower extremity injury during their season; (2) individuals who have better scores on multiple core strength and hip strength tests will have a decreased likelihood of sustaining a lower extremity injury during the season.

### 2) Abby Eifrid

“The effects of a 10-minute treadmill walk compared to 10-minutes of High Intensity Interval Training (HIIT) on self-reported mood and cognitive function”

Thesis Advisor: Kelsey Scanlon, PhD, Program Director and Chair of Exercise Science

Reader: Meredith Joplin, PhD, Assistant Professor of Exercise Science

In this study, a 10-minute low intensity treadmill walk was compared to 10-minutes of High Intensity Interval Training (HIIT) to determine the effect of exercise intensity on cognitive function and self-reported mood in college-aged males and females. The study was performed by 22 healthy young adult individuals (age 18-24) whom were recruited from the same university and had an average BMI of ( $24.2 \text{ kg/m}^2 \pm 2.6 \text{ kg/m}^2$ ). Both the treadmill walk and HIIT exercises were performed by each participant on two different occasions. Pre and post exercise, an abbreviated profile of mood states questionnaire (POMS), the Stroop test, colored squares attention test, and timed number test were performed and scores were recorded. The Stroop test, which measured cognitive flexibility yielded statistically significant results ( $-4.045 \pm 3.748$ ,  $p < 0.001$ ). POMS scores pre to post were also specifically analyzed for feelings of proud, confident, and satisfied. Feelings of proud pre to post walk yielded statistically significant results ( $-0.364 \pm 0.727$ ,  $p = 0.029$ ) and there was a trend on the feeling of proud pre to post HIIT workout ( $p = 0.056$ ). All other variables were non-significant between the conditions ( $p > 0.05$ ).

### **3) Allison Sabol**

**“Physiological Effects of Wearing N95 Masks During Exercise to Mimic Physical Demands During Occupational Hazard Exposure”**

**Thesis Advisor: Kelsey Scanlon, PhD, Program Director and Chair of Exercise Science**

**Reader: Jonathan Naylor, PhD, ACSM-CEP, Associate Professor of Exercise Science**

The use of an N95 respirator is personal protective equipment commonly required during occupational tasks, such as painting or construction work, to promote the health and ensure the safety of workers. However, this requirement can bring additional physiological stress onto the body. The primary objective and purpose of this research was to determine at which intensity of physical activity the wearing of an N95 mask elicits negative physiological outcomes. This research is significant in guiding the placement of safe protocols for workers, as well as accommodating such individuals throughout their labor tasks that may be most physiologically impacted by mask use. Twenty-seven (27) apparently healthy individuals aged 18-52 completed two conditions of a graded walking treadmill tests. The two conditions were masked (with an N95 mask) and unmasked (serving as a control). Blood oxygen saturation (SpO<sub>2</sub>) and heart rate (HR) were measured using a pulse oximeter and rate of perceived exertion (RPE) was evaluated using the Borg Scale of 6-20. There were no statistically significant differences ( $p > 0.05$ ) in SpO<sub>2</sub>, HR, or RPE values between the two conditions throughout the tests. Thus, it was concluded that wearing an N95 mask during physical activity does not present hazardous physiological effects during general occupational tasks, though the effects appear to be individualized.

### **4) Kayla Testa**

**“Perspectives of Undergraduate Nursing Students and Faculty: YouTube Usage for Academic Purposes”**

**Thesis Advisor: Joseph Wayand PhD, Associate Professor of Psychology**

**Reader: Zana Zawahri MSN, RN, Clinical Assistant Professor of Nursing**

Social media has taken our world by storm and has influenced every aspect of our lives including the educational system. The use of social media can be viewed by different populations as a negative influence, or a positive influence on studying and learning methods. YouTube can be used for educational purposes in higher education as an academic support aid through visual and audio representation of course information. The present study examined the attitudes of both undergraduate nursing students and full-time undergraduate nursing faculty about YouTube usage as an academic aid. An online survey was conducted to investigate the attitudes of nursing faculty and students through demographic, Likert rating scale, and optional extended-response questions. Results showed that faculty and students had no difference in their attitudes toward YouTube being used as an academic aid ( $p=0.303$ ). Limitations of this study include a small sample size and incorporation of extra survey questions for the student population. Future studies should increase the sample size, test the reliability and validity of the survey, and increase recruitment methods.

