



WHEELING JESUIT UNIVERSITY
Wheeling, West Virginia

18th ANNUAL
**STUDENT
RESEARCH AND
SCHOLARSHIP
SYMPOSIUM**



April 4, 2017

WHEELING JESUIT UNIVERSITY
STUDENT RESEARCH AND SCHOLARSHIP SYMPOSIUM
 April 4, 2017

SCHEDULE-AT-A-GLANCE

TIME	EVENT	DISCIPLINE	LOCATION
9:00-9:45	Opening Ceremonies		Troy Theater, Swint Hall
10:00-12:00	Session 1A	History	Donahue 128
10:00-12:00	Session 1B	English	Donahue 129
10:00-12:00	Session 1C	Professional Communications	Acker G-10
11:00-2:00	Fine Arts Gallery Exhibition		Gallery, Kirby Hall
11:45-12:45	Lunch		Benedum Dining Room, Swint Hall
12:30-2:00	Poster Session		McDonough Center Performance Gym
2:15-3:30	Session 2A	Chemistry, Biology and Environment and Sustainability	Donahue 128
2:15-3:45	Session 2B	International Studies and Political Science	Donahue 129
2:15-3:45	Session 2C	Psychology and Criminal Justice	Acker G-10
4:00-5:15	Session 3A	Laut Honors	Donahue 128
4:00-4:15	Session 3B	Computer Science	Acker 315
4:00-4:15	Session 3C	Masters of Science in Organizational Leadership (MSOL)	Donahue 129
4:30-5:30	Panel Discussion	Inter-Professional Education Program	Acker G-10
5:00-6:15	Dinner		Benedum Dining Room, Swint Hall
6:30-7:00	Awards Ceremony		Troy Theater, Swint Hall
7:30-9:00	Haig Presentations		Hawk Auditorium, Acker Science Center



THIS YEAR'S COVER ART WAS DESIGNED BY HALEY KINDALL. HALEY IS A SENIOR 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 FINE ARTS EXHIBITION PROJECTS.



WATCH OUT AROUND CAMPUS TODAY...

THE WJU CARDINAL WILL BE ROAMING AROUND THE SYMPOSIUM!!! GET A PICTURE WITH THE CARDINAL AND POST IT TO SOCIAL MEDIA!

KEYNOTE SPEAKER



Dr. Kevin Melody

Wheeling Jesuit University, B.S., 2005
Biology Major - Summa Cum Laude

Louisiana State University, M.S.
University of Pittsburgh, Ph.D.

Keynote Address:

*“Research in Progress:
Honest Results from a Life
in Science”*

Kevin Melody was raised in Keyser, WV, a small town along the Potomac River in the Eastern panhandle of WV. He attended Wheeling Jesuit University on a Laut scholarship and graduated summa cum laude in 2005 with a B.S. in Biology. During his tenure at WJU, he participated in social outreach organizations such as Circle K, Appalachian Experience Club, and the Mother Jones House. He was also involved in Campus Activities Board, student government, and served as the mascot for three years. After graduating from WJU, he attended Louisiana State University where he completed a M.S. in Fisheries in 2008. His research focused on foodborne pathogen remediation in oysters. He then worked three years as an animal caretaker at the USDA National Center for Cool and Cold Water Aquaculture, helping to manage rainbow trout genetic lines for a variety of research goals. Recently, he completed his doctoral dissertation on HIV-1 prophylaxis and selection of drug resistance in animal models. Kevin resides in Pittsburgh, PA with his wife Lannette Booth, also a WJU alumnus from the class of 2005, and their two daughters, Teresa and Diana.

- 11:15-11:30 Matthew Naum [Rutherford]
ULTRA and the Battle of the Atlantic: The Tide of War
- 11:30-11:45 Falon Weidman [Rutherford]
Success and Implications of Nazi Propaganda in the Middle East and North Africa
- 11:45-12:00 Rachel Enders [Rutherford]
Switzerland, Illusions of Neutrality, and a WWII Profit Motive

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

Session Moderators: Jonathan Lief, *Professor of Biology*
Karen Taylor, *Assistant Academic Resource Center Coordinator*

- 10:00-10:15 Megan Steele [Voorhees]
Dystopia is Nigh: An Evolution of the Genre Within Huxley, Atwood, and Eggers
- 10:15-10:30 Samantha Herrington [Voorhees]
Repeating the Cycle: The Absurd Ambiguity of Camus
- 10:30-10:45 John Cotter [Makris]
A Civilization Forged in Flame: Mythological Dragon Combat as Symbolic of Societal Change, Expansion, and Assimilation
- 10:45-11:00 Maxeen Hirsh [Voorhees]
"Something that is loved is never lost": The Establishment of Identity Through Magic Realism and African American Folklore in Toni Morrison's Song of Solomon and Beloved
- 11:00-11:15 Brett Dipuma [Makris]
Holding out For a (real) Hero: A Case for Jason as Tragic Hero in Euripides's Medea
- 11:15-11:30 Mary Burns [Phillips]
The Spectrum of Shifting Female Gender Dynamics in King Lear and Macbeth
- 11:30-11:45 Jacob Haynes [Makris]
"I Leave It Entirely in Your Hands": Crafting Identity through Ambiguity and Opposition in the Works and Medium of Alan Moore
- 11:45-12:00 Morgan Stohlman [Makris]
Death and Humanity's Desire to Control it: Stephen King's Adaption of Mary Shelley's Characterization

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

Session Moderators: Patrick Plunkett, *Associate Professor of Computer Science*
Daniel O' Hare, *Associate Professor of Theology & Religious Studies*

- 10:00-10:15 Katie Campbell [Bressler]
Freshman Dorm Tour Public Relations Video
- 10:15-10:30 Jordan Fair [Bressler]
WJU Basketball Promotional Video
- 10:30-10:45 Kylie Frizell [Bressler]
The Cardinal Culture
- 10:45-11:00 Uneeke Ferguson [Bressler]
Laughlin Chapel Efficacy Program
- 11:00-11:15 Amber Byrd [Bressler]
Making Lemonade out of Lemons: Celebrity Influence on Social Change
- 11:15-11:30 Cassandra Holstein [Bressler]
"The Help": Diverse Representations or Stereotypical Portrayals?
- 11:30-11:45 Yafeu Rougier [Bressler]
The Impact of the Fresh Prince
- 11:45-12:00 Amber Byrd [Bressler]
Turn that Jungle music off! We ain't in Africa! An ideological analysis of Do the Right Thing.

11:00-2:00 STUDENT FINE ARTS EXHIBITION: Kirby Gallery

Session Facilitator: Ms. Georgia Tambasis, *Assistant Professor of Visual Arts*

Session Moderators: Zahra Mohebbi, *Adjunct, Social Sciences*
Michael Kirkpatrick, *Professor of Psychology*

Presenting Artists:

- Bryan Cunningham *A Futile Attempt at Nothing*
- Haley Kindall *Artistic Explorations of Adrenaline*
- Yadah Nsasi *Beauty and Diversity*
- Rebecca Rodgers *Figure Within a Space*

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

Lunch with our Keynote Speaker in the Executive Dining Room

12:30-2:00 POSTER SESSION: Performance Gym, McDonough Center

Session Moderators:

- Posters 1-7: Meredith Wycherley, *Instructor of Nursing*
Vera Barton-Maxwell, *Assistant Professor of Nursing*
- Posters 8-14: Thomas Conti, *Adjunct Instructor for Professional and Graduate Studies*
Emily Sylvester, *Assistant Professor of Chemistry*
- Posters 15-21: Kimberly McManis, *Clinical Assistant Professor of Athletic Training*
Peter Ehni, *Associate Professor of Physics*
- Posters 22-27: Wilson Turner, *Registrar*
- Posters 28-31: Cecilia Einloth, *Associate Academic Resource Center Coordinator*
Nancy Bressler, *Assistant Professor of Communications and Composition*
- Posters 32-35: Brenda Lohri-Posey, *Associate Professor of Nursing*
Carrie Hanna, *Director of Compliance and Student Formation*
- Posters 36-41: Erik Brown, *Clinical Instructor of Athletic Training*
Dave Dennis, *Clinical Assistant Professor of Athletic Training*
- Posters 42-47: Andy Cook, *Professor of Biology*
Mohammad Hossein Hadadzadeh, *Assistant Professor of Physical Therapy*
- Posters 48: Darin McGinnis, *Assistant Professor of Philosophy*

(Number is poster location)

ATHLETIC TRAINING

1. Emma Schleucher [McManis]
Increasing Vertical Jumping Using Various Stretching Techniques
2. Jaana I. Motton [McManis]
The Correlation Between Symptoms Said to be Experienced During a Concussion and the Length of the Recovery Time
3. Paige Plesich [McManis]
Is there a correlation between hamstring muscle ranges of motion and hamstring injuries in collegiate athletes?
4. Daniel Barker [McManis]
The Effects of Concussive Forces on Cervical Range of Motion.
5. Olivia Krock [McManis]
Relationship between injury susceptibility of the anterior cruciate ligament and timing of the menstruation cycle
6. Morgan Jacobson [McManis]
Kinesio tape's effect on hamstring range of motion: a quasi-experiment
7. Joshua Remaniak [McManis]
The effects of an effleurage massage and thermotherapy on athletes with low back/lumbar pain.
8. Jonathon Ray Barbosa Scott [McManis]
Aromatherapy and the Effects on Pain: a Pilot Study
9. Kayce Krucki [McManis]
The Effects of Kinesiology Therapeutic Tape on Shoulder Range of Motion: A Research Study
10. Julian D. Santana [McManis]
The effect of high altitude on colligate athletes
11. Meghan Horan [McManis]
An investigation into the influence of neck strength on the amount of concussions received by male and female collegiate soccer players
12. Sydney Lavengood [McManis]
The Effects of Therapeutic Ultrasound and Heat on Hamstring Flexibility.
13. Tyler Zahnow [McManis]
Creatine: The Athletes Supplement

14. Patrick Pizzoferrato [McManis]
Benefits of Passove Static Stretching on Baseball Players' Shoulders by an ATC or ATS in Regards to Prevention of Soreness and Injuries

BIOLOGY

15. Mitch Frazier [Railing]
Investigating Presence of Arsenic in Public Drinking Water Across West Virginia
16. William Jagger Bruck [Cook]
Testing the Mutagenicity of Water Samples Using the Ames Test.
17. Lucy Hritzo [Cook]
Tick-Borne Lyme Disease in Appalachia: Establishing a Tissue and Bacterial Cell Culture Lab
18. Brandon Porter [Stout]
Practical Aquaponics: Constructing and Comparing Two Types of Systems

CHEMISTRY

19. Stephen Hansknecht [Fuller]
Synthesis of Iron Dicarbonyl-Dithiocarbamate Ligands Using a Ball Mill
20. Ian Hammer [Sylvester]
The synthesis of dithiocarbamates with applications of green chemistry
21. Geroge Bell [Railing]
Green Synthesis of Dithiocarbamates

MATHEMATICS

22. Kristin Cooper [Cordier]
Card Tricks
23. Ryian Burson [Cordier]
Instant Insanity
24. Kailee Latocha [Cordier]
Magic Squares
25. Stephen Hansknecht [Cordier]
Tower of Hanoi
26. Daniel Romero [Cordier]
Triangular Numbers
27. Anthony Bombara [Cordier]
The Josephus Problem

PROFESSIONAL COMMUNICATIONS

28. Matthew DiCenzo [Bressler]
The Sound of Silence: An Analysis of Modern Technology's Effect through Song Lyrics
29. Michelle Yates [Bressler]
Conversation and Why it's Appealing
30. Nicole Silbaugh [Bressler]
Running and Its Effects on Anxiety
31. Kristen Shimko [Bressler]
Benefits of Google Ad Words and YouTube Advertising

PSYCHOLOGY

32. Cydney Comfort [Hull]
Wheeling Jesuit University Human Resources Organizational Development Intern
33. Megan Randolph [Raudenbush]
Effects of Jasmine Scent Administration on Increasing Community Service Participation Attitudes
34. Megan Rush [Hull]
Applied Behavior Analysis at the Augusta Levy Learning Center: A greater understanding
35. Juan Pablo Troconis Bello [Raudenbush]
Effects of Peppermint Flavor and Scent Administration on Augmenting Rugby Player Performance: Use of Peppermint Flavored Mouth Guard During Play

RESPIRATORY THERAPY

36. Jordan Frommeyer [Twarog]
Pulmonary Rehabilitation Effect on Locus of Control in Patients with Chronic Pulmonary Disease.
37. Alexis Valuska [Emmerth]
Lung conditions in firefighters
38. Shania Taylor [Emmerth]
Burn-out in Healthcare Students Who Participate in College Sports
39. Alexis Burch [Twarog]
How Athletes at Wheeling Jesuit University Perceive Control of their Asthma Compared to the EIB Guidelines.

- 40. Anne LaFollette [Twarog]
Outpatient Facilities
- 41. Elainee Wilson-Costa [Emmerth]
Asthma control results after eliminating fast food from diet

NURSING

- 42. Cassie Sorge [Barton-Maxwell]
Prenatal Care in Prisons
- 43. Mia Gilardi [Barton-Maxwell]
HIV Positive and Shackled
- 44. Molly Metcalf [Barton-Maxwell]
Opioid Abuse and Neonatal Abstinence Syndrome in West Virginia.
- 45. Christina Zirkle [Barton-Maxwell]
Between the Mountains, Without Health Care
- 46. Tiffany Heckathorn [Barton-Maxwell]
Exploring the Psychological Toll of Childhood Obesity
- 47. Danielle Pekular [Barton-Maxwell]
Death with Dignity: The Dementia Patient

LAUT

- 48. Megan Randolph [Weimer]
Weird America Through the Eyes of the Marginalized

2:15-3:30 Session 2A: CHEMISTRY, BIOLOGY AND ENVIRONMENT AND SUSTAINABILITY [DONAHUE 128]

Session Moderators: Marybeth Emmerth, *Associate Professor of Respiratory Therapy*
Beverly Whelton, *Associate Professor of Philosophy*

- 2:15-2:30 Cole Roberts [Railing]
Analysis of Wastewater to Monitor the use of Heroin (Diacetylmorphine)
- 2:30-2:45 Haleigh Poch [Cook]
Using the Ames Method to Test for Mutagens in Captina Creek
- 2:45-3:00 Dylan Carenbauer [Shurina]
The Effects of Epigallocatechin-3-gallate on c-Myc Protein Levels and Viability of SH-SY5Y Human Neuroblastoma Cell Line

3:00-3:15 Maire Austin [Railing]
Use Of Native Plants to Lower Nitrate Levels in Effluent Wastewater

3:15-3:30 Nolan Tisch [Ehni]
Infrared Imaging of Honeybee Hives

2:15-3:45 Session 2B: INTERNATIONAL STUDIES AND POLITICAL SCIENCE [DONAHUE 129]

Session Moderators: Beth Collins, *Director, Appalachian Institute*
Robert Kulpa, *Director of Student Life*

2:15-2:30 Joe Wright [Driscoll]
The Joint Comprehensive Plan of Action and the Future of Israel

2:30-2:45 Falon Weidman [Driscoll]
Regime Change in the Arab Spring and its Effectiveness in Causing Lasting Liberal Reform

2:45-3:00 Nancy Leon [Driscoll]
US Intervention in Central America During the 1980s and Its Impact on Central American Immigration to the US Today

3:00-3:15 Rubis Ngenzi [Driscoll]
The Impact of the CFA Currency on African Countries Development

3:15-3:30 Michael Ames [Driscoll]
Soft Money: Prosecution of Campaign Finance Crimes

3:30-3:45 Indra Diomi [Poffenbarger]
Conformity in The International System

2:15-3:45 Session 2C: PSYCHOLOGY AND CRIMINAL JUSTICE [ASC G-10]

Session Moderators: Sarah Hays, *Assistant Professor of Rhetoric*
Jeremy Vittek, *Assistant Professor of Professional Education*

2:15-2:30 Brittany Bennington [Hull, Raudenbush]
An Examination of the Impact of Gender Role Stereotypes on Expected Behavior

2:30-2:45 Aimee Spencer [Raudenbush]
Analysis of Factors that Influence Alcohol Consumption Among Undergraduate Students

- 2:45-3:00 Giovanna M. Loccisano [Driscoll]
Variability in K-9 Unit Models
- 3:00-3:15 Zachary Stramanak [Driscoll]
Mental Health Court Program: Descriptive Evaluation
- 3:15-3:30 Christopher Minder [Driscoll]
Drug Rehabilitation Courts: A Descriptive Analysis
- 3:30-3:45 Elizabeth Hales [Driscoll]
Athletic Participation and "Crimes of Truth"

4:00-5:15 Session 3A: LAUT HONORS [DONAHUE 128]

Session Moderators: Georgia Tambasis, *Assistant Professor of Visual Arts*
Larry Driscoll, *Associate Professor of Criminal Justice*

- 4:00-4:15 Morgan Jacobson [Weimer]
Transforming the Exercise Culture in America
- 4:15-4:30 Stacie Hestand [Weimer]
Cults, Satanism, and Sensationalism: America's Moral Panic in the 1980s
- 4:30-4:45 Lucy Hritzo [Weimer]
Investigating the Distinctive Biological Life Forms found Exclusively in United States National Parks.
- 4:45-5:00 Falon Weidman [Weimer]
American Exceptionalism and Central America
- 5:00-5:15 Haleigh Poch [Weimer]
Weird American Drug Commercials

4:00-4:15 Session 3B: COMPUTER SCIENCE [ASC-315]

Session Moderators: Ralph Seward, *Institutional Research*
Michelle Cordier, *Assistant Professor of Mathematics*

- 4:00-4:15 Zachary Hamm [Orzolek]
Scalable Greenhouse Automation Software System Using "Raspberry Pi" Single-board Computer

4:00-4:15 Session 3C: MASTER OF SCIENCE IN ORGANIZATIONAL LEADERSHIP (MSOL) [DONAHUE 129]

Session Moderators: Michael Miller, *Assistant to the President*
Darin McGinnis, *Assistant Professor of Philosophy*

4:00-4:15 Chris Rouhier [Jones]
Best Practices in Jesuit Career Advising: How Jesuit Colleges Incorporate Ignatian Pedagogy into Career Advising Services

4:30-5:30 INTER-PROFESSIONAL EDUCATION PROGRAM STUDENT PANEL DISCUSSION [ASC G-10]

Utilizing an Inter-Professional Education Program for Collaborative Care Training

Session Moderator: Dr. Rhonda Haley, *Clinical Assistant Professor of Physical Therapy*

With the increasing prevalence of chronic diseases, new advancements in health care treatments, and the growing complexity of health care delivery systems, the need for coordination and integration of clinical care through a multidisciplinary approach has become essential.

Inter-professional care is the provision of comprehensive health services to patients/clients by multiple health caregivers who work collaboratively to deliver quality care within and across settings and disciplines. Interprofessional education/collaboration occurs when two or more professions learn with, from, and about each other to improve collaboration and the quality of care. (CAIPE – Center for the Advancement of Interprofessional Education, www.caipe.org.uk, 2011)

Recognizing this, academic institutions are implementing interprofessional education throughout and across programs in academic settings to develop and facilitate the knowledge, skills, and attitudes to work effectively in interprofessional teams.

The goal of interprofessional education is to prepare health professional students with values and core competencies necessary for collaborative interprofessional practice for best patient care and outcomes. These behaviors and attitudes include but are not limited to: mutual respect for all team members, openness to trust other team members, willingness to collaborate, and reflection upon role of self and other team members.

One model being used internationally to promote teamwork and greater understanding of interprofessional roles is the Health Care Team Challenge (HCTC). Why is this event important to students enrolled in the health care professions? To be work-force ready upon graduation, students need to be able to perform well in interprofessional and multidisciplinary teams. Historically, students have received little training in how to function within an interprofessional teamwork environment. Competent patient care requires practitioners to know

how each of the different health professions contributes to the goal of optimizing patient care and health outcomes.

