

Academic Showcase Day 2019 Abstracts

Experiential Presentations

The Essence of Ireland: What It Means to be Irish

Emily Herbek, Dr. Kittie Grace

What happens when your history restricts you and your stereotypes define you? Welcome to the problem of individuals living in 21st century Ireland. While not always easily seen, Ireland is a broken country with a harsh past. Through years of famines, wars, invasions, and immigration, they have been forced to conform to the cultures of those more powerful than themselves. Much of what was authentically Irish has vanished due to a nation that was forced to hide their identity.

The Essence of Ireland: What It Means to Be Irish acknowledges the lost identity of the Irish. However, this research delves beyond the appearance of the culture to uncover the characteristics that lie underneath the surface. Over the month of October, I was submerged into the Irish culture. By compiling data from interviews, interactions, and observations, I arrived at my own analysis on the true identity of the Irish.

John F. Kennedy and Galway

Rachel Schmalz, Dr. Babcock

The importance of John Fitzgerald Kennedy's 1963 visit to the Ireland that long been established. As President Kennedy proclaimed in his speech before the Irish Parliament: "And so it is that our two nations, divided by distance, have been united by history". This project proposes to study the importance of Kennedy's 1963 Ireland visit to Galway in three ways- first, to study the lingering memory of Kennedy's visit by researching and conducting interviews, and second, to visit a few enduring monuments that encompass John F. Kennedy. Such an approach should lead to a discussion of Kennedy's visit in Irish memory. But the project aims for a third, more ambitious study of Kennedy's impact. In the United States, Kennedy is credited with bringing a new generation to American politics. This project wonders whether Kennedy's visit- or the memory of it changed Galway.

Food and Quebec Culture

Anthony Frias, Dr. Amanda Solem

In every culture, there is a complex interplay between culture and food. The city of Quebec was originally founded by First Nations peoples and became the first real city in the colony of New France. However, not long after this established colony, Quebec was later taken by the British. Quebec is unique due to the combination of First Nations, British, and French cultures. Food is one of the most important features in Quebec culture and highlights what the residents of

Quebec love about their history and culture. Quebecois cuisine can provide outsiders a literal taste of the French separatist movement in Canada.

Great Day Gurus

Cole Fisher, Nicholas Dinan

We are striving to provide a sense of community by creating a workout program, called Great Day Gurus. This program is available for students to attend workout sessions in the Fleharty Arena weight room 1-6 times per week and receive personal coaching from Matti and Cole. Not only will students perform individual workouts created with their fitness goals in mind, but we will develop purposeful connections. Through these connections, we are focusing on the development of each student's strengths in order to help them become the best version of themselves. It is our hope that this connected community will cultivate itself across campus to serve all that are open to being served. We are committed to making this environment a healthy outlet for personal struggle and growth. We full-heartedly support vulnerability and believe that throughout our programs, we can assist students in finding their place not only at Hastings College, but in life. Ultimately, we strive to assist students in transferring the skills they have learned from this program and apply them to their lives as human beings. When students attend Great Day Guru sessions, they know without a doubt, that it's going to be a great day.

Environmentalism in Ireland and the United States

Jessica Trad, Dr. Babcock

During the Fall of 2018, I was able to spend a month in Ireland through the Irish Fellows Program. In my research, I compared and contrasted environmentalism in the United States and Ireland by analyzing policy, areas of concern, and education strategies. While the United States suffers from a lack of action, Ireland is facing a lack of information and education. However, there are organizations trying to fix this. I was able to attain an internship with Burrenbeo in Ireland, a non-profit organization that is working to increase education about the environment. The hands-on experience enhanced my research and overall understanding. In my presentation I will discuss my internship, the organization itself, and the key findings from my research.