### **5) Jack Shanor**

**“Essay Formats: How Structure Impacts Academic Writing”**

Thesis Advisor: Seth Hepner, EdD, Assistant Professor of English

Reader: Jacqueline Novak, PhD, Dean of The School of Arts, Sciences, and Education and Professor of Biology

Academic writing during a student’s undergraduate career is oftentimes an important aspect of their expected coursework. Each undergraduate student exhibits a diverse range of writing styles and approaches, influenced by their individual educational background, discipline, and classroom experiences. In most classroom settings, there is just as much emphasis placed on proper formatting as there is content within a final project. This project analyzes the confidence student writers display in the classroom, as well as how well students respond to professor instruction. By interviewing students and professors to examine the cognitive process of reading and understanding various structures of essays, this study seeks to find patterns of effectiveness and identify strategies for optimizing the involvement of an undergraduate student’s professor in the writing process. This research study also attempts to find gaps between student and professor communication, as well as expectations.

### **6) Nick Leonatti**

**“Beyond the Game: The Impact Visual Branding has on College Baseball through Social Media”**

Thesis Advisor: Jennifer Vokoun, MFA, Associate Professor of Graphic Design

Reader: Seth Hepner, EdD, Assistant Professor of English

Visual branding and social media engagement have never been more prevalent in our daily lives than right now. This thesis will investigate the importance for college baseball programs to embrace this digitally dominated world and analyze the visual elements associated with successful sports branding. Focused specifically on Twitter (X), this study aims to reveal a branding framework for college baseball programs to incorporate in their own branding campaigns. This project explores the importance of visual branding in the context of college baseball through research, case studies, and a visual example of how these findings can be used. By understanding the visual branding and Twitter (X) presence of several college baseball programs, this research aims to identify particular patterns, trends, and strategies to successfully engage an audience. Analyzing successful baseball programs will lay out a foundation to allow other programs to follow and create their own brand campaign from. Additionally, the thesis dives into the strengths of each program studied to establish a framework that can relate to any college baseball program looking to build their social media presence. The findings of this thesis will contribute to the overall study of visual branding in college baseball. This study extends beyond the success of the college programs on the field, providing research on the visual elements the teams use throughout their branding to express messages and tones to their audience. Enhancing digital engagement is crucial for college athletic teams because it cultivates a stronger sense of community surrounding the team. This community can have an effect on the way the team plays on the field. Ultimately, this thesis aims to offer a baseline branding framework for college baseball programs that

are seeking to optimize their visual branding strategies on social media to create a stronger community around their team.

### **7) Hannah Lesko**

“Utilizing Visual Communication Design to Support Sustainability on College Campuses Through Repurposed Clothing”

Advisor: Jennifer Vokoun, MFA, Associate Professor of Graphic Design

Reader: Jennifer Clevinger, PhD, Co-Director of the Honors Program and Professor of Biology

Today, the clothing industry and fast fashion are some of the world’s leading forces in climate change and the degradation of the environment. With the growing concern for environmental sustainability, college campuses have become significant platforms for cultivating change and promoting eco-friendly practices, including repurposing clothing. By providing opportunities to repurpose clothing, colleges can educate students about the importance of sustainable practices and help to reduce clothing waste across the globe. Based on research and analysis of design through existing sustainable clothing campaigns, posters were created, which have long been an effective method of visual communication on college campuses. Based on the research on sustainable clothing campaigns, a three-part poster series was developed as the creative component to this project, providing visual communication design assets to promote sustainability on college campuses, and change among students. In conclusion, this thesis explores how the visual communication design of posters can promote repurposed clothing and fashion sustainability on college campuses.

