

WHEELING JESUIT UNIVERSITY
Wheeling, West Virginia

19th ANNUAL
**STUDENT
RESEARCH AND
SCHOLARSHIP
SYMPOSIUM**



April 10, 2018

WHEELING JESUIT UNIVERSITY
STUDENT RESEARCH AND SCHOLARSHIP SYMPOSIUM
April 10, 2018

SCHEDULE-AT-A-GLANCE

TIME	EVENT	DISCIPLINE	LOCATION
9:00-9:45	Opening Ceremonies		Troy Theater, Swint Hall
10:00-11:15	Session 1A	History and Political Science	Donahue 128
10:00-12:00	Session 1B	English and Literature	Donahue 129
10:00-12:15	Session 1C	Communications	Acker G-10
11:45-12:45	Lunch		Benedum Dining Room, Swint Hall
12:30-1:45	Poster Session		McDonough Center Performance Gym
2:00-3:00	Session 2A	Chemistry and Biology	Donahue 128
2:00-3:00	Session 2B	Theology	Donahue 129
3:15-4:45	Session 3A	Laut Honors	Donahue 129
3:15-4:00	Session 3B	Photography	Donahue 128
4:15-4:45	Session 4A	Mathematics and Computer Science	Donahue 128
4:15-5:00	Panel Discussion	Inter-Professional Education Program	Acker G-10
4:45-5:30	Dinner		Benedum Dining Room, Swint Hall
5:30-6:15	Awards Ceremony		Troy Theater, Swint Hall
6:30-8:00	Haig Presentations		Hawk Auditorium, Acker Science Center



THIS YEAR'S COVER ART WAS DESIGNED BY WJU ALUM HALEY KINDALL. HALEY WAS A BUSINESS MARKETING MAJOR AND FINE ARTS MINOR.



LOOK FOR THIS SYMBOL THROUGHOUT THE ABSTRACTS...IT INDICATES RESEARCH AND SCHOLARSHIP ACTIVITIES DIRECTLY ADDRESSING APPALACHIAN ISSUES. A SPECIAL AWARD WILL BE PRESENTED BY THE APPALACHIAN INSTITUTE.



LOOK FOR THIS SYMBOL THROUGHOUT THE ABSTRACTS...IT INDICATES RESEARCH AND SCHOLARSHIP ACTIVITIES RELATED TO JUSTICE, GENDER AND DIVERSITY STUDIES. A SPECIAL AWARD WILL BE PRESENTED BY THE STUDIES PROGRAM.



LOOK FOR THIS SYMBOL THROUGHOUT THE ABSTRACTS...IT INDICATES THE FIVE FINALISTS FOR ANGELA'S AWARD WHICH HONORS RESEARCH AND SCHOLARSHIP ACTIVITIES THAT EXPLORE, ENGAGE WITH, AND ENCOURAGE FURTHER RESEARCH ON SOCIAL STIGMAS, STEREOTYPES OR MARGINALIZED POPULATIONS. A SPECIAL AWARD WILL BE PRESENTED AT THE AWARDS CEREMONY.

KEYNOTE SPEAKER



Mr. Brian Meyer

**Wheeling Jesuit University, B.A.
Appalachian State University, M.A.**

Keynote Address: *“Roots and Equality: A Qualitative Study”*

Brian’s career began to crystalize in high school when he volunteered as a foster home mentor. At WJU, he served as a research assistant, leading multiple studies in the Psychology Department’s first multi-student research lab. After receiving his Master’s Degree in School Counseling at Appalachian State University, he managed a talented and gifted youth program at Duke, taught at a bilingual school in Honduras, taught as an adjunct instructor at WJU, and then moved to India to counsel students from around the globe at Woodstock International School.

After returning to the US, he spent most of the last decade in Portland, Oregon, where he has served as a street outreach social worker to homeless youth and founded a school-based cultural arts non-profit organization (Transformation in Arts) for underserved youth. After leaving for a year to be a school counselor in Asia to Cambodian national students, he returned to Portland and is currently a public school counselor. He lives with his partner Lia where they train acrobats in their free-time in hopes of one day joining the circus.

Wheeling Jesuit University
Student Research and Scholarship Symposium
April 10, 2018

9:00-9:45 Opening Ceremonies: Troy Theater, Swint Hall

Welcome: Dr. Bryan Raudenbush, *Professor of Psychology and Symposium Committee Chair*

Welcome: Dr. Debra Townsley, *University President*

Introduction of Keynote Speaker: Dr. Bryan Raudenbush

Keynote Speaker: Mr. Brian Meyer
 WJU Alum, 2001

Keynote Address: *“Roots and Equality:
 A Qualitative Study”*

Opening Blessing: Fr. Donald Serva, S.J., *Academic Associate in Biology*

10:00-11:15 Session 1A: HISTORY AND POLITICAL SCIENCE [Donahue 128]

Session Moderators: Zahra Mohebbi, *Adjunct Professor of Social Sciences*
 Daniel O’Hare, *Associate Professor of Theology*

10:00-10:15 Scott Gwyn [Driscoll]
*How Does the Health of a Democracy Change as a State Moves
 from the Periphery to the Core?*

10:15-10:30 Daniel Fitzmartin [Rutherford]
*Road to a Self-Destructive Economy: Nazi Economic Policy
 1933-1939*

10:30-10:45 Tiffany Wildern [Rutherford]
Wheeling Steel and World War II

10:45-11:00 Jonathan A. Forkey [Rutherford]
*Domestic Propaganda of the United States and How it Moved the
 Nation.*

11:00-11:15 Ashleigh Sidon [Rutherford]
Hitler’s Foreign Workers

10:00-12:00 Session 1B: ENGLISH AND LITERATURE [Donahue 129]

Session Moderators: Katy Moses, *Assistant Registrar*
Mark Phillips, *Chief of Staff*

- 10:00-10:15 Marc Gittings [Whitehead]
*The "Heart of Darkness" within individuals and
"Civilization" in Francis Ford Coppola's Apocalypse Now Redux*
- 10:15-10:30 Mercedes Hocker [Makris]
*Understanding Evil Women: Female Villains in Children's
Literature*
- 10:30-10:45 Elizabeth Potts [Voorhees]
*Madness or Death: The Patriarchal Hegemony within the
Medical Field in the Nineteenth and Twentieth Centuries*
- 10:45-11:00 Aaron Fajerski [Phillips]
The Proximity of Evil in Dr. Jekyll and Mr. Hyde
- 11:00-11:15 Brett Dipuma [Voorhees]
*"There are Christians and then there are Christians:"
Finding the Divine in Barbara Kingsolver's The Poisonwood Bible
and Marilynne Robinson's Gilead*
- 11:15-11:30 Troy Kelly [Makris]
*Bildungsroman in Neil Gaiman's Stardust, The Graveyard
Book, and Coraline*
- 11:30-11:45 Tyler Butterworth [Makris]
*Denouncing the Exotic: The Role of Othering in Lovecraft's
"The Shadow Over Innsmouth" and Bloch's Psycho*
- 11:45-12:00 Scott Gwyn [Makris]
*The Great Social Equalizer: Social Criticism Through Setting
and Death in Edgar Allan Poe's "The Masque of the Red Death,"
"Hop-Frog," and "The Fall of the House of Usher"*

10:00-12:15 Session 1C: COMMUNICATIONS [ASC G-10]

Session Moderators: Shannon Payton, *Director of Alumni Relations*
Patrick Plunkett, *Associate Professor of Computer Science*

- 10:00-10:15 Colton Claytor [Bressler]
Appalachian Institute Website
- 10:15-10:30 Xavier Sanchez [Bressler]
Hunger for a Cure

- 10:30-10:45 Marcel McCaskill [Bressler]
Social Media's Effect on College Students
- 10:45-11:00 Ian Seaton [Bressler]
"Living a Longer Life: The Tonight Show's Social Influence on America."
- 11:00-11:15 Leah Baughman [Bressler]
The Effectiveness of Coca-Cola's Advertising
- 11:15-11:30 Jose David Corral [Bressler]
Analyzing African-American Representation in "Boyz N The Hood"
- 11:30-11:45 Cassandra Holstein [Bressler]
Public Speaking Superman-The Affects of Power Posing on Public Speaking Anxiety
- 11:45-12:00 Cody Matthews [Bressler]
Masculinity in R-Rated Comic Book Movies: Deadpool
- 12:00-12:15 Yafeu Rougier [Bressler]
Xenophobia in post 9/11 film

11:45-12:45 LUNCH: Benedum Dining Room, Swint Hall

Lunch with our Keynote Speaker in the Executive Dining Room

12:30-1:45 POSTER SESSION: Performance Gym, McDonough Center

Session Moderators:

Posters 1-5: Peter Ehni, *Professor of Physics and Engineering Science and Environment & Sustainability*
Mohammad Hadadzedeh, *Assistant Professor of Physical Therapy*

Posters 6-9: Carrie Hanna, *Director*
Beverly Whelton, *Associate Professor of Philosophy*

Posters 10-15: Thomas Conti, *Adjunct Professor of Chemistry*
Emily Sylvester, *Assistant Professor of Chemistry*

Posters 16-20: David Dennis, *Program Director and Clinical Associate Professor of Athletic Training*
Chris Estrada, *Admissions Representative*

Posters 21-23 Matthew Riordan, *Director of Career Services*
Wilson Turner, *Registrar*

- Posters 24-27: Nancy Bressler, *Assistant Professor of Communications*
 Jeff Rutherford, *Associate Professor of History*
- Posters 28-30: Michael Anderson, *Director of Public Safety*
 Raymond J. Canter, *Adjunct Professor of Psychology*
- Posters 31-36: Kim McManis, *Clinical Assistant Professor of Athletic
 Training*
 Stacy Russell, *Professor of Nursing*

(Number is poster location)

ATHLETIC TRAINING

1. Holly Deckert [McManis]
Do Wheeling Jesuit Student-Athletes have higher stress levels depending on their sport
2. Jenna Furr [McManis]
Correlation Between Low Body Mass Index and Stress Fractures in Male Distance Runners.
3. Abigail Moffit [McManis]
The Effects of Knowledge and Attitude on the Likelihood of Reporting Concussion Symptoms
4. Amanda Mangelo [McManis]
Comparison between D-II Student Athletes and Nonathletes in Academic Performance and Personal Development
5. Anthony W. Smith [McManis]
Correlation Between a Wrestler's Experience and The Amount of Lower Back Pain They Experience
6. Victoria Scott [McManis]
What are Male and Female DII Athlete's Preference in Gender of Their Athletic Trainer?
7. Ryan Seidewitz [McManis]
Comparing Clinical and Classroom Education through Perspectives of Undergraduate Athletic Training Students.
8. Josh VanCuyk [McManis]
Does the use of pre-workout produce a more beneficial workout in college aged individuals?
9. Emma Minsinger [McManis]
Burnout Among Distance Runners: Psychological or Physical?

BIOLOGY

10. Robert Snedegar [Rastall]
Comparing Microbial Growth in Refrigerated and Unrefrigerated Chicken Eggs
11. Kaitlyn Workman [Rastall]
*The Effects of Various Sized Box Enrichment Items on the Behavior of Meerkats (*Suricata suricatta*) at the Oglebay Good Zoo in Wheeling, West Virginia*
12. Danielle Christine Wheeler [Ehni]
Diet of Blue Nile Tilapia and its Effect on Average Growth Rate in an Aquaponics System
13. Jennifer Faila [Rastall]
Aggressive Behavior of Cichlids due to climate change
14. Aubrey Ngoy [Rastall]
Effects of Short-Term Acidification on Growth Rates of Tadpoles
15. Jade Worrels [Rastall]
House Crickets' Aggression Levels and Tendency to Cannibalize Due to Vitamin Deficiency

CHEMISTRY

16. Ashley Trouten [Railing]
Examination of Possible Lead and Copper in the Water on Campus
17. Aleasha Yoho [Sylvester]
Optimizing and Assessing the Greenness of an Iron-Complex Synthesis
18. Darius Berry [Railing]
Do student population characteristics affect illicit drug use on college campuses?
19. Matthew Martin [Fuller]
Quantifying Nitrate Reduction via Phytoremediation
20. Rachel Blumling [Railing]
Synthesis and Characterization of Novel Unsymmetric Dithiocarbamate Ligands

COMMUNICATIONS

21. Cassandra Holstein [Bressler]
Effective Wedding Planning: Eliminate the Barriers

22. Nick Csenar [Bressler]
Wildlife Destruction
23. Kristen Shimko [Bressler]
Leadership within Higher Education Administrators

LAUT

24. Scott Gwyn [Staron]
Predictive Variables in Political Identity
25. Robert Snedegar [Staron]
Health in Rural Appalachia
26. Megan Boyle [Staron]
The Genetics of Identity
27. Ashley Trouten [Staron]
The Effect of Gender on the Identity of Women in the STEM Fields

PSYCHOLOGY

28. Sabrina Soriano [Raudenbush]
Comparison of Light Therapy vs. Peppermint Scent Administration on Mood: Synergistic Effects for the Treatment of Depression and Seasonal Affective Disorder.
29. Carolyn Blattler [Hull]
Mental Health Technician Internship at Fox Run.
30. Juan Pablo Troconis Bello [Raudenbush]
Effects of Jasmine Scent Administration on Decreasing the Stress Response in Cattle During Initial Processing.

RESPIRATORY THERAPY

31. Jonathon Haley [Emmerth]
Adverse Childhood Experiences and Long-Term Health Problems
32. Laikyn Tubaugh [Emmerth]
Reducing the Risk of Ventilator-Associated Pneumonia with the Application of "VAP Prevention Bundle".
33. Mallory Chapman [Emmerth]
Early Mobilization of ICU Patients

34. Chase Pelaez [Emmerth]
Does Treatment for Sleep Apnea Help Patients with Uncontrolled Diabetes?
35. Megan Coyne [Emmerth]
Varying Perspectives on Medical Providers and Their Effects on People's Health
36. Keleigh Sidon [Emmerth]
What Motivates Students at Wheeling Jesuit University to Major in Healthcare?