Through the HCTC, students will have the opportunity to gain exposure to and immersion in interprofessional collaboration, values and core competencies. Students who apply these values and competencies will exemplify student leadership in interprofessional collaboration.

The students in graduate and undergraduate health science programs at a small, private University have participated in this type of interprofessional education and will complete a HCTC in March of 2017. This panel presentation will provide information and outcomes for this pilot program.

5:00-6:15 **Dinner:** Benedum Dining Room, Swint Hall

6:30-7:00 **Awards Ceremony:** Troy Theater, Swint Hall Auditorium

Presentation of Awards:

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

Ms. Karen Taylor, *Assistant Coordinator, ARC*

Dr. Mary Railing, *Associate Professor of Chemistry* and Ms. Beth Collins,
Director, Appalachian Institute

Closing Remarks:

Dr. Robert Phillips, *Dean of Arts and Sciences*

7:30-9:00 **Haig Presentations – Acker Science Center Hawk Auditorium**

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

Judging Committee: Dr. Karen Fahey, *Assistant Professor of Nursing*
Dr. Mohammad Hadadzadeh, *Assistant Professor of
Physical Therapy*

Dr. John Lynch, *Associate Professor of Physics*

Mr. Pat Plunkett, *Associate Professor of Computer Science*

Dr. Emily Sylvester, *Assistant Professor of Chemistry*

Maire Austin

Chemistry

Research Mentor: Dr. Mary Railing

Use of Native Plants to Reduce Nitrate Levels in Effluent Wastewater

The focus of this research is the use of native plants to lower nitrate levels in effluent from the Wheeling Wastewater Treatment Plant. Currently, the water runoff goes directly into the Ohio River and the high level of nitrates found in this water could be harmful to the river ecosystem. The practice of using plants to remove pollution is Phytoremediation. Previous research has been conducted on this topic utilizing soy beans and *Justicia americana* in a hydroponic system with positive results, however this research takes into account the variable of soil. Previous research conducted on this topic demonstrated that *Justicia Americana* absorbs significant amounts of nitrates. The current research system was designed to model a bog or wetland. This experiment evaluated the efficacy of *Justicia Americana* and *Rudbeckia hirta*. These plants were chosen because they are native wetland plants. The experiment measured nitrate levels, pH, and conductivity. The analytical technique used for determining the nitrate concentration was the Lamotte Nitrate Testing method. The pH and conductivity were found using a portable electrode. This experiment concluded there was an overall decrease in nitrate levels occurred and there was an increase in conductivity and pH, these changes were small enough to be considered insignificant when compared to the positive impact of removing the nitrates.

Brittany Bennington

Psychology

Research Mentors: Dr. Debra Hull and Dr. Bryan Raudenbush

An Examination of the Impact of Gender Role Stereotypes on Expected Behavior

152 undergraduates (76 women, 72 men, and 4 otherwise identified) participated in a study that examined the impact of gender role stereotypes on expected behavior. Participants were shown one of four faces—either a Feminine Woman, Masculine Woman, Feminine Man, or a Masculine Man. Then, participants were asked to rate their level of agreement on a 5-point scale with 1 = strongly disagree to 5 = strongly agree on a total of 47 statements reflecting gender role stereotypes with respect to the particular face shown. Responses to those statements were factor analyzed, resulting in a significant factor that loaded highly on the most feminine-stereotyped items such as “wears dresses,” “likes cute things,” “wears makeup,” and “carries a purse,” among others. This factor was named the “Hyper-Feminine” factor. A univariate analysis of the items making up the scale was conducted with gender (Man or Woman) and gender role stereotype (Masculine or Feminine) factors. Results suggest that women, regardless of gender presentation, are stereotyped with superficial hyper-feminine traits much more than men. In contrast, a minor masculine factor loading on more neutral stereotypes such as simply being “masculine” and “drinking too much” was found. Univariate analyses on this factor’s items showed no significant main effects or interactions for gender or gender role stereotype. These results reflect our society wherein women—regardless of how they present themselves—are held to a particularly rigid and comprehensive feminine archetype that emphasizes physical appearance much more than men are held to a particular masculine archetype.

Brett M. Szeligo

Chemistry

Research Mentors: Dr. Norman Duffy and Dr. Jason Fuller

Preparation and Stability of *cis*-dicarbonylbis(diorganodithiocarbamato)iron(II) Complexes

Iron(II) dithiocarbamate complexes (an octahedral iron compound with six binding sites) are known to be stable; however, recent analysis of our sample of *cis*-dicarbonylbis(dibenzylidithiocarbamato)iron(II) in a strong magnetic field (¹H NMR) revealed, in addition to the expected peaks for the iron(II) complex, a broad peak in the range of 24 ppm. This peak corresponds to the location of the CH₂ peak for the corresponding magnetically attracted iron(III) complex, thus calling into question the extent of decomposition over time of the numerous other previously prepared *cis*-dicarbonylbis(diorganodithiocarbamato)iron(II) complexes. The stability of these compounds has been investigated using thermal decomposition (TGA), strong magnetic field response (¹H NMR), and magnetic attraction (magnetic susceptibility). At ambient temperature, traces of the corresponding magnetically attracted tris(diorganodithiocarbamato)iron(III) complex have been found for some derivatives, indicating possible room temperature decomposition of iron(II) to iron(III) or contamination during preparation. The extent of this contamination was determined by response in a strong magnetic field (¹H NMR) and magnetic attraction (magnetic susceptibility) and found, for the most part, to be minor. Alternative methods of preparation were attempted and analysis is still in progress. These observations will be discussed, along with the implications of the validity of earlier studies.

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).

Ames, Michael: [3:15-3:30] [2B] [D-129] *Soft Money: Prosecution of Campaign Finance Crimes*. This study analyzes the history of campaign finance legislation and cases in which proven criminals have violated campaign finance law. These cases will be used to answer the question how do the social elements of law affect the prosecution of people for campaign finance crimes. American recognizes the effect that “hard” money (money donated directly to a candidate) has on a person. However, “soft” money (money donated to third parties such as PACs) is as dangerous for the political system as hard money. Campaign finance reform is a complex topic that has been talked about in progressive circles since Citizens United. Donald Black’s Behavior of Law theory will be used to break down the social elements of law into explainable, recognizable terms. Donald Black’s variables are Stratification, Morphology, Culture, Organization, and Social Control. Because campaign finance is a white-collar crime, incarceration rates will be lower, but this study will try to explain why some of these cases result in incarceration while others do not. Hopefully, there will be reform of modern campaign finance laws.



Austin, Maire: [3:00-3:15] [2A] [D-128] *Use Of Native Plants to Lower Nitrate Levels in Effluent Wastewater*. The focus of this research was to use native plants to lower nitrate levels in effluent from the Wheeling Wastewater Treatment Plant. The water runoff goes directly into the Ohio River and the high level of nitrates found in this water could be harmful to the river ecosystem. The plants used in this experiment were *Justicia Americana* and *Rudbeckia hirta*. These plants were chosen because they are native wetland plants. This research utilizes the practice of Phytoremediation, best explained as the practice of using plants to remove pollutants. Previous research was conducted on this topic with positive results; however, this research adds in the variable of soil. The previous research conducted on this topic conducted in a hydroponic system demonstrated that *Justicia Americana* absorbs significant amounts of nitrates. The current research system was designed to model a bog or wetland. The Nitrate levels, pH and conductivity were measured throughout the experiment. The analytical technique used for determining the nitrate concentration was the Lamotte Nitrate Testing method while the pH and conductivity were found using a portable electrode.

Barbosa, Scott, Jonathon Ray; McManis, Kim: [12:30-2:00] [P8] [GYM] *Aromatherapy and the Effects on Pain: A Pilot Study*. Goals: Although there are no articles that have shown the effects of aromatherapy in the athletic training profession, there are multiple articles that show pain-relief effects on patients at hospitals, but mostly on the elderly population, cancer patients, and the terminally ill. The purpose of this study is to evaluate the effectiveness of the Deep Relief oil from Young Living with the effects of pain relief on NCAA division II symptomatic athletes. Methodology: For this study, eighteen participants who suffer from chronic pain of the shoulders and or neck area, will be randomly selected from the NCAA division II men and women athletes attending Wheeling Jesuit University. The researcher will get consent from the coaches asking

for permission to ask the team if any athlete wants to participate in the voluntary study. The participants will be evenly split into three groups, one receiving treatment in the forms of non-steroidal anti-inflammatory medication (NSAIDs), one group receiving treatment in the form of the essential oils and the third will be a control group that will receive treatment in the form of a moist heat pack and stretching. Once the participants have been randomly assigned into the three groups, each participant will be given the pre-treatment survey. Following the survey, participants will start their treatment based on their assigned group. The control group will receive a moist heat treatment followed by stretching of the cervical spine or shoulder. The NSAIDs (2 x 200mg as prescribed on bottle) treatment just involves signing out a packet of pills along with moist heat and stretch. The Deep Relief group involves getting it applied on to either the back of the neck or the temples while also receiving moist heat and stretching. The researcher will be in charge of giving all patients their treatments and collecting the data from surveys. Patients then can move on to their everyday activities. The treatment will be given every day, five days a week with the patients completing the survey once every seven days. They will fill out a post-participation survey documenting any results or improvements. Results: The research may show that Deep Relief essential oils will have better amount of pain relief effects compared to the other types of treatments. Conclusion: More research on the effects of essential oils on pain relief in the athletic population need to be done. Research shows that it works the effects of essential oils in the treatment in hospital patients for pain relief, therefore it may also be more widely used in treating athletes. Essential oils are believed to have the same or better effects than NSAIDs in pain relief and are also healthier for consumption, which can be a better alternative treatment in athletes.

Barker, Daniel; Dennis, David; Estock, Dr. Jared: [12:30-2:00] [P4] [GYM] *The Effects of Concussive Forces on Cervical Range of Motion*. Many athletes have been affected by the rising concern in sports, concussions. Many times, the athlete and medical team only treat the symptoms of the condition, but they do not think about the secondary effects the concussion may have on the body. Cervical spine range of motion is one of the aspects that can potentially be affected due to these concussive forces. The cervical spine can undergo changes to compensate for the forces applied on the head and neck area and cause further injuries/ issues/problems. The purpose of this study is to find whether semi-professional/ collegiate athletes who suffer from different concussive forces develop cervical range of motion (ROM) conditions/injuries as compared to those who have not suffered concussions. Approximately 30 athletes were approached and asked to complete a demographic information survey with concussion specific questions. If they agreed to participate they were prescribed to be placed into response-specific groups based on whether or not, they suffered from/or currently suffering from a concussion. The athletes were then taken to the area where the primary investigator was to measure the movements of the neck (flexion, extension, bilateral lateral flexion, bilateral rotation). Once the athlete completed this, they were released from the study. Participants consisted of volunteer student athletes (ages 18-30) from NCAA Division II men's and women's collegiate sports from Wheeling Jesuit University. The examiner also had volunteer participants from the Wheeling Nailers Hockey Club of the East Coast Hockey League (ECHL). Each participant had their range of motion taken three times in each direction. The primary examiner took the best measurement of the three to be included in the study. Between both of the groups, the scores were taken in and ran through the SPSS statistic system. The mean age, height, weight, and body mass index of each participant were also taken for demographic information purposes. The numerical data collected from the procedures were computed via the SPSS statistical system. Unfortunately, no statistically significant information was collected as a result of the study. However, the study did establish a trending relationship between concussive forces and cervical range of motion depletion in those participants who did suffer a concussion. This study presents a strong trend associated with the correlation of athletes who have had a

concussion and have decreased cervical range of motion. This relationship between cervical range of motion and concussions has multiple contributing factors to influence the report and conclusion such as body mass index, height, weight, etc. However, it is found prevalently that when examining semi-professional and collegiate athletes, there is a relationship that supports the theory that those who have not had a concussion will have greater cervical range of motion than those who have. The study has put forth an identification benchmark in the realm of range of motion study.

Bell, George: [12:30-2:00] [P21] [GYM] *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 are used in most reactions to dissolve solids and facilitate interactions between reacting species. 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. Several of the Principles of Green Chemistry have to do with being reusable and safe for the environment. 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. Ball milling was used to synthesize novel Dithiocarbamates. Dithiocarbamate ligands, $R_2NC(S)_2-$, have several applications, one main being fungicides. The organic portion of the ligand, the R groups, influence the electron distribution throughout the rest of the molecule. This affects the strength of the metal-sulfur bond which affects the physical and chemical properties of the complex. The dithiocarbamates are synthesized from amines, R_2NH , and carbon disulfide. Most amines used are commercially available and only have a simple alkyl or aryl substituents as the organic (R) group. This is ongoing research into how to make novel dithiocarbamates. Dithiocarbamates are versatile ligands with applications in agriculture. The aims of this project are to find a green way of making dithiocarbamate ligands with modified R groups.

Bennington, Brittany: [2:15-2:30] [2C] [ASC G-10] *An Examination of the Impact of Gender Role Stereotypes on Expected Behavior*. 152 undergraduates (76 women, 72 men, and 4 otherwise identified) participated in a study that examined the impact of gender role stereotypes on expected behavior. Participants were shown one of four faces—either a Feminine Woman, Masculine Woman, Feminine Man, or a Masculine Man. Then, participants were asked to rate their level of agreement on a 5-point scale with 1 = strongly disagree to 5 = strongly agree on a total of 47 statements reflecting gender role stereotypes with respect to the particular face shown. Responses to those statements were factor analyzed, resulting in a significant factor that loaded highly on the most feminine-stereotyped items such as “wears dresses,” “likes cute things,” “wears makeup,” and “carries a purse,” among others. This factor was named the “Hyper-Feminine” factor. A univariate analysis of the items making up the scale was conducted with gender (Man or Woman) and gender role stereotype (Masculine or Feminine) factors. Results suggest that women, regardless of gender presentation, are stereotyped with superficial hyper-feminine traits much more than men. In contrast, a minor masculine factor loading on more neutral stereotypes such as simply being “masculine” and “drinking too much” was found. Univariate analyses on this factor’s items showed no significant main effects or interactions for gender or gender role stereotype. These results reflect our society wherein women—regardless of how they present themselves—are held to a particularly rigid and comprehensive feminine archetype that emphasizes physical appearance much more than men are held to a particular masculine archetype.

Bombara, Anthony: [12:30-2:00] [P27] [GYM] *The Josephus Problem*. My topic will be discussing the origins and applications of the Josephus problem. The Josephus problem is a concept that has existed for thousands of years. The scenario for this problem is that people are waiting to be executed and are standing in a circle. Every n th person will be executed until one person remains. The goal is to be the last one to survive. The question is, will we be able to find the place to stand to avoid certain death?

Burch, Alexis: [12:30- 2:00] [P39] [GYM] *How Athletes at Wheeling Jesuit University Perceive Control of their Asthma Compared to the EIB Guidelines*. Athletes mind sets are usually tougher to injuries and other factors that may inhibit them from performing their sport. On the other hand, athletes may be more sensitive to factors that will inhibit them from playing their sport and therefore take better care of their bodies. This study will see how athletes at Wheeling Jesuit University perceive control of their asthma by looking at what the exercise induced bronchoconstriction (EIB) guidelines say about it.

Burns, Mary: [11:15-11:30] [1B] [D-129] *The Spectrum of Shifting Female Gender Dynamics in King Lear and Macbeth*. William Shakespeare has created various female characters, many of which are well known, during the writing of his dramatic literary canon. When addressing the authoritative female influence in William Shakespeare's works, King Lear and Macbeth should be at the forefront, as they contain some of the most assertive and domineering female characters from his dramas. These strong female characters, while attempting to control the men in the plays in order to gain power, can be placed on a spectrum of shifting gender dynamics in which each female either remains within, rebels against, or is completely outside the traditional female role in society. Each woman's respective position on the scale highlights her distinct influential behavior towards the men in the plays. First, Cordelia falls into the category on the spectrum of knowing and accepting her place within traditional society, as she, for the most part, respectfully follows orders throughout King Lear. Lady Macbeth falls into the second category of challenging the role of the typical female in traditional society throughout Macbeth, but at the end, attempts to repent for her faults, placing her closer to the conventional woman. Goneril and Regan also fall into the second category of challenging this female role throughout King Lear, but they are never able to redeem themselves as Lady Macbeth does. This lack of remorse present throughout the play pushes these two sisters even further away from the role of the traditional woman. Finally, the weird sisters and Hecate are supernatural witches outside the realm of traditional society who have a powerful influence on individuals who exist within the traditional society, placing them in this third group. After trying to manipulate men throughout the play, the mortal female characters meet their ultimate demises, illustrating the definition of tragedy. Shakespeare's depictions of these women along with their unfortunate demises in the plays seem to be in favor of the new king of England, James I, who was Queen Elizabeth I's successor as well as the patron of Shakespeare's acting company. The plays, written right around the time that Queen Elizabeth died, reinforce the importance of male leadership in society, as James I was the current king of both Scotland and England in a relatively peaceful time in the countries' histories. By examining the spectrum of shifting gender dynamics and the outcomes of the females on the scale in these two dramas, Shakespeare seems to confirm that women are not meant to have power in the male-dominant society of the early seventeenth century, even after the supreme individual reign of Queen Elizabeth I.

Burson, Ryan: [12:30-2:00] [P23] [GYM] *Instant Insanity*. Throughout my discussion I will solve the Instant Insanity problem. To solve this problem we will use the Graphical-Theoretic solution to

find how we connect all four vertices on the four squares, we will also use multiple subgraphs. Using this solution we can have the squares showing different colors in every direction.

Byrd, Amber:[11:00am-11:15am][1C][ASC G-10] *Making Lemonade out of Lemons: Celebrity Influence on Social Change*. Because of America's long history of interest in celebrities and tension between race, gender, and class, Beyonce's Lemonade must be analyzed to determine its social and cultural influence. As the creative director and executive director for her visual album Lemonade, Beyonce Knowles challenges societal elements about race, gender, and class. Using the theoretical works of Stuart Hall, Judith Butler, Toni Cade Bambara and British-African poet Warsan Shire, this textual analysis explores how much influence or power Beyonce has to bring awareness to social issues and thus social change. Lemonade highlights the intersectionality of race and gender. Female sexuality is celebrated through images of the Black female body and behaviors society deems as licentious. The construct of race is criticized with images pertaining to the Black Lives Matter Movement, including features by the Mothers of the Movement, the mothers of the unarmed Black men who have been killed by police. Race is also challenged by imagery of Black American and African history including dress, print, and use of language. Finally, the ideology of class is explored in reference to her southern creole heritage, as Lemonade was filmed in Louisiana. This research is beneficial to me as a Communications student at Wheeling Jesuit University because it involves the ideologies that I have studied throughout my four years as a Communications student. Using the ideologies of race and gender and through textual analysis this paper explores the intersectionality of race, gender, and class. I have selected Beyonce's Lemonade for my thesis because Beyonce is an internationally known celebrity who has the ability to influence many different demographics of people including women, African-Americans, and people of different socio-economic backgrounds. Her visual album is a work that involves social criticism and has been deemed controversial because of the visuals that portray aspects of the feminist movement, Black Lives Matter, and class discrepancies. From my research, one can determine how much influence celebrities have to impact society and bring about social change. Through the work of Lemonade, one can see the influence that a Black American woman has not only on the music industry, but rather the way individuals in society communicate with each other. The elements of race, gender in terms of representation and experience, and the issues of cultural appropriation are continuous issues in society. Scholars will benefit from this research because it exposes how people in power can bring awareness about issues and social change, and can do so through various forms of entertainment such as a visual album.