Research Presentations I

“Victim” or “Survivor?”: Navigating Self-Concept in the Wake of Sexual Violence

Alli Kennon, Dr. Austin McDonald

Trauma, of any form, is usually relentless and lasts a lifetime. Due to a culture of shame, sexual violence trauma is often painful to name, discuss, or even speak aloud. To advocate for others, people with sexual violence trauma have gravitated towards two labels when describing themselves: victim or survivor. Prior research has shown that those who label themselves as “victim” tend to have a higher propensity towards post-traumatic stress, while those who label themselves as “survivor” tend to lean into more anger (Boyle & Warner, 2018). However, there is a significant gap in research on the reasoning behind these labels. Through qualitative surveys with women and non-binary individuals who have past sexual violence trauma, my research intends to understand the choice behind self-labeling when it comes to sexual violence. These findings suggest the need for people with sexual violence trauma to further internally examine the labels they have self-selected and whether or not they are helpful in healing. Essentially, this research allows us to come to a greater awareness of the progress that still needs to be done in regards to the field of sexual violence communication and talking with those who have been impacted directly.

The Connection between Career Politicians and Term Limits in State Legislatures

Marc Sisson, Dr. Amyot, Dr. Hilaiel

Term limits are currently utilized in 30% of total state legislatures. With a recent push for term limits to be enacted at the federal level for members of Congress, the effects and impacts of term limits on state legislatures requires further study. Term limits go after lengthy political tenure in order to increase the turnover rate, but are these the actual outcomes from incorporating them in state legislatures? This study analyzes data of 200 elected officials from 46 states on the effects legislative term limits have on the career paths of politicians and whether or not a state with term limits is ideal for ambitious politicians looking for political advancement. From this study the data was significant in that elected officials have more upward political transitions in states with term limits. In addition, elected officials from states without term limits have longer total tenure in the political field but have fewer transitions indicating less political advancement. Politicians with an end date in sight due to term limits are more likely to pursue a higher office, thus extending their political careers.

Tourism in the USA

Zane Eddy, Dr. Babcock

This is a product of my history senior seminar. My original research will be showcasing how railroads attracted customers to their railways via advertising vacation destinations along their rail routes. Also, I will be examining the techniques used to prevent the money of American tourists from going over to Europe.

Treating Biopsychosocial Aspects of Student Anxiety Disorders

Robin Pearson, Dr. Furrer

Anxiety disorders, especially generalized anxiety disorder, separation anxiety disorder, and social phobia, severely interfere with a student's ability to learn and may be frequently disruptive to a classroom environment. There is an interrelationship in the biological, psychological, and sociocultural causes of anxiety disorders. Abnormal brain chemistry can influence heightened anxiety thoughts and behaviors, and anxious situations can influence chemical reactions in the brain. Social pressures and cultural differences can create highly anxious situations that influence one's behavior and can influence chemical reactions in the brain. Given the interrelationship of these influential factors, treating anxiety disorders requires a comprehensive and informed diagnosis and a treatment plan that targets the biopsychosocial causes. The goal of this project is that school psychologists are in an ideal position to assist in the anxiety disorder diagnosis and the planning and execution of a treatment plan that targets biopsychosocial factors. These treatments also have the potential to improve the functioning of a student's family and classroom.

The European Union's Impact on Secession

Rebecca Riley, Dr. Sabina Hilaiel

Catalonia, a northern region within the State of Spain near the Iberian peninsula, has a long history of independence from the state beginning during 1150, when the Queen of the State gave her son rule over the region. The region declared official independence in the 1970's, but the higher court of Madrid declared in 2006, that the region could not be independent from the State of Spain. Since many scholars have agreed that the European Union has a great influence on State Sovereignty, how has the European Union impacted the recent proposal of Catalonia to succeed from the State of Spain? In addition, has Brexit had anything to do with the sudden interest of Catalonia's secession from the European Union? This project examines the actions of the European Union during the timeframe from when Catalonia proposed seceding from the state of Spain most recently, and will search for further impacts of the proposed secession, and further examine the impacts of the proposal.

The Sasquatch Discourse

Madeline Downie, Dr. Austin McDonald, Dr. Margaret Callahan

The Sasquatch Discourse is an ethnographic study of the people who believe in Bigfoot. Although it is such a stigmatized and talked about group, I felt the desire to understand exactly how and why people willingly participate in this deviant belief and community. Through participating in the Bigfoot Conference in Hastings in February, I studied what it is really like to be a "Bigfooter". I examined their values, the activities they participate in, and the way they communicate with one another and with outsiders. During the Bigfoot Conference, I handed out surveys and took observational notes. Outside of the Conference, I interviewed five believers to collect more in-depth answers about their belief. At the end of it all, I was able to surface seven themes about the Bigfoot believer culture: similarities in demographics, values, activities, defensiveness, inclusiveness, storytelling, and interacting with the outsider. However, my research doesn't end there. Beyond the paper, I've created a Humans of New York-style website where I showcase some of the believers and their quotes. Coupled with the research itself, this study gives a fly-on-the-wall view of what it is like to be one of the believers.