2:00-3:00 Session 2A: CHEMISTRY AND BIOLOGY [DONAHUE 128]

Session Moderators: Marybeth Emmerth, *Associate Professor and Program Director of Respiratory Therapy*
Brenda Lohri-Posey, *Adjunct Professor of Nursing*

- 2:00-2:15 George W. Bell [Railing]
Green Synthesis of Dithiocarbamates
- 2:15-2:30 Megan Boyle [Shurina]
Associated Risk Factors for External Beam Radiotherapy Prostate Cancer Patients and their Impacts on Biochemical Failure, Mortality, and Prostate Cancer Specific Mortality
- 2:30-2:45 Dylan Carenbauer [Railing and Sylvester]
*A Green Synthesis of L-ascorbic Acid Derivatives Using *Aspergillus niger* Recombinant-lipase Catalyzed Transesterification*
- 2:45-3:00 Dalton Rollison [Shurina]
Toxicity of Human Fibrosarcoma HT-1080 Cells by Epigallocatechin-3-O-gallate

2:00-3:00 Session 2B: THEOLOGY [DONAHUE 129]

Session Moderators: Jonathan Lief, *Professor Emeritus of Biology*
Ralph Seward, *Institutional Research Data Analyst*

- 2:00-2:15 Brett Dipuma [Staron]
Towards an Understanding of Shared Christian Experience at the Margins
- 2:15-2:30 Halli Richards [Staron]
The Dangerous Memory Of Jesus
- 2:30-2:45 Madeline Davin [O'Hare]
Martyrdom and a Consistent Life Ethic

2:45-3:00 Halli Richards [Rutherford]
After the Holocaust: The Complexity of Liberation

3:15-4:45 Session 3A: LAUT HONORS [DONAHUE 129]

Session Moderators: Debra Hull, *Professor of Psychology*
Dianna Vargo, *Assistant Professor of Education and
Director of Graduate Education and ACT Programs*

3:15-3:30 Stephen Hansknecht [Staron]
YouTube Identity

3:30-3:45 Anne Frankovitch [Staron]
*An Analysis of Identity and Success in Individuals with
Special Needs*

3:45-4:00 Katie Swanson [Staron]
School Community and Identity

4:00-4:15 Kailee Latocha [Staron]
Appalachian Identity

4:15-4:30 Lauren Buck [Staron]
*The Eagle Has Two Wings: A Reflection on Political Identity
in America*

4:30-4:45 Madeline Davin [Staron]
*American Catholic or Catholic American: Exploring Tensions
Between Catholic and American Identity*

3:15-4:00 Session 3B: PHOTOGRAPHY [DONAHUE 128]

Session Moderators: Jamey Brogan, *Director of Campus Ministry, Mission and
Identity*
Tina Tordella, *Director of Counseling Services*

Abby Woods [Bressler]
Representing West Virginian Culture through Photography

Bethany Booth [Bressler]
*The Mission of Wheeling Jesuit University through the Autumn
Leaves*

McKinley Fodness [Bressler]
Locks, Doors, and a Mission

Vicky Jade Lukan [Bressler]
Distinctions

4:15-4:45 Session 4A: MATHEMATICS AND COMPUTER SCIENCE [DONAHUE 128]

Session Moderators: Greg Shepherd, *HelpDesk Administrator*
Chuck Wood, *Principal Investigator*

4:15-4:30 Stephen Hansknecht [Brodie]
Ten-sided non-transitive dice

4:30-4:45 Samantha Combs [Orzolek]
Appointment Application for Challenger Learning Center

**4:15-5:00 INTER-PROFESSIONAL EDUCATION PROGRAM PANEL DISCUSSION
[ASC G-10]**

Student Panel Members: Ryan Seidewitz (*Athletic Training*)
Jonathon Haley (*Respiratory Therapy*)
Madeline Smyth and Missy Wagner (*Nursing*)
Caroline Jenets and Briana Moorman (*Physical
Therapy*)

Faculty Panel Advisors: Dr. Maryanne Capp (*Nursing*)
Professor David Dennis (*Athletic Training*)
Professor Marybeth Emmerth (*Respiratory
Therapy*)
Dr. Kristine Grubler (*Physical Therapy*)
Dr. Rhonda Haley (*Physical Therapy*)
Dr. Meghann Kolb (*Physical Therapy*)

The goal of Inter-Professional Education (IPE) is to prepare health professional students with the values and core competencies necessary for collaborative, inter-professional practice for best patient care and outcomes. Inter-professional practice is the provision of safe, comprehensive, and appropriate services by multiple health care providers within and across settings and disciplines. This collaboration occurs when two or more professions learn with, from, and about each other to provide quality care to their clients.

Students and faculty from Wheeling Jesuit University's health care programs, along with multiple community members, participated in the second IPE Collaboration event earlier this semester. Seventy-nine students from Wheeling Jesuit University's health care programs joined faculty and community panel members for this event. The students, who were from the Athletic Training, Nursing, Physical Therapy and Respiratory Therapy programs, spent the afternoon working through a paper case in small inter-professional groups. The groups discussed the case and developed a comprehensive inter-professional treatment plan. The event concluded with an interactive Gallery Walk.

The student panel members listed participated in this IPE collaboration event. The goal of the panel presentation is to discuss and answer questions related to the IPE event while providing personal reflections on the importance of preparation for and the practice of collaborative care.

4:45-5:30 **Dinner:** Benedum Dining Room, Swint Hall

5:30-6:15 **Awards Ceremony:** Troy Theater, Swint Hall

Presentation of Awards:

Dr. Amy Criniti Phillips, *Assistant Professor of English*

Dr. Jason Fuller, *Assistant Professor of Chemistry*

Mr Mark Phillips, *Chief of Staff*

Dr. Mary Railing, *Associate Professor of Chemistry*

Dr. Bryan Raudenbush, *Professor of Psychology and Symposium
Committee Chair*

Dr. Jessica Wroblewski, *Assistant Professor of Theology and Religious
Studies*

6:30-8:00 **Haig Presentations – Acker Science Center Hawk Auditorium**

Session Moderator: Dr. Julie Osland, *Associate Professor of Psychology*

Judging Committee: Dr. Jason Fuller, *Assistant Professor of Chemistry*
Dr. Mohammad Hadadzadeh, *Assistant Professor of
Physical Therapy*

Dr. Robert Yahn, *Assistant Professor of Engineering and
Technology Sciences*

Megan Boyle

Biology

Research Mentor: Dr. Robert Shurina

Associated Risk Factors for External Beam Radiotherapy Prostate Cancer Patients and their Impacts on Biochemical Failure, Mortality, and Prostate Cancer Specific Mortality

The purpose of this study was to identify factors that may pose additional risks of biochemical failure, general mortality, and prostate cancer specific mortality (PCSM) for prostate cancer patients who have been treated exclusively with External Beam Radiotherapy (EBRT), with or without additional Androgen Deprivation Therapy (ADT). EBRT treatment involves a regimen consisting of a daily dose of ionizing radiation beams to target tumor tissue for five to six weeks. The radiation breaks chemical bonds and damages DNA, resulting in cell death. ADT works to decrease hormone levels to stunt cancer cell growth. Biochemical failure, when identified via the Phoenix criteria, occurs once the post treatment PSA levels have risen to a level of two or more nanograms per milliliter above the nadir. The nadir is the lowest point (ng/ml) that Prostate Specific Antigen (PSA) drops following treatment. A retrospective study of 573 patients classified as either favorable intermediate risk, unfavorable intermediate risk, or high risk were identified before the start of treatment. Both the Kaplan-Meier method and the Cox proportional hazards methods of regression were used in the evaluation of multiple patient factors for biochemical failure, mortality, and prostate cancer specific mortality (PCSM). The results when analyses were done on a multivariate scale revealed that both the number of days until the nadir was reached ($P > |z| = 0.00$), and the initial Clinical Stage the patient was diagnosed with ($P > |z| = 0.066$) were identified as contributing to a significant increase in the rate of biochemical failure. Clinical Stage refers to the degree to which the cancer has spread beyond the outer layers of the prostate. For general mortality the number of days until the nadir was reached ($P > |z| = 0.00$), BMI ($P > |z| = 0.02$), age ($P > |z| = 0.006$), the patients' history of diabetes ($P > |z| = 0.00$), history of coronary artery disease (CAD) ($P > |z| = 0.035$), and tobacco usage ($P > |z| = 0.00$) were associated with an increased risk. A multivariate analysis for PCSM identified the PSA value of the nadir ($P > |z| = 0.00$), the number of days until the nadir was reached ($P > |z| = 0.00$), the initial GS ($P > |z| = 0.05$), and whether the patient was treated with ADT ($P > |z| = 0.023$) to be positive indicators for an increased rate. In conclusion, patients who fall into the categories specified via these analyzes should be monitored for better proactive treatment due to a greater perceived risk. Additionally, further study may be required with a larger sample size to further validate these risks and to identify better treatment methods for those falling under these risks.

Stephen Hansknecht

Chemistry and Mathematics

Research Mentor: Dr. Emily Sylvester

Green Synthesis of Iron(II) Complexes with Bidentate Schiff Base Imines

Within the field of Inorganic Chemistry, Schiff bases, specifically pyridyl-imines have been used as bidentate ligands for the synthesis of many metallic complexes. Six-coordinate cationic iron(II) complexes are abundant in the literature with three pyridyl-imine ligands. Traditionally, the synthesis of these compounds has been done in the solution phase resulting in solvent waste. Solvent-free methods for synthesizing Schiff base molecules are known, but not for the corresponding iron complexes. In keeping with Wheeling Jesuit University's interest in being green in the field of science research, this research done focused on the synthesis of these pyridyl-imine iron complexes through the decrease or elimination of solvents in the synthesis and purification. The syntheses were conducted in a one-pot method where the reactant aldehyde, amine, and iron source were combined and reacted in a single vessel. To further distinguish this project, the synthesis was done using an aryl amine and amine acids. As amino acids are naturally chiral molecules, they generate chiral complexes which could potentially be used for a variety of reactions as enantioselective catalysts.

Dalton Rollison

Biology

Research Mentor: Dr. Robert Shurina

Effects of Epigallocatechin-3-O-gallate (EGCG) on Human Fibrosarcoma HT-1080 cells in a

Dose-dependent Manner

The strong desire for a less invasive, more effective treatment of cancerous cells in humans has prompted this research studies in seek of an alternative method of cancer treatment that is therapeutically significant and less invasive and less harmful than current methods of treatment. Many epidemiological studies have shown a correlation between increasing the amount of green tea consumption and a reduced risk of cancer, which has been the spark for research on green tea extracts, which signals that green tea may have chemo preventive effects [1]. It is known that when cancer reaches a point of metastasis (where secondary tumors develop throughout the body via angiogenesis) it often becomes incurable. A numerous amount of studies have shown that epigallocatechin-3-O-gallate (EGCG), the major component of green tea, has a significant effect and possible therapeutic significance treating tumors in many cell lines (prostate, lung, breast, colon, liver) [2,3] leading tumor cells to undergo apoptosis through various pathways. In this study we will be using human fibrosarcoma cells (HT-1080), which is a line of cells that derive from human connective tissue and are known to be highly invasive throughout the body. The current treatment for this cell line of cancer is limited, radiation treatment can only control a localized tumor but once it has spread throughout the body chemotherapeutic agents such as doxorubicin and ifosamide are used with disappointing results. Notable concentrations of EGCG that have been used in research studies with HT-1080 cells vary from 10-100 μ M and significant amounts of mortality have been found to be between 40 μ M and 80 μ M concentration of EGCG [4]. The purpose of this experiment is to do a thorough analysis of cell morphology, viability, number of live cells, and mortality of EGCG in order to determine a lethal dose for toxicity of EGCG on HT-1080 cells. Apoptosis has been shown to be a direct effect from EGCG on various cancer cell lines, but our goal is to enhance our knowledge of how EGCG effects mortality on a dose-dependent level, and to analyze the effects that EGCG has in a dose dependent manner on a confluent cell sheet.

WHEELING JESUIT UNIVERSITY

Student Research and Scholarship Symposium Abstracts

Explanation of the coding system: The following abstracts are presented in alphabetical order by first author. For the oral presentations, the information in the brackets includes the time of the session (e.g., 2:00-3:30), the session section (e.g., 2C), and the location of the session (e.g., ASC-G10). For poster sessions, the bracketed information includes the time of the session (e.g., 12:30-2:00) and the poster board number where the poster is to be found (e.g., P4).

Baughman, Leah: [11:00-11:15] [1C] [ASC G-10]: *The Effectiveness of Coca-Cola's Advertising*. This research focuses on the analysis of advertising strategies and trends of the Coca-Cola Company within their advertisements over the last eight decades. The goal of this research is to determine how Coca-Cola has adapted their advertising strategy to changing social and cultural values within the parameters set by society, as well as technological advances that have occurred within the decades considered. This analysis focuses on how the Coca-Cola brand has adapted to these changes that have occurred within their environment and applied them to their advertisements to remain effective in reaching their targeted consumers. One easily recognized or well known advertisement was chosen from each decade, beginning in the 1940s and going until the 2010s; each ad was analyzed for its cultural relevance in relation to the decade it was made, changes in marketing strategy, themes that Coca-Cola utilized, and overall message that is delivered to the consumer. Grounded in previous research conducted on marketing strategies, psychology research, and advertising research, this study seeks to better understand how cultural values, persuasion techniques, and world events influence the advertising strategies used by Coca-Cola. Through a semiotic analysis of Coca-Cola ads, it becomes clear that the Coca-Cola brand utilizes similar specific themes and techniques within the majority of their advertisements, which keeps them relevant and effective in the minds of consumers because of years of repetition, as well as creative growth. The analysis of Coca-Cola's advertising history and the themes that have emerged from it is important because they can be applied to advertising concepts on a broader level and can be effectively applied to the marketing strategies of other companies as well. The combination of strategic marketing, psychological factors, and cultural relevance is an important strategy in advertising that is highlighted by the long standing success that Coca-Cola has experienced with their advertisements.

Bell, George W.: [2:00-2:15] [2A] [D-128] *Green Synthesis of Dithiocarbamates*. Green chemistry is a growing branch of chemistry that seeks to make reactions more environmentally friendly. One area of focus in green chemistry has to do with solvents. Solvents make up fifty-six percent of the total mass used in pharmaceutical manufacturing, and for every kilogram of active pharmaceutical ingredient produced twenty-two kilograms of solvent are needed. Most solvents are not reusable, so this makes up most of chemical waste. The process of high speed ball milling does not use solvents. Ball milling is done by placing the reactants inside a vessel with one or more ball bearings. The vessels are placed in milling apparatus and high speed agitation provides kinetic energy to the ball bearings to impact the reactants to initiate the chemical reaction. Dithiocarbamate ligands, $R_2NC(S)S^-$, are versatile ligands with applications in many fields. The dithiocarbamates are synthesized from amines, R_2NH , and carbon disulfide. The aims of this project are to find a green way of making dithiocarbamate ligands with modified R groups through the process of ball milling was used to synthesize novel dithiocarbamates.



Berry, Darius: [12:30-1:45] [P18] [GYM] *Do student population characteristics affect illicit drug use on college campuses?* This study investigated potential relationships between student populations and illicit drug use on college campuses. College populations are not immune to the current drug abuse epidemic in this region of the country. Examining student population characteristics and illicit drug use leads to a clearer understanding of possible correlations. The student population characteristics utilized are; school size, location (rural or urban), ethnicity, gender, and the extent to which the population was instate or out of state. Student population information was obtained from Collegeboard college search (<https://bigfuture.collegeboard.org/college-search>). Illicit drug use, as measured by violations and arrest for the years of 2014-2016, were obtained by Clery Reports for each school.

Blattler, Carolyn: [12:30-1:45] [P29] [GYM] *Mental Health Technician Internship at Fox Run.* For my internship, I was a Mental Health Technician for Fox Run: Center for Children and Adolescents. At my internship site, I was trained and supervised in a professional setting. I learned and gained essential experience and expertise my entire summer as an intern. The facility focused on therapeutic techniques to help children and adolescents return to the least restrictive environment for them. This institution is a residential lockdown facility primarily for children/adolescents who left the Juvenile Justice System because of their good behavior and get to finish their sentence at Fox Run, and for children/adolescents who are in county custody that cannot function effectively in a less structured setting. For my internship, I was responsible for teaching residents how to do basic daily activities such as laundry, showering and feminine care. I had a strong goal of gaining rapport with the residents. I strived to learn and know how to handle and deescalate situations and crises. Along with that, I strived to identify residents' triggers and coping skills in order to learn how to properly help a resident deescalate and cope positively. Lastly, I made a goal to be able to listen to residents' traumatic pasts, provide comfort and consistency, and appropriately guide residents through their difficult transitions. This internship was my first step into the mental health field. Fox Run gave me the opportunity to gain education in DSM diagnoses, taught me how the court systems worked for children in county custody, provided me with plentiful situations to find my inner therapeutic voice, and stance on difficult situations, and lastly provided me a new educational experience to improve my future as clinical mental health counselor.

Blumling, Rachel: [12:30-1:45] [P20] [GYM] *Synthesis and Characterization of Novel Unsymmetric Dithiocarbamate Ligands.* Dithiocarbamates, R₂NC(S)S⁻, are a well established class of ligands which form stable complexes with most transition metals. Modification of the ligands can lead to significant changes in structure and behavior of the complexes. Synthesis of novel amines with secondary functionalization (halides, carbonyls) provide complexes with different chemical and biological properties as well as the possibility of further structural modifications. Condensation of primary amines with aldehydes gives secondary amines. Reaction of these secondary amines with carbon disulfide provides the dithiocarbamate. This research focuses on the synthesis of unsymmetrical novel aryl and benzyl dithiocarbamates. Compounds are characterized by IR and NMR spectroscopy.