Byrd, Amber: [11:45am][1C][ASC G-10] *Turn that Jungle Music Off! We ain't in Africa! An Ideological Analysis of Do the Right Thing*. Because the majority of Americans are dissatisfied with the current state of race relations, Spike Lee's film Do the Right Thing must be analyzed. America has a long and complicated history with race and marginalized groups. The elements of race relations concerning Blacks in America include police brutality and stereotyping. Using a textual analysis of the movie, this paper will seek to understand both the past and present social issues concerning race relations. Determining the varying types of racism by using the theoretical framework of Stuart Hall, one can further assess the film's cultural significance and representation of race in America. The film shows reoccurring aspects like stereotyping, racial tension, and police brutality. By reanalyzing this film, one can consider its significance to social movements regarding race such as the Black Lives Matter Movement. The film highlights the idea of hegemony and the status quo. This is because a dominant culture, in this case, White Americans do not see systemic racism as an issue because it does not affect them directly. From this research, one can determine the significance of social movements such as Black Lives Matter by analyzing how social and racial discrepancies have either changed or remained the same throughout society through the decades. The film Do the Right Thing was chosen to

be analyzed because it shows reoccurring aspects of race relations including racial tensions, police brutality, and stereotyping. Debuting in 1989, *Do the Right Thing* should be revisited in reference to issues present in society today, such as police brutality and rioting. Instances in the movie are appearing in real life today. For example, the killing of Radio Raheem by a police officer by way of chokehold is a foreshadowing to the Eric Garner case in 2014 involving an NYPD officer putting Garner in a chokehold in Staten Island, resulting in his death. Elements in the movie show a connection between recent events going on in the American society such as racial discrepancies and police brutality. Even though the movie was created in the 1980's there are still negative attitudes towards race relations. This research is beneficial to the Communications field because it deals with the ideologies of race and class, and societal issues that pertain to a mainstream audience, and how individuals from diverse backgrounds communicate.

Campbell, Katie: [10:00-10:15] [1C] [ASC G-10] *Freshman Dorm Tour Public Relations Video*. During my time at Wheeling Jesuit University, one of the largest problems the university has faced is their retention problem, but more importantly, their freshman enrollment numbers being so low. For a university to be a properly functioning institution the hope is that enrollment, specifically freshman enrollment, is going up every year or at least staying consistent. I started to wonder what our school wasn't doing right resulting in this decline in students applying and attending Wheeling Jesuit. As the only private, Jesuit, institution in the entire state of West Virginia, you would think there would be an automatically appeal on its own to the school; however, that was not the case. I realized that the first thing that needed to be done was more updated, student driven content available on our website. That is where I got the idea of beginning the idea of student made, student focused media content. One of the most important things to a potential freshman is where they are going to be living their first year away from home. So, I am creating the first in the "Dorm Tours" series, showing what life in Sara Tracey is like for one room of girls. After producing this video, I hope it is used as a tool to open the doors to more videos being made by students or from the students point of view. I want this video of the freshman dorm tours to just be the beginning of making our website and our campus more updated and interactive within the digital world. My goal is to boost the amount of student driven digital content the university creates and presents to potential students. I began by creating a story board of the shots that I planned on capturing. Then I proceeded to shoot the necessary shots and interview participants. I then edited the footage gathered together in a way that is both appealing and persuasive to the potential incoming freshman. This PR video was made as an example of something that could go live on the student life page or within the same pages as when you are getting more information on the dorms. When I was doing research for this project, I came across other university's pages on YouTube where they posted similar videos to the one created. When watching those videos, I felt I was getting a more personal look into the freshman dorms. Looking at schools you could potentially end up at for the next four years of one's life is a very daunting task. I know when I was looking at schools I wanted as much visual as possible, from pictures to videos. Our school's website needs updated videos like these with relevant information for prospective students.

Carenbauer, Dylan: [2:45-3:00] [2A] [D-128] *The Effects of Epigallocatechin-3-gallate on c-Myc Protein Levels and Viability of SH-SY5Y Human Neuroblastoma Cell Line*. (-)-Epigallocatechin-3-gallate is an abundant catechin found in tea, which has recently produced promising results in numerous anticancer studies. Catechins belong to a group of polyphenols derived from the flavonoid class that serves as a cellular antioxidant in phototropic vascular plants. However, EGCG recently has proven to have numerous effects on laboratory model cancer cell lines by inhibiting several key processes necessary for malignant cell survival including metastasis, invasion, proliferation, and angiogenesis. The mechanism of many of these processes and their

inhibition by EGCG still remains unknown and remains a field of intense research and interest. To investigate the possible mechanisms of EGCG on proliferation inhibition, SH-SY5Y cells derived from a human neuroblastoma bone metastasis were selected due to their constitutively high level of c-Myc protein expression, a key transcription factor required for cell cycle progression that is often seen in cancerous and pre-cancerous cells. EGCG has already been found to be cytotoxic at certain thresholds, most commonly exceeding $>100 \text{ } 10^{-6} \text{M}$ but varying from each cell type. A toxicity study was carried out and toxicity curve generated to both determine the effect on the viability of SH-SY5Y cells by EGCG as well as gauge the appropriate concentration required for protein expression studies. Protein levels of both untreated control SH-SY5Y neuroblastoma cell line, as well as EGCG-treated SH-SY5Y, were compared via western blot and BCA analysis to determine if the changes in cellular protein levels were statistically significant to implicate EGCG.

Comfort, Cydney: [12:30-2:00] [P32] [GYM] *Wheeling Jesuit University Human Resources Organizational Development Intern*. During the spring 2016 semester, I was an Organizational Development Intern in the Human Resource Department at Wheeling Jesuit University. The purpose of the internship was to gain a better understanding of the daily roles of a Human Resource Department and to also exercise the opportunity to determine whether Industrial Psychology is where my interests truly lie. This internship gave me the opportunity to personally interview ten directors from different departments on campus to gain valuable insights on the roles in those departments. After looking at some common needs amongst the departments on campus, I was able to create a Department Satisfaction Survey for mid-level administrators that could be used to bring awareness to the specific needs of the department. This internship has been a very beneficial hands on experience previewing a career in Industrial Psychology. In addition, it greatly aligned with the university's mission of life, leadership, and service where I was able to gain insight in each aspect.

Cooper, Kristin: [12:30-2:00] [P22] [GYM] *Card Tricks*. My research topic is based on card tricks whose solution can be described using mathematics. These tricks may surprise you and have you thinking that I'm a magician, but you will learn that it's really the math behind the tricks that makes the magic come alive. For my presentation, I will perform some card tricks and discuss the mathematics behind them that makes them work.

Cotter, John: [10:30-10:45] [1B] [D-129] *A Civilization Forged in Flame: Mythological Dragon Combat as Symbolic of Societal Change, Expansion, and Assimilation*. In this research paper I discuss the symbolic significance of the dragon-combat motif throughout Western literature, particularly myths and legends. Some critics may claim that the dragon-combat motif is superfluous action meant to draw out a tale or imply create excitement for the audience. On the other hand, I argue that the dragon-combat motif holds a special symbolic purpose within the myriad texts that contain it, and that this same significance was adopted and repurposed by Western cultures throughout history to fit their own particular needs. However, the core themes behind dragon-combat remain consistent across cultures, with the dragon-slaying hero representing mainstream society, and the dragon representing obstacles to the expansion of said society, including nature itself as well as pagan cultures. I mainly examine this idea through the lens of both historical and cultural background related to the symbolic significance of dragons ranging from ancient Mesopotamia to medieval England. Additionally, the bulk of the analysis includes an examination of dragon-combat scenarios in texts from largely different time periods and cultures; Theogony and The Homeric Hymn to Apollo from Ancient Greece, and Beowulf from medieval England. Through this research I demonstrate not only that the dragon-combat motif holds special symbolic significance in literature, but that said significance lasted throughout different cultures in Western history.



Cunningham, Bryan: [11:00-2:00] [GALLERY] *A Futile Attempt at Nothing*. Stylistically, I know that I am nowhere close to being a good artist (it takes considerable effort for me to draw a straight line), but by layering and forming the multitude of sub-par lines into a cohesive piece, an idea can come out that reflects that same philosophy, not only artistically, but also as a comment on human nature. Through these pieces I try to give a view on a couple aspects of human nature. One work is about the nature of man represented as a person in flux who is unaware of the influence they have on the world around them, the heavier and darker tones behind them are meant to convey the destruction they wrought as a result of their influence. The other, more abstract work attempts to show how humans can very easily blend together all the influences of that which is familiar to them but it is sometimes more jarring or difficult to see the effect of something thought to be foreign. While I try to keep the original ideas in mind, on subsequent viewings different meanings and interpretations are brought out of these pieces much in the same way one can never truly know a person at first glance.

1. Title: A Futile Attempt
Media: Acrylic and Charcoal
Date: 2016
Dimensions: 20x24 in

2. Title: Nothing
Media: Charcoal/Mixed Media
Date: 2016
Dimensions: 18x24 in

DiCenzo, Matthew: [12:30-2:00] [P28] [GYM] *The Sound of Silence: An Analysis of Modern Technology's Effect through Song Lyrics*. This research investigates how the lyrics of "The Sound of Silence" by Simon & Garfunkel connect with current cultural themes. The song has a very deep and solemn tone, and has lyrics that can be interpreted in many different ways. It is important to look into how this song makes people feel and what emotion and interpretations it brings out of an individual. Although it was written in the 1960s, I think it is relevant to today because of the lyrics suggesting the lack of verbal Communication. The song, if written today, could have been confused with the problems of texting and people being addicted to their mobile devices. We have become robots and even send emojis to express emotion instead of expressing how we really feel. Technology like cell phone use is dominant in our daily lives, and this song could easily speak to the problems we have in culture today. We have a problem of less face to face communication today. People find comfort in front of a screen rather than talking and discussing something. Paul Simon's lyrics could be interpreted as this current problem. Simon & Garfunkel's arrangement for this song gives you an eerie and sad feeling and this portrays the lyrics in an even deeper way. The song also discusses how people do not listen to the message. It describes a muted time where no one communicates. The song ends with telling others about the "warning" and the "neon god", which could be interpreted today as our cell phone and our other technological devices with screens that we communicate with, but yet the "sounds of silence" still remains. The answer is literally right in front of us and yet we fail to acknowledge it. The current youth fail to understand their addiction to their cell phones. Students texting during class, people sitting in a restaurant and not talking but instead texting on their cell phones, or people walking through the hallways at school or the shopping malls or aisles in the grocery store glued to their cell phones. Even with recent technology, like these virtual simulators where you have a cell phone on goggles, people continue to need and want to be on their cell phones all day. It is scary to think if we are heading down the path of nonverbal

communication this way. What if people fail to listen to those trying to stop so much cell phone use and dependency? What if those “words like silent rain drops” fall and we continue to have conversations that “echo in the sounds of silence”? It is something that our world is going to have to deal with and understand how so much cell phone use is affecting people. “The Sound of Silence” could really help with understanding our problems of today, trying to bring awareness as well as a new message to people. This is a work-in-progress.

Diomi, Indra: [3:30-3:45] [2B] [D-129] *Conformity in The International System*. The inequality and troubled relationship between the developed countries and the underdeveloped countries have long been a source of the main concerns for political scientists around the world who question the reasons of such unbalance dynamic within the actual international system. In fact, the establishment of Western social, political and economic philosophies has best models to reach development, and the increasing influence of international organizations has occasioned the underdeveloped countries' conformity and dependence to the Western World. This study will develop the concept of conformity within the third world nations connecting it to the actual dynamic of the international system, the the necessity to consider the reality of the third world countries , examination of majors theories and global mechanisms of the system leading to dependence and inequality, and last explore potential new paths toward development.

Dipuma, Brett: [11:00-11:15] [1B] [D-129] *Holding out For a (Real) Hero: A Case for Jason as Tragic Hero in Euripides's Medea*. With many classical tragedies it is easy to identify who the tragic hero of the story is. In many cases, the tragic hero and title character are one and the same. Often, as is the case in a patriarchal society, the hero is a male (see Oedipus Rex, Agamamnon, Prometheus Bound, etc). Medea, however, appears to stray from the Classical tradition a tad. While many critics argue for, and a case can be made for, Medea as a proto-feminist work or Medea as a heroic character (Blondell), Jason has more traditional traits of a tragic hero as defined by Aristotle than Medea does providing a case that can be made for Jason as the real hero of the story. Although he delivers far fewer lines than Medea by far, Jason's character and personality is fleshed out enough to meet Aristotle's says of a tragic hero that “the change[s] in the hero's fortunes must be not from misery to happiness, but on the contrary from happiness to misery; and the cause of it must lie not in any depravity, but in some great error on his part; the man himself being either such as we have described, or better, not worse than that” (Reeves 173). Further, the hero is “not preeminently virtuous or just” or in other words, an everyman morally speaking, a character which the audience can find relatable. Critic Charles Reeves further argues that good in the sense can mean “noble, or prosperous” (175). As known from the myth of Jason, he is a very ambitious man, and his ambition blinds him from realizing betraying Medea will cause his downfall, and his recognition of what he truly lost in his kids was most important to him. Jason begins the play as a future king (a noble) and ends it widowed, childless, and abandoned by his error in taking a new wife marking off all three categories for a tragic hero.

Enders, Rachel: [11:45-12:00] [1A] [D-128] *Switzerland, Illusions of Neutrality, and a WWII Profit Motive*. As Europe's neutral "Inland Island", Switzerland was in a unique position during World War II. Resting high in the Alps, Switzerland spent the war surrounded by Axis powers and their occupied territories. Despite its small size (41,000 km²) and low population, about 4.3 million in 1941, Switzerland remained independent and neutral. In recent years, despite the extraordinary circumstance of the nation's “absolute neutrality”, Switzerland's role during World War II has been criticized, even vilified, as a result of wartime economic transactions with Nazi Germany and subsequent post-war behaviors. While there was certainly a national defense motive for trade with Axis powers, as well as a generally-accepted eagerness to maintain “business as

usual,” Switzerland’s fiscal policies and economic interactions, in combination with their actions after the war, were a method for the Swiss to make a profit.

Fair, Jordan: *WJU Basketball Promotional Video*. [10:15-10:30] [1C] [ASC G-10] As a communications student I found myself really connected to film and video editing. For my senior project I chose to create videos and publish pictures of the 2016-17 Wheeling Jesuit University Men’s basketball team through the season. I found my niche in video editing and graphic design in my Visual Rhetoric 2 course here at Wheeling Jesuit University. In that course I learned to work with video editing software such as Adobe Premiere and Adobe Photo Shop, which I would use for photo editing. The goals of my project are to enhance my skills working with different digital media software and to promote the basketball program at Wheeling Jesuit University. I feel with more media publications of what the program has to offer, the coaches can use these videos or photos as tools to show prospective recruits what its like playing for this program. These publications should give everyone who see’s them an inclusive feeling, like they are a part of the program. Interviews were conducted where players were asked to explain memorable moments while being a part of the team. Game highlights were created, and photos were edited. A promotional video was created for the program. These media publications will promote and benefit the men’s basketball program. With these different medias, family and fans have a way to connect with the team. Coaches can show recruits on visits the promotional video to engage interest in Wheeling Jesuit University. All publications can be beneficial mainly for the men’s basketball program but also to Wheeling Jesuit University as a whole.



Ferguson, Uneeke: [10:45-11:00] [1C] [ASC G-10] *Laughlin Chapel Efficacy Program*. Laughlin Chapel is an afterschool program in eastern Wheeling that focuses on providing at risk students, grades 1 through 12, with a safe, loving, and helpful environment. The students who attend Laughlin Chapel are predominantly African American, and according to the United States Census Bureau, within Wheeling, the African American residential population is 5%, compared to the White American population of 91%. Research suggests that the African Americans who thrive in their education, deriving from low-income families and cities, can be heavily based upon their personal efficacy. With the African American population being low in Wheeling, there are limited numbers of exemplary African American role models for the students to look up to. The educational efficacy program that I have created is filled with positive, motivational, influential, and factual information about the history of African American education within America and their up comings since then. It highlights old and present stepping stones African Americans have overcome alike ones they will face. With the recent media covering multiple incidences of the deaths of African Americans and the negative connotations associated with being African American, this educational efficacy program could help the students look past those connotations and create new ones describing them personally and driving them to change historically. This educational efficacy program includes tools to determine their self-esteem and to help build from where they currently are. This educational efficacy program was created in hopes that these students would gain the confidence to push themselves into unmarked territory within their futures. If followed through, my hopes are that this educational efficacy program will positively uplift the students at Laughlin Chapel to have the efficacy to at least dream about going to college and find a way actually attend. Upon learning of the projects success once it’s put into action in the future, I hope to extend the program to the city schools within my home town, Baltimore, MD. During my presentation I will show how the program can be implemented.



Frazier, Mitch; Brandenburg, Jack: [12:30-2:00] [P15] [GYM] *Investigating Presence of Arsenic in Public Drinking Water Across West Virginia*. The Clean Water Act was enacted in

1948 in order to establish the basic structure for regulating discharges of pollutants into the waterways (epa.gov). Through this act, our water has been much more regulated and protected. Even with this Act, safe drinking water is still a concern for some people. It is necessary to hold the federal government accountable for clean drinking water, as defined by this Act, especially in high risk areas, such as areas with high surface and underground mining of coal. The water samples, for our research, will be taken near the three highest surface and underground mines in the state of West Virginia. Three samples will be taken at varying distances from each coal mine. An additional three samples will be taken from Wheeling, an area with little coal mining, to be used as a control. Each of these twenty-one samples, will be measured in two different ways, one qualitative and one quantitative. The quantitative method will be done using the Atomic Absorption Spectrometer, and the qualitative method will be done using an arsenic test kit and colorimeter. This will allow us to double check our data, and to see if one method is more accurate versus another. The differences between the methods will be calculated, as well as the differences between the maximum containment value for arsenic, and the various calculated ppb from the Samples. Coal has created a culture in West Virginia and has helped shape its economy over the last two centuries. We owe it to the coal workers, the coal towns and the general residents of West Virginia to ensure that their drinking water is safe and free from Arsenic.

Frizell, Kylie: [10:30-10:45] [1C] [ASC G-10] *The Cardinal Culture*. My senior capstone project for Communication is a video project centered on the wrestling program. The Wheeling Jesuit wrestling program started in the 2013-2014 academic year, four years ago. The inaugural class of about 30 young men came in as freshman to pioneer this program and to bring about a new culture within Wheeling Jesuit's study body. The video explores the journey of the program and the personal growth the wrestlers have experienced. The phrase "Cardinal Culture" was dubbed by the wrestling program to bring a sense of unity and brotherhood. The goal of my project is to provide a visual representation of what Cardinal Culture is, show the personal growth this program helps promote in its athletes, and highlight Coach Doyle and all the work he has done for this program. Inspiration for the format of the video comes from SportsCenter's 30 for 30 documentaries which helped to give me structure for the video. My personal goals are to learn how to conduct an insightful interview, increase my knowledge on taking the best shots, and hone my skills in the post-production. Overall, I think the feature film highlights the team in a positive manner and will hopefully help with recruitment in the future. The story conveyed through this type of media project allows a visual representation of the historic accomplishments and inspiration for hard work ethic, brotherhood, and family. The wrestling team has taken Cardinal Culture and trademarked it to their program and each individual finds their own meaning. Yet, commonalities of brotherhood, family, working hard, and having fun are very similar. The video is composed of various "scenes" to show interviews with some of the wrestlers, the wrestling matches, practices/workouts, and the closeness of the guys on the team. The video is inspirational by showing the closeness of a group of very different individuals but all brought together for their love to wrestle that ties them together. This can help break stereotypes associated with wrestlers and allow their brotherhood and work ethic to shine through.

Frommeyer, Jordan: [12:30-2:00] [P36] [GYM] *Pulmonary Rehabilitation Effect on Locus of Control in Patients with Chronic Pulmonary Disease*. The project includes patients who have chronic obstructive pulmonary disease (COPD). COPD, is the third leading cause of death in the United States. COPD is defined by chronic inflammation in the airways. More often than not, it is associated with cigarette smoking. Emphysema, asthma, chronic bronchitis, bronchiectasis, and cyncatuc fibrosis are all disease processes within COPD. These patients will be surveyed on their Locus of Control (LOC). LOC is an individual's perception about the underlying causes of

his or her self. In this case, we are referring to their chronic disease. Patients will take a pre and post survey and we will test if their perception has changed in a positive manner about their disease through pulmonary rehab.