### **8) Anthony Toskin**

“Betulin Extraction Processes and Functionality as a Paint Additive with Reflective Properties”

Thesis Advisor: Timothy J. Smith, PhD, Assistant Professor of Chemistry

Reader: Jennifer Clevinger, PhD, Co-Director of Honors Program and Professor of Biology

Betulin is an organic pentacyclic triterpene compound found in high concentrations throughout the *Betula* genus in the plant kingdom. Thermal reflection and antimicrobial properties of betulin make the compound a high-interest renewable resource for a variety of industries. Solvent extraction of *Betula pendula* bark to extract triterpene molecules followed by sublimation to separate betulin from other familial molecules was performed to purify betulin in a method less harmful to the environment than liquid chromatography. This study aims to utilize GC-MS and NMR data to confirm the identity and purity of the betulin compound derived from the solvent extraction and sublimation process. Pure betulin standard was added to a white acrylic-based paint in increasing weight percentage and analyzed using FTIR to confirm increasing incorporation rate throughout the samples. Samples of increasing betulin concentration were analyzed under a sun lamp using an infrared thermometer to monitor trends in thermal reflectance in relation to betulin content in paint.

### **9) Isaac O'Rielley**

**"An In-Depth Analysis of Bitcoin: Is it Speculative?"**

**Thesis Advisor: Marc Anthony Fusaro, PhD, Dean of The DeVille School of Business and Associate Professor of Economics**

**Reader: C. Chase Senk, JD, Associate Professor of Business**

Currently, in the world of investing, the accurate classification grade for Bitcoin has become a current debate. Due to Bitcoin being incapable of having a bottom line and no real demand, many argue that it should not be considered an investment-grade or speculative-grade asset. As a result, this study calls for the creation of a third investment grade, called the greater fool grade, to be created to appropriately classify Bitcoin. The goal of this study is to provide sufficient evidence that shows Bitcoin is unlike any investment-grade and speculative-grade asset, supporting the creation of the greater fool grade to accurately categorize the asset. This was done by analyzing the risk and return characteristics of Bitcoin through three different analyses. The first analysis conducted was a comparative analysis of Bitcoin's continuous bubble cycle. In this analysis, Bitcoin was compared to the five most notorious bubbles in history and displayed comparable traits to the studied historical asset bubbles. An applied analysis of statistical significance was also conducted. In this analysis, Bitcoin and a combined 18 different investment-grade and speculative-grade assets' financial measurements were analyzed and compared over multiple time periods, which showed that a majority of Bitcoin's financial measurements were vastly different and more volatile than those of the other studied assets. Lastly, a statistical hypothesis test with a regression and robustness checks was conducted to see if Bitcoin's total risk was statistically significant. This regression tested the total risk of Bitcoin to the total risk of a combined 16 different investment-grade and speculative-grade assets. Upon completion of this model, it was found that there was no significance in correlation ( $p > 0.05$ ) of Bitcoin's total risk when compared to the total risk of the other measured assets. The results of this study show overwhelming support surrounding the creation of the greater fool grade for Bitcoin, which could contribute to alike studies in the future.

### **10) Natalie Yoder**

**"Addressing the Relationship between Alcohol Use and Community on College Campuses using a Restorative Approach"**

**Thesis Advisor: Michelle Bemiller, PhD, Professor of Sociology**

**Reader: Yanmei Xu, PhD, Assistant Professor of Sociology**

Alcohol use on college campuses has been an area of growing concern for students due to rising numbers of alcohol abuse on college campuses. Heavy alcohol consumption can lead to a plethora of negative consequences, which can impact students physically, mentally, or emotionally. Therefore, the purpose of this study was to learn more about drinking habits at Walsh University to understand drinking habits for college students. The Walsh University Climate Survey for students was utilized to collect data about alcohol consumption for undergraduate students at Walsh University. This study utilized independent samples t-tests and correlations to analyze data regarding alcohol consumption and gender, class rank, living situation, and sense of belonging. No statistically significant relationships were found



between alcohol consumption and gender, living situation, or sense of belonging. A statistically significant relationship was found between alcohol consumption and class rank. Based on the research, programs rooted in the principles of Restorative Justice were recommended to reduce alcohol consumption at Walsh University and increase students' sense of belonging.