Anti-Discrimination Policy: The Symbolic Power of Words

Nathan Navratil, Dr. Furrer

Bullying isn't new within the public school systems. Different forms of discrimination can be seen targeted towards LGBT+ youths. There has been different approaches to reduce the problematic behavior of perpetrators. However, if the focus is shifted onto subdominant groups, like LGBT+ youth, there is hope for improvement. Research suggests symbolic policies that include specific protection of minority groups has a positive impact on the well being of said group. Woodford (2018) found inclusion of specific protected classes in policies decreased physical and mental violence and a reduced sense of stress of minority groups. Unfortunately, the Hastings Public School Board voted against the inclusion of decided gender and sexual orientation in their policy. I will analyze the individuals who spoke, or wrote, in favor of including the aforementioned words through the muted group theory perspective to determine if this group was a part of a muted group. I propose the Hastings Public School Board revisit the policy and think about the symbolic protection of including those words and how it transpires into physical protection.

Ghosts, Folklore, and Tradition, Japan's national education

Austin Heinlein, Dr. Robert Babcock

Historians understand that many so-called timeless traditions are in fact created. This is seen in Japanese history as well: Bushido, the Yokai, and Shinto traditions all were clearly defined and heavily integrated into society during the Meiji era, 1868-1912. The imposed contact of Japan to the outside world led to many conflicts and forced the Meiji government to act. Japanese reformers feared the overt presence of westernization and pushed for the creation of a National

education that blended western thought and traditional Japanese beliefs. The Meiji State pursued the integration of traditional folklore into National education, then, as a response to westernization, social changes, and resistance to modernization.

Using Oral Histories to Identify Diversity in a Community and Build Bridges across Cultures

Elizabeth Hansen, Dr. Jessica Henry

For this project I conducted an oral history interview with Sam and Ella Rathod, immigrants from India. My interview was part of a larger project titled the Faces of Hastings. Students from three different classes interviewed residents of Hastings to identify and celebrate the diversity in the community. Our interviews were then handed over to the Jterm publishing class to be included in a book highlighting the diverse people of Hastings. The graphic design class will also be using our interviews to create an exhibit at the Hastings Museum which opens in April. During my presentation, I would like to explain the process of conducting an oral history, as well as what I learned from Sam and Ella. I would also like to discuss how it can be beneficial to learn from each other, especially during this moment in history when so many people are divided. By being able to sit down and talk to our neighbors about their stories and their culture, we can bridge the barriers that divide people in a community.

Burnout in Young Adults: A Biopsychosocial Analysis

Celeste Borg, Mark Zajack

Everyone experiences burn out, especially in college. But what is burnout exactly, and how do we avoid it? There's more than just eating right and doing yoga; I use the biopsychosocial (BPS) model to thoroughly examine the phenomenon. I explore the biological impacts of stress, the psychological effects of work fatigue, and the sociocultural influences of mounting debt. Then I propose interventions for each of these aspects of burnout, and conclude with a framework to treat burnout. When we understand burnout, we can combat it.

525600 minutes to late?: An in-text analysis of 'RENT'

Jadah Morrison, Melissa Loney, Dr. Austin McDonald

In the western world, HIV and AIDS are no longer a 'death' sentence, considering 2019 the CDC reports 1 in 7 people with HIV do not know they are infected we much question a new type of crisis. As a result of medical intervention, there is no longer a group deemed the "average" virus carrier. Yet, film has been a common medium to explore the experiences of those affected by the virus. In this study, we conducted a close text analysis of scenes from both Rent and Rent Live produced by Fox. We specifically focus on the character of Mark. In the original Rent, Mark is portrayed as the character with the most privilege. He's white, cisgendered, and

straight man. While once white, Fox's reinterpretation portrays Mark as Black. The criticism of this modern Mark was overwhelming. We analyze mirroring scenes from the original cast and the Fox live cast--as well as critical reception of the productions. We then discuss the rhetorical and critical implications of this non-traditional casting choice and what it says about how our current cultural context grapples with HIV/AIDS.