Gilardi, Mia; Gima, Carly: [12:30-2:00] [P43] [GYM] *HIV Positive and Shackled*. Human immunodeficiency virus (HIV) is a virus that attacks the immune system. Acquired immunodeficiency virus (AIDS) is diagnosed when a CD4 count less than 200 cells/mm³ is detected in the blood. The incidence of HIV/AIDS in incarcerated people is higher than the incidence in the general public. The purpose of this study was to examine the literature surrounding the level of care received by HIV positive prisoners. Methods: A literature search was completed using electronic resources CINAHL and Academic Search Complete. Key words used were: HIV, incarceration, nursing, treatment of, ART, and prisoners. Summary of findings: Literature revealed that while incarcerated, HIV positive prisoners do not receive proper therapy. Despite having adequate health care personnel in many United States (U.S.) prisons, HIV positive prisoners often do not receive vital antiretroviral therapy. Medical privacy and fear of retribution from other prisoners discourages prisoners from disclosing their HIV status and treatment. Once released from incarceration, many former prisoners have decreased adherence to treatment or reasons varying from financial instability to lack of social support. Implications for nursing research/practice: HIV positive prisoners do not receive adequate medical therapy. Many of the reasons for this remain unclear, but nurses must be advocates for adequate healthcare for the prisoners. Recommendations: Further research is required to identify specific reasons for lack of ART in the prison healthcare system. Nurses must ensure confidentiality among HIV positive inmates while incarcerated and after release.

Hales, Elizabeth: [3:30-3:45] [2C] [ASC G-10] *Athletic Participation and "Crimes of Truth"*. The purpose of this study is to evaluate the impact of athletic participation on the mindset of individuals. This research proposal criticizes past research that argues sports participation can deter an athlete from committing crimes of truth. This hypothesis is very old and must be reviewed critically. For the purpose of this research "crimes of truth" will be defined as cheating on any class assignment or test, stealing, vandalizing, and or fighting. I created a survey for a random sample of undergraduate students at WJU. I project to find that the initial beliefs of athletics are now evolving. Coaches, parents, and athletes must become aware of this changing environment. The focus needs to be put back on establishing positive fundamental characteristics in athletes, rather than doing whatever it takes to win.



Hamm, Zachary; Artimez, Taylor; Bowers, Addison; Yost, Seth: [4:00-4:15] [3B] [ASC- 315] *Scalable Greenhouse Automation Software System Using "Raspberry Pi" Single-board Computer*. As the human population continually increases, so does the demand for food. In a world dominated by technology, computers are getting smaller, more widespread, and smarter at solving our problems for us. Thus, why not use consumer technology to accomplish steps in alleviating the increasing hunger gap? Incorporating an affordable Raspberry Pi mini computer running a Java program, Arduino Uno microcontrollers, and a MySQL database server, we look to show a proof of concept that a low-powered computer system can automate plant needs for water, light, and temperature maintenance within a controlled greenhouse environment. Our software solution is also scalable from personal to industrial-sized use cases. In our test case, we will be observing three greenhouse environment "units" that house a microcontroller, fan, temperature and humidity sensor, LED grow lights, and a watering pump. The units contain their own internal environments determined by user-entered values for amounts of artificial light and watering units and maximum allowed temperature. Each unit also houses a specific plant specimen with differentiating needs to be tested for the solution's ability to both grow seedlings

and then maintain plant survival. The program written for this solution uses the Java Standard Edition programming language and operates in an embedded design running on the Raspberry Pi computer master controller. The master controller is connected to three Arduino Uno microcontrollers with one residing within each unit. These microcontrollers can turn on the fans, lights, water pumps, and sensors when called upon by the master controller to perform an action. A MySQL database, contained on a secure server, then acts an intermediary containing the data passed between the Java program and itself and contains statistics gathered for each unit as well as configuration files for the main program. Finally, there are user commands that can be processed on the secure sever to add or change configurations to make this solution able to be scaled. The user also will have access to visual reports hosted on the secure server, providing a dashboard view of information within the user's own greenhouse system.

Hammer, Ian: [12:30-2:00] [P20] [GYM] *The Synthesis of Dithiocarbamates with Applications of Green Chemistry*. For economic and environmental reasons, principles of green chemistry such as waste prevention and energy efficiency are being applied to new and existing reactions. The research conducted was the synthesis of dithiocarbamates. Specifically the amines used were dibenzylamine and N-methylaniline with the bases sodium hydroxide, potassium carbonate, and sodium amide. The reactions are traditionally done on a bench top with solvent. This series of reactions were also carried out with a ball mill, a machine that uses mechanical energy instead of a solvent, in order to compare with normal bench top conditions. The final products were analyzed with the use of infrared (IR) and NMR spectroscopy. Finally the "greenness" of the reactions was analyzed using green chemistry metrics, EcoScale and E factor, to determine if the ball mill or bench top technique is the best choice.

Hansknecht, Stephen; Szeligo, Brett: [12:30-2:00] [P20] [GYM] *Synthesis of Iron Dicarbonyl-Dithiocarbamate Ligands Using a Ball Mill*. Over the last several years, Wheeling Jesuit has focused on the synthesis of novel dithiocarbamate ligands as well as a focus on different synthesis techniques for these ligands. One such synthesis process involves producing dithiocarbamates using a ball mill. The use of a ball mill is not a new technique, but there has been no comparison of dithiocarbamate synthesis between traditional and ball mill techniques. Additionally, the synthesis of the dithiocarbamates in a ball mill is a "green" technique, meaning that it is a less chemically hazardous process than traditional techniques. One such synthesis, that of iron dicarbonyl-dithiocarbamates, which involves the reaction of triiron dodecarbonyl ($\text{Fe}_3(\text{CO})_{12}$) with three equivalents of either tetramethylthiuram or tetraethylthiuram disulfide, will be carried out in a ball mill using a stainless-steel vial to determine if a "green" synthetic route will be a viable chemical process. The presented poster will show the characterizations and classifications of created complexes.

Hansknecht, Stephen: [12:30-2:00] [P25] [GYM] *Tower of Hanoi*. The Tower of Hanoi is a game in which disks are moved across three pegs under the rules that only one disk can be moved at a time and no disk can be placed on another smaller disk. The overall goal being to move the tower from the first to the third peg. Based on this criteria and an arbitrary number of disks, I will be discussing the total number of moves necessary to win the game while also investigating the mathematical implications of the movements of the disks.

Haynes, Jacob: [11:30-11:45] [1B] [D-129] *"I Leave It Entirely in Your Hands": Crafting Identity through Ambiguity and Opposition in the Works and Medium of Alan Moore*. Through the medium of graphic novels, Alan Moore creates ambiguity between opposing forces seemingly in binary opposition towards one another. In two of his most prominent works, this ambiguity is represented by the ideological conflict between two sets of supposedly opposite characters within speculative fiction. In *Watchmen*, a world with an alternative history where costumed

superheroes became real during the 1930s, the two characters are Rorschach, the masked, ruthless vigilante that promotes moral absolutism and Ozymandias, a rich, intelligent, and supposedly retired hero who expresses utilitarianism. In *V for Vendetta*, a world set in a dystopian future, the two characters are V, the masked terrorist who believes in anarchy, and the Adam Susan, the leader of the fascist government who believes in. This paper will examine how Alan Moore frames these characters as seemingly opposites, and complicates this relationship through characterization and dialogue to show how they are similar. At the conclusion of each work, Moore shows that despite their impact on the outcome of the narrative, the future is left uncertain, suggesting ambiguity in both whether one side is right or wrong and successful or unsuccessful in their goals. This ambiguity is exemplified in the concluding panel of each work respectively, where a secondary character is left to make a decision in the wake of the actions of each side. The reader is ultimately in same situation as the characters in the last panel: to decide how to move forward towards an uncertain future without any correct answers concerning morality or effectiveness to guide them. Both the characters and the reader are prompted to make a choice for themselves despite an ambiguous, complicated world.



Heckathorn, Tiffany; Kuhlwein, Dustin: [12:30-2:00] [P46] [GYM] *Exploring the Psychological Toll of Childhood Obesity*. The physiological health risks of childhood obesity have been well documented. However, minimal data regarding the psychological and emotional toll of being obese as a child exist. Numerous chronic conditions put patients at risk for depression. This study aimed to identify any possible correlation between childhood obesity and Depression. Methods: The key words childhood obesity, depression, and suicide were used in an electronic search using CINAHL, EBSCOhost, and ResearchGate. Findings: Studies primarily concentrated in three areas: (1) depression related to childhood obesity, (2) risk of suicide in obese children, and (3) mental effects of physical activity. There may be a strong relationship between childhood obesity and depression, and therefore, between childhood obesity and suicide. The findings also indicate that an active lifestyle may improve mental health in obese children. Implications: Nurses advocate for the wellness of the whole person, and interventions in early childhood could prevent obesity and the complications which follow. Children who are obese should be screened for potential physiological, psychological, and emotional ramifications. Gender differences in childhood obesity and the development of depression have not been fully explored. Recommendations: More research is needed examining the relationship between childhood obesity and depression. Early childhood education and interventions to prevent obesity and complications should be standard. Obese children need to be evaluated for psychological and emotional ramifications of the condition.

Herrington, Samantha: [10:15-10:30] [1B] [D-129] *Repeating the Cycle: The Absurd Ambiguity of Camus*. Albert Camus's novels began not with what became French moralism but began instead with an almost exclusively existential outlook on the world. Affected by the writings of Jean-Paul Sartre, Camus's early works explore the notion of a meaningless existence, one in which the world is indifferent to the suffering of man, a suffering that each individual must endure alone. This is the premise for his first novel, *The Stranger*. However, as Camus began to grow in his philosophy, so too did the message of his works. He began to develop the concept of Revolt against the Absurd, wherein Rieux, the main character of *The Plague*, leads the town of Oran in Revolt against the Absurd, which takes the form of a plague. Author Brian Masters states that Rieux, "is meant to represent the average man who, by the nature of his work, is constantly made aware of the human predicament" (64), a predicament that he finds he must fight against. Human solidarity is a central idea within the *Plague*, showing how far Camus's works have come in terms of personal philosophy. However, Camus does not end his philosophical debate with the emergence of his ideas of Revolt and human solidarity. In his later

novel *The Fall*, he retreats back to *The Stranger*-esque principles of individualism and hopelessness. He wavers once again in his short story "The Guest" where the reader is introduced to the same human solidarity found in *The Plague*, and the reader is once again faced with Camus's recurring dilemma of his position within existentialist philosophy. Due to the fact that Camus's philosophies within his works waver, one has no solid understanding of the message Camus is trying to portray. The idea that life is dictated by the existence of the Absurd is very prominent within the works; however, it is difficult to ascertain doubtlessly Camus's fully realized philosophy based purely on examining the works he has written, because there ultimately is not one.

Hestand, Stacie: [4:15-4:30] [3A] [D-128] *Cults, Satanism, and Sensationalism: America's Moral Panic in the 1980s*. In times of shifting social norms, new concerns often arise as people attempt to make sense of the changes. These concerns often take shape in the form of a "moral panic," or a surge of paranoia and sensationalism that accompanies the identification of a factor that is either seen as presenting a threat to society's morality or blamed for society's moral disintegration. American society was no exception to this pattern, as a "moral panic" regarding fringe religious movements began to creep into mainstream society during the 1970s, '80s, and '90s. Triggered by publicized events such as the crimes of the Manson family, the Matamoros murders, and the Jonestown mass suicide, as well as an upsurge in conservatism, religious fundamentalism, and law enforcement during these decades, fears of cult activity within American society spurred a wave of moral concern regarding a satanic network within the United States. The role of media in sensationalizing these fringe groups and isolated events as part of a larger network undoubtedly factored into the public's response and promoted the idea of a "moral panic" to some extent. Overall, this paper will rely on historical research to examine the extent of the effects of this fear on American society in general during this time, as well as the changes in areas such as law enforcement, psychology, and civil rights that were made in response to concerns about cult activity.

Hestand, Stacie: *Soviet Perceptions of World War II*. [10:15-10:30] [1A] [D-128] As a large and diverse population already accustomed to the continual violence that resulted from both war and the development of the communist state, the people of the Soviet Union exhibited a variety of different understandings of the country's entry into World War II, known to them as the Great Patriotic War. This paper will examine the variety of perspectives and reactions to the war which existed in spite of the repressive nature of the Soviet state. Groups such as young activists and Party ideologues were more committed to fighting for the communist cause, while average citizens who were already disillusioned with and terrorized by communism were often simply motivated by their own desire for survival. Some saw the war as a chance for progress, as a large amount of the population of the Soviet Union lived their entire lives in rural, primitive villages. In their eyes, the fight for the Soviet state could bring modern developments to the countryside and give individuals who joined the Red Army an opportunity for social mobility that they would not have had otherwise. Others viewed the war as a chance for progress in the sense that they could gain more personal freedom by fighting to bring the Soviet state back to the form of communism desired in the Bolshevik Revolution. Ultimately faced with another war and threatened by both state-sanctioned terror and German brutality, citizens of the Soviet Union were forced to reconcile their own desires for personal autonomy with the patriotism that was deemed necessary for the defense of their homeland.

Hirsh, Maxeen: [10:45-11:00] [1B] [D-129] "*Something that is loved is never lost*": *The Establishment of Identity Through Magic Realism and African American Folklore in Toni Morrison's Song of Solomon and Beloved*. Through her two novels, *Song of Solomon* and *Beloved*, Toni Morrison presents her two protagonists, Milkman and Sethe, in order to

demonstrate the importance of African American culture and one's understanding of becoming closer to one's ancestral past. In addition, Morrison uses magic realism, along with African American folklore and the supernatural, to create and demonstrate a reality within the two texts that describe and identify the customs with which both characters are not initially identified. This paper examines Morrison's use of magic realism and African American folklore to show the way in which her two main characters become united with their community, and therefore their African American family and past. Furthermore, I will be discussing the way in which these two literary concepts further aid in the progression of Milkman's and Sethe's understanding of their identity within their society.

Holstein, Cassandra: [11:15-11:30] [1C] [ASC G-10] *"The Help": Diverse Representations or Stereotypical Portrayals?* In this research, I will analyze the fictional movie, "The Help". The question that I will address is: How does the movie, The Help, portray the lives of African Americans, and African American maids during the 1960's? Using media framing theory, I will determine what aspects of African American's lives were exaggerated, overemphasized, or not covered during this time. "The Help" is a movie released in 2011 based off the novel by Kathryn Stockett. The movie features an aspiring author during the civil rights movement. She decided to write a book giving the details of the African American maids during the time. She wanted their "point of view on the white families for which they work, and the hardships they go through on a daily basis" (IMDB). "The Help" should be studied because it portrays what a time period was like for a certain population of people. Despite this being a fictional movie, it was a reality for some people during the Civil Rights Era. It is a way to learn more about how people felt and the way white people treated African Americans in the 1960s. "The Help" should also be studied because of the cultural influence it had on its audience. Film has become a major hit since 1915, reaching a large number of audience. This movie gave the large audience a sense of what it was like for African American people, specifically the maids for white families, during this time; how they were treated, how they were supposed to act, the dangers and unfairness they faced were present in the movie. However, there was a lot of controversy over the film on "who gets to tell this story, how realistic it is, and whether it portrays the suffering of segregation with sufficient horror" (Parker 2011). Does the movie actually portray what it was like during the Civil Rights era for the African Americans? Does the movie show diverse representations or stereotypical portrayals? This movie should be studied to ask these questions.

Horan, Meghan: [12:30-2:00] [P11] [GYM] *An Investigation into the Influence of Neck Strength on the Amount of Concussions Received by Male and Female Collegiate Soccer Players.* Concussions received while participating in sports continues to be a pressing issue in the athletic training field. Soccer is not often seen as a sport prone for head injuries, but this is a misconception. Concussions are a very common injury in this sport since there is no protective gear worn for the head. There are different ways that the athletes can receive a concussion in soccer, and the player's position and sex can both play a role in the risk of a concussion. The importance of this study is to investigate the occurrence of concussions in women and men soccer players, and to study the relation of neck strength and number of times that someone heads the soccer ball during a season. There is research done to show that women are receiving more concussions than men, but there is little research on why that is. This study will be examining the strength of cervical flexion with a dynamometer, and then comparing it to the number of times a participant has headed a soccer ball throughout a game and their entire season. The participant's neck strength and history of heading a soccer ball will be compared to the number of concussions they have previously received and if they receive any during the season. Finally this study will be evaluating the differences in male and female soccer players and how many concussions each receive. For this study, twenty random NCAA division II men and women collegiate soccer players from Wheeling Jesuit University will be selected for the

assessment of their cervical flexion neck strength. Participants will be separated into two groups. Group A will consist of participants who have had previous concussion(s) and Group B will consist of participants who have not had previous concussions. Each participant will be given an initial survey to complete about their history with soccer. Once all participants are recorded, they will be tested with a dynamometer. In this study the dynamometer will be used specifically with neck strength. The athletic trainer and athletic training student will access each participant's neck strength for cervical flexion. The participants will be lying supine on a table with the dynamometer positioned on their forehead. There will be an apparatus around the head to hold it in place. The participant will be instructed to remain lying down and only move their head forward. They will be given three trials to perform neck flexion with the dynamometer placed over their forehead. The primary investigator will secure all measurements and keep them confidential and ultimately transcribed for data analysis. In this study it will be hypothesized that with more neck strength, there will be less concussive forces and more neck stabilization. In the reverse aspect, with less neck strength, there will be more concussive forces. It will also be hypothesized that women, with less neck strength, will be at a higher risk of receiving concussive forces.



Hritz, Lucy: [4:30-4:45] [3A] [D-128] *Investigating the Distinctive Biological Life Forms Found Exclusively in United States National Parks*. The National Park Service is a unique part of the United States national fabric. The United States National Park system not only consist of parks, but military battlefields, monuments, cemeteries, forests, rivers, seashores, bridges and tunnels, birthplaces, and much more. Begun one hundred and one years ago in 1916 by President Woodrow Wilson, the National Parks have become a backbone and precious gem of the United States. "The National Park System of the United States now comprises more than 400 areas covering more than 84 million acres in 50 states, the District of Columbia, American Samoa, Guam, Puerto Rico, Saipan, and the Virgin Islands". The National Parks Service aims to celebrate, preserve, and teach about the beauty and rich history of our nation. As the topic for the Ignatian Honors Seminar this year is *Weird America*, in which the seminar has studied America in its individuality, the goal of this capstone research project aims to explore the exclusive riches and unique life forms found only in the U.S. National Parks. This research was done through the study of the National Parks websites for the various national sites along with other scientific journals to investigate further the biological life found in the parks. The research yielded compelling findings, producing many expected results that the National Parks are full of diverse life that is distinctive to the United States. The most intriguing uncoverings were in the biological life sciences showing that America is full of exquisite life in many forms, harbored in the National Sites. The Badwater Snail, *Assimineia infima*, is a species only found in the Badwater Basins of Death Valley National Park, CA and nowhere else in the world. These snails are noteworthy, not only for their exclusivity, but that they reside in a inhospitable habitat, lethal to most life: salt basins. Another significant discovery is the Joshua Tree, *Yucca brevifolia*. It is the largest of the yucca family and the only place in the world where this species grows is the Mojave Desert, which is in southeastern California and southern Nevada, which encompasses seven National Sites including Joshua Tree, Death Valley and Mojave Preserve. The implications of these findings illustrate the distinctive biological riches found only in the United States.