### **11) Claire Martin**

**"Comparing Involvement to Feelings of Community and Belonging in College Students"**

**Thesis Advisor: Michelle Bemiller, PhD, Professor of Sociology**

**Reader: Yanmei Xu, PhD, Professor of Sociology**

Using the framework of Restorative Justice, a study was conducted to compare the relationship between involvement and belonging in students of higher education with a focus on feelings of support for student mental health by comparing feelings of belonging between groups at Walsh University. A survey studying these variables was sent to the student body, and the findings were analyzed using t-tests to compare groups of the sample by their involvement (participation in athletics, at least one group or organization on campus, and residential status) to their feelings of belonging on campus. The results showed a significant difference in students involved in at least one group or organization and those who were not, with those who were involved in at least one group feeling a significantly stronger sense of belonging. Further, students who felt a sense of belonging at Walsh University reported a significantly higher sense of support for their mental health by the campus community. These results support literature based on restorative principles that suggest that involvement and community foster belonging, and belonging supports mental health. However, the results also showed that student-athletes did not feel a significantly stronger sense of belonging than non-athletes at Walsh University, and residential students did not feel a significantly stronger sense of belonging than non-residential students. These findings negate literature that describes these institutions as community-building systems in higher education, but Restorative Justice policies and practices were suggested to remedy these findings and reinforce the positive relationship between involvement and belonging and mental health support through the Walsh University Center for Restorative Justice and Community Health.

### **12) Bailey McGinnis**

**"A Hidden Path to Success? The Impact of Prosecutors Background on Success in Appeals Cases"**

**Thesis Advisor: Carl Taylor, PhD, Associate Professor of Government & Foreign Affairs**

**Reader: Michelle Bemiller, PhD, Professor of Sociology and Criminal Justice**

Most people believe a trial is simply a matter of the laws and facts of a case. The general idea is that both sides enter into the courtroom and are given a chance to present their facts to a judge and jury. These facts are then analyzed in relation to federal and state laws that relate to the case. However, there is a lot more to trials than meets the eye. Underneath the laws and regulations, legal jargon, and terminology, as well as the presentation of witnesses



and evidence is an even more complicated mind game being played by everyone involved with the trial. While research is being performed to uncover and understand the plethora of factors that influence court proceedings, my research will focus specifically on prosecuting attorneys and whether certain types of background information affect their success in Court of Appeals Cases. This study collects information on the gender, years of legal experience, past job experience, law school tier, and whether or not they were elected or appointed to the position; then compares this data to the success rate of county prosecutors in Appeals cases utilizing ANOVAs and logistical regressions. The results indicated that no single variable significantly influences a prosecutor's success. However, a prosecutor's success rate is impacted by a combination of the tier of the law school they attended, if they were elected or appointed, and most importantly how many years of experience they have.

### **13) Katie Flickinger**

**"The Relationship Between College Students' Perceptions of Academic Stress, and Their Levels of the Character Strengths of Persistence and Enthusiasm"**

Thesis Advisor: Nina Rytwinski, PhD, Co-Director of Honors Program and Assistant Professor of Psychology

Reader: Kimberly Metz, PhD, Professor of Psychology

Academic stress is among the most reported mental health concerns of college students, and comes along with particularly distressing consequences, such as feeling unable to cope, psychosomatic symptoms, and poor academic functioning. Some students feel so stressed that they choose to leave college. As such, there is interest amongst researchers in working to better understand the cause of this trend and how to help these struggling students. Recently, researchers have found that character strengths tend to be protective against stress. In particular, persistence (perseverance) and enthusiasm (zest) have emerged as some of the most protective character strengths against stress. As no prior research has specifically examined these character strengths in relation to academic stress, the present study aims to fill this gap in the literature. Eighty-one participants completed a survey at two timepoints, approximately 4 to 7 weeks apart, and measured college students' levels of persistence, enthusiasm, and perceptions of academic stress at each timepoint.

Demographic information including the students' gender and class status was also collected and used to investigate how persistence, enthusiasm, and perceptions of academic stress vary within these factors. Zest and persistence were not consistently related to lower academic stress. However, there was some evidence that for men, persistence tended to be the more protective character strength against academic stress, while for females, enthusiasm was more protective. Further, it was found that the perceptions of academic stress reported by females were significantly higher than those reported by males. Future research is needed to examine whether nurturing these character strengths in students can have a positive impact on their mental wellbeing.