Booth, Bethany: [3:30-4:15] [3A] [D-128] *The Mission of Wheeling Jesuit University through the Autumn Leaves.* To capture Wheeling Jesuit University's mission statement of life, leadership and service among others, I decided to capture the fall leaves. When I think of leaves, I think of how they change with the seasons; in the fall, they change their colors and in the spring the bloom. Students at Wheeling Jesuit University are given opportunities to change our colors and eventually we bloom and become the people we want to be. Students often switch majors after their first semester; this represents the color

change. From English to Respiratory Therapy or Nursing to Communications, Wheeling Jesuit University wants us to find our niche and encourages us to explore our choices we have available to us. Usually by the spring of a student's fourth year, they are graduating; I think this represents the blooming of new leaves. When students graduate with a degree, they are ready for the real world, yet they are now the maple trees among the pines. In one of the pictures, it shows a single leaf; in the other it shows a multitude of different leaves of different colors. Although all leaves have very similar chemical compositions, they are all different. Some are different shades of red, some are green and some are yellow. We, as human beings, all have differences. Being different does not make us any less of a human being. At Wheeling Jesuit University, we are encouraged to embrace our differences. With students from over 26 different countries, Wheeling Jesuit University students are truly diverse, and thus life, liberty and service among others came alive in my photographs.

Boyle, Megan: [2:15-2:30] [2A] [D-128] *Associated Risk Factors for External Beam Radiotherapy Prostate Cancer Patients and their Impacts on Biochemical Failure, Mortality, and Prostate Cancer Specific Mortality*. The purpose of this study was to identify factors that may pose additional risks of biochemical failure, general mortality, and prostate cancer specific mortality (PCSM) for prostate cancer patients who have been treated exclusively with External Beam Radiotherapy (EBRT), with or without additional Androgen Deprivation Therapy (ADT). EBRT treatment involves a regimen consisting of a daily dose of ionizing radiation beams to target tumor tissue for five to six weeks. The radiation breaks chemical bonds and damages DNA, resulting in cell death. ADT works to decrease hormone levels to stunt cancer cell growth. Biochemical failure, when identified via the Phoenix criteria, occurs once the post treatment PSA levels have risen to a level of two or more nanograms per milliliter above the nadir. The nadir is the lowest point (ng/ml) that Prostate Specific Antigen (PSA) drops following treatment. A retrospective study of 573 patients classified as either favorable intermediate risk, unfavorable intermediate risk, or high risk were identified before the start of treatment. Both the Kaplan-Meier method and the Cox proportional hazards methods of regression were used in the evaluation of multiple patient factors for biochemical failure, mortality, and prostate cancer specific mortality (PCSM). The results when analyses were done on a multivariate scale revealed that both the number of days until the nadir was reached ($P > |z| = 0.00$), and the initial C Stage the patient was diagnosed with ($P > |z| = 0.066$) were identified as contributing to a significant increase in the rate of biochemical failure. C Stage refers to the degree to which the cancer has spread beyond the outer layers of the prostate. For general mortality the number of days until the nadir was reached ($P > |z| = 0.00$), BMI ($P > |z| = 0.02$), age ($P > |z| = 0.006$), the patients' history of diabetes ($P > |z| = 0.00$), history of coronary artery disease (CAD) ($P > |z| = 0.035$), and tobacco usage ($P > |z| = 0.00$) were associated with an increased risk. A multivariate analysis for PCSM identified the PSA value of the nadir ($P > |z| = 0.00$), the number of days until the nadir was reached ($P > |z| = 0.00$), the initial GS ($P > |z| = 0.05$), and whether the patient was treated with ADT ($P > |z| = 0.023$) to be positive indicators for an increased rate. In conclusion, patients who fall into the categories specified via these analyzes should be monitored for better proactive treatment due to a greater perceived risk. Additionally, further study may be required with a larger sample size to further validate these risks and to identify better treatment methods for those falling under these risks.

Boyle, Megan; Combs, Sam: [12:30-1:45] [P26] [GYM] *The Genetics of Identity*. With the ever-changing knowledge base concerning the heritability of different physical and mental traits, more and more people are questioning the weight of genetics in the development of specific personality traits. 23andMe analyzes the provided DNA samples to look for specific genetic variants that have been identified as associated with particular traits. Their kits include analyses on genetic health risks, ancestry, as well as general traits. Promethease is a third-party data

processing company that which does a more thorough gene-by-gene analysis of inheritance through a database with information from prior studies. The Big Five Personality test is a personality test that has been used widely in psychological research. The traits that this test examines are extraversion, openness, conscientiousness, agreeableness, and neuroticism. Prior studies have determined possible links between several genes and associated personality traits. The goal of this study was to do a specific analysis of whether the Big Five Personality test could accurately predict the presence of certain genetic alleles in an individual. Both subjects in this study were members of 23andMe and had already participated in 23andMe's Health and Ancestry analysis. The DNA data as presented by 23andMe had also been processed through a program called Promethease. After both subjects tested their personalities via the Big Five Personality test, this DNA data was then used in a comparative analysis. Specifically, the subjects' DNA was analyzed to determine the genotypes of the alleles that have been circumstantially linked to traits as they are expressed according to the Big Five Personality Test. The results of both the 23andMe and Promethease DNA analysis as well as the Big Five Personality Test will then be compared to determine whether any behavioral traits match those as suggested by the DNA alleles.

Buck, Lauren: [4:15-4:30] [3A] [D-129] *The Eagle Has Two Wings: A Reflection on Political Identity in America*. In reflection of the 2017-2018 Laut Honors seminar topic of Identity, this presentation endeavors to study the differences in political identity in the United States between the left and right – liberals and conservatives – in order to: 1. Explore innate biases each side may have for the other, 2. Evaluate current events from both perspectives, not as a commentary on the events themselves, but as an exploration of how the left and the right view and discuss different events, 3. And to study trends in the sorts of people who self-identify as left or right, as a reflection of an individual's geographical location, their proximity to either rural or urban environments, their educational backgrounds, and their potential parental and/or childhood influences. As a whole, this project invites the audience to study their own political identity, to discern why they have that identity, and to analyze how they currently view the opposing party. The political identity of the United States today is that of a people divided, but it doesn't have to be: the left and right wings have more in common than we think.

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Butterworth, Tyler: [11:30-11:45] [1B] [D-129] *Denouncing the Exotic: The Role of Othering in Lovecraft's "The Shadow Over Innsmouth" and Bloch's Psycho*. While horror is one of the more popular genres of literature, many readers tend to focus more on the graphic elements of the genre and ignore the elements that can actually play an important role in everyday society. One such element is the concept of Othering, the process of taking an individual or group that can be seen as exotic or different and making them into something that should be feared or seen as lesser. By generalizing the Other in such a way, they are transformed into a sub-human species and made to be inferior to what is considered "normal" in every day society. The concept of Othering is derived from Orientalism, a theoretical concept that critic Edward Said focuses on in his seminal text *Orientalism*, in which he explains how the West and Europe, who he terms the Occident, have transformed the East into a stereotype called the Orient and view them as uneducated, unsophisticated, and dependent on the more advanced West. This paper focuses on the role that Othering plays in H.P. Lovecraft's "The Shadow Over Innsmouth" and Robert Bloch's *Psycho*. These two texts introduce Othering in two different, but oddly similar ways. Lovecraft portrays his Innsmouthian characters as the stereotypical Other, as they live in a primitive fishing town and are seen as underdeveloped and stupid by their neighboring villages. Lovecraft bridges the two groups together by introducing an outsider, the narrator, who initially agrees with the "normal" citizen's opinions of Innsmouth and

its residents. However, as the story progresses, the narrator becomes more and more enchanted by Innsmouth and its residents, much like how Said feels the Occident reacts to the Orient. Bloch, on the other hand, takes a more modern approach to the role of Othering in horror literature, as he creates an exotic individual who seems to be as normal as possible. It is here that Othering overpowers the shallow societal norms, as Norman Bates seemingly portrays the typical American male, but actually harbors a darker side. This speaks to readers because it shows that all individuals have the potential to be like Norman, as anyone can inspire fear. By doing this, Psycho tries to tear down the barrier separating Occident and Orient and by breaking free of the notion that the exotic is horrifying, the Orient is free to be seen in a fairer light, one that portrays them as actual humans with the same natural rights as the Occident.

Carenbauer, Dylan: [2:30-2:45] [2A] [D-128] *A Green Synthesis of L-ascorbic Acid Derivatives Using Aspergillus Niger Recombinant-lipase Catalyzed Transesterification*. Ascorbic acid, commonly known as Vitamin C, is one of the most widely recognized and easily accessible organic molecules and antioxidants. Vitamin C is frequently included in cosmetic and food preparations, either alone or in combination with other antioxidants -such as Vitamin E, thiocetic acid, or ferulic acid- to prevent rancidification and oxidation of food oils and sensitive active ingredients, respectively. Commonly derived from glucose industrially, ascorbic acid is synthesized using a multi-step process that includes inorganic metal catalysis, oxidations, and several microbial fermentation processes. This procedure, recognized as the *Reichstein Process*, revolutionized acquisition of ascorbic acid and made it feasible to produce on an industrial scale. However, pure ascorbic acid is extremely sensitive to both water and oxygen and subsequently does not retain its antioxidant properties for long. This has led in recent years to much interest in the creation of ascorbic acid derivatives that retain their antioxidant capacity while becoming less susceptible to oxidation by water and oxygen. The few derivatives known contain one or more long chain fatty acids esterified to the hydroxyl groups on ascorbic acid; one of the most widely researched ascorbic acid derivatives is ascorbyl palmitate- an ester of ascorbic acid and palmitic acid. However, this too is a laborious, expensive, and environmentally unfriendly process that requires large amounts of acids, inorganic catalysts, solvent, and typically has a low yield. This research considers the recent advancements made in biotechnology and biocatalysis to produce a new process of synthesizing ascorbic acid derivatives using a recombinant lipase expressed and isolated from the fungus *Aspergillus niger*, also known as black mold. While normally catalyzing the hydrolysis of esters, it was recently discovered and published that this lipase could catalyze transesterification reactions in the absence of water while being nonspecific for a wide variety of substrates. Ascorbic acid derivatives will be synthesized using this novel process, verified using IR and NMR, and their subsequent antioxidant capacity measured against pure ascorbic acid to determine if additional water or oxygen stability is conferred.

Chapman, Mallory: [12:30-1:45] [P33] [GYM] *Early Mobilization of ICU Patients*. In the intensive care unit (ICU), patients are critically ill. This means that they have acquired some type of disease, infection, or injury that has severely hindered their ability to lead a normal healthy life on their own. While in the ICU, these patients are watched around the clock by a team of healthcare providers. This team usually includes nurses, respiratory therapists, primary care technicians, and physicians. Most of these ICU patients are sedated, mechanically ventilated, and are placed on a very strict regimen and treatment plan to ensure that they improve. Now, while being sedated or mechanically ventilated, these patients are also placed on bed rest. The majority of them are not able to get up and move to perform activities of daily living. As a result, the body begins to atrophy due to the lack of movement and also the injury or illness that they are fighting. The purpose of this project is to determine whether or not early mobilization of ICU patients increases their muscle strength and decreases their risk of muscle atrophy due to

longer stays in the hospital. I foresee that by implementing early mobilization of these ICU patients, it will decrease the risk of muscle atrophy while also making them stronger. I also believe that this will decrease their length of stay in the hospital as well as decreasing their recovery time. I will be conducting this research by collecting data from previous patients' charts in the form of a chart review to see if early mobilization, such as sitting up on the edge of the bed or in a chair, standing, walking, or even a physical therapy regimen, decreased the risk of muscle atrophy.



Claytor, Colton: [10:00-10:15] [1C] [ASC G-10] *Appalachian Institute Website*. For my senior project I helped update and post blogs to the Appalachian Institute Website.

The Appalachian Institute's mission is to work toward the goal of safer, healthier, and stronger communities in the central Appalachian region and beyond by initiating and partnering on initiatives that address contemporary challenges and issues. Those that are a part of the Appalachian Institute are the students and faculty of Wheeling Jesuit University. They are all volunteers giving up their free time to make a difference. Through blog posts people can read about the important things that the students are doing in the community. For example, a group of Wheeling Jesuit students traveled to Kermit, WV for an immersion trip to chop wood for the Big Laurel Learning Center. This provided the people of Big Laurel with enough firewood to keep their homes heated for the entire winter. If it was not for the students, the people of Big Laurel would not have been able to chop enough wood to heat all of the homes. One of Wheeling Jesuit University missions is being men and women for others. These immersion trips are important because the students that go on these trips and help those in the community are fulfilling that mission. Trips like these help to change a community for the better. Another important update to the website was the social media accounts. This helps get the message out to as many people as possible about the different immersion trips the students are going on and the impact that it has on the community. I hope that this project will inspire other students to join the Appalachian Institute and help provide service to the community.

Combs, Sam; Boston, Dylan; Christelle, Lusamba; Defilippo, Zac: [4:00-4:15] [3B] [ASC 315] *Appointment Application for Challenger Learning Center*. The Challenger Learning Center® at Wheeling Jesuit University allows for young students to embark on space simulations to learn more about space exploration from a variety of disciplines. Currently, the employees are scheduling all simulation missions through phone calls, handwritten calendars, and multiple spread sheets. The purpose of this research project is to create a simple and efficient database for scheduling appointments. The database will reduce the employee's need for repeatedly entering duplicate information as well as entering information across mediums. The integrated development environment (IDE) that will be used is Visual Studio, which allows for a variety of coding languages. This will allow for a multitude of components to be stitched together on one platform for ease of development.



Corral, Jose David: [11:15-11:30] [1C] [ASC G-10] I analyzed *Boyz N the Hood*

(1991) to show how stereotypes of African-American men in areas such as Compton were challenged and perpetuated. I decided to do an ideological analysis of *Boyz N the Hood* because the movie both challenges and perpetuates stereotypes, as well as paints a vivid picture of what life was like for young black men in Urban Ghettos. For example, Furious Styles, played by Lawrence Fishburne, is an exceptional example of the stereotypical "absent" black father. However, Tre Styles' friend, played by Ice Cube, grows up with no father. This stereotype is perpetuated when Ice Cube or "Dough Boy" is arrested for shop lifting, thus being the start of an extensive history of crime. My overall goal is to educate individuals and to show that this

movie is a film that touches on the hardships of growing up in the hood. My main goal will be to show these challenges, while also dismantling any sort of stereotype perpetuation. Through a textual analysis of the movie, this paper seeks to expose stereotypes which are perpetuated and challenged. The movie presents many aspects of stereotypes such as the way the characters interact, the absence of father figures, and the violence that comes with the territory of living in a certain neighborhood. By analyzing the film, one can consider the changes and progress society has made, as well as what needs to be done in order to avoid putting anyone in a situation where you are physically and financially stuck, as are the characters in *Boyz n the Hood*. In this paper, I argue that the movie carefully illustrates the life of young black men in the hood and the vicious cycle of being consumed by the neighborhood. Once you are in, it's hard to make it out; you either join the Marines, leave in a police cruiser, or on a stretcher. The difficulties of this environment truly shaped a negative opinion towards those trying to survive in their territory.