Hritz, Lucy; Cook, Andy: *Tick-Borne Lyme Disease in Appalachia: Establishing a Tissue and Bacterial Cell Culture Lab*. [12:30-2:00] [P17] [GYM] Lyme Disease (LD), caused by the spirochete *Borrelia burgdorferi* (B.b.) that is transmitted by *Ixodes* species ticks, is the most common vector-borne illness in the United States, Europe, and now also in the Northern Hemisphere. Newly revised estimates from the Center for Disease Control (CDC) suggest that

there are likely to be over 300,000 new cases per year in the United States, but the actual number is much higher as many cases are underreported and undiagnosed. As it is so prevalent, especially in Appalachia, and not many are studying it, it is important to investigate Tick Borne Lyme Disease within the state of West Virginia, and have the proper equipment and space at Wheeling Jesuit University (WJU) to study LD. To research LD, an updated, sterilized cell culture environment is needed and there was no microbiology tissue and bacteria cell culture lab up and running at WJU. I proposed to take a decommissioned space at WJU and build a new sterile fully functioning bacterial tissue cell lab, allowing for and focusing on microbiological and bacterial studies. This project is a multi-step process, which began with acquiring various approvals for a working area. In working with my mentor, I secured a decommissioned walk-in incubator room to use as a space to build the tissue cell culture lab. As the incubator room was no longer in use and had been used for storage, it was dirty and disorganized. I began physical work on the project by inventorying and photographing everything in the walk-in room, while setting up various meetings about the condition of the workings and cleaning of the walk-in incubator room. The second part of this project was finding and procuring the keystone and foundation of a bacterial cell culture lab, a Bio Safety Level II, Bio Safety Cabinet (BSL II BSC). This BSC is crucial to the success of a bacterial cell culture lab, as it protects the person using the hood from the pathogen, and also protects the pathogen and cells from contamination. Without a BSL II BSC, LD cannot be studied at WJU. I, with my mentor, wrote and submitted various grants, as well as contacted other universities and businesses, and have procured a BSL II BSC. The final step of this project is for bacteria and cells to be able to be grown and cultured in a sterile environment to confirm the quality of the new bacterial cell culture lab. It is key to establish that B.b. and immortalized transfected human brain microvascular endothelial cells (THBMEC), are able to be grown successfully in this new sterile environment, conducive to culturing cells and bacteria.

Jacobson, Morgan: [12:30-2:00] [P6] [GYM] *Kinesio Tape's Effect on Hamstring Range of Motion: a Quasi-Experiment*. The popularity and use of kinesio tape by athletic trainers, physical therapists, and the general population continues to grow today. Two types of traditional kinesio tape are regular kinesio tape that comes in a roll and spidertech tape which is precut into strips. Kinesio tape is made of 100% cotton sheathes and synthetic fabrics that give the tape strength, breathability, and elasticity. There are not many studies in the literature that evaluate the effects of kinesio tape on hamstring range of motion. The hamstrings play an important role in the gait cycle and are crucial to athletic movements. Lack of hamstring flexibility is a predisposing factor to hamstring strains and a risk factor in low back pain. Goals- Examine if kinesio and spidertech tape increases hamstring range of motion. Examine if whether kinesio or spidertech tape increases hamstring range of motion more. Provide current research on the collegiate athletic population's use of kinesio tape on hamstring flexibility. The participants will consist of NCAA Division II WJU collegiate female softball and lacrosse players who are in the age range 18-24. The teams will come to the McDonough Center for a pretest day to test beginning active hip flexion range of motion. Of the athletes who demonstrate less than 90 degrees of active hip flexion (measured by a goniometer), thirty subjects will be randomly selected to participate in the study and randomly assigned into three groups of ten, kinesio, spidertech, and control. The kinesio or spidertech tape will be applied to the subjects in the designated groups and left on for four days. The subjects will walk for five minutes on the treadmill at a speed of 3.0. Active and passive hip flexion range of motion will then be measured on both legs. The control group will receive no tape but will still walk on the treadmill and have hip flexion range of motion measured. Each day, the subjects will return to the athletic training room and the same procedure will be repeated. The researcher expects that both kinesio and spidertech tape will increase hamstring range of motion. It is also expected that the spidertech tape will cause a greater increase because the application directions are specific, and it is

designed specifically for the hamstring muscles. In conclusion, the purpose of this study is to determine if kinesio tape or spidertech tape increases acute or long term hip flexion range of motion in female collegiate athletes. The significance of the proposed study can present a method to increase hamstring flexibility which is an important factor in athletic performance. Many athletes suffer from hamstring injuries as well as low back pain which can both be caused by hamstring tightness. Additionally, the study will use descriptive statistics, repeated measures ANOVA, and a 95% confidence interval to determine the accuracy, significance, and comparable measurement results.

Jacobson, Morgan: [4:00-4:15] [3A] [D-128] *Transforming the Exercise Culture in America*. The exercise movement during the 1960's-1990's encouraged the American characteristics of individualism, conformity, and consumerism. The fitness movement transformed the way individuals exercised with new equipment and in new environments that capitalized on the American consumer culture by establishing an influx of clubs and gyms and creating images of health, beauty, sexuality, and professional achievement. The term "wellness" became a significant theme in the art of business as firms saw fitness as a way to increase employee morale and productivity. Employers began to push "wellness" for economic reasons in that unhealthy employees were more of a financial burden. Moreover, some individuals joined the movement because it was less socially acceptable to be obese or out of shape. Individuals were not only exercising to become healthier but to increase their individual sense of vanity and being physically attractive. This fitness movement led to the establishment of gyms and clubs in hotels, malls, and shopping centers. At the center of this movement was Arthur Allen Jones, a self-taught exercise physiologist, who influenced the American world of fitness and how people exercise. He is the founder of Nautilus Inc. and developed Nautilus exercise machines that improved upon the limitations of using barbells to lift weights. These machines focused on high-intensity, resistance training and changed the perception of the industry. It was no longer just for bodybuilders and power lifters. The Nautilus machines transformed dank gyms with free weights to fashionable fitness clubs and gyms in all different venues with polished machines. Today, Nautilus Inc. has created other brand name equipment, but it still markets the basic ideas that Jones used: high quality, effective equipment that people of all fitness levels can use. Fitness became not only about being healthy but about conforming to a particular image of a healthy body, and fitness clubs played on peoples' insecurities throughout the commercial media and advertising. Exercise clubs allowed people to exercise in all weather conditions, but also allowed individuals to feel serious about working out and socially connected. Clubs continued to transform during the 1980's and 90's adding restaurants and lounges and becoming centers for socialization and relationship seekers.

Jagger Bruck, William: [12:30-2:00] [P16] [GYM] *Testing the Mutagenicity of Water Samples Using the Ames Test*. A lot of the chemical substances that we are around and encounter in everyday life, especially water, have the potential to act as mutagens which are able to alter the DNA base sequence within the genome. The Ames Test is a way to monitor substances and check their ability to act as mutagens in bacteria. If they are indeed mutagens, they can further be tested, as they have the potential to be precursors to cancer, known as carcinogens. The Ames test uses strains of *Salmonella typhimurium* to try and detect these mutagens. The reason for the use of this strain of bacteria is because they're auxotrophic. What this means is that they require histidine to grow, but they can't produce it. *Salmonella typhimurium* will not grow unless there is a mutation in the prototroph (bacteria) which is able to synthesize histidine. The Ames test determines the ability of a tested substance (water sample) to cause a back-mutation. A back mutation is when the *Salmonella typhimurium* goes to its prototrophic state, thus being able to synthesize histidine in order to live and grow. During the test, the bacteria is grown on glucose-minimal salt agar because this agar provides them with nutrients they need to

grow, but only a small amount of histidine. This is important because *Salmonella typhimurium* are able to grow until the histidine is gone, and then they rely on a mutation to provide them with histidine synthesis. After the test is carried out, revertants, cells which are able to produce histidine, are looked for to tell whether the sample substance is mutagenic or not.



Kindall, Haley: [11:00-2:00] [GALLERY] *Artistic Explorations of Adrenaline*. Adrenaline is a hormone that is secreted by the adrenal glands. For an athlete, adrenaline is released often during intense game moments such as the beginning of an intense match. There is an increase of energy sent to the muscles, which boosts their ability to react. The nervous system is aroused, the body begins to sweat more, and the pupils dilate in an effort to take in more of the surroundings. An athletic adrenaline rush is very intense. As a volleyball player, I experience athletic adrenaline rushes quite often. Before a game, my heart rate increases and I feel unstoppable. At the same time, I sometimes become jittery and cannot control my body very well. For any adrenaline rush, it is very important to get in control of your breath. During the national anthem of each match, I calm my breath and get in control of my body. With control of my breath, I am able to use the adrenaline in my body for the best. It gives me long lasting energy and an increase of strength. In this project, I wanted to capture the effects of adrenaline. It can be used as a great asset, but at the same time it can also completely take over a great athlete. Through watercolors, I attempted to visually show the ways adrenaline affects the body. In the first painting, I did a controlled painting of adrenaline. The painting is representational of my ponytail that I would wear in my hair during a volleyball game. I moved the hair in the direction of a spiral. I did this to show how an adrenaline rush might feel. It is overwhelming but also amazing. When controlled, it sucks you in and makes you focus on the task at hand. I used lots of bright colors to capture the overwhelming sense of excitement that I feel. It is amazing. As for the second painting, I wanted to capture the effects of adrenaline when it is not controlled. It is also very wild and overwhelming, but it does not have much order or consistency. It is hard to focus and can often be dangerous. I captured this in a painting by using the same color scheme as the first painting, but I made the spiral wild and inconsistent. I gave myself only 5 min to complete the drawing. It was very fast and loose. The lines were all over the place, which is how an athlete might feel without controlling their adrenaline.

Krock, Olivia: [12:30-2:00] [P5] [GYM] *Relationship Between Injury Susceptibility of the Anterior Cruciate Ligament and Timing of the Menstruation Cycle*. One of the worst injuries an athlete can go through is a complete rupture of the anterior cruciate ligament. The anterior cruciate ligament in the knee is meant to prevent anterior translation of the tibia on the femur. Injuries to this ligament usually occur with cutting and side to side movement that many athletes perform numerous times a day. There are hundreds of thousands ACL ruptures each year and it is an extremely expensive surgery to undergo. To add to that, rehabilitation can take up to one full year and many athletes are then more likely to tear the same ligament again. A very interesting statistic that stands out amongst the research is that women are 4-6 times more likely to injure an ACL than their male counterparts. One of the theories as to why women are so much more susceptible to an ACL injury is because of the menstrual cycle. Once a month, females have a change in their bodies that provides them with extra hormones. The goal of this project is to determine that the effect of these hormones relate to the susceptibility to ACL injury. A method not used on acute injuries but as pre-injury screening is the functional movement assessment the drop vertical jump maneuver. This not only tests the laxity of the anterior cruciate ligament, but also the strength of the quadriceps, hamstrings, and overall biomechanical movement that would affect susceptibility. The drop vertical jump requires flexion and extension of the hips, knees, and ankles along with stabilization of the entire body. All of these factors involved in the

drop vertical jump test shows the observer where the athlete is lacking functionally. A clinician can assume that the patient has weakness and laxity if the patient lands with incorrect posture specifically with an inward tendency in the knees when landing. The course of action requires female volunteers of Wheeling Jesuit University's women's lacrosse and soccer team to perform the drop vertical jump maneuver. These female athletes are between the ages of 18-22, have not had an injury to the ACL ligament, and must pass a manual muscle test to ensure healthy legs. Using video analyzing on Coach's Eye software, each maneuver may be compared on cycle versus non cycle to seek the difference between the knees upon landing. The expected results may use the video analyzation of the drop vertical jump maneuver to prove that the ACL ligament is more lax during the menstrual cycle than off cycle. By proving the significance of the timing of the ovulation period and injuries to the ACL using the drop vertical jump maneuver, it is possible to therefore create a preventative strategy for women during the time their cycle. Due to the new information that may be found in this study, clinicians can promote more preventative exercises specifically during the time period that women are most susceptible to injuries. This may help to overall provide prevention to athletes and decrease the amount of injuries to the anterior cruciate ligament.

Krucki, Kayce: [12:30-2:00] [P9] [GYM] *The Effects of Kinesiology Therapeutic Tape on Shoulder Range of Motion: A Research Study*. The use of kinesiology therapeutic (KT) tape is becoming more popular among healthcare providers. This tape is theorized to decrease muscle fatigue, increase range of motion (ROM), increase stabilization, and decrease pain, yet none of these effects have been clinically proven. KT tape may be beneficial to a variety of athletes, specifically in overhead athletes, such as volleyball, baseball and lacrosse players. By increasing the angle of internal and external rotation in a volleyball player, the athlete will be able to have a greater torque on the ball, which will maximize the athlete's strength. Numerous studies have assessed the multiple effects of KT tape, but the tape's effect on range of motion, specifically internal and external rotation, has yet to be consistently supported. Therefore, the purpose of this study is to determine if KT tape increases internal and external rotation at 90 degrees of glenohumeral abduction when combined with a 4-week exercise program (Thrower's Ten Exercise Program) in healthy NCAA DII volleyball collegiate athletes. Participants will be members of a NCAA division II collegiate volleyball team, 18 to 23 year old females, and considered healthy individuals- having no current injury that prevents the athlete from fully participating in the exercise program. The participants will be randomly split up into two groups: a control group, who will complete the exercise program without the application of KT tape on the shoulder, and an experimental group, who will complete the program with KT tape on the shoulder. Active and Passive ROM for internal and external rotation at 90 degrees of glenohumeral abduction of all subjects will be taken before and after intervention. The subjects will lie supine on a treatment table, having their shoulder off the table at 90 degrees of arm abduction and 90 degrees of elbow flexion. A goniometer will then be used to measure the degree of rotation. The axis of the goniometer will be over the olecranon. The moving arm will be parallel to the midline of the forearm and directly in line with the ulnar styloid process. The reference arm will be perpendicular to the floor. The examiner will then instruct the subject to externally rotate the shoulder until the end range is reached and will move the goniometer accordingly. The same procedure will be performed using internal rotation. Afterwards, the results of the control group will be compared to the experimental group. This study may show that KT tape in combination with an exercise program increases glenohumeral internal and external rotation. If this study is proven to be statistically significant, KT tape could be identified as a reliable tool to increase ROM, the athlete's risk of injury may decrease, and the athlete may be able to compete at an optimal performance level.

LaFollette, Anne: [12:30-2:00] [P40] [GYM] *Outpatient Facilities*. An alternative that seems to be growing rapidly is outpatient health care facilities. Studies are revealing that individuals that seek outpatient treatment are very satisfied. This research study is to gather information from real-life patients and see their responses. With these responses, on a survey, I can see what people are mainly concerned with when it comes to seeking treatment for their medical needs.

Latocha, Kailee: [12:30-2:00] [P24] [GYM] *Magic Squares*. In this presentation, we will explore magic squares. Magic squares date back to 2200 BC and were believed to have super natural connections. A magic square is a larger square separated into smaller squares. Each smaller square contains a distinct positive integer. The numbers in each vertical, horizontal, and diagonal row will add up to the same value. We will examine the different strategies to derive magic squares of a magnitude of sizes and different patterns involved in finding these magic squares.

Lavengood, Sydney: [12:30-2:00] [P12] [GYM] *The Effects of Therapeutic Ultrasound and Heat on Hamstring Flexibility*. Purpose: The primary focus for athletic trainers is to prevent common injuries, such as hamstring strains, from occurring. Athletic trainers use modalities such as therapeutic ultrasound and moist heat packs to help increase an individual's range of motion and prevent strains from occurring. Research regarding the effects of ultrasound when combined with a heat pack is contradicting and almost nonexistent. The purpose of this study is to determine the efficacy of heat and ultrasound on improving the hamstring's flexibility in order to prevent hamstring strains from occurring. Methodology: This study will be composed of 10 volunteers from the NCAA division II women's soccer team from Wheeling Jesuit University. Volunteers will be randomly and evenly placed into one of two groups: ultrasound with heat (Group A) or heat alone (Group B). Participants will schedule their treatment times through a doodle pole online. Participants will receive their form of treatment three times a week adding up to a total of twelve treatment sessions over a four-week period. Each individual will report to the athletic training room on their first day of treatment to get their hamstring flexibility measured three times in a row with a goniometer prior to receiving treatment. Hamstring flexibility will be assessed through measuring active hip flexion range of motion (ROM) bilaterally with a goniometer. After baseline measurements are assessed the participant will begin their form of treatment. Group A (ultrasound and heat) participants will receive a moist heat pack (with a terry cloth) placed on the middle of their hamstring's muscle belly for a duration of 15 minutes. After heating, ultrasound will be administered to their hamstring's muscle belly at a frequency of 1 MHz in continuous mode with an intensity of 1.5 W/cm² for 7 minutes. Immediately after the treatment has finished their ROM will be assessed three more times in the same fashion. Group B (heat alone) will come into the athletic training room and have their ROM measured and heat administered in the same fashion as Group A. Once they have finished heating their ROM will be measured immediately. Results: Although this study has not been conducted it is hypothesized that the group receiving therapeutic ultrasound combined with a moist heat pack will have the greatest increase in range of motion in regards to hip flexion. Conclusion: If this study proved that ultrasound combined with a heat pack provided a faster and more effective method for increasing hamstring flexibility, then clinicians could alter their forms of treatment and become more efficient. Enhancing the methods utilized for hamstring strain prevention would lead to fewer injuries therefore improving the quality of the athletic trainers main focus, prevention.

Leon, Nancy: [2:45-3:00] [2B] [D-129] *US Intervention in Central America During the 1980s and Its Impact on Central American Immigration to the US Today*. The purpose of this research is to analyze how United States intervention in Central America during the 1980s still affects American immigration today. In the 1980s, during the Central American civil wars, the United

States was heavily involved in arming and abiding their militaries in an attempt to subdue the communist uprisings from rebel guerillas. As a result, many Central Americans fled to the United States and the influx of these immigrants has not stopped since it began in the 1980s. Two states were analyzed, El Salvador and Guatemala. A case study was completed on each country, analyzing the background of their civil wars, United States foreign policy and intervention, and the effects that United States policy had on the citizens of each state. Lastly, an analysis of what occurred to the Central American refugees that fled to the United States, specifically on those that settled in Los Angeles, was done. The settlement in Los Angeles ultimately led to the creation of gangs in the United States whose members were later deported back to Central America. This study concluded that American aid sent to El Salvador and Guatemala led to an influx in the migration of Central Americans to the United States which helped create gangs such as MS-13, which now rule those states. The violence and insecurity that these gangs create now implicates that it is one of the main reasons in which people from Central America are now, once again migrating to the United States seeking a new home.

Loccisano, Giovanna M.: [2:45-3:00] [2C] [ASC-G10] *Variability in K-9 Unit Models*. The purpose of this research is to compare methods and procedures of K-9 units located in the Ohio Valley. Several governing organizations oversee certification(s) and training, as well as provide suggested guidelines for K-9 units. However, no single standard currently exists for such law enforcement officers/units. In order to better understand contemporary standards and practices, a questionnaire was administered to a purposive sample of K-9 officers from both sheriff's offices and municipal police departments. Due to proximity and shared resources, the results may reflect procedural similarities. With the data collected, a composite model of proposed best practices will also be created. The implications of the research will be the illumination of shortcomings within existing organizations and the potentiality for more standardization regarding the creation of future K-9 units.