**14) Lucas Jorstad**

“The Relationships Among Schooling, Family Structure, and the Financial Socialization of Young Adults”

Thesis Advisor: Julie Szendrey, DBA, Professor of Business

Reader: Ashley Monaco, MSA, CPA, CFE, Professional Instructor in Accounting

Socialization is “the way in which individuals are assisted in becoming members of one or more social groups” (Grusec & Hastings, 2015, p. xi). Socialization takes place in many aspects of daily life such as how one dresses, speaks, thinks, or even how one views personal finances. Financial socialization is “the process of acquiring and developing values, attitudes, standards, norms, knowledge, and behaviors that contribute to the financial viability and well-being of the individual” (Danes, 1994, p. 128). Financial literacy is an important skill for adults as studies have linked finances to stress (American Psychological Association, 2018), as well as higher relational (Gudmunson et al., 2007), mental (Eisenberg et al., 2001), academic (Kim, 2007), and physical health risks (Bemel et al., 2016). When studying the financial literacy of individuals, it is important to note that the primary socialization agents are parents (Grusec & Davidov, 2007). To explore the relationships between variables, an online survey administration organization was used to collect data from students attending Walsh University with a sample size of  $n = 162$ . The variables upon which data were collected were age, gender, K-12 education type, family structure, financial management behaviors, and parental financial socialization. After performing descriptive statistics, data analysis from the survey results was used to test the research hypothesis statements. Results indicated no support for the proposed hypotheses but did indicate support of relationships between gender and financial socialization, and K-12 education and financial management behaviors. Recommendations for future research on Family Financial Socialization are provided.

**15) Oskar Hauger-Johannessen**

“ESG Investing in the Oil and Gas Industry”

Thesis Advisor: C. Chase Senk, JD, Associate Professor of Business

Reader: Branko Bucar, PhD, Associate Professor of Business

There is a shift in stake- and shareholder interests, where there is a bigger demand for companies to take on more responsibility and have a more active role in solving issues such as climate change and social injustice. To attempt to quantify how well companies are solving these issues, the industry has developed ESG ratings. This 0-100 rating gives investors the opportunity to see how companies are performing in relation to various environmental, social, and governance (ESG) metrics. This study explores whether there is a relationship between high ESG ratings and strong financial performance by examining nine financial ratios covering various metrics. Companies in the oil and gas industry from Europe, North America, and South America were analyzed and there were inconsistent results as to whether this relationship existed. This study aims to fill the gap in the literature by focusing solely on ESG ratings in the oil and gas industry with an international perspective.

**16) Rachel Harker**

“Exploring the Relationship Between Employee and Employer Wants Following the COVID-19 Pandemic”

Thesis Advisor: Michael Petrochuk, MHA, MDiv, DBA, FACHE, Professor of Marketing and Healthcare Management

Reader: Philip Kim, DSc, CISSP, CISA, Associate Professor of Business

The pandemic of 2020 greatly altered society, but it primarily changed the working world and the expectations of employees. The pandemic resulted in several trends surrounding hybrid and remote working conditions, the demand for a shortened workweek, and an emphasis on mental health. This study focused on those trends specifically. A survey was sent out to juniors and seniors at Walsh studying business. A second survey was sent out to business leaders who have or currently do provide internships to Walsh business students. The results of these surveys revealed that both students and business leaders favor hybrid working conditions over fully remote working conditions. Both students and employers value mental health and actively want to be in/provide work environments that emphasize this. The survey sent to students demonstrated that students actively want to seek out a four-day workweek, but the survey sent to business leaders revealed that they are not willing to provide this. This study focused on identifying the gaps and similarities between what future employees want and what employers are willing to provide. The study identified two similarities and one major gap that will affect the future of the American workforce.

**17) Ethan Frost**

“Self-Evaluation of Speech Pathologists Opinions on Additional Time and Different Types of Stuttering Therapy Needed to Increase Fluency in Their Clients”

Thesis Advisor: Gary Jacobs, PhD, Chair of the Division of Education, Professor of Intervention