Coyne, Megan: [12:30-1:45] [P33] [GYM] *Varying Perspectives on Medical Providers and Their Effects on People's Health*. This research explores determining factors that people have on medical providers, which can influence them to avoid care. This ultimately has a huge factor on their health. There are varying reasons people avoid care such as physical factors, medical factors, traditional barriers and affective concerns people may have. The experience they endured creates a perception on medical providers, which could lead to poor health in the future. All perspectives should be studied in order to fully understand the reasons people avoid care. The reason for this research is to find the key attributes that people have towards medical providers and make them more aware of the large impact these factors have on people's health; and to make others aware of how dangerous this is for them. My hypothesis of this research is that many people will find there is a large dislike towards medical providers based on factors medical providers were unaware of. These negative attitudes towards medical providers will have a strong negative effect on people's health in the long run. My method is to send out surveys to all faculty and staff members at Wheeling Jesuit University. The beginning of the survey will be general background questions consisting of gender, age, ethnicity, hometown, and where they presently live. They will be asked whether they have been a patient in the hospital before or visited a loved one in the hospital in the past. The subjects will identify if they have ever avoided care in the past, and if so how often. Next, the participants will select whether they experienced medical providers in a positive or negative manner or both. Information will be gathered on the traits the volunteers look for in their medical providers, such as confident, emphatic, humane, friendly, forthright, respectful and thorough. There will be an open ended option or a write in section for them to write a trait they look for in their care providers that was not listed. The participants will select all of the reasons they have a negative perspective on their medical providers, which will be divided into three sections to determine whether the negative perception are based more on the facility, personnel, or themselves. Reasons for a negative perception on facilities are limited to cleanliness, too far away, cannot afford the cost, uncomfortable with the unfamiliar setting, and loud noises. Negative perceptions on personnel could be laziness, forgetfulness, poor care, stubbornness, procrastination, and language barriers. The third section is reasons for avoiding care because of themselves which could be fear, past experience, thinking they will get better on their own, and home or spiritual remedies. Lastly, there will be a write in section for the participant to explain their selections or any other negative traits they have experienced or dislike that were not listed above.



Csenar, Nick: [12:30-1:45] [P22] [GYM] *Wildlife Destruction*. For my senior project I have created a website that shines light on things that are happening around the United States that affect the wildlife, such as fracking, industrialization, logging, and mining. I am evaluating the effects of wildlife destruction in the United States by researching

local areas that are victim to numerous different forms of destruction. Throughout the United States the Public Lands are owned by the citizens and taken care of by tax payers. These lands are for the most part safe, besides being shutdown or sold away by the Government; private lands are being ruined and turned into many different things that are hurting the environment. It is the owners' decision to sell private land, but that private land is sold to larger companies. These companies, who do not care about the trees or the animal life there, cut the forests down to build shops or houses which kill animals. This in turn makes the animal potentially endangered and ruining the environment by leaving carbon footprints and factories in places that used to be rural. In the Western part of the U.S. there are many forest fires that are started naturally from sources such as excessive heat/aridness and lightning but frequently are caused by humans that walk around and drop matches or leave open fire flames unattended. These issues are very popular in the Western part of the country while deforestation and logging is popular in the Northwestern region. In the East there are issues with Acid rains that kill large amounts of the fish populations which hurts food sources for animals and humans alike. With these issues and events happening, I plan on giving a poster presentation about the website that I have created on the destruction of wildlife around the United States and how it affects the local areas. My poster will be instructional and educational on what is going on with the wildlife around the country and how someone can help with these issues whether by donating money or by volunteering his/her time.

Davin, Madeline: [4:30-4:45] [3A] [D-129] *American Catholic or Catholic American: Exploring Tensions Between Catholic and American Identity*. The identity of an individual is complex and multi-faceted, with some aspects coming into conflict with others. When taken seriously, religion should play a significant role in shaping one's identity. At the same time, nationality has a great impact on how we view ourselves as individuals and the ways we choose to act. For Catholics who are also citizens of the United States, living out both these facets can be a challenge. Catholics are not called to remove themselves from society, yet our current political system makes it difficult for us to participate in a way that does not compromise our religious values, particularly those dealing with social justice. The differences within American politics on issues such as the environment, health care, immigration, and war divide all citizens, including Catholics. Exploring these issues will illustrate the tensions being Catholic and American brings about in the polls and in everyday life. We should not have to categorically choose between being American and being Catholic, but we also need to recognize the need to hold these identities in tension with one another, and acknowledge that there will be times when we will need to choose between living the social teachings of the Church and supporting American patriotism. If we take seriously and strive to live the Gospel message of being present to those on the margins of society, we need to be extremely weary of the ways in which we may be participating in or promoting an American "empire."

Davin, Madeline: [2:30-2:45] [2B] [D-129] *Martyrdom and a Consistent Life Ethic*. The practice and celebration of martyrdom has played an important role in shaping the Christian church. On the one hand, the Christianity's celebration of martyrdom speaks to the Christian understanding of the relationship between life and death. On the other hand, it also has the potential to come into tension with other Christian beliefs, specifically within Catholicism's social teaching. Upholding a consistent ethic of life is becoming increasingly popular within Catholicism and the pro-life movement as a whole. With this in mind, it is also increasingly important to understand the relationship between the celebration of martyrdom and upholding a consistent ethic of life, particularly when Catholicism supports both ideas. The image of martyrdom which the early Church painted is intimately connected to Christian understandings of life and death; further, modern celebrations of martyrdom can come into conflict with a Catholic understanding of what it means to uphold a consistent ethic of life.

Deckert, Holly; Brown, Erik; Dennis, Dave: [12:30-1:45] [P1] [GYM] *Do Wheeling Jesuit Student-Athletes have higher stress levels depending on their sport.* The purpose of this research is to determine if there is a correlation between what sport team you are on at Wheeling Jesuit University and higher stress levels. Athletes usually experience more stress due to things like time management, coaches, parents, and classes. There has been research performed on student-athletes with stress levels but never compared to what sport teams they are on. The participants will be asked questions about coaches, scheduling, communication, and classes. After reviewing articles my hypothesis is that team conflict will have the highest stress levels compared to other teams. My research will consist of an anonymous survey where it will be given out to 13 fall in-season sports.

Dipuma, Brett: [11:00-11:15] [1B] [D-129] “*There are Christians and then there are Christians: Finding the Divine in Barbara Kingsolver’s The Poisonwood Bible and Marilynne Robinson’s Gilead.* Religion plays a fundamental role in society. People live their lives according to the beliefs that they hold since those beliefs influence how they perceive the world. Religion matters to people. It is what they can refer to when everything else around them is failing. For the most part, Religion has no empirical evidence, no concrete signs of being real, or having practical benefits; but religion can offer consolation. A select group in practically every religion have the role of mediator between God and laity. These individuals both bring forward and interpret the Divine for their congregation. Their job is to make God accessible and understandable so that the rest of the world can live their lives, do their jobs, and find meaning. Preachers find meaning in life for people in the good times and the bad, and they have great influence over their respective people. Religion affects people so strongly that Karl Marx calls it the “opiate of the masses” because once people believe a religion changes their lives. In fact, they are encouraged to leave their old lives behind and live according to their new credo. Thus the people modeling those religions—the ministers, priests, or preachers—deeply affect people’s lives. The examples of preachers in Davis Grubb’s *Night of the Hunter*, Barbara Kingsolver’s *Poisonwood Bible*, and Marilynne Robinson’s *Gilead* show that while preachers may come in any shape and size, not all are effective. Grubb, Kingsolver, and Robinson use the examples of their preachers’ view and use of baptism to show that it is only through humility, self-sacrificing love, and self-awareness that an individual can reach enlightenment and come to know the Divine.

 Dipuma, Brett: [2:00-2:15] [2B] [D-129] *Towards an Understanding of Shared Christian Experience at the Margins.* Theology attempts to respond to the most important questions. Feminist theologian Elizabeth Johnson works with the definition of theology “fides quaeres intellectum, faith seeking understanding, or searching for a deeper discernment of the meaning of the gospel and its interpretive confessions, and concomitantly, looking for deeper understanding of human life and the whole universe in the light of the graciousness of divine mystery” (17). With the progression of social sciences and postcolonial criticism taking a place in the forefront, theology has recently shown to historically misrepresent, if represent at all any group not in power. This paper looks to look at traditional, black, feminist, and liberation theology to look to find how theology can address the voices of the marginalized and move become a voice that “tell[s] good news to the poor...proclaim[s] release from the captives and recovery of sight to the blind to let the oppressed go free” (Luke 4:18). It is imperative to find a theology that speaks to all people especially in the light of a divided world most easily seen through gridlocking politics. A Christian theology of grace ought to address all

of those who are oppressed, not to affirm the status quo and the ruling class. Since Jesus's sacrifice is one that is for the all humankind, theology should bring out the best in each and raise and affirm human experience.

Faila, Jennifer: [12:30-1:45] [P13] [GYM] *Aggressive Behavior of Cichlids due to climate change*. The metabolic rate of an organism is affected by diet, mass, and temperature. Climate change is generating a broad range of stresses in aquatic ecosystems, primarily through warming thermal conditions. Lakes, in response to these changes, are experiencing increases in water temperature and air pressure. We conducted a lab experiment to quantify the influence that higher temperature has on the aggressive behavior of cichlids from Lake Victoria. This research is separated into two steps to demonstrate the effects of increased temperature and normal temperature among wild male cichlids, *Xystichromis* sp. Kyoga Flameback Albino. We found that in higher temperature treatments fish had a higher rate of aggressive behavior than fish in normal temperature conditions. Normal temperature is 77.72 °F (25.4 °C), and we set our increased temperature at 79°F (26.1 °C). Neither high nor normal temperature significantly affected the standard growth rate of the fish. We conclude that high temperature may correlate with increased aggressive behavior.

Fajerski, Aaron: [11:45-12:00] [1B] [D-129] *The Proximity of Evil in Dr. Jekyll and Mr. Hyde*. Sigmund Freud functions as a scope to analyze the nature and proximity of evil, which are evident in Robert Louis Stevenson's *The Strange Case of Dr. Jekyll and Mr. Hyde*. Freud's views of the human psyche apply to Dr. Jekyll's struggle to make sense of his identity. Three elements comprise the nature of evil within humanity: morbid detachment, sadistic pleasure, and self-centeredness. Jekyll's/Hyde's detachment, for example, is demonstrated by the cold indifference he shows to those around him. But Jekyll's/Hyde's neglect for others and thirst for pleasure fuel his narcissistic goal to become the greatest scientist and scholar of his time. Finally, three specific themes are mentioned in this paper. The first theme is that human nature is dominated by evil, not by goodness. The second theme is that a person cannot always hide the unpleasant side of his nature. The final theme is that society cares more about appearing good than they do about the reasons behind their conduct. The Freudian elements are incorporated into these three themes. The incorporation shows that Freud's analysis of Stevenson's novella highlights the proximity of evil and violence within the contemporary real world.

Fitzmartin, Daniel: [10:15-10:30] [1A] [D-128] *Road to a Self-Destructive Economy: Nazi Economic Policy 1933-1939*. The purpose of this research is to identify the influential factors in the Nazi economy that led to its efficiency before the start of World War II. In doing this, the research will be relayed chronologically starting from 1933 through the fall of Berlin in the spring of 1945. The presentation will look at pre war economic policies including the institution of the New Plan in 1934 and the Four Year Plan in 1936. The objectives of these two plans will be examined and the resulting successes and failures will be accounted for in this research. In accordance with these plans, the presentation will be dissecting related economic factors such as the reliance on foreign materials and Germany's attempt at shifting to a self sufficient economy, or autarky. This presentation will show research on the plans of increased infrastructure and rearmament for an economic boost as well as the relative ignorance of the production of domestic goods. The lack of domestic goods and immense spending on rearmament give a fleeting state of a powerful economy with little to sustain it other than war and conquest. War and conquest inevitably stretches the shallow resource pool of Nazi Germany compared to the Allied forces. This presentation will examine the German economy in relation to the United States and Great Britain economies. The presentation will focus primarily

on prewar economic policies as well as early conquest in efforts to prove that the German economy was built for war and conquest alone and not for sustainable domesticity.

Fodness, McKinley: [3:30-4:15] [3A] [D-128] *Locks, Doors, and a Mission*. My experience at Wheeling Jesuit University has been limited, but even with my lack of time here on campus, the university's mission has been very apparent and clear to me: To develop men and women for others, while allowing students to discover the world and themselves in the process. I have walked around the town just outside the campus a few times and I even see this message in the things around the town. The two subjects I chose to shoot for this project are a lock on the bridge connecting campus to the neighborhood and the Lutheran church door on National Road. I chose the lock on the bridge because I saw various things in the composition that are metaphors for WJU's mission and really represented it well. There are many locks on the bridge from various couples who have gone to this university, like the tradition in Paris, France on the Pont des Arts Bridge where couples will lock it on the bridge and throw the key into the water. This signifies their everlasting love and commitment for each other, and is a direct parallel in the mission of WJU. Being a partner to someone for life is a lifetime commitment of sacrifice, generosity, and faith, which are values that WJU wants to instill in all its students. Also, the lock is directly over recently blessed Wheeling Creek which represents another part of the mission, to help students find themselves, whether that be in faith, love, or service. My second photo, the Lutheran church doors, represents the part of the mission to allow students to find their own path and see where that takes them. Maybe through the red doors? Maybe its service in faith or in ministry work, or it is pursuing a dream or career that you have always wanted. Whatever that purpose is for yourself, it is encouraged at WJU to follow your dreams. WJU is the red doors, they will open and allow you to find your purpose in life and that path that you want to take.

Forkey, Jonathan F.: [10:45-11:00] [1A] [D-128] *Domestic Propaganda of the United States and How it Moved the Nation*. When it comes to the topic of propaganda of the second World War, the discussion is often focused upon the negative aspects which made up the bulk of the Axis propaganda campaigns. Few works discuss the American information campaigns and how they motivated the civilian population at home to make surprising, sometimes extreme sacrifices and changes, in order to aid the war effort. Although the people of the American home front and how they accomplished specific tasks to do their part for the war have been discussed in some detail, the propaganda machines of the American agencies which appealed to, cajoled, and commanded the people into action have been relatively ignored. This paper analyzed a collection of films, both theatrical and non-theatrical, as well as entertainment and educational films, posters, and other artworks, radio and print advertisements, as well as essays and speeches by key government authorities. It attempts to put together a more complete picture of what motivated the people to go without and to change their lifestyles, what motivated women to join the workforce, and how Americans were convinced to give up their savings in billions of dollars to fund nearly half the bill of the most expensive war in our history. It also delves into the history and psychology of American "information" campaigns and how they changed from the first world war to the second, and why the campaigns between 1940 to 1945 were more successful. The information shows: 1) The bulk of the campaigns were aimed at women and appealed to their sense of patriotic duty through their families. Doing their part meant that the war would be over more quickly, 2) The patriotic appeal to men was through their pride. If they did their part, it was as good as being on the field of battle itself, 3) Each civilian was made to feel as though they were a direct and effective cog in the war machine. Everything was discussed in soldier terminology, and everything saved, every job, every war bond was itself a weapon of war to use against the enemy. The American homeland propaganda machine and its distinct, decentralized agencies were successful in getting Americans to conserve, grow, and can their own food, motivating an untested demographic into a male dominated work force

where they found new opportunities, and loaned billions of dollars more than expected to fund not just the war effort for the U.S., but also the complete cost of the Lend Lease act – effectively enabling the Allies to remain in the fight.



Frankovitch, Anne: [2:15-2:30] [3A] [D-129] *An Analysis of Identity and Success in Individuals with Special Needs*. The concepts of “identity” and “success” are two terms that carry significant weight with regard to their meaning. However, drawing in the notion of those with special needs or learning disabilities to these ideas creates a new, heightened dimension as to how the concepts are developed and evaluated. It can often be said that one’s upbringing shapes their identity and level of success, but to what extent? Perhaps contrastingly, many individuals with special needs are labeled to possess and exhibit certain characteristics from birth, their futures outlined for them from the start. However, the truthfulness and validity of these identifications should be considered for each individual. These questions are addressed by both John Elder Robison and Temple Grandin in their memoirs, *Look Me In the Eye: My Life with Asperger’s* and *Emergence: Labeled Autistic*, respectively. Though exposed to vastly different upbringings, each individual is considered highly successful, so the question becomes: why? By examining these texts and specifically focusing on each individual’s upbringing and consequential success alongside scholarly studies, I will endeavor to identify the factors that lead to success in individuals with special needs. Above all, a reorganization of what determines success both inside and outside of academic settings as well as a reconceptualization to a focus on the individual leads to a stronger capacity for success. Thus, I will first examine scholarly research, which will serve as the foundation of the research, followed by an analysis of these results in connection to Robison and Grandin.