Metcalf, Molly; Mailloux, Taelor. [12:30-2:00] [P44] [GYM] *Opioid Abuse and Neonatal Abstinence Syndrome in West Virginia*. The opioid epidemic is a public health concern in the United States (U.S.) and in West Virginia (WV). Opioid use among pregnant women in rural areas of WV is affecting our newborn population. Maternal substance use leads to the development of Neonatal Abstinence Syndrome (NAS) causing fetal dependence and multisystem issues following birth. This study aimed to: 1.) Identify the incidence of opioid abuse in WV compared to the Appalachian region, and to the U.S. 2.) Compare the incidence of NAS and opioid abuse in WV. 3.) Evaluate access to healthcare for women and babies affected by opioid abuse and NAS in WV. Methods: A systemic electronic search was completed using CINAHL and Medline with keywords opioid use, WV, pregnant women, Appalachia, and NAS. Findings: Opioid abuse in WV has increased over the past ten years. The rural regions of WV have the highest rates of newborns diagnosed with NAS, however these regions lack access to healthcare. The lack of healthcare results from poverty, lack of health insurance, and inability to obtain healthcare providers. Implications: Although there are limited data, opioid abuse and NAS are serious health concerns in WV and in the U.S. Nurses are obligated to advocate for appropriate health promotion, education, treatment, and health care for opioid- addicted pregnant women. Recommendations: More research is needed on NAS and opioid abuse in WV and Appalachia. Resources, prenatal treatment centers, and primary prevention measures are needed to identify factors contributing to opioid abuse and NAS in WV.



Minder, Christopher: [3:15-3:30] [2C] [ASC G-10] *Drug Rehabilitation Courts: A Descriptive Analysis*. This paper is a descriptive analysis of the Drug Rehabilitation Court system. The Drug

Court system is aimed at helping minor offenders get rid of their drug problem, while still being as involved in society as they can. The research went through the policies and procedures that are part of the system, while also looking through all of the numbers of past clients who have come and gone from the system. The research was conducted out of the Brooke County Probation Department, where part of West Virginia's First Circuit Drug Court is held. All information obtained was unidentifiable, so the researcher did not know the identities of any individuals involved. The research was conducted by using data that was put into an SPSS system, where quantitative results were then found and brought to light. Some of the information found was very interesting, things like which drug is used the most, and the number of clients that graduated the program.

Motton, Jaana I.: [12:30-3:00] [P2] [GYM] *The Correlation Between Symptoms Said to be Experienced During a Concussion and the Length of the Recovery Time*. Concussions are a common sports related injury. The mechanism of injury is a direct or indirect blow to the head causing a chemical imbalance within the brain. This imbalance causes physical and mental impairments that are evident when tested by a medical personnel. The symptoms involved with concussions can have effects on athletes lasting one to five days generally. However in cases the symptoms can last for months. In a study titled "Spots Related Concussion: Factors Associated with Protracted Return to Play," they assessed predictive values of concussion signs and symptoms based on return to play timelines. In this study the investigators measured duration of symptoms, presence of clinical signs, and time it took to return to play. This study concluded that symptoms; headache, difficulty concentrating, and retrograde amnesia all lasting greater than three hours, may indicate a more severe injury or prolonged Recovery. The purpose of this study is to see if it is possible to predict an athlete's length of recovery based on the symptoms they experience. The goal is to see if there is a pattern between symptoms stated by athletes and how long it took them to recover from their diagnosed concussion to see if it is possible to predetermine how long to hold an athlete from activity. This will be beneficial for the medical field because research has already started to be conducted about symptoms and their connection to concussion injury. The research is still new and could always be furthered. There will be a total of 60 participants in this study. 30 males and 30 females will be the expected goal for the population. This study will be comparing symptoms and number of concussions to the length of recovery. The data will be obtained from participants by a conducted questionnaire which will be analyzed. The participant's means and standard deviation will be calculated of their age, sex, symptoms, and number of concussions. This will be tested through the independent samples t-test to compare number of concussions and symptoms and the repeated-measures analysis of variance. The P value of this study will be $P < 0.05$. The expected results of this study are that there is in fact a correlation between symptoms present and the length of recovery for athletes. In conclusion, this sports related injury is becoming more common. The length of recovery varies and is important to research because returning an athlete back to activity too soon could further harm the athlete. Discovering a correlation between symptoms experienced and length of recovery would allow the Clinician to develop a more appropriate rehabilitation plan more suited for that athlete and their expected time it would take to recover. Through this research it is hopeful that medical personnel can have a better understanding about concussions and more safe return to play protocols.

Naum, Matthew: [11:15-11:30] [1A] [D-128] *ULTRA and the Battle of the Atlantic: The Tide of War*. In the past twenty or so years there has been a great deal of study and attention paid by historians to the secret Allied Codebreaking Operation in World War II known as ULTRA. There was focus on what the Allies were able to obtain from the Germans and how they did so. Naturally, conversations shifted towards the greater importance of this program for the success of the war. Though many have written about the importance of ULTRA, the purpose of this

research was to examine the effects of ULTRA within the context of the Battle of the Atlantic and the war on the Western European and North African fronts. By examining the testimonies of those who participated in the war such as intelligence officers and military officials, as well as the raw data including Allied shipping statistics, this research was able to determine that ULTRA intelligence was most crucial and useful to the Allies for the avoidance of German U-boat ambushes and later on, the hunting down of these U-boats by the Allies. In Western Europe and North Africa, ULTRA intelligence provided invaluable intelligence for Allied bombing raids that decimated the industrial infrastructure of the German war machine and coordinates of Axis ships to cut off supply of German forces in Tunisia. The implications of these findings indicate that ULTRA was an important factor in a crucial war to control the Atlantic, and was a boon to efforts on the continent and North Africa as well.

Ngenzi, Rubis: [3:00-3:15] [2B] [D-129] *The Impact of the CFA Currency on African Countries' Development*. After almost six decades of independence, countries in the West and Central Africa are still looked up as underdeveloped countries. However, the term "underdeveloped" never includes neocolonialism and colonial currency when referring to former French colonies development. The thesis seeks to analyze the impact of the CFA (Communauté Financière Africaine – African Central Community) currency on fourteen African countries development. The research focuses on the goal of the CFA currency towards African economies, and also to determine if it's a neocolonialism tool utilizes by France to maintain its influence in the region. This study gives different aspects either positive and negative towards the currency, and in addition offers critics towards development agencies economic growth data in the region. While the currency was created by France for its former colonies, nobody can deny that it was for France interest, however, the aim will be to determine if the CFA currency works also for the interest of African countries.



Nsasi, Yadah: [11:00-2:00] [GALLERY] *Beauty and Diversity*. With the rise of social media such as Facebook, Snapchat, Instagram or Twitter, more and more women and girls are struggling with their body identity and self-esteem. For those of us who do not care about the number of "views " or "likes " it may seem insane to put so much work into taking a single picture for the sake of "likes." Every girl at some of point of her life asks herself this question: "What is beauty?" And social media does not provide much help. Silicone implants, extremely long eyelashes, hair extensions, big lips, heavy makeup, and waistlines, although dangerous and extremely expensive, are the social media "beauty starter pack" and the way to over one million followers and "likes." While my first piece deals with beauty and social media, my second piece addresses multiculturalism. We live in a world where multiculturalism is not always welcomed. Multiculturalism and multilingualism should be more celebrated in societies. History has taught us that when two cultures come in contact people gain more knowledge and innovation. Gunpowder, chess, pasta or dances (like salsa or zumba) are all results of multiculturalism through cultural exchange. The world wouldn't be as advanced if it wasn't for multiculturalism.

1. Title: Beauty as seen on Social Media
Media: watercolor and collage
Dimensions: 18 x 24 inches
Date: Fall 2016
2. Title: Exploration of multiculturalism
Media: watercolor and collage

Dimensions: 18 x 24 inches
Date: Fall 2016

Pekular, Danielle; Sutler, Shanna: [12:30-2:00] [P47] [GYM] *Death with Dignity: The Dementia Patient*. There are approximately 47 million people living with dementia in the United States (U.S.). Dementia has become the fourth leading cause of death in people over the age of 65. Nurses have the responsibility to advocate for patient autonomy concerning health care decisions. However, there are little data to facilitate promotion of autonomy with regards to end of life decisions. Therefore, the aim of this study was to determine whether elderly people with dementia maintain autonomy with regards to end of life decisions. Methods: A literature review was done using CINHALL and PUBMED using the search terms: "dementia," "advanced directives," "patient rights," "autonomy," and "end of life." Eleven relevant articles were analyzed. Findings: Elderly people with dementia do not have autonomy with regards to end of life decisions. Factors that influence the absence of autonomy surrounding people with dementia and end of life decision making include poor communication abilities and lack of patient advocacy. Implications: People with dementia are entitled to appropriate levels of autonomy regarding end of life decisions. However, findings indicate that there is a lack of autonomy in this population due to insufficient research. Nurses are in a position to bridge this gap in research and advocate for people with dementia and their decision making ability. Recommendations: Elderly people with dementia would benefit from further research in hopes of developing interventions to facilitate autonomy in end of life decision making.

Pizzoferrato, Patrick: [12:30-2:00] [P14] [GYM] *Benefits of Passive Static Stretching on Baseball Players' Shoulders by an ATC or ATS in Regards to Prevention of Soreness and Injuries*. In the great game of baseball, there are many injuries that plague the common player. Elbow pain, knee soreness, and back soreness are some common complaints of players, but the majority of injuries in baseball are shoulder related injuries. These injuries include, but are not limited to: shoulder muscle strains, SLAP tears, rotator cuff strains, biceps tendonitis, etc. Many players that end up sustaining one of these injuries report that they do not stretch properly before activity. Most team-based stretching programs are geared mainly for the lower extremities; this neglects the shoulders, which are a detrimental key for good performance in the sport. The objective of this study is to determine whether it is beneficial to have an ATC/ATS stretch players' shoulders before they play, and to see the effects of proper stretching on post-throwing soreness and if it increases range of motion. If performed, this study could help prevent injuries to future baseball players by giving them the proper stretching the shoulder needs. This study's population would be college baseball players from a NCAA Division II program. Twenty players from the team would be randomly chosen and separated into two groups. Inclusion criteria contains on the baseball roster, has up-to-date physical, and no past medical history of shoulder injuries. Group One will then report to the athletic training room before practice three days a week to be put through a stretching program by an athletic trainer before doing the team warm-up; Group Two will do the stretching regimen the rest of the team performs during warm-ups. After a three-week period, both groups will have their measurements re-taken; final measurements are taken after the stretching program concludes after week six. At the end of each week, both groups will be asked to describe how their throwing shoulder feels after the week of practice; the groups' answers will be compared to see if the stretching program is beneficial to the players. At the beginning, middle, and conclusion of this study, measurements of each player's range of motion will be taken by either an ATC or ATS. The data from these measurements taken will then be compared to each other to determine whether the program affected group ones' range of motion. The comparison of Group One and Group Two's goniometric measurements would be used to determine whether or not the stretching program was more beneficial. From the survey results, data will be analyzed to see if the

stretching program had a higher percentage of reduced post throwing soreness. The expected outcome of this study is for Group One to have higher ROM increases and lower soreness levels than Group Two. This would prove the hypothesis right and show that passive stretching is beneficial to baseball players and could help future baseball players prevent injuries.

Plesich, Paige: [12:30-2:00] [P3] [GYM] *Is There a Correlation Between Hamstring Muscle Ranges of Motion and Hamstring Injuries in Collegiate Athletes?* This study is exploring the correlation between functional hamstring range of motions and hamstring injuries. There is currently little informative research about collegiate athletes and hamstring range of motions being the cause of injuries to the lower extremity. With the present research available, the purpose of this study is to determine the relationship between different functional hamstring ranges of motion and increased hamstring injuries for division two collegiate athletes throughout an entire season. The participants in this study will include 30 volunteer athletes at DII Wheeling Jesuit University. The inclusion criteria for the participants in this study is that they must be student-athletes involved in a fall sport that are healthy enough to complete their practices. All participants must have at least 70 degrees of functional motion to be considered for this study. The primary investigator will use the supine straight leg raise test using a goniometer to measure and record the results prior to the fall season starting. Names of participants will be coded by a number to protect their identities. After all subjects have gone through the assessment they will be categorized into three groups of different functional ranges. The three groups will be those with 70-79 degrees of motion, 80-89 degrees of motion and 90 degrees of motion and above. After the fall season official ends the primary investigator will follow up with each sports respectively assigned athletic trainer to see if any of the subjects experienced any hamstring injuries. Then by comparing the injury report from the athletic trainer, the primary investigator will see if a correlation between different hamstring ranges of motion and hamstring injuries exist. For this study the one-way analysis of variance (ANOVA) will be used to calculate the hamstring injury rate compared to the three different hamstring ranges of motion. In addition it will be used to determine if there is statistical significance. Outliers will be assessed in the data collection and will not be used if they are too far outside the three different range of motion groups. Also the average range of motion will be determine for each group and each participant. A ratio will also be calculated of participant to likelihood of injury per group. This study hopes to show that there is a correlation between hamstring ranges of motion and injuries to the hamstring in DII athletes. The athletes with a decreased hamstring range of motion may be more likely to see an injury to their hamstring musculature than those with greater hamstring range of motion.



Poch, Haleigh: [2:30-2:45] [2A] [D-128] *Using the Ames Method to Test for Mutagens in Captina Creek.* Captina Creek is located in Alledonia, southeastern Ohio. The creek is home to 56 species of fish and the endangered Eastern Hellbender. Alledonia is also an area of interest due to a recent gas and oil boom and The Ohio Valley Coal Company mine portal. Captina Creek was devastated by a coal slurry spill in 2010. Due to this spill there was a large loss of biodiversity. Water samples are being collected from different areas of the creek and they will be plated as the unknowns for the standard Ames test procedure. The creek water will also be tested for pH and temperature. If the sample plates show growth it is likely that there are mutagens present in the creek. The presence of mutagens is significant because all mutagens are carcinogenic (cancer causing) at some level.

Poch, Haleigh: [5:00-5:15] [3A] [D-128] *Weird American Drug Commercials.* The United States of America is one of only two countries that allow direct consumer advertising. Direct consumer

advertising, the marketing of pharmaceuticals and medical devices, directly targets the patient audience as way for the pharmaceutical companies to increase sales. This paper will analyze direct consumer advertising, in the form of television commercials, and how it affects Americans' views of the risks associated with the use of prescription and over the counter medications. There has been a recent wave of negativity towards using medication as treatment due to the risk factors associated with them. Alongside this growing negativity towards medication, there has been a growing popularity for alternative treatments. This will ultimately answer the question of whether or not the commercials are informative or are turning the American populous against medications.



Porter, Brandon: [12:30-2:00] [P18] [GYM] *Practical Aquaponics: Constructing and Comparing Two Types of Systems*. Today's agricultural situation is currently facing many obstacles and is impacting the global ecosystem more negatively than most would think. The list of environmentally unfriendly challenges includes water usage resulting in droughts, fertilizer and pesticide runoff polluting waterways and causing dead zones, and emissions from the farming vehicles and trucks that transport the food cross country. While these all do sound very daunting, there is actually an emerging technology with the power to solve all of them: Aquaponics. Aquaponics is a closed system that combines aquaculture (the raising of fish) and hydroponics (the growing of plants) to capitalize on naturally occurring cycles and minimize waste. The main concept behind it is the nitrogen cycle. The fish excrete waste in the form of ammonium (NH_4^+), which is processed by nitrifying bacteria into nitrites (NO_2^-) and eventually nitrates (NO_3^-) that can be absorbed by the plants for growth and nutrition. Since the system is closed, the only water loss is from evaporation. Meaning approximately 90% less water is required to grow plants versus traditional farming. This solves both the drought and pollution problems. The system can also be any size so it can fit in a basement, a backyard, or on a roof to supply a household or community with fresh food. This solves the problem of emissions from farm equipment and vehicles. The purpose of this study was to construct and compare two different types of aquaponics systems to determine if one is more practical or efficient than the other, so that people may more easily implement an aquaponics system into their own home. The beds of one system used media in the form of clay pebbles in which to grow the plants, while the other had beds filled with nothing but water and floating rafts in which to hold the plants. The comparison between the two includes nitrogen levels, pH, total dissolved solids, dissolved oxygen, conductivity, plant growth, fish growth, root area, and microbial analysis.

Randolph, Megan; Comfort, Cydney; Glover, Sloane; Schrimp, Albert; Soriano, Sabrina; Unterbrink, Erin: [12:30-2:00] [P33] [GYM] *Effects of Jasmine Scent Administration on Increasing Community Service Participation Attitudes*. Past research indicates the consumption of L-Tryptophan (TRP), the biochemical precursor of 5-HT, can produce significant changes in mood, decision-making behaviors, and interpersonal trust. For example, participants who consumed TRP prior to a mutual trust game transferred significantly more money to their partners in the game. In another study, participants reported fewer negative impacts and more positive impacts of performing community service after the consumption of TRP. The present study was designed to determine if such physiologically-based results could be replicated with scent administration. Participants ($n=90$) first completed the Profile of Mood States (pre-test, to assess current mood). They then sat in a room for five minutes during which no scent, peppermint scent, or jasmine scent was administered prior to completing a questionnaire concerning their views on the positive and negative aspects of community service (Community Service Attitudes Survey). After completing the questionnaire, participants again completed the Profile of Mood States (post-test). Results showed a significant decrease in ratings for anger [$F(1,90)=27.31, p=.000$], confusion [$F(1,90)=11.75, p=.001$], depression [$F(1,90)=13.13,$

p=.000], fatigue [F(1,90)=20.25, p=.000], tension [F(1,90)=13.40, p=.000], and vigor [F(1,90)=7.91, p=.006] between the pre- and post-trials for all conditions as measured by the Profile of Mood States. A univariate analysis indicated a significant difference in ratings for positive views of community service between the jasmine scent condition and the other conditions, with participants in the jasmine scent condition indicating a more positive view of community service, F(2,90)=7.47, p=.001. There was also a trend for negative views of community service to decrease in the jasmine scent condition, F(2,89)=2.21, p=.054. These results suggest jasmine scent administration can increase the positive and decrease the negative connotations of community service. Future research should track actual participant community service once they have been presented with jasmine scent.

Randolph, Megan; Austin, Maire: [12:30-2:00] [P48] [GYM] *Weird America Through the Eyes of the Marginalized*. This summer the Ignatian Honors College had the opportunity to read *Pulphead* by John Jeremiah Sullivan in which he explored the various subcultures that exist within America that can often be viewed as “weird”. This culture of consumer capitalism, sexual obsession, cultural differences, Hollywood stardom, and individual subcultures led Maire and Megan to think of their own time as Father Pedro Arrupe Scholars. Through this program they have had the opportunity to travel through urban, rural, and small-town America and explore the stories of marginalized populations. These marginalized populations have felt the hardships of American capitalism, political policy, environmental negligence, and social injustices that have made their stories quite different than the storybook American dream. Together we will tell the stories of the people we have encountered, the cultures we have experienced, and the injustices that need to be discussed within American society.

Remaniak, Joshua: [12:30-2:00] [P7] [GYM] *The Effects of an Effleurage Massage and Thermo-therapy on Athletes with Low Back/Lumbar Pain*. The effects of an effleurage massage tissue massage (of 6 min.) will be more effective than an application of a type of thermo-therapy, a heat pack, on collegiate athletes with low back/lumbar Pain. In a clinical trial study performed in 2014, which was completed to show the effects of cryotherapy and thermo-therapy in patients with pain in the lower back, it showed that both thermo-therapy and cryotherapy had a positive effect on the participants that had low back pain. Furthermore it was shown that the group specifically placed in the thermo-therapy section had a more positive effect on them than the cryotherapy group. In general, the study claimed that, “thermo-therapy triggers decline in pain, especially low back pain through inhibiting pain signal and exerting pressure on back muscles (Dehghan, Farahbod, 2014).” In a randomized trial based study in 2014, it was shown that deep tissue massage has a positive effect on reducing or lowering the pain for patients with chronic low back pain. Comparing the therapeutic effect of massage with other forms of therapy in lumbosacral pain, the results were similar to the effect of exercises and manipulation. Not a lot of these studies have been performed on the outcome and if deep tissue massages work for patients with lower lumbar/back pain, “this study is one of the first studies assessing the effect of deep tissue massage on chronic lumbar pain.”(Majchrzycki, Kocur, Kotwicki, 2014) In a randomized control trial in 2015, it was shown that deep tissue massage was helpful to patients with lower back pain. However only in the short term was it helpful, the long term did not show plausible or positive results. (Furlan, Giraldo, Baskwill, Irvin, Imamura, 2015) In the author’s conclusion, he states that they have, “very little confidence that massage is an effective treatment for LBP.” This was mainly because of bias shown toward by the trainer as well as the trainer who was giving them the massage had to do with what was being done to the participant. This research hypothesizes that the effects of an effleurage massage (of 6 min.) will be more effective than an application of a type of thermo-therapy, a heat pack, on athletes with low back/lumbar pain. This study hopes to show that massage is a better form of treatment for patients with low back pain than thermo-therapy in the form of a moist heat pack. If massage is

shown to be more useful than thermotherapy, it should be used more to treat and relieve low back pain. This could be used more in the clinical setting to help clinicians ease the pain in their athletes and assist them in returning to a better state of health in a quicker fashion.