Was America Ready for a Black President? Exploring the Impact of the Obama Presidency on the 2016 Election

Rachel Schmalz, Dr. Amyot

The 2008 and 2012 election saw America's first African American president take office and lead for eight years, and there is no question race mattered in those elections, and even had an impact in the 2016 presidential election. My research question is: Did the racial implications brought up by electing a black president lead to the election of President Donald Trump? In order to answer this question, the paper will (1) examine President Obama's election and time in office then (2) compare President Trump's election and time in office, to determine how much race is a factor in highest office in the land. There are four leading schools of thought on President Obama's impact on racial attitudes in America; change for the better, change for the worse, temporary change or no change at all. Looking at these school of thoughts along with further research the influence of President Obama's time in office can be studied.

Demonstrations and Performances

Boosting Up the Henry Doorly Zoo & Aquarium's Social Media

Dany Cook, Adam Maser

In analyzing one of the best zoo's in the country's media platforms, the lack of video content was clear in their social media presence. As an upcoming videographer aiming to thrive in marketing freelance work, and who has an obsession of wildlife animals, I produced, edited, and published two videos for the Omaha Henry Doorly Zoo & Aquarium for their Facebook and Twitter social media pages. Each video — one of a sea turtle and the other of a baby pygmy hippo — earned up to 22,000 views and hundreds of engagements, helping boost their social media presence and awareness. The behind-the-scene experience was one to remember and one I was able to showcase for their marketing team, and to the world.

The Meaning Behind the Mashups - The Process of Creating a One Act Musical

Carly Cremers, Timothy Ellis, Dr. Annette Vargas

Timothy Ellis and Carly Cremers have worked for the past six months to collaboratively arrange a musical called One Saved Message. The story was made up of mashups of modern pop songs such as “Call Me Maybe,” “Blank Space,” “Payphone,” and others. The show explores a couple’s relationship through a complex, yet realistic lens. The two conceived the story line, chose the music, arranged the musical numbers, and developed the additional musical score to create a cohesive musical production. Pulling from their experiences from their two different academic areas of theatre and music, the piece is an example of the intersectional collaboration meant to be achieved by a liberal arts education. This presentation will include performances of a few musical numbers and a discussion of their creative process.

Excellence on Display: Poster Presentations and Information Tables

Probiotic E. coli as Contamination Control Surrogates for Pathogenic E. coli

Sarah Johnson, Dr. Amy Morris

E. coli surrogates currently used to measure E. coli O157:H7 or Salmonella contamination control sometimes create unsanitary conditions. A potential solution would be to use pharmaceutical probiotic E. coli. This study characterized probiotic E. coli and compared them to E. coli O157:H7, Salmonella, and current surrogates. Most probable number (MPN) was used to measure and compare sensitivity of all strains to 2% lactic acid, 0.1% cetylpyridinium chloride, 50 ppm peroxyacetic acid. Log dilutions were used to measure sensitivity to 60°C hot water, as well as ability to bind to meat surfaces. Results showed that the probiotic surrogates behave similarly to the E. coli O157:H7, Salmonella, and accepted surrogates. Their use to measure contamination controls, even late in processing, will be safe and not a cause for alarm if they carry over into finished products.

College Students Nutrition

Bryce Byrn, Jaden Ostrander, Nick Dinan

The goal of this project is to address and inform the college population on nutrient deficiencies. Although food can be very beneficial, a supplement could enhance nutrition in the body. Many students may not have the time or resources to make a full course meal every night to meet their dietary needs, this may be where supplementation is necessary. Therefore, the overall outcome of this research is to educate college students on practical and healthy recommendations. This will be achieved through collecting data and tailoring it towards a more nutrient dense lifestyle.

Make It or Break It: Habits

Avery Sears, Nick Dinan

This research is interested in ways to help people form healthy habits and break bad habits in regards to health and wellness. Habits are an important part of lives because they are automatic and instinctive daily behaviors and actions, often due to unconscious decisions. The American habit of eating too much and moving too little has a negative impact on health, increasing the risk of chronic diseases in lives. By changing daily habits, the cycle can be reversed. This research has come from scholarly articles as well as working with groups of individuals to understand decision making and feelings about developing or increasing healthy habits and breaking bad ones. The goal of this presentation is to get the audience to take a step back and

reflect on their daily habits. The plan is to give them tools to use to help to form and break habits, as well as understand how to consciously make the decisions that develop their habits.