Furr, Jenna; Brown, Erik; Linn, Lauren; Miller, Timothy: [12:30-1:45] [P2] [GYM] *Correlation Between Low Body Mass Index and Stress Fractures in Male Distance Runners*. The purpose of this study is to find a correlation between male distance runners getting stress fractures and a low body mass index (BMI). A stress fracture is a common injury that occurs in male distance runners. A reaction can happen to the runner’s bone because of the repetitive stress applied to a runner’s body from each foot strike. The reaction results in microtrauma to the bone, which can lead to a stress fracture and even a bone fracture. If a positive correlation is found between a low BMI and stress fractures, athletes may want to regulate their diets to prevent future stress fractures. The hypothesis of this study is more male distance runners who have had a stress fracture will have a BMI lower than 18.5% (underweight) compared to a distance runner who’s BMI is considered normal. Runners from the NCAA division II, Mountain East Conference will be asked to participate in this study. An e-mail will be sent to the coaches of cross country and track and field asking them to forward an e-mail to all their male runners. The e-mail will have a link to a survey for the athletes to fill out on Survey Monkey. Before the runners complete the survey they will sign an informed consent form. Questions on the survey will ask the runners to provide their correct height and weight. The survey will ask them to specify what bone or bones they have received a stress fracture in, along with the date they were diagnosed with the stress fracture. Questions on the runners’ mileage will be asked, such as: the runner’s average weekly mileage, the date of their highest mileage week, and the date of their lowest mileage week.

Gittings, Marc: [10:00-10:15] [1B] [D-129] *The “Heart of Darkness” within individuals and “Civilization” in Francis Ford Coppola’s Apocalypse Now Redux*. This paper analyzes *Apocalypse Now Redux* (2001) and how the characters of Captain Benjamin L. Willard and Colonel Walter E. Kurtz discover that there is a darkness that is present inside of human beings that both men, career soldiers, are consumed by, becoming abominations. However, both men

are not merely soldiers. *Apocalypse Now Redux* eventually reveals that both are assassins sent to do the bidding of a superpower. The United States Army has lost control over Colonel Kurtz, who has given into his dark heart and assassinated many innocent people, and the Army sends Captain Willard into the jungle to assassinate Kurtz and eventually take his place. The dark heart of human beings in Coppola's film desires to control those who are seen as weaker or less important in an ideological sense. In the case of *Apocalypse Now Redux*, the inferior individuals are those in the jungles of Vietnam. Willard and Kurtz are sent so far away from society that they no longer have to ignore or cover up the savagery within themselves. This process of seduction by the savagery is enabled by the nature of the occupying American forces inside of the country. The war therefore acts as a façade, in order to rationalize Kurtz and Willard's actions. Kurtz has gone totally insane because he is unable to keep up the façade of civilization that the United States Army (and the French colonizers before them) use as a justification for their actions. Once this façade is lifted, Kurtz and eventually Willard revert to the darkness that is present inside of all human beings. Kurtz proceeds to overpower the natives by making himself a god and turning them into his children by using force. He submits to his inner darkness, while trapped in a symbolic place of dark, undiscovered territory, effectively allegorizing the darkness in all human hearts. Kurtz, then Willard, left the hellish landscape of the war-torn continent, and secluded himself into his own hell, the hell of human darkness. In the end, Willard is essentially a younger version of Kurtz trapped within the darkness and trapped within his primal self. Kurtz and Willard become the abomination of human form and both succumb to wicked actions because light or goodness does not always triumph over darkness in the "civilized" human heart. Coppola's film adapts Joseph Conrad's novella about African colonialization to demonstrate that, although nationalist ideologies may come and go, what remains is the human will to conquer those we deem inferior to ourselves.

Gwyn, Scott: [10:00-10:15] [1A] [D-128] *How Does the Health of a Democracy Change as a State Moves from the Periphery to the Core?* Using the categorizing factors of Wallerstein's World Systems Theory to place Russia in the semi-periphery, this study will focus on the rapid economic growth of Russia from 1991 to 2016 and whether that can be applied to other semi-periphery states following the same trend. Through voting patterns and freedom ratings, this study measures the political health of Russia as its economic power grows rapidly. It is hypothesized that the speed at which the Russian economy grew created a lag in political development. Therefore, it can be shown that Russia's economic growth has inhibited their political development.

Gwyn, Scott: [12:30-1:45] [P24] [GYM] *Predictive Variables*. Using key socioeconomic factors such as gender, age, economic status, religion, and geographic location, this study will focus on how a population forms its political identity from 1900-2016. By studying how these key factors affect how a person votes, this study tries to discover if these factors have consistently aligned voters with one party versus the other in the American two-party system. The study will move from one variable to the next through charts and graphs, showing the differences between the makeup of the conservative and liberal ideologies. It is hypothesized that these traits have consistently helped to predict how a person might vote. As a result, it can be stated that these traits are essential components of an individual's political identity that are reliable voting behavior predictors.

Gwyn, Scott: [11:45-12:00] [1B] [D-129] *The Great Social Equalizer: Social Criticism Through Setting and Death in Edgar Allan Poe's "The Masque of the Red Death," "Hop-Frog," and "The Fall of the House of Usher"*. Edgar Allan Poe's tales, such as "The Masque of the Red Death," "Hop-Frog," and "The Fall of the House of Usher," have subtle but heavily involved aspects of social criticism within their gruesome plots. Due to the gothic genre Poe writes in, the characters

in many of his works are members of the aristocracy. Additionally, the character descriptions show the aristocracy as wanting to be removed from the general populace. This in-group versus out-group discrepancy is almost always reflected in some physical boundary, a house, wall, or castle, and when this superficial boundary is penetrated by an external force, the aristocracy inevitably collapses into chaos and death. For example, Edgar Allan Poe's "The Masque of the Red Death," "Hop-Frog," and "The Fall of the House of Usher" incorporate the enclosed interior setting with aristocratic character types to comment on the idea of social equality in death. The interior, the aristocracy, is starkly contrasted with the outside, the rest of society, through an artificial boundary such as a wall, palace, or estate which is ultimately invaded and disassembled by a foreign agent, death, servant, or sickness. This demonstrates how social class is meaningless because death comes for all people, regardless of status. To understand the way in which the setting helps to form social criticism in "The Masque of the Red Death," "Hop-Frog," and "The Fall of the House of Usher," it must be understood that these works share some form of the following settings: gothic and/or arabesque. Poe's works demonstrate that each way the aristocracy tries to create an artificial and impenetrable boundary between themselves and the rest of the world, they are reminded, in terrible and horrific ways, that death treats all individuals equally. That death, regardless of title or pocketbook, will always be superior.



Haley, Jonathon: [12:30-1:45] [P31] [GYM] *Adverse Childhood*

Experiences and Long-Term Health Problems. Adverse childhood experiences (ACEs) are negative experiences that occur within the first eighteen years of life. Abuse, neglect, and household complications are the three main categories of ACEs being tested. The original ACE study conducted from 1995-1997 determined there is a correlation between increased ACE score (0-10) and many long-term health problems that shorten life expectancy as well as lower the socioeconomic status. West Virginia has the second highest drug overdose rate, a higher poverty rate, and a lower education status when compared to the rest of the United States. The purpose of this research is to determine if there is a correlation between ACEs and factors that can decrease one's life expectancy. It is hypothesized that the majority of people in West Virginia have experienced some form of abuse, neglect or household challenges (ACEs) during their childhood and, therefore, have worse health conditions and lifestyles than those who did not experience any traumatic situations at a higher rate. A secondary hypothesis is that the average ACE score of those who report being from Appalachia will be higher than the average ACE score from other published studies regarding ACE scores outside of Appalachia. The research design is a Google survey being sent out through a cooperating institution. The population targeted is teachers from the cooperating institution spread throughout the state of West Virginia. This allows for data collection related to the ACE scores and health information specific to individuals in Appalachia. When the data collection is completed upon survey closure, statistics will be conducted using the multiple regression analysis SPSS statistics. The dependent variable will be the participant's ACE score, and the independent variables are the participants' personal information and health history. A priori will be set at alpha level $< .05$. The results, discussion, and conclusion sections will be contingent on the data collected and the statistical analysis. Clinical implications for this study may include options to promote better health for individuals in the state, creation of interventions for young children that could impact future health, and educational awareness to those not in healthcare but who are in direct contact with the youth of the state.

Hansknecht, Stephen: [3:45-4:00] [3B] [ASC-315] *Ten-sided non-transitive dice.* In many games, the dice that are used are transitive. That is, if you have three dice, A, B, and C, that are

all rolled, if die A beats die B and die B beats die C, then die A will beat die C. Now, there are many cases of dice that do not fit this pattern, and they are referred to as non-transitive dice. One well known set of non-transitive dice is called the set of Efron dice. The Efron dice are a set of four dice where, if rolled, die A has a two-thirds chance of beating die B, die B has a two-thirds chance of beating die C, die C has a two-thirds chance of beating die D, but die D has a two-thirds chance of beating die A. The set of Efron dice is made from four six-sided dice, but there are other dice with different numbers of sides. This research seeks to explore the possibilities of non-transitive dice creation using ten-sided dice as well as some of the probabilistic implications of these new sets of dice.

Hansknecht, Stephen: [3:15-3:30] [3A] [D-129] *YouTube Identity*. We live in an era defined by the internet. Whether it be communication, the exchange of knowledge, or just general entertainment, the internet has become the center for it all. One facet that has blossomed over the last decade is that of YouTube, a video sharing platform where creators from across the globe can upload vlogs, animations, gaming playthroughs, etc. Since its birth, YouTube has fostered a community where YouTubers can show and share their creativity with the world. However, just as YouTube has served to be a birthplace for creativity, the platform has been plagued by creators and videos that have turned YouTube from a place of creativity to one of bigotry, racism, and even harmful societal trends. The question then stands, what is the identity of YouTube, the place of community and creativity or harm and disunity. To examine this question of identity, one must consider where the major influences of YouTube come from. Within the sphere of the platform, large YouTubers and viral trends carry the largest weight as they reach the most people across the channel. Additionally, one must consider the effects of YouTube's own video selection algorithm which dictates things such as trending and recommended videos. Each of these factors play into the identity that is presented by the platform to the world. By examining each of these different aspects, I hope to show where the identity of YouTube lies.

JGD

Hocker, Mercedes: [10:15-10:30] [1B] [D-129] *Understanding Evil Women: Female Villains in Children's Literature*. Women have frequently appeared as villains in literary works for children. There are certain traits and patterns observable in these villainesses that appear in many different stories. Usually, female characters are placed in a binary opposition. There is the "good" woman and the "bad" woman" with little in between. The more the female characters defy traditional gender roles with their lack of nurturing, lust for power, and being the antithesis of motherhood, the more they are considered evil. These characters often appear as witches, evil queens, and various supernatural beings and face off against young or child protagonists. By looking at popular works for children the common characteristics of female villains can be explored. *The Magician's Nephew* and *The Lion, The Witch and The Wardrobe* by C.S Lewis and *Coraline* by Neil Gaiman present great examples of female villains and show the common traits they have. Although the texts are different stories their villains still have similarities in the way they present their respective villains. Both characters are also contrasted with other female characters within their texts reflecting the binary opposition that tends to happen with women in literature. By looking at the texts and understanding the villainesses an important pattern of how women are often presented in children's stories can be recognized.

Holstein, Cassandra: [12:30-1:45] [P21] [GYM] *Effective Wedding Planning: Eliminate the Barriers*. For my senior project, I created a wedding planning website. As wedding planning is a full service provided by an individual for clients, meeting the clients' standards, expectations and perceptions is the objective, while delivering stellar service. By creating a site, I have generated

a way for clients and planners to stay connected 24/7 through the clients' personal online site. Due to the amount of potential communication barriers, which is anything that causes a miscommunication between a client and someone providing a service, this project helps to minimize those concerns. Issues can arise between clients and providers which results in not providing a service that the client expected. With this site, I hope to achieve the ultimate goal of providing a dream wedding the clients want and have expressed to the planners while also minimizing any communication barriers that can occur between the two parties, in between meetings, and throughout the duration of planning the event. The amount of planning that goes into a wedding is extensive. From the small details such as color scheme, place cards and decorations, to the larger things such as timing, guest list and invitations, wedding planners assist with everything. Every detail, no matter how little, is extremely important. This is how the design of the site is set-up, so every detail is covered and made personal for each client. This starts with a separate login for each client, personal photos decorating their site, a wedding countdown clock and color scheme similar to their wedding. By breaking down the site into different groupings-the ceremony, the reception, and a contact of all the selected vendors- the website will keep everything organized and separated, so it is easier to find the details and information. To further eliminate the communication barriers, the clients have the opportunity to put comments straight into the site with a comment box. The timeline is an important feature because it keeps the planners and the clients on track and in the know of where they should be in the planning processes. Keeping all the details in one place, for both the clients and planners to access, eliminates much of the miscommunication that occurs during the planning process.

Holstein, Cassandra: [11:30-11:45] [1C] [ASC G-10] *Public Speaking Superman- The Affects of Power Posing on Public Speaking Anxiety*. This research proposal will suggest the exploration of the effects of power posing on college students with public speaking anxiety. As a graduating senior, this proposal would be the basis for a pilot study to be completed in the future. This research is important because up to 85% of people experience anxiety when speaking in public (Katz, 2000). This type of anxiety has a negative effect on many people's lives such as limiting one's social interactions and career choices. Research has shown that power increases cognitive processing and goal-oriented behaviors. In this study, researchers will address the question: How will power posing affect public speaking anxiety while giving a presentation? The ideal candidates will consist of college students who have public speaking anxiety. Researchers will collect data from these individuals through observing two oral presentations, interviews, and surveys. By observing and interviewing the participants, researchers will have the opportunity to observe verbal and non-verbal cues and how they change from one presentation to the other. Through this pilot study, researchers hope to better understand how one's perception of his or her power affects the human mind.

Kelly, Troy: [11:15-11:30] [1B] [D-129] *Bildungsroman in Neil Gaiman's Stardust, The Graveyard Book, and Coraline*. Neil Gaiman, a popular writer of fantasy for both children and adults, employs traditional aspects of the Bildungsroman genre in his novels *Stardust* and *The Graveyard Book*. In his novel, *Coraline*, however, Gaiman adapts certain characteristics of the Bildungsroman to fit the development of the novel's protagonist and plot more effectively. This paper will discuss the traditional aspects of the Bildungsroman and how they have changed over time, becoming modernized and fitting more and different stories. Gaiman's works *Stardust* and *The Graveyard Book* will serve as examples of the traditional Bildungsroman. Finally this paper will argue that, while *Coraline* is not a traditional Bildungsroman in certain ways, Gaiman has not only fit it into the genre but, in doing so, has expanded the idea of what a Bildungsroman can be and *Coraline Jones'* story deserves to be considered part of it.