Romero, Daniel: [12:30-2:00] [P26] [GYM] *Triangular Numbers*. Triangular numbers are numbers that can be represented in the form of an equilateral triangle composed by rows of dots where each subsequent number in the triangular number sequence adds a new row of dots to the triangle. In this poster one will learn how to calculate the nth triangular number in the sequence. One will also learn some patterns involving odd and even triangular numbers.



Roberts, Cole: [2:15-2:30] [2A] [D-128] *Analysis of Wastewater to Monitor the use of Heroin (Diacetylmorphine)*. A relatively new field study in the scientific community is the testing of sewage and/or wastewater to determine the illicit drug use of people in a certain area. The study has been most popular in metropolitan areas within Europe and the United States. The goal of this research was to build on those studies by looking specifically for the presence of Heroin (diacetylmorphine) and its by-products in Wheeling, West Virginia's creeks, sewage, and neighboring Ohio River. Heroin is an opioid drug that has devastated local schools, businesses, and most importantly families, in the Ohio Valley for decades. In order to accomplish this task in various area in Wheeling, four separate sample locations were used to provide a range of water sources. Moreover, this research encompasses not only environmental science, but sociological science as well to determine the opioid abuse in Wheeling. Studying the socioeconomic issues in the Wheeling, allows for a better understanding of why the opioid issue persists in the area. Understanding the circumstances and factors that play into the abuse in our area is a crucial part of any abuse-related research. Ultimately, this research is meant to expose the drug abuse epidemic with significant analytical field data. The testing of samples is currently ongoing and results will be available within the month.



Rodgers, Rebecca: [11:00-2:00] [GALLERY] *Figure Within a Space*. Presentation Abstract: Body image is the focus of this painting. In the world we live in, women are under constant scrutiny, especially in the media, and are expected to adhere to very specific standards of "beauty". As someone who is plus-size, I don't fit these standardized forms of beauty that have become today's norm. Thus, I'm deemed less deserving of love, happiness, and success. However, I couldn't disagree more. Referencing Sandro Botticelli's painting, *The Birth of Venus*, I painted myself as Venus surrounded by flowers accepting who I am and loving my body.

1. Title: *Figure Within a Space*
Medium: Watercolor on paper
Date: 2016
Dimensions: 18x24"

Rodgers, Rebecca: [11:00-11:15] [1A] [D-128] *History Has its Eyes on You: Exploring America's Decision to Drop the Atomic Bomb on Japan*. Presentation Abstract: During his presidency, Harry S. Truman oversaw many events that became important milestones in American history. Arguably, one of the most important moments of his two terms was the ultimate decision to rely on the Manhattan Project as the means to end World War II, more specifically, choosing to drop two atomic bombs on Japan. It had become clear that as America's fighting in Europe was coming to an end, their fight in the Pacific would not have the same fate. Having had already lost

thousands of American soldiers as a result of casualties of war, President Truman, along with several government and military officials, made the choice to use the atomic bomb developed in secret by a group of scientists, knowing that it would kill civilians in the two cities of Hiroshima and Nagasaki. Before they made the final call to drop the bombs, Truman and his associates did face indecision as members of the Interim Committee discussed not only the moral dilemmas with knowingly killing civilians but also the fact that they had to consider other options. The primary other options that were being considered were a full-scale invasion of Japan, called "Operation Downfall", or a blockade and bombing of Japanese islands. In the event that there was no foreseeable surrender coming from Japan, it was on the table to simply resort to a total war, full-scale invasion beginning with the outlying Japanese islands and piece by piece taking Japan. President Truman and his associates received many different estimates of what death tolls might be like should Operation Downfall or a blockade take place. These often varied dependent on the island, and they were based on earlier operations in the Pacific Theatre. Ultimately, it was determined that improbable amounts of money would be spent, and countless American, as well as Japanese, lives would be lost. On the other side of that, the Manhattan Project employed 120,000 people, was based in 37 installations that crossed 19 different states, and cost the Federal government \$2,000 million to build the bombs in 3 years. If one takes into account these simple facts and figures, it becomes pretty obvious that dropping the bomb would be the most practical decision. However, there was much indecision over the years surrounding the decision to drop the bomb, and with the 70th anniversary having recently passed last year, this heated debate has been brought back to the surface with a vengeance. When comparing the casualties and consequences of the Manhattan Project and projected casualties and consequences of Operation Downfall and a blockade, it becomes vividly clear that the Manhattan Project would result in fewer deaths and destruction. It is extremely important to note that this research is intended to explain the reasoning behind the choice to use the atomic bomb, not whether it was the moral choice. Conclusively, due to casualty and resource use projections, it was decided that the atomic bomb would cause the least amount of deaths and waste.

Rougier, Yafeu: [11:30-11:45] [1C] [[ASC G-10] *The Impact of the Fresh Prince*. This paper explores the importance of ideologies in African American television shows that aired in the early to late 1990's. This paper will argue that these ideologies are crucial to be studied. While these television shows ended more than a decade ago, the various patterns and images continue to be displayed in the media as well as in the real world. The main television show analyzed is *The Fresh Prince of Bel-Air*. By utilizing purposive sampling of episodes, along with the framework of theorists and scholars such as Stuart Hall, Antonio Gramsci, Debra Smith, Grace Wang and Emily Drew, the ideologies present were; the only way for African-Americans just like the Banks family to be socially mobile is if they achieve "the American Dream," black and/or white stereotypes like African-Americans can't own fancy things, African-Americans being racially profiled/always suspicious and lastly class issues, particularly the conflict between the black Americans that have and the black Americans that do not have. Will Smith's character's attempt to integrate into a new society in relation to the other characters serves as a main discussion point for the aforementioned ideas. *The Fresh Prince of Bel-Air* remains a relevant media artifact that highlights stereotypes placed on black families that both reinforce and undermine race and class ideologies that are still perpetuated today, both in mainstream media but also out in the real world.

Rouhier, Chris: [4:00-4:15] [3C] [D-129] *Best Practices in Jesuit Career Advising: How Jesuit Colleges Incorporate Ignatian Pedagogy into Career Advising Services*. The 28 Jesuit colleges and universities of the United States share a common educational mission influenced by the life and work of St. Ignatius Loyola, the founder of the Society of Jesus, or "Jesuits." Although these

universities share a common philosophy of education, they are also similar to every other educational institution in the country in that they have the responsibility to help prepare their students for graduate school, post-graduate service corps, and the workplace. This responsibility is particularly important at a time in which cost-conscious students and families expect a college to be a sound return on investment, and sometimes are questioning the value of a college degree itself. A thorough literature review produced three basic models of career advising services that are used nationwide: career counseling, job search services, and career information/programming and outreach. Each varies in the depth and breadth of the services rendered. Additionally, literature review produced Robert A. Mitchell, S.J.'s "five traits of Jesuit education." Using these career services models and Mitchell's five traits, a survey was sent to the career service directors at each of the 28 Jesuit colleges and universities. The researcher hypothesized that the five traits would be represented by the overall population, and that career counseling offices would exemplify these traits at a higher rate than the other career advising models. However, the research demonstrated that Jesuit career advising offices tended to reflect the five traits in all three types of models. Wheeling Jesuit University has struggled to directly meet this need during recent times. Although students benefit from faculty mentoring – and boast a robust job and graduate school placement rate – career advising services have been administered on a part-time basis in recent years. The researcher hopes that this project can help WJU discover ways to integrate its Jesuit identity into robust career service offerings.

Ruble, Ryan: [10:45-11:00] [1A] [D-128] *Native Americans in World War II: The Navajo Code Talkers: Their Impact on the War and Helping Shape the Native American Identity*. Presentation Abstract: Native Americans have had a long journey through U.S. History, and for many generations they were pictured as outsiders on a continent that was originally theirs. However upon the United States entering the Second World War, Roosevelt asked for all hands on deck for the cause by every citizen able. The Native American's were no exception to this and like many others in the country they answered the call after the bombing of Pearl Harbor. This was not limited to those who enlisted, as the Second World War was a total war and those on the homefront also needed to contribute all they could. This research culminates in a compilation of stories of Native Americans during the wartime in both theaters of the war. However, a large focus of the research will be focused on telling the story of Navajo code talkers in the Pacific theater and highlighting the importance of their impact in that area of the war. This does not limit the research to also telling the story of Comanche code talkers in the European theater as well as the interactions of civilians on the homefront and their role in the war effort. The goal of this research is to provide the necessary proof and conclude that Native Americans faced the crisis of World War II like anyone else but also faced their own unique paths as it relates to their identities as a culture, in history, and today. I have studied primary military, and federal documents from the time as well as accounts written by many historians. I have also included detailed personal accounts from many of the men who served themselves, to build a solid base that leads to the conclusion of how important Native Americans were to the war effort as well as how important the war was to them.

Rush, Megan: [12:30-2:00] [P34] [GYM] *Applied Behavior Analysis at the Augusta Levy Learning Center: A Greater Understanding*. The purpose of this internship was to become more experienced in using Applied Behavior Analysis therapy (ABA) to treat children on the autism spectrum. For approximately 20 hours a week, for the duration of the semester, I provided 1:1 behavior therapy to students at The Augusta Levy Learning Center (ALLC). ALLC is an intensive treatment center for children ages two through twelve with autism. Each child receives at least 30 hours a week of intensive, 1:1 ABA therapy. Through my internship, I gained a better understanding of the field of behavior therapy and all it entails, learned about functions of

behaviors commonly displayed by children with autism, and learned, through my experience, what I can do as a therapist to improve the lives of children on the autism spectrum.

Santana, Julian D.: [12:30-2:00] [P10] [GYM] *The Effect of High Altitude on Collegiate Athletes*. In every growing sport today's model athlete is bigger, faster, and stronger. Strength and conditioning coaches have developed new ways to train their athletes to become a more elite and push them to their extreme peaks to get maximum outcome of their athlete. Due to the increased demands for better performing athletes, many companies have developed tools to increase strength and aerobic output. One of the latest training gadgets is a mask that simulates high altitude training. The aim of this mask is to simulate high altitude conditions or an altitude chamber so that the body thinks its training in the mountains. The benefits of training at high altitude is that the athlete will produce more red blood cells, therefore making them outlast an athlete that trained at sea level. The body produces a hormone secreted by the kidneys that increases the rate of production of red blood cells in response to falling levels of oxygen in the tissues called erythropoietin. In result of the release of this hormone it will increase hemoglobin count therefore giving the athlete a higher maximum amount of oxygen or VO2 Max. This whole process can take between 2 to 3 weeks. The purpose of my research is to see the benefits of the high altitude training mask at sea level. Multiple studies have been published on the idea of high altitude training which created a new idea to companies to create a product that will simulate this without an altitude chamber. My research will see the benefits of training with the high altitude training mask at sea level and compare them to two different groups one with the mask and a placebo group see if there is a drastic difference on their VO2 Max between the two. Participants in this study will be non-smoking athletes between the ages of 18 to 24. Athletes also need to not have any other preexisting pulmonary conditions, or past injuries that will affect testing. A timed mile will be used to assess endurance while their heart rate is monitored. Also a survey will be given to them at the end of each run to grade themselves. In conclusion, this study can have a significant impact if deemed beneficial for one main reason thus leading to a chain reaction. The reason is to take an athlete to its peak of his physical conditioning. The high altitude mask could also have implications for the people in low socioeconomic standing as this mask is a cheap alternative to altitude training, meaning they would not have to spend money to travel to a mountainous region to train but rather just put on the mask. Translating into affordable high altitude training for athletes that cannot afford to travel to places like Colorado, to reach peak physical conditioning.

Schleucher, Emma: [12:30-2:00] [P1] [GYM] *Increasing Vertical Jumping Using Various Stretching*. Jumping is an important concept in many sports. There are programs or theories on how to increase vertical jumping in athletes, but the concept of using stretching techniques over a long period of time has not been carefully looked at. Using the stretching techniques of static and proprioceptive neuromuscular facilitation (PNF) would be an inexpensive way for athletes to increase their vertical jump if effective. Static stretching is defined as holding a stretch position for a period of time with little or no movement. PNF stretching is defined as a static activation of the stretched muscle to achieve the best muscular relaxation. In the contract-relax method, it requires an isometric activation of the muscles after an initial static stretch, then relaxing and repeating the stretch to a new level. Another PNF technique is the CRAC or contract-relax-antagonist-contract method. This stretch is very similar to the contract-relax method except instead of an isometric contraction, the muscles being used will contract and travel through the full range of motion then be lifted to a new position. Goal: There are studies that compare different stretching techniques in acute settings but not with a long-term setting over a variety of weeks. The acute situations included stretching a participant with one of the techniques and having them test their vertical jump immediately after so therefore, the purpose of this study is to

evaluate the vertical jump of women's volleyball division II collegiate athletes from Wheeling Jesuit University using either the static or PNF stretching techniques over a four week period. Methodology: Volunteer student athletes from Wheeling Jesuit University women's volleyball team will be randomly assigned into four equal groups, three using one of the following stretching techniques, static, CRAC, or contract-relax method, or one control group with no stretching. The subjects will be tested on their vertical jump at the end of each week. Everyday, except testing day, the subjects will stretch their quads and hamstrings using the stretching method as designated from their group. The participants will have their height and standing reach recorded along with other basic demographic information and jump three times using the vertec jumping apparatus to create a baseline jump measurement. They will then stretch everyday before practice or athletic activity with the primary investigator there to oversee that the stretching techniques are performed correctly. The stretching will involve three sets of 30-second holds for each leg. The techniques that require isometric contractions will have 5-6 second holds for those. On testing day after the end of each week, the subjects will again be using the Vertec to test for their vertical jump measurements. The best of three jumps will be averaged. This process will be the same for all subjects. This study may show that with a long-term stretching program, women's collegiate volleyball players will see increases in their vertical jump. One stretching technique may show more benefits to major muscle groups of the legs to increase vertical jump over a period of four weeks.

Shimko, Kristen: [12:30-2:00] [P31] [GYM] *Benefits of Google Ad Words and YouTube Advertising*. This study looks at the advantages of using Google and YouTube as advertising platforms. Advertising online, in general, allows for more opportunities than print or television advertising which is explored within the justification section of this paper. Through the use of agenda-setting theory and textual analysis, this paper shows the overall benefits of using these platforms to maximize consumer response to advertisements. With the assistance of observations and statistics, it is easy to notice the overall benefits of these two platforms for advertising within businesses. They should be studied because they are two relatively new and improved ways to get information to potential consumers. These platforms allow businesses to control every aspect of their advertisements, including the exact number of people which the ad is displayed to, when these people will see it, and the demographic information of the individuals viewing their advertisements. This gives an advantage to not only businesses, but also to consumers allowing them to only see ads which they would be interested in rather than "junk ads." Overall, I believe that the use of these two platforms for advertising can positively enhance the consumer-business relationship.

Shrodes, Lychel: [10:30-10:45] [1A] [D-128] *The Tuskegee Airmen: Double V*. Before World War II, the United States military was segregated. No African-Americans could hold a higher rank, as Colonel or General, nor allowed to have combat training or fly an airplane. It was a common thought that African-Americans were "unfit" to handle combat. Pressure from groups like the NAACP for an African flight squad increased until finally, the United States Army put together the Tuskegee Airmen in Tuskegee Alabama. This decision resulted in one of the best flying units in all of World War II. The Tuskegee Airmen not only proved that they were more than fit, but did a fantastic job protecting bombers and were successful going on the offensive. Although these men had fought for their country gallantly to help liberate repressed peoples, the airmen were subjected to and had to fight against many social injustices in their home country. Their success and their tenacity to stand up for their rights as members of the United States military played an important role in the desegregation of the armed forces and to help light the fire to what would become a major historical movement in American history, the Civil Rights movement.

Silbaugh, Nicole: [12:30-2:00] [P30] [GYM] *Running and Its Effects on Anxiety*. As a senior, I wanted my graduation project to be about something that I love and can relate to. The topic of my project was analyzing different forms of anxiety, how it affects a person's brain, and how running affects anxiety. I feel as though my project is important because there are so many people in the world that suffer from anxiety disorders that may not know of ways to help calm their symptoms. Being a runner and suffering from anxiety myself, I have found that when I go for a run my anxiety seems to subside. Running is not only very healthy physically for a person, but I hypothesize that running is healthy mentally as well. I started out by explaining what Generalized Anxiety Disorder (GAD) is and then discussed other forms of anxiety. Then, I explained some effects, short-term, and long-term problems that are caused by anxiety. After explaining how anxiety affects a person, I explained how running/exercise benefits the brain and an anxious mind. The goals for my project are to bring more awareness to anxiety disorders and how they effect people and to, hopefully, help at least one person with their anxiety disorder by providing running as a comfort or medicine for it. I went about finding information for my project by first researching what the symptoms for Generalized Anxiety Disorder and other forms of anxiety are. While researching, I found not only symptoms for anxiety disorders but also short-term and long-term problems caused by anxiety disorders, as stated previously. Next, I researched for information on how exercise and running help to calm the anxious mind. I found information regarding what happens to your mind and body during a thirty-minute run, how it helps memory, and information on exercises someone with depression and/or anxiety can do to help alleviate their symptoms. I also found information regarding experiments that have been conducted. One implication of my project is that it is not a scholarly study where I collected data; instead, it is focused on a literature review. Running and anxiety both have effects on the mind. Anxiety's effects are negative and running's effects are positive. Running, however, can counteract the effects that anxiety has on the mind. With actual data collected on the topic, I am confident that the results would favor my hypothesis, that running helps to reduce anxiety.

Sorge, Cassie; Dever, Desire: [12:30-2:00] [P42] [GYM] *Prenatal Care in Prisons*. The number of pregnant prisoners in the United States (U.S.) has increased over the years with few changes being made to meet their healthcare needs within the prison system. Nurses have an obligation to advocate for a comprehensive prenatal care program for all pregnant women in the U.S. The purpose of this study was to review the literature to ascertain whether incarcerated pregnant women in the U.S. have access to adequate prenatal care. Methods: An electronic database search using CINAHL Complete and PubMed was conducted with the search terms pregnant, prisoners, and prenatal. Findings: Pregnant women are not receiving proper health care while incarcerated. Mandated standards of care for prenatal, delivery, and post-natal care of incarcerated women do not exist. Care of pregnant prisoners and their babies varies greatly across the country. Implications: The bioethical principle of justice demands that all pregnant women in the U.S. have access to standard of care prenatal and obstetric. Health care professionals should advocate for policies and procedures ensuring such care are provided in our prison system. Further studies are needed to evaluate best practice initiatives for incarcerated pregnant women. Recommendations: More research is needed to identify and develop satisfactory programs that will provide incarcerated pregnant women the health care they require and deserve. Political advocacy is needed to put policies in place to ensure adequate and appropriate care for pregnant prisoners in the U.S.