Pain Pills Kill

Nicole Mundy, Kelbie Lyon, Nick Dinan

The purpose of this research is to learn and educate others about why the general population should not rely on pain medication. As students going into healthcare professions, it is important to promote symptom management and recovery through more natural causes and not medicine or supplements. The focus will be on the athletic population and how over-the-counter pain medication affects an athlete's body and performance. Emphasis will also be put on the general population and address epidemics such as overdosing on opioids.

A sample size of six interviews with different medical doctors, pharmacists, addiction counselors and rehab patients here in Nebraska, Oklahoma and Missouri have been contacted and will be used as references for this study. It has been approved to visit these professionals who work one-on-one with individuals who struggle with these problems. This goal is to sit in on different sessions to observe and interview the corresponding doctors and patients. This research will inform others about the effects of pain medication which will ultimately lead to a possible solution.

Obesity in the Alaska Native population

Nolan Wandersee, Professor Nicholas Dinan

This research project will bring awareness to the alarmingly high rates of obesity that are continually rising within the Alaska Native Population. Additionally, it will examine the various causes of obesity, including but not limited to, lifestyle choices, inability to properly metabolize highly processed foods, and a biological advantage to withhold adipose tissue. Various forms of data collection and research methods will be utilized on this project. One form will include governmental research that shows the obesity rates and issues relating to that of Alaska Natives. Secondly, peer reviewed articles that contain information about this issue will be included. Third, interviews will be conducted with doctors, nutritionists, and exercise consultants that all work for Alaska Native hospitals. If possible, a consultation with a geneticist regarding possible genetic predispositions for withholding adipose tissue in the Alaska Native population.

Through various interviews with health experts, findings from government research and peer reviewed articles, this project will raise awareness surrounding obesity in Alaska Natives. This research will present the possible causes for the high rates of obesity and provide possible solutions to combat this issue.

From the Heartland to the Emerald Isle: Human Trafficking in the Modern World

Mandi Hawthorne, Dr. Laura Logan

Ireland and Nebraska both identify human trafficking as a problem. I will be researching trafficking patterns, such as victim identity and purpose of trafficking, and the organizations in Ireland and Nebraska that address human trafficking. I will compare the organizations in Ireland and Nebraska by looking at how they promote awareness among the general public and among vulnerable populations, and what services are offered and how those services are delivered. I will be looking specifically at government agencies and non-government organizations.

Utility of Neutrophil-To-Lymphocyte Ratio as a Predictor for Low Bone Density

Sophia Pankratz

Osteoporosis, a debilitating bone disease that causes bones to lose density is a major health problem that is burdening the U.S. healthcare system. Recent studies have shown inflammatory markers such as neutrophil-to-lymphocyte ratio (NLR) to be a useful tool in identifying low bone density (Yilmaz, Uyfun et al. 2014) (Ozturk, Yesil et al. 2013). However, there is a lack of research on how NLR correlates to bone scores specifically in post-menopausal women. This is a cross-sectional study using data collected from Heartland Osteoporosis Prevention Study (HOPS). Subjects include women within their first 5 years of post-menopause with osteopenia (T-scores from -1.0 to -2.5). Results show that NLR has no correlation between trabecular bone score (TBS) ($r=-0.057$) or bone mineral density (BMD) ($r=-0.021$). Age, however, shows a slight positive correlation with NLR ($r=0.119$). From this data, we conclude that NLR should not be an independent variable to screen for osteopenia in women within 5 years of post-menopause due to the lack of correlation between NLR and bone scores.