Latocha, Kailee: [4:00-4:15] [3A] [D-129] *Appalachian Identity*. In this presentation, we will look at the demographic of Appalachia, what defines Appalachia, and the people of Appalachia. More specifically, we will explore how Appalachia shapes the identities of the people that are born and raised in the heart of Appalachia. Appalachia is an area in the Eastern United States, defined by the Appalachian Mountains, that stretches from the northern parts of Georgia and Alabama to Sothern New York. Collectively, Appalachia overarches 13 states and 397 counties. West Virginia is the only state that is fully immersed in Appalachia. The region contains a variety of people, occupations, resources, struggles, and successes. This multiplicity solidifies the fact that Appalachia is not a simple place that can easily be understood; “But somehow, no matter how confusing it seems, it’s all tied together by the mountain chain and by the coal in its center, producing energy within it” (This Land is Home to Me, 12). For many natives, Appalachia is a defining aspect of their identity. Appalachian people have created a community amongst themselves, and this community plays a large role in the identities of the individual people and the region as a whole. Appalachian people have emotional connections to the physical region and environment of the Appalachian Mountains. This emotional connection provides a sense of place for its residents. Is the “sense of place” that Appalachian natives identify with common across all geographical regions? Natives of Appalachia will identify Appalachia as their home, regardless of where life takes them throughout their years. Appalachia is a place and a people built on stories. “Our stories are the lifeblood that connects us to each other and to this land. Even those who have left these hills know the power of the telling that connects them to home” (The Telling Takes Us Home, 3). Is there are connection between ones’ personal identity and their geographical region or is this specific to Appalachia? Is the sense of community and belonging that is associated with Appalachia a defining characteristic of multiple geographical regions such as the East Coast, Midwest, West Coast, etcetera? Most importantly, what is the identity of Appalachia and the defining characteristics that create this identity?



Lukan, Vicky Jade: *Distinctions*. [3:30-4:15] [3A] [D-128] I composed two photographs that I have titled “Distinctions”, as a representation of the Micronesian culture and a few distinctions about it. There is a saying in the Micronesian culture that translates to “People are important.” This phrase pertains to the significance of relationships and connections above all materialistic things and personal motives. It also helps to emphasize the small community and the exchange of support and love which defines and sets the people apart within the culture. However, to realize the strength in a bond between two or more people, one has to realize the strength in themselves. These two photos aim to better understand the idea of individuality and personal identity as well as how these two factors provide the strength to sustain and value connections and relationships. It gives an essential quality interpretation of what it means for one to value themselves and others within a significantly less liberating culture.

Mangelo, Amanda: [12:30-1:45] [P4] [GYM] *Comparison between D-II Student Athletes and Nonathletes in Academic Performance and Personal Development*. It’s important for athletic trainers to understand that each person perceives things differently, but can be persuaded to think a certain way based on the groups they associate with. In the college atmosphere, students are categorized as student-athletes or nonathletes. Athletic trainers deal with both groups, whether it be in a classroom setting or athletic training room. By being aware of other’s reactions and understanding why they react as they do will help athletic trainers relate to their athlete or student and provide the best care to them. This study will compare D-II student athletes and nonathletes in academic performance and personal development. Each participant

will be asked to take the “Narcissistic Personality Inventory” test, and then calculated with the Mann-Whitney U test. There will be a table of paired questions from 1-40. Participants will choose which one is closest to their feelings. They will either circle “A” or “B”. The following answers will be added together according to the Narcissistic Personality rule. The score that is calculated should be between 0 and 40. Because athletes include both high and low-profile sports, the researcher expects that athletes that participate in low-profile sports will not have a difference in either academic or personal development. Whereas athletes that participate in high-profile sports will lack in academic performance and personality development High-profile sports are sports that are within the public eye.



Martin, Matthew; Arbaugh, Brenden: [12:30-1:45] [P19] [GYM] *Quantifying Nitrate Reduction via Phytoremediation*. The focus of this research is to simulate a native ecosystem with the end goal of decreasing nitrate concentration in runoff from the Wheeling Wastewater Treatment plant via a constructed wetland. Runoff directly enters the Ohio River at high enough levels to act as a hazardous agent to the local environment. *Justicia Americana* (JA) and *Asclepias Incarnate* (SM) were selected for study as both have demonstrated the capacity for denitrification and are native to the Appalachian region. Past studies qualitatively indicate positive results, which our research expands upon by the comparison of JA to SM. Throughout the experiment pH and Nitrate concentration are closely examined using UV-Vis Spectrometry and a portable electrode. An analyte of solely nitrate does not emit light within the UV-Vis spectra, so a LaMotte testing kit is required to measure absorption. If absorption is too low to absorb within a measurable region, then a known concentration of analyte will be added to improve absorption capabilities. With this data we hope to capture quantitative evidence supporting the use of constructed wetlands in the Appalachian Region.



Matthews, Cody: [11:45-12:00] [1C] [ASC G-10] *Masculinity in R-Rated Comic Book Movies: Deadpool*. The study of masculinity is one that should be examined more closely. We are able to learn a lot about masculinity through the media we view every day, and specifically through this study *Deadpool*. The research question asked used in this research was “How does the portrayal of masculinity within the R-rated comic book movie *Deadpool* reflect masculinity, and how does it counter previous portrayals of masculinity within the comic book movie genre?” The purpose of this study was to bring attention to a film, which did not consistently show the traditional hegemonic view of masculinity, but instead depicted some elements of counter hegemony. This is important to focus on because our society has put a massive importance on men being made into one set mold of what a man should be. The hegemonic masculinity we see in our society does not show the uniqueness in every individual male, but instead stereotypes him into one image with set rules and boundaries that cannot be crossed. *Deadpool* goes on to show the counter-hegemonic version of masculinity in a blockbuster hit with millions of people viewing this film. Because of the massive audience this example of counter-hegemonic masculinity it is important to research so that we can develop a deeper understanding of masculinity and how these representations influence our society. The method used in this research was textual analysis. Specifically, semiotics was used in this study because semiotics allows for you to study signs in the media. This method allowed for a more detailed and in-depth look at the portrayal of masculinity in this film. The study was categorized using Trujillo’s (1991) five components of hegemonic masculinity. The results of this study showed that while there were still some hegemonic masculine portrayals by *Deadpool* in the movie, he also displayed numerous counter-hegemonic qualities and traits that were key parts

of Deadpool's characteristics. Thus, I concluded that overall Deadpool counters the hegemonic image of masculinity in many ways.

McCaskill, Marcel; Brown, Nathaniel; DiCenzo, Matthew; Tenney, Brandon: [10:30-10:45] [1C] [ASC G-10] *Social Media's Effect on College Students*. In today's culture, college students use social media as a platform to connect with one another. The effectiveness of college students using social media can be viewed when we analyze the use of social media from a political perspective and study the beneficial factors using social media platforms. The importance of researching how effective social media is to college students can be essential because social media is a growing platform of mass communication. Today, social media has become an essential tool of communication among people of all ages, particularly the youth. Considering how popular social media is, it is important to better understand and see how the different ways of sharing content affects a college campus. Understanding how social media tools influence civic engagement is essential today. We view a college campus as an essential community in which social media is the primary tool for students to attain information and to communicate. Every day, social media becomes more relevant to society. The relevance is key in this research. This research will help society better understand the impact of social media on the youth as well as how it ties a larger community together on the web. Our three research questions for our project were: "How has social media changed and influenced modern day culture on a college campus?"; "How does the use of Twitter and other forms of social media create an online community, connecting and creating friendships for college students?"; "Does social media enable easier outreach for college students to stay informed on campus?" We will use focus groups to conduct our study. Focus groups would be the most beneficial method to gather information because it will allow us to uncover how social media affects the college students of today. It will allow for a broader discussion because of the semi-structured aspect of the focus groups. We will use network sampling focusing on retrieving our participants via Twitter and Facebook. Using network sampling, it allows us to gather participants who are influenced by social networks. This will also allow us to attain information from users in their natural environment. We find this to be a significant factor when viewing the credibility of our participants. The analysis technique we will use for our research would be an interpretive thematic analysis as it would best work for our data analysis. Using an interpretive thematic, we would be able to categorize the similarities that college students display on social media. Categorizing our data in this way would be constructive as we would organize and interpret our answers we've uncovered. This will benefit our research as we have organized our data collection into categories which will decrease time consumption via data coding. In conclusion, social media platforms have changed our world forever. Communication will be forever shaped due to its impact, making it essential to study and important to research.

Minsinger, Emma: [12:30-1:45] [P9] [GYM] *Burnout among Distance Runners: Psychological or Physical?* Burnout is a common problem among athletes and has a wide variety of stressors that can cause it to manifest. College athletes face many different stressors during their academic and athletic careers and burnout is a growing concern. Burnout is the physical, emotional, and social withdrawal from a formerly enjoyable sport activity. This withdrawal is characterized by emotional and physical exhaustion, reduced sense of accomplishment, and sport devaluation. Looking at research from the past several years it has been determined that burnout is caused by psychological stressors, physical stressors, or a combination of both. In this study athletes from the Wheeling Jesuit University Men and Women's Cross-Country team will record the amount of physical and psychological stressors via an anonymous and confidential survey. After the data is recorded and reviewed the number of physical and psychological stressors will be recorded to determine which stressor is more likely to cause burnout.

Moffit, Abigail; Brown, Erik; McManis, Kimberly: [12:30-1:45] [P3] [GYM] *The Effects of Knowledge and Attitude on the Likelihood of Reporting Concussion Symptoms*. Concussions due to sports are an increasing health concern. Concussions are difficult to diagnose and are underreported, especially in the youth population. The purpose of this study is to investigate the attitudes and knowledge of high school athletes on concussions and how this affects the likelihood of athletes to report concussion symptoms. The sample population is high school athletes in Ohio, ages 13-18. The participants will be recruited through their high school athletic departments and will be sent an informed consent form, for both participants and parents, due to the involvement of minors. After the informed consent is sent back, the participant will receive a second email containing the link to the survey. The survey will utilize a Likert scale to assess the intensity of the participants' beliefs and knowledge on concussion symptoms. Such questions include the following: "confusion is a symptom of a concussion," "you have to lose consciousness to have a concussion," and "I have a strong belief that I know what a concussion is." The responses will be analyzed using a Mann-Whitney U test to discern statistical analysis, and a mean will be taken. The expected outcome of the study is that athletes with higher knowledge in concussions, and a better understanding and attitude of concussions will lead to more reporting of concussion symptoms. In addition, it is expected that increasing knowledge and promoting better attitudes about concussions will lead to improved self-reporting behaviors in athletes.

Ngoy, Aubrey: [12:30-1:45] [P14] [GYM] *Effects of Short-Term Acidification on Growth Rates of Tadpoles*. The effects of a short-term exposure to acidic water on the growth rates of 100 *Xenopus laevis* were investigated. The tadpoles were exposed to pH 4 and pH 7 solutions for three days. At the end of the exposure period, the wet and dry weights of the tadpoles exposed to the low pH solution were about half that of tadpoles exposed to a neutral solution. However, seven days after transfer to neutral conditions, the wet weights of the two groups did not differ, and the time to metamorphosis was not affected by the short-term exposure to low pH. No differences in wet weight were observed when the tadpoles were not fed during the exposure JADtime.

Pelaez, Chase: [12:30-1:45] [P34] [GYM] *Does Treatment for Sleep Apnea Help Patients with Uncontrolled Diabetes?* OSA or Obstructive Sleep Apnea is when someone is asleep and their airway becomes closed off by soft tissue, usually due to being overweight/obesity. The purpose of this study is to determine if there is any correlation between OSA and the cortisol dumping contributing to the worsening of the ability to manage one's diabetic issues. This study will be conducted by viewing the lab values/glucose section of the medical charts of type 2 diabetics with OSA, before and after CPAP has been used, for a minimum of 3 days to determine if using CPAP helps lower their blood glucose values. The blood glucose will be tested by a staff member as part of the patient's daily plan of care and the results will be read by myself once given their information.

JGD

Potts, Elizabeth: [10:30-10:45] [1B] [D-129] *Madness or Death: The Patriarchal Hegemony within the Medical Field in the Nineteenth and Twentieth Centuries*. Charlotte Perkins Gilman and Margret Edson created literary works that speak to women's sufferings at the hands of men in medical settings. Gilman's unnamed narrator from "The Yellow Wallpaper" (1892) and Edson's Vivian from *W;t* (2014) suffer mental consequences and prolonged physical suffering where eventually, each woman finds freedom in either madness or death. Regardless of differences in illness and setting, both conclusions expose the patriarchy's disregard of humane treatment and personal choice in the narrator and Vivian's unique situations. As a

result, both literary works emphasize the nineteenth and twentieth century medical fields as oppressive in how the patriarchy denies women the right to their own voices concerning treatment and forces women to place their lives in the hands of those who fail to see them as equals, thus revealing how the patriarchy's treatment of women directly affects patient interaction, autonomy, and ethical practice, specifically in the nineteenth and twentieth centuries. This paper first explains the differences between the unnamed narrator and Vivian, specifically within social status and opportunities presented or denied to each woman, in addition to differences in treatment of the narrator's post-partum depression through the rest cure while Vivian undergoes a series of advanced experimental chemotherapy. This paper also focuses on similarities found between the two women, specifically shared experiences that involve reliance on male physicians, that physician's ignorance towards ethical practices in treating women, and explores how freedom from the patriarchy comes in the form of either madness or death. Evidence of the oppressive behavior towards women in the medical field within the nineteenth and twentieth centuries by the patriarchal hegemony underpin these two specific works, and though set decades apart, only confirms that women suffered at the hands of male physicians in ways reflective of the time and setting.

Richards, Halli: [2:45-3:00] [2B] [D-129] *After the Holocaust: The Complexity of Liberation*. In the vast amount of historical literature that addresses the end of Hitler's concentration, work, and extermination camps during World War II, a popular tendency is to speak of liberation as the conclusion of the Holocaust. This study turns such an argument on its head, and attempts to recognize the problematic nature of limiting the discussion of liberation to the moments that Allied forces penetrated the camps, and overtook control from the Germans. Additionally, this study addresses the problem that accompanies the claim that the Holocaust saw its finality with such events. While these moments were wrought with a sense of joy, newfound freedom, and a hope for a renewed sense of the personhood that was destroyed in the Holocaust, these emotions were all too fleeting. This study is aided especially by survivor testimony from some of the most infamous of Hitler's camps, one such camp being that of Auschwitz-Birkenau, in conjunction with historical records such as the Harrison Report, which details the negligence in newly created displaced person camps, and accounts of the relief agencies who attempted to minister to the depleted souls of Holocaust survivors, including UNRRA, or the United Nations Relief and Rehabilitation Administration. Such evidence allows one to better understand that even though the mechanized killing of the Holocaust had come to a close with liberation, the struggles faced by survivors were far from over. Stranded in the rubble of the Third Reich, survivors were forced to attempt to return to a home that no longer existed, to make a place in the very society which attempted to bring about their demise, and to reconcile the guilt they felt upon facing the inner question of how they could survive the horrors they had just encountered, while countless family members and friends could not. This study exemplifies the presence of the continued struggle after the liberation of Hitler's camps of a people so utterly destroyed, and aids in a better understanding of the courage it took to rebuild lives in a world that, while it seemed to have no room for them, would necessarily have to make a place.

Richards, Halli: [2:15-2:30] [2B] [D-129] *The Dangerous Memory Of Jesus*. It seems that one of the greatest challenges to the Christian faith is the age-old question of how a God who so loves the world could allow evil to occur within it. This question is not easily answered. One may even be inclined to ignore it as it is often viewed as a challenge, due to the difficulty it poses to the shallow hope for an easy life upon declaring faith in God. However, it is necessary to be analyzed. This essay addresses recognizes the try impossibility of claiming to belong to the Christian faith, while ignoring the presence of evil and unjust suffering. As all persons exist in and through the world, the contexts of society around us must play a role in our actions. The Christian faith is not, and never has been one which boasts perfection, ease, or power by

worldly standards. Rather, to belong to the Christian faith means to necessarily accept that life will never be ideal, and that in the face of such truth one must still cling to the memory of Jesus, in order to face society and the world as it is. As detailed by some of the most influential theologians who address such issues, including Johann Baptist Metz and Dietrich Bonhoeffer, one is more apt to understand the necessity of dedication to the costly belief of Jesus through his very memory, in order that society can be faced as it is, in a manner which reflects a belief in Christ.