Spencer, Aimee; Bailes, Amanda; Blattler, Carolyn; Thompson, Kelsi: [2:30-2:45] [2C] [ASC G-10] *Analysis of Factors that Influence Alcohol Consumption Among Undergraduate Students*. In a study conducted by Johnson, Sheets, and Kristeller (2008) it was found that religious

involvement was inversely related to alcohol consumption. Students may not only be drinking to improve their social experience, but also to push aside negative emotions (Lee et al., 2007, p. 715). Cail and LaBrie (2010) studied how frequent mother-daughter contact could decrease alcohol consumption during the daughter's first collegiate year. Liguori and Lonbaken (2015) analyzed gender in regards to college alcohol consumption and found that in cases of both the highest percentage of people that drank on campus as well as heavy episodic drinking, male students compared to female students. The goal of the project is to better understand what motivates undergraduate students to drink so college campuses are more knowledgeable and aware of the factors that influence alcohol consumption. Through a comprehensive survey, we analyzed a multitude of factors that may contribute to the motivation of students to consume alcohol, to an undergraduate student's beliefs and practices, as well as their perception of their peers' beliefs and practices about alcohol consumption. The survey, administered through an online surveying website, consists of a demographics section and a two-part questionnaire, which asks the individual questions as an observer of the practices of their peers regarding alcohol and as a participant in drinking alcohol. Participants stated Saturday as the most likely day and Monday as the least likely day to drink alcohol. Observers reported Friday as the most likely day and Tuesday as the least likely day to drink alcohol. Observers also reported that others most often drink with friends, while participants stated they most often drink with close friends. According to both participant and observer points of view, drinking most often occurs at dorm parties, and for the purpose to have fun. Further results are yet to be analyzed. The one way ANOVA that was conducted to compare academic year and knowledge of one's religious viewpoint was found significant. Both seniors and super seniors were in greater knowledge when compared to sophomores. The one way ANOVA that was conducted to compare gender to do you consider yourself religious found that females were significantly more religious than males. More concise conclusions are yet to be drawn. The implications of the study are yet to be made.

Steele, Megan: [10:00-10:15] [1B] [D-129] *Dystopia is Nigh: An Evolution of the Genre Within Huxley, Atwood, and Eggers*. Dystopias originated as a tool for social change, and they achieved this function by creating horrifically plausible outcomes for society and projecting them into the future, sometimes by hundreds of years. Despite its original purpose, the tradition has progressed and changed because the gap between reality and dystopian fiction is getting smaller. Authors no longer place dystopias hundreds of years into the future; instead, dystopias have become shockingly present. This shrinking gap becomes evident when reading and analyzing *Brave New World* by Aldous Huxley, *The Handmaid's Tale* by Margaret Atwood, and *The Circle* by Dave Eggers in chronological order. Despite differences in authorship, location, and time, each book contains similar themes of totalitarianism, thwarted utopianism, and dehumanization that come about because of oppressive power structures that maintain control through an increasingly technological Panopticon. The Panopticon is a disciplinary system originally developed by Jeremy Bentham, an English philosopher, which Michel Foucault then incorporates into his theories regarding power, the individual, and discipline (Foucault, *Discipline*). Beginning in 1932 with Huxley, this power grows over time, and the Panopticon becomes stronger. The closing gap between fiction and reality, and the continually increasing panoptic nature of today's society, reflects an inability on the part of readers of dystopian fiction to grasp the warnings that authors are giving them. From 1932 to 2013, three different authors from three different countries express the same themes and dangers to society, and yet society refuses to listen.

Stohlman, Morgan: [11:45-12:00] [1B] [D-129] *Death and Humanity's Desire to Control it: Stephen King's Adaption of Mary Shelley's Characterization*. Presentation Abstract: Mary Shelley is widely popular for her classic Gothic novel *Frankenstein*. She was a trailblazer, not

only for women in literature, but for the entire Gothic genre in the nineteenth century. Contemporary writer Stephen King, mostly known for his “blockbuster” horror novels, alters Mary Shelley’s use of characterization in the traditional Gothic novel and redefines it in his novel *Pet Sematary*. In other words, King uses Shelley’s characters as prototypes from which he can create more relatable characters and a more believable plot for a contemporary audience. Mary Shelley’s two major characters in *Frankenstein* are Victor Frankenstein, the protagonist, and his Creature, arguably the antagonist. In *Pet Sematary*, King strategically splits Victor Frankenstein into three of his most prominent qualities and develops complete characters around each one. Louis Creed, King’s protagonist in *Pet Sematary*, represents Victor’s obsession with control. King utilizes secondary characters Rachel and Ellie Creed to represent Victor’s fear of death, and his lack of compassion. Then King not only inverts Shelley’s traditional monstrous Creature into a small fragile “thing” but he creates a second completely different “thing”. By putting ordinary characters into extraordinary situations, King is able to exploit Shelley’s ambiguous ending and universalize humanities ultimate fear of death in *Pet Sematary*.

Stramanak, Zachary: [3:00pm-3:15pm] [2C] [ASC G-10] *Mental Health Court Program: Descriptive Analysis*. The following research paper discusses the evaluation of the West Virginia Northern Panhandle Mental Health Court program as a whole, through the study of 108 graduated participants since 2011. The question for this research is: How effective has the West Virginia Northern Panhandle Mental Health Court been as a whole? This study shows us the relationship between various factors such as drugs, geographical location, and mental illness that will potentially affect a person’s judgment in society causing them to commit crimes. The program allows for the deterrence of jail for individuals who may not receive the support they need. The study allows Mental Health Court staff an opportunity to see if the program has been working in an effective manner, while reducing recidivism rates long-term. Data has been collected from Mental Health Court reports and statistics. Once the data was calculated it allowed for the conclusion that the West Virginia Northern Panhandle Mental Health Court program has been an effective one since its creation in 2011.

Taylor, Shania: [12:30-2:00] [P38] [GYM] *Burn-out in Healthcare Students Who Participate in College*. In this project I will be studying the correlation between students who play a sport and the ones who do not play a sport and how burned-out they become during this time. In doing this it will show how or if students grades are affected by being burned-out due to their sport that they are in. The data will be collected using a Malsch survey. This survey will be located on survey monkey for the students to fill out. This project only concerns someone in the medical field.

Tisch, Nolan: [3:15-3:30] [2A] [D-128] *Infrared Imaging of Honeybee Hives*. Bees are one of the most influential insects with respect to pollinating the planet. All bees, regardless of their species, are responsible for almost one sixth of the flowering plant pollination that occurs. Worldwide, there are around 25,000 different types of bee species, which is divided into over 4,000 genera of bees. This number can then be subdivided into nine different families of bees. The Adipae family is one of the most well known families, which includes bumblebees, carpenter bees, and honeybees. The goal of this research is to be able to locate honeybees inside of their hives during the winter months using infrared imaging. An infrared camera will be used to locate the cluster of bees inside the hive. The problem that is going to be solved is that honeybees prematurely die in the winter when they run out of food too soon. However, the infrared imaging will provide the location of the honeybees inside of the hives, which can alert the beekeeper when their bees are running out of food. The end result will optimistically provide beekeepers an accurate way to save the lives of their honeybees.

Troconis Bello, Juan Pablo: [12:30-2:00] [P35] [GYM] *Effects of Peppermint Flavor and Scent Administration on Augmenting Rugby Player Performance: Use of Peppermint Flavored Mouth Guard During Play*. Extensive past research indicates peppermint scent administration during athletic performance provides a variety of enhancements. For example, when athletes underwent a treadmill stress test with peppermint scent administration they exhibited reduced physical and temporal workload, effort, and frustration, and indicated greater vigor and lower fatigue. In addition, when performing a variety of athletic tasks during peppermint scent administration it has been found that running speed, hand grip strength, and number of push-ups were significantly increased. The present study assessed peppermint administration in a more realistic sports environment outside of the laboratory as well as employing a new technique for taste and scent administration through the use of a peppermint flavored mouthguard. Division II rugby players competed for a two month period during their scheduled athletic season with either a peppermint flavored mouthguard or unflavored/unscented control mouthguard. At the completion of the testing period, measures of mood, workload, motivation and competitive edge were assessed. Results indicated statistically significant effects such that the use of a peppermint flavored mouthguard led to a greater sense of safety ($t=3.63$, $p=.002$), being more energized ($t=2.12$, $p=0.05$), greater feeling of being “psyched up” ($t=2.54$, $p=.02$), and greater performance ($t=2.60$, $p=.02$). In addition, two trends were found such that the peppermint mouthguard enhanced feelings of confidence ($t=1.93$, $p=.07$) and strength ($t=1.76$, $p=.10$). This study provides evidence of both an orthonasal and retronasal effect of peppermint administration on athletic motivation and performance on the playing field.

Valuska, Alexis: [12:30-2:00] [P37] [GYM] *Lung Conditions in Firefighters*. Firefighters are exposed to many toxic chemicals that wreck havoc on the human body. The link between health conditions and the chemicals are just now coming to light in the medical field. The research that will be conducted is a series of two surveys provided to a group of volunteer firefighters. The first survey will be about what types of fires that they have attended (chemical, structure, etc.), where they were located (old buildings, fields, etc.) and if they have any changes in their breathing since they have been working. The second survey will be the McGill quality of life survey asking questions that ask about how their feeling physically and mentally.

Valentine, Rebekah: [10:00-10:15] [1A] [D-128] *Polish-Jewish Relations and the Memory of the Second World War*. When looking at Poland’s complex history throughout the 20th century, the Poles see themselves as victims under both Nazi and Soviet occupation, but in reality, many were perpetrators, collaborators, and bystanders when it came to their relationship with their Jewish neighbors, and this reality further complicates contemporary understanding of Polish national identity. Throughout the Second World War, Poles participated in and led the massacres of Jewish communities in many villages in the Biaystok region of Poland. After the war, Jews struggled to re-integrate into Polish society, and after being rejected from it, were forced to leave Poland. Furthermore, pogroms took place shortly after the war in Kelce and Kraków, which were carried out by Polish civilians, police, and the military. After the war, Poles looted former Nazi extermination sites across Poland looking for gold and other valuables that once belonged to their Jewish neighbors. Today, Poland struggles to come to terms with this past, due to the accepted narrative that it suffered just as much as the Jews during the war as a result of Nazi and Soviet occupation. Many also believed that they helped their Jewish neighbors and could not have murdered the Jews. Despite this, there have been many attempts to reconcile Polish identity to include the Jews, which in the end has further complicated Polish memory of the Second World War.

Weidman, Falon: [4:45-5:00] [3A] [D-128] *American Exceptionalism and Central America*. This project is a criticism of the concept of American Exceptionalism - the idea that the United States took a more morally sound and ethical path to power than did other states and that American policies are rooted in the ideals of freedom, civil liberties, and human rights. The project is a case study of United States actions in Central America, focusing on involvement in El Salvador, Guatemala, and Nicaragua during the post-World War Two Era. During this time, the United States took on the Cold War policy of ceasing the spread of communism throughout the world. In Central America, the United States spread its influence and power in the Western hemisphere by deposing of democratically elected left-wing governments in favor of American-backed right wing dictators. Throughout these conflicts, mass violence ensued and human rights violations were committed with the support of American military might and money.

Weidman, Falon: [2:30-2:45] [2B] [D-129] *Regime Change in the Arab Spring and its Effectiveness in Causing Lasting Liberal Reform*. The purpose of this study was to analyze the effectiveness of regime change during the Arab Spring in bringing about lasting liberal reforms. The Arab Spring was a series of anti-government protests, uprisings and armed rebellions that spread throughout the Middle East and North Africa (referred to as MENA) beginning in 2011. As a result of these uprisings, several governments of the MENA states have made concessions to their citizens in an attempt to end the tumult. Five states were analyzed in this study: Tunisia, Egypt, Libya, Yemen, and Bahrain. The timeline of the Arab Spring was cross-examined with data collected over a ten year period (2005-2015) from the following statistical measures: Human Development Index, Polity IV, and Freedom Rating, in order to track the trends of economic, political, and social development in the states under consideration. This study concluded that the Arab Spring was not successful in bringing lasting liberal reforms, with the exception of Tunisia, and that there are likely socio-economic, infrastructural, cultural, and governmental factors that led to the failure of the uprisings in the four remaining states. This analysis has important implications for future research because it discusses the conditions necessary for anti-government protest to be successful and the problems and instability that regime change can cause.

Weidman, Falon: [11:30-11:45] [1A] [D-128] *Success and Implications of Nazi Propaganda in the Middle East and North Africa*. Though there exists much research and documentation of the Nazi regime's propaganda campaigns within Germany and the surrounding European states, the study of these campaigns in the Middle East and North Africa is a relatively new subject in World War Two histories. The realm of Nazi influence is often confined to that of the German territories and border regions, but upon analysis of their campaigns in the Middle East, it is evident that this influence stretched far beyond Europe's borders. Through analysis of newly published research, primary source documents from government officials on both sides of the propaganda campaigns, and the propaganda materials themselves, it is evident that the Nazi's had significant influence in the Middle East. This analysis also shows the strategic and military importance of this resource-rich region to the Nazi regime, as well as the scope of anti-Semitism throughout the world during this era. Furthermore, this paper reveals the modus operandi of Nazi propaganda, and offers further insight into why it was so successful throughout various parts of the world. This study offers a unique perspective into the Nazi regime's ultimate goals in World War Two and provides possible implications on how its influence in the Middle East has potentially impacted some of the conditions and actors in that region today.

Wilson-Costa, Elaine: [12:30-2:00] [P41] [GYM] *Asthma Control Results after Eliminating Fast Food from Diet*. By eliminating fast food from an asthmatics diet it should decrease the amount of systemic inflammation within their body. In turn that should decrease the amount of inflammation resulting in their asthma symptoms. Asthma is inflammation within the airways, so

by adding more inflammation to their body it should result in worsened symptoms. I plan to have the patients sustain from fast food for a month with a pre and post asthma control test. The results should show increased levels of asthma control after sustaining from the high inflammatory foods.

Wright, Joe: [2:15-2:30] [2B] [D-129] *The Joint Comprehensive Plan of Action and the Future of Israel*. The purpose of this paper is to analyze the Joint Comprehensive Plan of Action, its economic effects on Iran, and then how Iran could threaten Israel's homeland security. The Joint Comprehensive Plan of Action is a multilateral agreement, led by the United States, to curtail Iran's development of nuclear weapons. This deal bargains the prohibition of Iranian nuclear development in exchange for the lifting of economic sanctions. In order to comprehensively make judgements about this situation literature has been collected to discuss the economies of Iran and Israel, the two states' history together, and how current regional events shape the effectiveness of the JCPOA. By these texts this paper attempts to analyze a dynamic situation in one of the world's most volatile regions and argue that Joint Comprehensive Plan of Action does make Israel more vulnerable to attack. Considering the current global political climate, the future of the Joint Comprehensive Plan of Action may be at stake. This paper hopes to further continue the conversation about Middle Eastern affairs and provide textually supported insight into a complex situation.

Yates, Michelle: [12:30-2:00] [P29] [GYM] *Conversation and Why it's Appealing*. Being a communications major, I've learned a lot and I've also wondered about what makes conversation so appealing to people. Since this project is a requirement for my senior year, Research Day allows me the opportunity to go more in-depth with the communications world. Communication in general is interesting to me in this day in age because of all the new technology to avoid basic face-to-face communication. I'm curious as to why or how people come to be "talkative". This prospectus looks into the relationship between personalities and conversation within communication. The idea for this prospectus came from my curiosity of how people become "talkative" which is a term that I will define at length within this prospectus. This qualitative research prospectus examines previous research that investigated what could cause people to be talkative or gravitate toward conversation. My goals for this project are to gain insight into what makes communication appealing, desirable, and engaging. I think if this research was conducted, communication scholars would be able to shed more light on how important communication is in society. I would conduct semi-structured interviews using purposive sampling to retrieve my data for the research. There have been studies done on if men or women are more talkative and when conversation is most likely to be started. However, such studies don't include what reasons there are as to why people are talkative, whether it comes from a personality standpoint or a different reason. In order for this potential research to be successful, I believe more background research needs to be done first. The purpose for this study is to explore reasons or relationships within communications that make people talkative. I believe future communication scholars would find this study important because it could show a new link as to why people like feel the urge to engage in conversations/communications. The future of this study could also show that just because some people are shy, does not mean they do not like to engage in conversations or be a part of them. On the reverse side, this study could also show that just because some personalities are labeled as outgoing, does not mean they like to engage in conversations or start them. Although this particular prospectus will not have data collected because I am graduating this year, my research will have goals as to what I would hope to find in continuing with the actual research.

Zahnow, Tyler: [12:30-2:00] [P13] [GYM] *Creatine: The Athletes' Supplement*. Goals: To further enhance to research the supports the usage of supplemental creatine for athletes. The purpose of this study is to increase the evidence that creatine is beneficial to athletes. With gaining more evidence, it will expand the types of teams and athletes that choose to use creatine. This study will begin with Certified Athletic Trainers as examiners of the college athletes. The athletes will be between the ages of eighteen and twenty-two both male and female who compete in college track and field. A signed consent form will be required before beginning the study. The athletes will be assigned a number and randomly divided into an experimental and a control group using a random number generator. The control group will receive a placebo powder which resembles creatine. The experimental group will receive a 5mg dose of creatine. Since the two powders will be visually identical, this will eliminate any examiner bias that may occur during the study. Once the groups have been determined, their baselines for one rep max in the bench press, squat, deadlift, and hang clean will be recorded. The groups then will be given an identical six week lifting program. The lifting sessions will occur on Monday, Wednesday, and Fridays and will be supervised by the examiners. After the completion of the six weeks, both groups will re test their one rep maxes in the lifts mentioned. The data will then be placed into an excel spreadsheet and analyzed for improvements in their one rep maxes. Results: The research provided could support that supplemental creatine is beneficial for athletes of all levels. Athletes receiving supplemental creatine showed increased strength gains over those taking the placebo. Conclusion: Further research could improve the support of using supplemental creatine to improve an athlete's performance. Current research shows that creatine is taken mainly by football players and weight lifters, but not much research done on track and field athletes. This research shows a maximum increase in power and strength in muscle contractions by up to fifteen percent. Creatine should be further researched because of the possible benefits it can provide to athletic performance.



Zirkle, Christina; Marchio, Kali: [12:30-2:00] [P45] [GYM] *Between the Mountains, Without Health Care*. Appalachia consists of 13 states, 420 counties, and has a multicultural population of 23 million. People of the Appalachian region do not receive optimal health care. Reasons for the suboptimal care are not clear. This review of the literature hoped to identify the obstacles Appalachian families face regarding access to health care. Methods: To conduct this research databases CINAHL and Medline were used with the key terms, Appalachian community and health care access. Findings: The findings of this literature review included four major themes that affect access to health care: (1) health beliefs of individuals, (2) education level/ employment status, (3) cost of health care, and (4) access to health care. Implications: All Americans deserve to have access to appropriate health care. People of the Appalachian region do not receive optimal health care. Health care professionals are obligated to promote equal health care opportunities for the Appalachian region. Recommendations: More research is needed to identify what factors lead to the deficiency in health care resources for Appalachian families. New interventions and policies are necessary to promote health care opportunities for the people in the Appalachian region.

SPECIAL THANKS TO...

**Ms. Connie Crecion and her crew of students for photocopying
and binding the programs**

Ms. Brittany Rife for web design and computer support

Ms. Kelly Klubert for Public Relations

Ms. Sabrina Soriano for Program Production

Parkhurst for food service

Physical Plant for room preparations

Our volunteer judges and moderators

Our research mentors

The students of WJU

2017 Symposium Organizing Committee

Dr. Rhonda Haley (Physical Therapy)
Ms. Kelly Klubert (Public Relations)
Dr. Alison Kreger (Physical Therapy/IRB Chair)
Dr. Darrin McGinnis (Philosophy)
Dr. Julie Osland (Psychology, Haig Coordinator)
Dr. Bryan Raudenbush (Psychology, Committee Chair)
Ms. Brittany Rife (Information Technology Services)
Ms. Sabrina Soriano (Student Representative)
Ms. Georgia Tambasis (Fine Arts, Fine Arts Gallery Coordinator)
Ms. Karen Taylor (Academic Resource Center)