Specialist Education

Reader: Katie Peters MA, SLP

Stuttering is a speech disorder that impacts around 1% of the world’s population. It has been shown to have genetic, environmental, and even psychological factors associated with its onset and persistence. Children as young as 2-5 years old can stutter and receive therapy for treatment. Many forms of stuttering therapy such as pharmaceutical, brain stimulation, and speech therapy treatments have been examined for their effectiveness. Currently, speech therapy done by a certified speech-language pathologist remains the preferred and most effective method for stuttering treatment. Speech therapy for stuttering can be given in a variety of settings such as schools, private practices, and even through home health services. It is well known that speech-language pathologists have high caseloads. This project analyzes speech-language pathologist’s opinions on adequate time in the clinic, a potential need for additional therapy, and what kind of additional therapy they would prefer if this was added. Demographic information including practicing in Ohio, the number of years practicing, the number of clients and stuttering clients seen, and the amount of time spent in the clinic with a client who stutters was used to understand the experience level of the speech-language pathologist’s surveyed. There seems to be a gap in research on speech-language

pathologist's opinions on and feedback regarding how they feel with the success of the stuttering therapy they provide. Also, there appears to be a gap in research regarding the success rate for people with a long term problem for stuttering who are undergoing therapy. This research study aimed to fill in these gaps and to look for improvements in stuttering therapy.

**18) Elizabeth Howard**

“An Analysis of Nursing School Disciplinary and Assessment Policies on Upperclassmen Undergraduate Nursing Student Behavior and Stress Levels”

Advisor: Zana Zawahri, MSN, RN, Clinical Assistant Professor of Nursing

Thesis Reader: Judy Kreye, PhD, RN, APRN, CNP, Dean, Byers School of Nursing and Associate Professor of Nursing

Nursing programs utilize various student motivation strategies, as outlined in their handbook guidelines. These guidelines are intended to establish a structure for student evaluation and discipline using various degrees of positive and negative extrinsic motivators. The impacts of these guidelines on nursing student behavior and stress are unclear. This study analyzed these variables by categorizing nursing handbook guidelines into three general policies. Policy 1 emphasized predominantly positive motivators; Policy 2 utilized a moderate approach to motivation; Policy 3 emphasized predominantly negative motivators. Participants of the survey were upperclassmen nursing students in the Byers School of Nursing at Walsh University. The research detected no significant correlation between handbook policies and student behavior changes. However, it did show significant differences in stress levels. Participants perceived Policy 3 as the most stressful. There was no significant difference in stress levels between Policy 1 and Policy 2. Participants ranked Policy 2 as the most preferred. Although the study failed to reject the null hypotheses, it allows for further research to be explored. Future research should include an increased sample size, additional demographic questions, and questions regarding current stress management techniques. As the nursing profession continues to evolve, identifying the best motivational techniques for students is crucial to the development of professionalism. This study could allow educators to better understand the impact of nursing program guidelines on student behavior, motivation, and stress.

**19) Olivia Vuyancih**

“Evaluating What Current Educators and Parents Know Regarding the Science of Reading and How to Make Programs More Readily Available”

Thesis Advisor: Gary Jacobs, PhD, Chair of the Division of Education, Professor of Intervention Specialist Education

Reader: Mary McCool Berry, MEd in Reading K-12, Wilson Certified Dyslexia Practitioner

The present study was done to evaluate what current educators and parents know in regard to the current literacy model, the Science of Reading and, furthermore, help express the value of knowing the research behind how children learn to read. The study was composed of two different surveys, one for teachers (N=3) one for parents (N=28) and teachers (N=3).

The participants for these surveys participated through being members of certain Facebook groups and participation was voluntary. During the survey, participants of the teacher survey were asked questions in relation to teaching literacy where participants of the parent survey were asked questions related to the implementation of literacy in their home. The results from the parent survey indicated that the more confident the reader, the more the reader will feel motivated to read on their own and to others. The results also indicated that parents of struggling readers find their challenges surrounding decoding and spelling skills, potentially due to dyslexia in some cases. The results from the teacher survey demonstrate confidence of knowledge in the areas of phonics, phonemic awareness, fluency, vocabulary, comprehension, children's literature, teaching literacy skills to English Language Learners, and using assessment to inform literacy instruction. Results also indicate that not all teachers are informed on the Science of Reading. Finally, we conclude that teachers need to be more informed on the current literacy model in order to effectively instruct students learning to read. We also conclude the need for reading in the home to increase motivation in young readers.