Rollison, Dalton: [2:45-3:00] [2A] [D-128] *Toxicity of human Fibrosarcoma HT-1080 Cells by Epigallocatechin-3-O-gallate*. Numerous amounts of research on epigallocatechin-3-O-gallate (EGCG), the predominant catechin in green tea, have shown that EGCG induces apoptosis in different types of cancer cells. In this study, in search of a more effective and alternative method of tumor suppression, we viewed human fibrosarcoma HT-1080 cells treated with different concentrations of EGCG to find a correlation of treatment to apoptosis, a lethal dose, and an effective dose that would force cancerous cells into apoptosis while leaving normal cells unaffected. Typically EGCG is used at concentrations of 100 micro molar, while there has been prior research shown that cell-motility and invasion occurs at concentrations as low as 20 micro molar. The cytotoxicity of EGCG has shown to vary among tumor types and at a high concentration EGCG would likely display a nonspecific toxicity that would not result from a specific metabolic or biological function such as cell motility. This study was conducted to determine the cytotoxicity of human fibrosarcoma HT 1080 cells at concentrations up to 100 micromolar. Our studies show that HT1080 cells grown in EGCG of up to 40 micromolar are viable for at least four days, while EGCG displays a dose-dependent cytotoxicity in HT1080 cells when cultured in media containing 40 to 100 micromolar.

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Rougier, Yafeu: [12:00-12:15] [1C] [ASC G-10] *Xenophobia in post 9/11 film*. The historic event of 9/11 had a great impact on American society. It effectively sparked debate on the beliefs and views of the "other." These discussions have given rise to xenophobic attitudes and behaviors toward Arabs and other foreign nationals. One major aspect of American society it also influenced was film. Seeing that film is a major media tool that essentially educates the masses, it is crucial that its products be studied. This paper explores the xenophobic themes expressed in the narratives of three films in the post 9/11 era and to what extent the narratives of Hollywood films of the action genre were influenced. The three films examined are *The Kingdom* (2007), *Body of Lies* (2008) and *Lone Survivor* (2013). These three films were chosen based on them being produced after 2001, them being films of the action genre and lastly their plots containing recognized protagonist(s) and antagonist(s). This paper uses textual analysis as a method to focus on the ideologies surrounding protagonist and antagonist behavior and how they contribute to themes associated with xenophobia. Some themes found were: The Middle East is a place of brutality; xenophobia is often paired with violence and finally, in-group/out-group thinking. The research also revealed counter-hegemonic themes like: xenophobia is a mutually performing concept and all Muslims are not terrorists. *Lone Survivor* (2013), which is distinct from the other samples used, depicted a dramatization of an actual event that occurred in Afghanistan. Its plot events and character behavior effectively supported the theme mutual exclusiveness between terrorists and Muslims. This research discovered that these themes may contribute to broader ideologies such as western ethnocentrism and orientalism expressed through xenophobia. This project also found that the plot events and character behavior of *Lone Survivor* (2013) may contribute to the broader ideology of war films being used as military propaganda and a military recruitment tool.

Sanchez, Xavier: [10:15-10:30] [1C] [ASC G-10] *Hunger for A Cure*. For my senior Communication project, I have chosen to develop an integrated marketing communications strategy for the Children's Hospital organization. I created a website on word press that utilizes different types of multimedia within the website such as twitter, photo galleries, and videos to reach a wide variety of people all over the country to market the charity dinner called Hunger4aCure for the Children's Hospital. I manage this event by combining key communication aspects that I learned such as managing multimedia and using social networks to help spread the word of this event. Creating this event was a mixture of showcasing my mass communications skills as well as developing an event for a great organization. The website contains helpful information for the event such as, location, date, time, where/how to get tickets, prices on tickets, and other options. An additional feature the website offers is for people who cannot make the banquet but still want to help, they will have an option on how they can still donate to help the cause. The website includes images of what the money being raised will go toward. All proceeds from the dinner will go to Children's Hospitals across the country and contribute to things such as funding, new equipment, child friendly play areas, larger rooms for children and families, and medical research to help find new cures for diseases. The intentions of this event are to raise money to help the sick and handicapped within our younger generations so they can be successful in life as well as maintain a healthy lifestyle. Because the website is online and is easy for people to access, it is much easier to spread awareness of the event out to people all over the country.

JGD

Scott, Victoria; Brown, Erik: [12:30-1:45] [P6] [GYM] *What are Male and Female DII Athlete's Preference in Gender of Their Athletic Trainer?* The purpose of this research is to determine athlete's preferences in gender of their athletic trainers. Many times patients feel more comfortable when they are assisted by a healthcare provider of their preferred gender rather than at random. This can become important as there are factors involving injuries that can be influenced by the athlete's feelings and willingness to collaborate. Results will be found through a survey in which participants from Wheeling Jesuit University will rate on a Likert Scale their gender preference for a number of athlete-athletic trainer interactions. The scale will range from 1-5 (1-female, 2-more comfortable with females, 3-indifferent, 4-more comfortable with males, 5-male). The questions on the survey all pertain to situations in which athletes and athletic trainers interact while providing care. Once all of the surveys are collected a mean will be calculated for both male and female athletes to determine the preferences for each. These preferences could then be used to create strategies in terms of developing a balanced athletic training staff, especially at the collegiate level.

Seaton, Ian: [10:45-11:00] [1C] [ASC G-10] *Living a Longer Life: The Tonight Show's Social Influence on America*. The Tonight Show has been a way for everyday individuals to see celebrities and political public figures in a different light. For over 50 years, The Tonight Show has given viewers a way to escape the hassles of everyday life and simply laugh at the good and bad alike. As current host, Jimmy Fallon explains it, "My goal is just to make you laugh... so that you go to sleep with a smile on your face and live a longer life. Using the theory of liberal pluralism, this textual analysis uncovers comprehensive social themes of The Tonight Show and the extent of its cultural impact. Through shifting audiences, new material, and the successes of each host, The Tonight Show has continually been a leader in late-night television and an audience-centered show. Since the show also has the power to sway millions of people in today's society, this research considers how social issues can be discussed when presented in a humorous way.

Seidewitz, Ryan; Brown, Erik; Hoard, Abigail; Schoolcraft, Christy: [12:30-1:45] [P7] [GYM] *Comparing Clinical and Classroom Education through Perspectives of Undergraduate Athletic Training Students*. The objective of this study is to find a correlation between Athletic Training Students whom can pass Clinical Integrated Proficiencies (CIPs) and the amount of time they spend in the clinical and classroom setting. Using an online survey, through Survey-Monkey, Athletic Training Students will be asked a series of questions to determine the amount of time they have spent in the clinical and classroom setting, followed by a second series of questions that test for proficiencies. This data will remain anonymous and confidential through the third-party survey service, and will be recorded and interpreted. Upon completion, the goal of the study is to find a correlation between the amount of time spent in either the classroom or clinical settings, as well as the student's preference to different learning styles. The primary working hypothesis for this study is that students with an increased amount of clinical experience will not only feel more confident in their skills, but will also have an increased competency rate of Athletic Training related skills. Previous sources of data were found online, through the Wheeling Jesuit Library's Resource page. To locate these free articles, keywords such as: athletic training student, education, competency, clinical, classroom, allied health education, and learning proficiencies were used. Current research shows that perhaps the best form of education is the current system (blending both clinical and classroom time each day); however, a goal of this research is to explore what the best quantities of time may indicate the greatest success rate for a student.

Shimko, Kristen: [12:30-1:45] [P23] [GYM] *Leadership within Higher Education Administrators*. This research prospectus explores the question of "How do leadership styles within higher education administrators aid in creating a positive communication climate within the workplace?" The hope of this research is that an individual can gain knowledge on which leadership styles are preferred not only within jobs in higher education, but also in a job environment in general; ultimately, this research could lead to insight on how to create a positive communication climate amongst coworkers within the workplace. Leadership is constantly evolving and this research highlights which leadership styles are possibly preferred within the professional workplace. Therefore, this study aims to gain a better overall understanding of which leadership styles will help to create a positive communication climate within the workplace. My senior project serves as a starting point for future research and is a pilot study to be completed. If the study were to be completed, it would consist of higher education administrators who will be interviewed, then brought together into a focus group so a comparison could be done on how participants answer questions in a one-on-one setting versus a group setting. The questions which will be asked in these settings would be the same and are outlined throughout the methodology section of the paper. Throughout the interviews and focus groups a semi-structured format for the questions would be used to help ensure that the same main questions are asked; however, to allow for a more conversational tone, there may be additional questions throughout these sessions. While there has been a lot of research done on leadership styles and communication climates, communication research has not focused on the specific connection between these concepts and higher education administrators, and this project seeks to address that absence.

Sidon, Ashleigh: [11:00-11:15] [1A] [D-128] *Hitler's Foreign Workers*. In order to keep the war machine well working in Germany, Hitler had to rely on other countries for labor and materials. Through his conquest of continental Europe Hitler enslaved thousands of workers to produce much needed war time supplies. Hitler created a racial hierarchy of workers based on where the workers came from. Those workers in the West were treated with dignity, received adequate food, could choose their job, were paid more, and even was allowed at certain times to take leave to go to their home countries. The eastern workers were treated poorly compared to their western counterparts. These workers received little food, old clothing, forced to work in the most

pain staking jobs, could not leave to go home, and were paid much less. Of the eastern workers, the Soviet Union POW were treated the worst, as “sub-human” in comparison to the all other foreign workers and most importantly, the Germans. These workers had their own food supply that was described as “un-fit for human consumption”. Soviets rarely ever received new clothing, were kept in barbed wire encampments, and was located far away from the German population. Through legislative policies and economic programs we are able to see the racial hierarchy the Nazi state set up during the beginning of the war. Because of vast mobilization, poor treatment of the eastern workers, and too lenient treatment of western workers we are able to see the heirarchy the Nazis set up was not able to sustain itself by the of the war.

Sidon, Keleigh: [12:30-1:45] [P34] [GYM] *What Motivates Students at Wheeling Jesuit University to Major in Healthcare?* There is a possibility of reasons for someone wanting to join the healthcare profession including, the vast opportunities present in this field, the ability to work with a variety of others, the satisfaction of helping someone and saving a life, the lifestyle, a demanding career, the opportunity for constant improvement, and free schooling. This research will narrow down the logic of students at WJU majoring in the healthcare field by explaining the many reasons why a student might get involved in the healthcare industry and their motivation for studying their career and more specifically, what is their main intention for choosing precisely this vocation. This research examines these several rationalizations and explains why the student might choose this as their main motive for majoring in the healthcare profession. Results could indicate why students at WJU are involved in this vocation and could give a better insight on why these students are choosing to major in the healthcare field. This information may or may not have a direct benefit to the University. It may directly benefit the University in a way they can narrow down their potential students and advertise to them.

Smith, Anthony W.: [12:30-1:45] [P5] [GYM] *Correlation Between a Wrestler's Experience and The Amount of Lower Back Pain They Experience.* The sport of wrestling is well known for being a high-risk contact sport due to the variety and frequency of injuries experienced by the athletes. A wrestling season can last anywhere between six to seven months, with a majority of wrestlers sustaining some type of injury during this time period. With most wrestlers taking little time off, their bodies receive little to no time to rest. Between being in a wrestling stance for hours at a time during practice, fighting for takedowns, and arching their back to try and pin their opponent, wrestlers place huge demands on the body. Although most injuries are not career ending, they can still be a hindrance during daily activities and affecting their competition status. A concern that most wrestlers experience in their careers is lower back pain. In general, lower back pain occurs frequently among active athletes. A study conducted in the 1990s by Olef Lundin found that back pain was reported among 85% among active athletes². Due to the fact that there are a variety of reasons as to how an injury to the lower back is experienced, clarification on what the injury is necessary. Muscle strains, acute trauma, and spondylolisthesis just to name a few. The purpose of this study is to understand the relationship between wrestlers, the amount of experience they hold, and the amount of lower back pain they experience. This is an important study because there is not a lot of research that pertains to wrestlers excluding research on concussions and skin infections². Another reason as to why this research is important, is that understanding the relationship between wrestling experience and lower back pain may aid in understanding as to why it occurs and possibly aid in the reduction of occurrences. The participants in the study will be Division II college wrestlers located at Notre Dame College, Wheeling Jesuit University, West Liberty University, Seton Hill University, and Ohio Valley University. Each participant must be at least 18 years old. Each participant must also at least 3 years of experience in high school and at least on 1 year in college wrestling. For the purposes of this study, we will be using a pain scale where 1 is little pain and 10 requiring surgery, and noting if the wrestler had to miss any practices or matches

because of the pain. A possible limitation of the study could be that pain, especially lower back pain, is very subjective which may skew results. What may be cause one person to sit out a week of competition, another person may be able to wrestle and compete through the pain. The questionnaire will pertain to ADLs and sports specific complaints.



Snedegar, Robert: [12:30-1:45] [P10] [GYM] *Comparing Microbial Growth in Refrigerated and Unrefrigerated Chicken Eggs*. The purpose of this research project was to test the hypothesis that if chicken eggs are left unrefrigerated then they will have less microbial growth than if they were refrigerated. For this experiment 36 farm fresh eggs from 3 different farms in Greenbrier County, WV were obtained and 28 were used in the procedure. In the first part of the experiment 9 eggs were left unrefrigerated and 9 were placed in the refrigerator then set at room temperature. Using a sterile wire loop and tryptic soy agar plates each of these eggs' whites were plated (along with a control plate to test for room contamination). The plates were then incubated for 48 hours and hand counted for microbial colony forming units (CFU's). This process was repeated again with 5 unrefrigerated eggs and 5 eggs that were refrigerated until plating. The results indicated that leaving eggs unrefrigerated resulted in less microbial growth than refrigerating and subsequently placing at room temperature. They also indicated that leaving them unrefrigerated causes less microbial growth than refrigerating them until consumption, confirming the hypothesis. This could be due to more psychrophilic microorganisms growing in the refrigerated climate while the antimicrobial activity of the lysozyme enzyme (located in the egg white) is slowed. However, there is not enough data to fully confirm this hypothesis (due to time and budget constraints) and thus the experiment should be repeated on a larger scale. If the results remain the same then this could be a way for small scale farmers in the United States to store eggs for longer without spoilage and thus increase profits.

Snedegar, Robert: [12:30-1:45] [P25] [GYM] *Health in Rural Appalachia*. The Appalachian Region is the primary rural region in the Eastern United States. Running along the Appalachian Mountains it includes 13 states and stretches from southern New York to Northern Mississippi. While parts of the 12 other states in the region are included, the only state which is completely considered part of Appalachia is West Virginia. According to the Appalachian Regional Commission (originally established by Congress in 1965 to improve the socioeconomic status of the region) 42% of the region's population is rural compared to the national average of 20%. From 1960 to 2015 the poverty rate of the region has declined roughly 45% from 31% to 17.7%. The overall health of the region has also improved as health education has made people more aware of the dangers of smoking and poor nutrition and as alternative energy sources have reduced the amount of coal mining jobs. However these improvements in socioeconomic status and health of the region as a whole hide the fact that many distressed counties still lag significantly behind not only the national poverty rate and average mortality rates of heart disease and cancer, but also behind the regional averages. For instance while the regional rate of mortality due to heart disease is 17% higher than the national rate, in Central Appalachia this mortality rate is 42% higher than the national average and the heart disease mortality rate is also 29% higher in the region's socioeconomically distressed counties as compared to the non-distressed counties. Similar to these statistics, the region's mortality rate due to Chronic Obstructive Pulmonary Disease (COPD) is 27% higher than the national rate but for the region's distressed counties it is 43% higher than the non-distressed counties. Although not as eye-popping as Heart Disease and COPD mortality rates, the mortality rate due to cancer is reflective of the theme as it is 10% higher than the national average and the mortality rate due to cancer in distressed counties is 20% higher than in non-distressed ones. Although the overall poverty and mortality rates in the Appalachian region have improved over recent decades, certain counties in the region have lagged behind and maintain rates well above the national

averages. The U.S. and local governments can address this by focusing on the improvement of the poor education in the region, a lack of primary care physicians, and poverty due to a lack of job opportunities in these struggling counties.