Alignment of teacher knowledge and teacher practices in active-learning biology classrooms

Emily Grant, Dr. Morris

The outcomes students achieve in active-learning courses vary significantly. The knowledge that a teacher uses is likely to influence the decisions they make about implementing active-learning strategies. This study sought to answer how teacher knowledge about creating opportunities for generative work aligns with instructional practices in large active-learning biology courses. Stimulated recall interviews elicited the teacher knowledge that 13 college biology instructors used as they planned, implemented, and reflected on active-learning in large courses. Participants were categorized as exhibiting minimal, basic, or well-developed knowledge. The Classroom Observation Protocol for Undergraduate STEM provided a holistic view of each instructor's teaching. The Practical Observation Rubric to Assess Active Learning

provided a fine-grained look at elements of active-learning instruction related to logic development and student's getting practice in class. Notably, all instructors exhibiting a student-centered instructional style had well-developed knowledge, but not all instructors with well-developed knowledge exhibited student-centered strategies. This pilot study indicates that a larger-scale study is warranted because our data suggest a relationship between knowledge about creating opportunities for generative work and enacting active-learning instruction.

How does one Avida mutation affect another?

Jada Daiss, Dr. Amanda Solem

This project explores Avida-program based mutations, and their affects on each other. Avidians are computer organisms that can evolve in real time, and can be customized to test hypotheses. Avidians can acquire functions that allow them to use resources that can be made available in their environment. Some of these functions are easy to acquire, while others are very difficult to acquire. Here we will examine whether the presence of a function that is easy to acquire changes the time that it takes to acquire a moderately difficult function. If these two functions are completely independent, one should have no effect on the other. However, if the moderate function is actually a combination of easy functions, one would expect that it would occur faster when an easy function is present.

Analysis of Honey for Heavy Metals Using AAS

Jenna Jaeger, Moses Dogbevia

I would like to do a poster presentation about my chemistry senior seminar research. As my research is not completed yet, I do not have a complete abstract. For my research I analyzed honey using atomic absorption spectroscopy. Honey is produced by bees from the nectar of plants, so any contaminants in the environment also contaminate the honey. My analysis looks at levels of iron, cadmium, mercury, and lead in honey, as those have impacts on human health. Additionally, local honey can be used as a bio-indicator of pollution in the area where the bees harvest nectar. For my research I compared both local and store brands of honey.

Metagenomics and Its Role in Bovine Respiratory Disease

Megan Kaiser, Dr. Amy Morris

Bovine Respiratory Disease Complex (BRDC) describes a variety of respiratory diseases that are multifactorial and can be manifested by the bovine species (Jelinski, Janzen, 2016). These diseases are a result of complex interactions among environmental factors, host factors, in addition to pathogens that can ultimately result in an abundance of cattle mortalities (Campbell, 2018). Furthermore, this realm of diseases has an immense impact on the finances in the cattle industry, causing losses to exceed \$2-3 billion each year, which is why BRDC research has increased over the past five years in the agricultural industry. Although the physiological symptoms of BRDC have been pinpointed, no research has proven what microorganisms are to

blame for these diseases, nor has any research ever pointed to a better, more financially secure tactic of treating bovine for BRDC. Throughout this study, we aimed to better understand the microorganisms present throughout BRDC and how the industry could better target these bacteria for more effective, less costly treatments. Metagenomics, or the direct analysis of genomes contained within an environmental sample, is the key process that we will be performing throughout our experimentation. We will also utilize various DNA extraction methods, spectrometer technology, PCR protocol, and fragment analyzer tactics to better understand and isolate viral agents and bacterial complexes present in bovine respiratory diseases.

Roommate Disclosure

Dany Cook, Marc Sisson, Dr. Austin McDonald

What are the underlying factors that cause first-year roommates to be incompatible? Does the first-year roommate experience cause students to choose a different roommate or living situation for their second-year in college? Communication between partners in different types of relationships has created several communicative theories in what can make these relationships successful or lead to their demise. Self-disclosure and the amount of communication can change over time and can depend on a variety of factors that come into play for first-year students. Can spending too much time together break up a roommate relationship? Is opening up about one's personal life a month into a friendship too soon? We aim to find the answer to these questions in what makes or breaks a roommate relationship. This study is conducted through the use of surveys asking upperclassmen to reflect upon their first-year experiences and how it affected their decisions going into their second-year. We hypothesize that too many similar interests and activities will lead to dissatisfied roommates and that polar opposites will lead to negative results.