**20) Sara Scavuzzo**

“The Impact of Patient’s Sleep on the Healing Process and Its Protection Through Nursing Interventions”

Thesis Advisor: Tammie Davis, MSN, RN, CCRN, CPNP, Clinical Associate Professor of Nursing, Walsh University

Reader: Zana Zawahri MSN, RN, Clinical Assistant Professor of Nursing

Sleep is not only a requirement for daily functioning but is essential for the human body’s survival and every function it performs. When a person is healing from an ailment, sleep becomes even more important to their healing process. Registered nurses play a critical role in assessing their patients’ needs for a night of quality sleep, as well as performing interventions that would aid and sustain sleep. This qualitative research project analyzes the experiences of patients during recent overnight stays in the hospital, what role sleep played in their healing process, how their sleep routine changed in the hospital, and what nursing interventions were performed that directly helped them to sleep. There is generally a lack of existing literature on the frequency of sleep-specific nursing interventions used. The aim of this study is to fill that gap in the literature, analyze patients’ personal experiences in the hospital, and to seek improvements that could be made within hospitals to become more conducive to a restful, healing environment.

**21) Claire Campbell**

“Five Times Sit to Stand Reference Data for Young Adults”

Thesis Advisor: Antonette Doty, PT, PhD, PCS, Clinical Assistant Professor of Physical Therapy

Reader: Alysha Walter, PT, DPT, ABPTS, Clinical Assistant Professor of Physical Therapy

Physical therapists use a variety of outcome measures to measure their patients’ progress. The five times sit to stand (FTSTS) is an outcome measure to test lower limb strength and

balance. While this outcome measure is commonly used in the geriatric population, there is limited research of the five times sit to stand for young adults during the transition to adulthood. The purpose of this study was to collect normative data and determine the reliability of the five times sit to stand for young adults. There were 69 participants in this study, ages 18-24, recruited from Walsh University. Participants self-reported age, height, weight, sex, and weekly exercise frequency to be used for data analysis. After a practice trial, participants would stand up and sit down five times as fast as they could while two raters timed them. Heart rate was measured before the practice trial and after the final trial. There were three trials per participant. Data was analyzed to measure reliability as well as to compare, age, BMI, sex, exercise frequency, and heartrate changes. There were no significant changes in five times sit to stand times across age, sex, or BMI. The test had excellent reliability and significant differences in scores when examining exercise frequency. The FTSTS has excellent reliability and can be used by clinicians working with young adults with lifelong disabilities.

## **22) Ben Fantauzzo**

“Confronting Cosmic Existentialism: Using Camus’ Revolt to Accept Human Insignificance in the Universe”

Thesis Advisor: Joseph Vincenzo, PhD, Professor of Philosophy

Reader: Marc Biss, MA, Professional Assistant Professor of Communication, Media, and the Arts

With the technological advancements of our modern age, we have a unique perspective through which we view the cosmos and humanity’s place within it. This perspective, from telescopes and space observatories, makes our species’ place in the universe seem insignificant compared to the way we have historically imagined it. Accepting this modern perspective comes with its difficulties, as our insignificance within the universe can be a source of fear and horror. This video essay explores this feeling of human insignificance, dubbed Cosmic Existentialism, through the works of H.P. Lovecraft, whose literary works outline how our insignificance in the universe leads to horror. This project posits that Cosmic Existentialism should be confronted so that we can accept the modern perspective our instruments give us without experiencing horror at our place in the cosmos. To achieve this confrontation, this project utilizes Albert Camus’ philosophical concept of Revolt, which was his solution to existential questions. This video essay dissects Cosmic Existentialism—its history, themes, and effects—to see how well Camus’ Revolt functions as a method of confronting it.

## **23) Justin Nienaber**

“Evaluation of Singlet Oxygen Generation, Chemical Analysis, and Comparison to Other Synthetic Dyes of Anthraquinone as a Photosensitizer in Photodynamic Therapy”

Thesis Advisor: Timothy J. Smith, PhD, Assistant Professor of Chemistry

Reader: Neil Walsh, PhD, Interim Chair, Mathematics and Sciences; Associate Professor of Chemistry