Soriano, Sabrina; Schrimp, Albert; Childers, Maggie; Judy, Karly; McGurn, Caryce: [12:30-1:45] [P28] [GYM] *Comparison of Light Therapy vs. Peppermint Scent Administration on Mood: Synergistic Effects for the Treatment of Depression and Seasonal Affective Disorder*. The purpose of the current study was to determine if the combination of light therapy and scent can improve mood and depression like symptoms. Previous research has indicated that scent can alter one's mood to a large extent, and that light therapy can be effective in bettering depression and depression like symptoms. Taking into consideration that peppermint scent has been found to increase mood and make people more alert, the current study aimed to discover if a combination of both peppermint scent and light therapy could be effective in helping to improve one's mood, specifically depression. With the use of forty participants, the effects of scent and light therapy were applied. A within study design allowed each participant to be exposed to four different conditions. Participants sat in a room for thirty minutes on four separate trials, with each room administering either peppermint scent, a light therapy device, a combination of both, or a control condition. Once exposure to the condition was completed, participants answered the Profile of Mood States and Beck's Depression Inventory. Repeated measures ANOVAs were used to assess mood measurements and analyze the results, which indicated that a combination of light therapy and scent were most effective in decreasing depression like symptoms. This combination also indicated a decrease in participant's reported anger and an increase in vigor. Such research implications are important in making progress towards finding alternative treatments to depression and seasonal affective disorder.

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Swanson, Katie: [3:45-4:00] [3A] [D-129] *School Community and Identity*. In the current age of heightened racial tensions in the United States, many children struggle to understand the complexities of their own racial identity. While many influences factor into the formation of an identity, the culture of a child's school often has a significant impact. These effects can be easily seen in examples of public schools where the immediate community makes up much of the student body. In schools with significant white populations, students of color often feel ostracized by peers and staff at the school, and may be influenced to form negative opinions about their own racial identity and their identity as a successful student. The racial composition of the community, staff, and students at a school influence how both white and black students identify themselves. Many black students feel disadvantaged when surrounded by majority white peers and a predominately white staff. On the other hand, many white students feel more supported by teachers and communities of their own race. The racial makeup of the community feeding into a school, as well as the staff and student body attending the school, can have dramatic effects on a child's racial identity and perception of their ability to succeed in school. First I will explore the racial and socioeconomic makeup of the communities the featured schools serve. Then, I will look at the racial makeup of the teachers and student body in those schools. Finally, I will determine how these factors and different school identities intermingle to influence identity for students. By exploring the school culture of several individual schools through case studies and interviews, the impact of said school culture on personal racial identity and perception of success should become clear. Determining the impact of individual school cultures helps schools recognize these racially based issues and helps students feel that their school community is supportive of their success no matter their race.

Troconis Bello, Juan Pablo; Raudenbush, Bryan; Brownson, Roger; Brownson, Norma: [12:30-1:45] [P30] [GYM] *Effects of Jasmine Scent Administration on Decreasing the Stress Response in Cattle During Initial Processing*. Past research indicates jasmine scent administration promotes relaxation and decreases stress. Cattle have an acute sense of smell, select their feed based on smell, and can detect scents miles away. The present study assessed the potential stress-relieving effects of jasmine scent administration on cattle undergoing initial processing, which involves weighing, an immunization injection, ear tagging and branding. 98 Bos Taurus Angus Steers were assigned to one of three groups: 1) no nasal strip, 2) unscented nasal strip, or 3) jasmine-scented nasal strip. Following processing, the cattle underwent an oral salivary swab to detect cortisol level and salivary pH, and were rated on their behavioral disposition. Salivary cortisol levels (low, medium, high) were compared in a Pearson Chi-Square analysis among the three conditions (no strip, unscented strip, jasmine scented strip) and no significant effect was found, $\chi^2(6) = 8.72, p = .19$. Salivary pH readings were compared among the three conditions and a significant main effect was found, $F(2,84) = 3.64, p = .03$. Tukey post-hoc contrasts indicated the jasmine scented strip condition ($M = 7.53, SE = .21$) resulted in a less acidic salivary pH in comparison to the no strip condition ($M = 6.78, SE = .19$). Disposition scores were compared among the three conditions and a trend was found, $F(2,85) = 2.41, p = .09$. The jasmine scent condition ($M = 2.33, SE = .19$) resulted in a lower (more positive) disposition scores in comparison to the no strip condition ($M = 2.88, SE = .17$). Weights of the animals were re-assessed 6 months later, and those animals in the jasmine scent condition weighed on average 22 pounds heavier than the other two conditions. These findings suggest that the administration of jasmine scent can have significant effects on cattle industry production.



Trouten, Ashley; Bowen, Alyssa: [12:30-1:45] [P16] [GYM]

Examination of Possible Lead and Copper in the Water on Campus. This study looked at the possible presence of lead and copper in public drinking water on our campus. The interest for the study arose from the complaints of residents living in the dormitories related to the smell and taste of the faucet water and staining after laundry facility use. Typical plumbing lends ways for leaching of toxic metals such as copper and lead into the drinking water of a community, which is why these specific metals were tested for. Multiple samples of water were taken from a variety of places around campus and then quantitatively tested by two means of analysis: via Atomic Absorption (AA) spectroscopy and via Ultraviolet Visible (colorimetry) (UV/VIS) spectroscopy. The AA and UV/VIS both provided for the assessment of the concentration of each specific metal in water. The use of two separate methods of analyzation allowed for comparison of concentrations found in each experiment for better confidence in the results. This concentration was then compared to the national legal limits provided to determine if the amount of copper or lead in the water supply was a threat to the population of our campus.

Trouten, Ashley: [12:30-1:45] [P27] [GYM] *The Effect of Gender on the Identity of Women in the STEM Fields*. The current research focuses upon women who either study or work in science, technology, engineering, and math (STEM) fields. Within these STEM fields, the ratio of men to women is unbalanced, and the perception by the clear majority is that they are male-dominated fields. These conditions are suspected to lend way for gender bias, gender inequality, and gender specific stereotypes. This type of inequality presents many obstacles for women in these fields. Through these obstacles, women develop something known as identity interference, which in this case means that a women identification as being a female is in conflict with her identity as a scientist. It is the intention to determine whether these sorts of aspects are truly

prevalent in the lives of female STEM students and professionals along with whether or not these factors directly impact these females in some way. Studies researched showed significant trends of lowered self-concept in women within these fields, which led to changes in the women's perceived identities. However, it also showed the many ways that women have learned to cope with these gender-related issues leading researchers to believe there is a way to combat these adverse conditions. The data and trends resulting from these larger studies will be compared with data collected from a smaller study here at Wheeling Jesuit.

Tubaugh, Laikyn: [12:30-1:45] [P32] [GYM] *Reducing the Risk of Ventilator-Associated Pneumonia with the Application of "VAP Prevention Bundle"*. This presentation explores chart reviews of human participants at OVMC ICU determining whether or not the VAP prevention strategies were implemented during their hospital stay and whether or not they developed ventilator-associated pneumonia.

VanCuyk, Josh; Brown, Eric; Estock, Jared: [12:30-1:45] [P8] [GYM] *Does the use of pre-workout produce a more beneficial workout in college aged individuals?* It has become very popular for young adults to use some sort of pre-workout supplement before exercising. Some of the physical benefits and disadvantages of pre-workout supplements have been researched in the past, but this study is focusing upon the mental aspect of the user. The purpose of this study is to determine if a pre-workout supplement is of beneficial use in college-aged individuals. Individuals who use or have used a pre-workout supplement in the past within the ages of 18-23, will be asked to volunteer to participate in this study. With the use of a survey, participants will be questioned upon their opinions of the use of a pre-workout supplement. This data will be used to find if pre-workout supplements better one's workout or if the negative effects outweigh the positive. All participants will be kept anonymous and confidential due to this study solely searching for participant's opinions with no medical history or personal information included. The hypothesis of this study is that consumers believe pre-workout allows them to have a more beneficial workout opposed to not taking pre-workout because of the energy boost and mental state. With the use of a simple survey asking about certain side effects, positive and negative, this study will hopefully shed light upon the great benefit of pre-workout supplements or the terrible symptoms some individuals have with use.



Wheeler, Danielle Christine: [12:30-1:45] [P12] [GYM] *Diet of Blue Nile Tilapia and its Effect on Average Growth Rate in an Aquaponics System*. In order to assess how fish feed effects, the growth of fish in an aquaponics system, juvenile and adult Blue Nile Tilapia were fed different brands of food. An aquaponics system is an integrated food production system that grows aquatic organisms and grows plants without soil by utilizing the Nitrogen cycle. The fish are the source of the nitrogen cycle. Tilapia are a suitably edible species, will tolerate close living conditions and are fast growing. The fish in this experiment were kept in two different tanks set up with separate aquaponics systems. The fish in Tank A were fed Zeigler Silver Floating and Tank B was fed Fat Cat. Zeigler Silver floating contains 40% crude protein, 10% crude fat, 4% crude fiber and 1% phosphorus. Fat Cat contains 32% crude protein, 1% fat, 7% fiber, 10% moisture and 1% phosphorus. Each tank was fed an appropriate amount of food twice a day according to their average body mass. The growth rate of each tank was recorded and compared to test how growth is affected by different food types. The hypothesis is that the more expensive, higher quality fish food will result in a faster growth rate. If the hypothesis is proven true than using the more expensive food may not actually be more expensive if fish can be raised to a harvestable weight quicker.



Wildern, Tiffany: [10:30-10:45] [1A] [D-128] *Wheeling Steel and World War II*. Many see World War II as the solution to the Great Depression in the United States. Tons of people were unemployed during this time. On December 7, 1941 everything changed. The men of this country were headed overseas to defend democracy. War equaled jobs for the citizens of America, either in the military or in industries manufacturing the supplies needed for the war. The United States government turned to the people and industries in this country to aid in their fight. Wheeling, WV was full of industry. The people and business were eager to help. The biggest contributor from this region was Wheeling Steel. Opened in 1920, they had become one of the nation's leading steel producers by the time the U.S. had entered the war. When the government asked for assistance, Wheeling Steel stopped all normal production and switched to a war producing business. Through Wheeling Steel's annual reports and new articles, it can be seen that his local business contributed in the millions of tons of supplies to the American war effort. Wheeling Steel often led the nation in steel based war materials. They received the "E" award from the Army-Navy due to their immense contribution. This company also aided in the Tennessee project and the Hanford, Washington project which were all connected to the Manhattan project. Wheeling steel was contracted to make bombs. In one year they were to manufacture 270,000 general purpose bombs. Along with bombs they aided in the manufacturing of land mines, landing crafts, ammunition box liners, gas mask parts, parts for jeeps and tanks, and packing propellant charges for large guns used by the military. Although not the only company supplying the military at this time, due to the vast amounts and various items, Wheeling Steel contributed a great deal to the American war effort. They supplied our men with the materials they needed to defend our country and our ideologies. Wheeling Steel's nationally recognition for their contribution should show that this business is important to the history of this region as well as the country's.



Woods, Abby: [3:30-4:15] [3A] [D-128] *Representing West Virginian Culture through Photography*. West Virginia's culture is plagued by many harsh stereotypes. People see West Virginians as "hillbillies," "red-necks," or "in-bred." These are derogatory labels which devalue the beauty of the state and its culture. The intended goal of my photographs is to display the true beauty of West Virginia which is more often than not corrupted by the media and social stigmatism. I have grown up in this vibrant culture and am expressing my interpretation of West Virginia's culture through two key areas: food and hunting. When composing my first photo, I chose a staple food in West Virginian culture, pepperoni rolls, as my subject. Since the majority of people outside of West Virginia have no idea what a pepperoni roll even is, the food is clearly a state trademark. West Virginians tend to have a "go and get it done" attitude, and pepperoni rolls represent this. My second photographic composition highlights hunting, particularly bow hunting. Hunting is often believed to be nothing more than meaningless killing to people. However in West Virginia, hunting often provides the main source of food for many families. Hunting also helps with conservation efforts. Both of these photographic compositions allowed me to experiment with lighting and forced me to make critical aesthetic choices. I composed both works in a straightforward fashion, so viewers would be less distracted by background "noise" and could focus on the beauty of each subject. The challenges I faced while shooting forced me to be more persistent in order to gain a better understanding of my camera, its settings, and its abilities. Cultures define people, and West Virginian culture represents people focused on hard work, seizing natural opportunities, and appreciating the beauty around them.

Workman, Kaitlyn: [12:30-1:45] [P11] [GYM] *The Effects of Various Sized Box Enrichment Items on the Behavior of Meerkats (*Suricata suricatta*) at the Oglebay Good Zoo in Wheeling, West Virginia*. Behavior of a species in captivity can differ greatly from the same species in the wild. This can be caused by unfamiliarity with environment, boredom, or other factors. These factors

can cause the animals to show signs of stress and poor health. Environmental enrichment for captive animals focuses on promoting the welfare of the animals by providing stimuli that is close to what they would encounter in the wild. This study tested three different sized paper mache boxes in the enclosure of four meerkats (*Suricata suricatta*) to examine whether the items would affect the behavior of the meerkats. Active behavior versus passive behavior was specifically examined. Every three minutes over the period of an hour, each meerkat was observed to see if they were exhibiting behaviors of “Not Moving and Not Responsive”, “Not Moving and Responsive”, “Moving”, or “Interacting with others”. The overall response from the meerkats were tabulated and shown in pie graphs. There seemed to be a significant difference within the “Not Moving and Responsive” and the “Not Moving and Not Responsive” categories that were examined. The meerkats seemed to become more aware of their surrounding as the size of the boxes increases, and the sleeping of the meerkats decreased.

Worrels, Jade: [12:30-1:45] [P15] [GYM] *House Crickets' Aggression Levels and Tendency to Cannibalize Due to Vitamin Deficiency*. There are many species of crickets that are omnivorous in nature. *Acheta domesticus*, or more commonly known as the house cricket, seem to eat anything available to them—including their own kind. This experiment explores this tendency of house crickets to resort to cannibalism. Exploration of protein deprivation has shown a positive correlation with cannibalism, but other nutrients have not been explored. Groups of house crickets were isolated and given various diets similar in all components except vitamins. Each diet was deficient in one different vitamin (A, B, C, and D) and frequency of cannibalism, as well as aggression within the groups of crickets, were assessed. It is likely that the frequency of cannibalism and levels of aggression will be directly proportional to how vital the vitamin is for the survival of crickets.

Yoho, Aleasha: [12:30-1:45] [P17] [GYM] *Optimizing and Assessing the Greenness of an Iron-Complex Synthesis*. This project focuses on creating a solvent-free synthesis of tris-pyridylimine iron(II) complexes. Iron complexes of this kind have been used to catalyze a variety of organic reactions. A solvent is a reaction medium that never gets used up in a reaction. Solvents make up most of the weight of a reaction, and therefore the majority of the waste. Developing methods for doing reactions without solvent is an aim of green chemistry and is a current area of interest for many researchers. Previously these iron complexes have been made with dichloromethane as a solvent. However, these complexes have not yet been made by a solvent-free method. The goal of this research project was to synthesize these complexes without solvent, by combining 2-pyridinecarboxaldehyde, an amine, and an iron starting material in a mortar and pestle. The amine starting material was varied and included: benzylamine, isopropylamine, and 4-bromoaniline. The products were characterized by ¹H NMR and IR spectroscopy. The reactions were also carried out using solvent, and the two methods were compared using EcoScale analysis. By doing this, the effectiveness and greenness of the overall process was optimized.

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