The Efficacy of Cupping Therapy and Voodoo Floss on Post-Activity Recovery

Austin Nelson, Nate Miller, Nicholas Dinan

This presentation explores benefits of inexpensive, alternative recovery treatments that are available to college students and athletes. The two methods decided upon to explore were Cupping Therapy and Voodoo Floss. Cupping Therapy, an ancient form of alternative medicine, achieves the results through suction for a short duration. Voodoo Floss, a relatively modern technique, achieve results through compression for about the same amount of time. Both result in an increase of blood flow to the afflicted area, which results in a shortened recovery time. In order to achieve accurate testing, subjects were exposed to one or both treatments, as well as a control group with no treatment. Testing includes 18-24 subjects split into three groups, a control, floss, and a cupping group. Recovery will be measured through a questionnaire given pre-activity, post-activity, and post-designated recovery. Feedback will be analyzed with a one way ANOVA for each questionnaire. Expected results for the first two questionnaires will most likely be similar throughout all subjects, but the last questionnaire is expected to give the greatest variance in results.

Efficacy of Various Resting Metabolic Rate Tests to Determine Nutritional Recommendations

Casey Krolikowski, Nick Dinan

In order for an athlete to reach any strength, aesthetic, or performance goal, they will need to follow proper nutritional strategies. The first step in this process should include calculating an individual's resting metabolic rate and their maintenance calories. These are crucial when determining an athlete's nutritional and caloric needs because establishing an accurate energy expenditure baseline will provide the athletes with the knowledge needed to structure their diet to support both their energy and recovery needs. These measurements will be obtained with the gold standard measurement of a metabolic cart, instead of commercially available resources that tend to grossly overestimate metabolic rate. This study will compare and contrast the gold standard measurement to different methods and equations commonly used to estimate an individual's caloric needs. With the data collected from this study, further investigation can be conducted on how to apply the findings in a sport setting and will lay the groundwork for other sport teams to test their athletes and implement nutritional strategies to help enhance performance.

Exploring The Impacts Of an Open Door Policy at Intercollegiate Forensics (Individual Events) Tournaments

Samantha Burke, Austin McDonald

An open door policy within forensics is a statement made at the beginning of a round that informs competitors, judges, and observers that they have permission to get up and leave the round at any time, without being penalized for leaving. The goal of the policy is to encourage a culture of self-care, a survey of seventy-one (71) respondents (hired judges, coaches, competitors, and tournament staff) revealed that 40% of respondents in the past had felt the need to leave a round during a tournament in order to practice self-care. Primarily if a performance had placed the participant in an unsafe mental space. Furthermore, there was a statistically significant increase in the confidence level of participants in the comfort they felt in leaving a round if need be after the policy was read. This policy helps to promote a climate of encouraging and normalizing self-care and boundaries within intercollegiate forensics.

Research Presentations II

Black Holes. Blazars. Battlestar Galactica.

Lyndsay Ruane, Dr. Steven Bever

When describing the night sky, most people would mention the stars and the moon. Perhaps, they may mention seeing planets or comets, but if one is particularly educated in astronomy, they know that the bright spots in the sky are composed of many more celestial objects than just stars. What may appear to be a single tiny speck, may actually be an enormous galaxy composed of billions of stars, blending together into one spot due to the extreme distance between the galaxy and our Earth. At the center of many of these galaxies lie one or more regions called black holes — a region of spacetime with such a high gravitational pull that nothing can escape, not even light. Black holes are known to live near the center of vast galaxies, often orbited by millions of stars drawn to the strong gravitational force. The research performed in this study focused on a specific subclass of such black hole galaxies: a blazar. More specifically, it concentrated on photometric analysis of multiple BL Lacertae objects.

Effective Organizational Change Implementation

Walker Hermann, Dr. Travis Feezell & Dr. Stephanie Furrer

Change is often a necessity for an organization to adapt and adjust to new technologies, competing businesses, and ever-changing society. Consequently, such organizational innovations can be one of the most stressful experiences within a workplace, potentially negatively impacting employees' well-being. With the large structural and curricular changes being implemented with Hastings 2.0 in Fall of 2019, Hastings College leadership is concerned with the most effective implementation of said changes to reduce potential psychological consequences on students, faculty, and staff. In this presentation, based on work completed for a research assistantship sourced by President Feezell, I will summarize my findings regarding the best evidence-based practices for approaching organizational change, particularly with respect to individual perspective and readiness.