Photodynamic therapy (PDT) is a highly promising developing way to treat cancer with minimal harm to the host. Utilizing light sensitive molecules, PDT, heavily relies on these photosensitizers in order to generate singlet oxygen, a reactive molecule capable of killing cancer cells with minimal damage to healthy body cells. Much of PDT validity in treatment is reliant upon the chemical properties of the photosensitizers used. While the treatment method is promising, further advances in photosensitizers are needed for it to be as effective as possible on a variety of cancers. The key properties determining the efficacy of a photosensitizer are its sensitivity, wavelength of absorption, and singlet oxygen generation capabilities. Anthraquinone and its derivatives are dyes commonly utilized as photosensitizers. One specific Anthraquinone (AQA) was heavily focused on in this study in order to find its singlet oxygen generation capacity and light sensitivity through a variety of testing. The singlet oxygen generation for each trial was measured by tracking the rate of 1,3-diphenylisobenzofuran (DPBF) a reactant added to the AQA samples while excited with a laser of varying intensity. The results of these experiments were calculated to find the quantum oxygen yield ( $\Phi_{AQ\Delta}$ ). AQA trials at the standard intensity produced an  $\Phi_{AQ\Delta}$  = 39.2% resulting in a  $\Phi_{AQ\Delta}$  which is 14.26% better than the industry standard its being compared to.

#### **24) Louis Gentile**

“Evaluation of Phenyliodosyl Benzene Tosylate Dihydrate as an Antimicrobial Agent”

Thesis Advisor: Timothy J. Smith, PhD, Assistant Professor of Chemistry

Reader: Darlene Walro, PhD, Associate Professor of Biology

In a world of increasing antibiotic resistance and infectious microorganisms, the development of novel antimicrobial agents is critical. Recently, attention has been drawn to hypervalent iodine compounds for their ability to interfere with various biological pathways. Exciting advancements in diaryliodonium salt research have occurred during the last several decades. These salts have been shown to interact with the anionic lipids that are exposed on the surface of bacterial membranes and affect the stability of the cell wall. Multiple studies have shown the high antimicrobial efficacy of these salt compounds is due to their chemical structure. The positive iodine center of the diaryliodonium salts electrostatically engage with the negatively charged cell membrane of the examined microorganism and adsorb onto it, and in turn, cause the cell membrane to rupture. However, only iodine (III) salt derivatives have been examined thus far. Phenyliodosyl benzene tosylate dihydrate is an iodine (V) salt derivative that may interact with the cell membrane with greater effectiveness due to its more reactive iodine center. This research analyzes the efficacy of phenyliodosyl benzene tosylate dihydrate in inhibiting the growth of bacteria strains that are increasingly becoming more antibiotic resistant. Throughout this study, the efficacy of iodine (V) derivative in inhibiting bacterial growth was compared to the known antibacterial iodine (III) control, Phenyl-2,4,6-trimethylphenyliodonium tosylate. Several bacteria strains were used including *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Acinetobacter calcoaceticus*, *Escherichia coli*, and *Pseudomonas aeruginosa*. Although all bacterial strains showed a dose-dependent decrease in growth, the  $\lambda^5$ -periodinane chemical outperformed the  $\lambda^3$ -iodinane control in



suppressing and killing gram-negative bacteria growth, while performing similarly against gram-positive bacteria.

**25) Elisa Accordino**

“Investigating the Role of Coaches in their Student Athletes’ Mental Health”

Thesis Advisor: Sarah Bokovtiz, MSN, APRN-CNP, PMHNP-BC, Clinical Assistant Professor of Nursing

Reader: Karen Wajda, MSN, RN, Clinical Associate Professor of Nursing

There are many factors that contribute to the mental health of student athletes, one of these being coaches. Coaches maintain a position of power that allows them to play a significant role in their student athletes’ overall attitude towards the subject of mental health. Whether or not coaches normalize the idea of mental health and coming forward with concerns can be the difference between these student athletes seeking intervention or not. Coaches also have the ability to act as a mediator between their student athletes and mental health professionals, where they can direct their athletes to the appropriate resources as mental health concerns arise. Previous research indicates that coaches have the potential to greatly impact the way in which student athletes view, cope, and seek help for their mental health. The purpose of this research study was to gain a better understanding of what collegiate level coaches at Walsh University view their role to be, if any, in the promotion and awareness of their student athletes’ mental health. A survey was conducted to provide insight to the commonalities of collegiate level coaches regarding their perspective of the role they play in their student athletes’ mental health, as well as to the barriers that stand in the way of their ability to act as an advocate.