Personal Life and its Influence in Art, How my Work Responds to Narrative

Jordan Ismaiel, Sarah Swist

My art practice examines the use of autobiographical narrative as primary concept which is displayed through vehicles of text and sound recording that play on familiar slogans and phrases. These vehicles are motifs through the use of personal and impersonal dialogue that confront the viewer, being almost required to read or hear.

I pose the characteristics of my experience by intimate storytelling through color, light, shape, symbols, and phonic sensory which become almost anecdotal and campy. These qualities take shape by the applications of painting, written poetic verse, and audio compilation.

This narration takes on a personal form that addresses themes of love and longing, home, family life, and future uncertainty. The execution of these themes through my work merges and coexists the qualities between visual art and written art.

My artistic research is ongoing and constantly subject to change because it is a response to my life which is in constant change; but continues to literate an accessibility to my experiences.

Shrinking, Unsafe Spaces: the Endangered Lives of Women Journalists

Carly Spotts-Falzone, Alli Kennon, Dr. Kittie Grace

For many years, women journalists made history by creating an equal space in the newsroom through their groundbreaking journalism. Now, women journalists continue to make strides. However, despite this progress, 2017 was deemed the deadliest year for women journalists. Research shows "one in two women journalists have suffered sexual harassment, psychological abuse, online trolling and other forms of gender-based violence while working" (International Federation of Journalists, 2017). Through multi-generational statistical research of qualitative interviews with women journalists, expressed through a partner performance of poetry and prose, we attempt to adequately educate others of this ongoing violence women journalists face while advocating for additional spaces for women to be able to speak freely, safely, and passionately without fear of violence. (We can provide a video of the performance aspect of our research, if needed.)

"You Can't Pick Your Family": How Birth Order Affects Self-Concept

Greer Anderson, Dr. Austin McDonald

"You can choose your friends but you sho' can't choose your family." -Harper Lee, To Kill a Mockingbird.

In a world full of labels and choice, we can't choose our birth order. Despite being highly stereotyped, research on birth order's effect on self-concept and interpersonal communication is both outdated and fairly limited. Through a series of interviews over the course of the semester, I hope to find a link between birth order and how we perceive our communicative styles. This research will not only update current studies through a phenomenological lens, but hopefully allow people to be more intentional in their daily interpersonal relations and treat people of differing birth orders with the unique respect each experience deserves.

Challenging the Patriarchal Landscape of Christianity: Moving Towards an Inclusive, Spiritual Environment through Language and Imagery

Andie Paschal, Dr. Robert Kettlitz

The norms binding us to the unspoken rules regarding societal expectations for men and women continue to reinforce the rigid, gender binary. However, as we begin to recognize the fluidity of gender, it is important to recognize how religious institutions continue to perpetuate gender norms through their use of male-oriented language and symbols. While religious institutions have previously excluded women, progressive faith leaders are actively challenging

the deep-rooted, patriarchal undertones present in Christianity. Using qualitative methods, I conducted several interviews with open-minded faith leaders from various Christian denominations in the Midwest and Southwest regions of the United States in order to examine how they navigate gender equality and inclusivity in the course of their spiritual work. This qualitative analysis shows that progressive faith leaders advance gender equality through use of biblical scripture to justify their views, through use of gender-neutral language, and by elevating the various leadership roles women have in their congregations. These findings shed light on how progressive faith leaders create inclusive environments for marginalized groups by challenging the traditional, religious landscape.

IceCube South Pole Neutrino Observatory Flasher Documentation

Joe Jahn, Dr. Steven Bever

Neutrinos are the lightest particles in the universe that have mass. IceCube, the world's largest neutrino detector, is composed of thousands of light detectors drilled deep into the ice beneath the south pole. These light detectors sense Cherenkov radiation that is produced by particles traveling faster than the local speed of light. These particles arise due to high energy neutrino interactions. With this information, it is possible to reconstruct the path of the neutrino and determine some of its characteristics. Each of the detectors included LEDs that could be flashed on command. These LEDs were used to calibrate and test the detector. The data files were previously stored and documented consistently for use by the collaboration. However, when IceCube updated its data warehouse, many files were processed and stored inconsistently resulting in a loss of data. I wrote a program to efficiently sift through terabytes of data to recover and properly document 94733 flasher events. The program also notated which events were not recoverable. The recovered data is now available for use by the collaboration.