

The Senior Project Experience

Class of 2014



Bethany College
Bethany, West Virginia

Hayley Acree

New Martinsville, W.Va.

Major: Elementary Education

Minor: Mathematics

Student Teaching Placement

My senior project took place at an elementary school in Brooke County, WV from the end of January to the beginning of March. I documented student achievement based on a spelling intervention. The spelling intervention strayed away from traditional spelling strategies and techniques. I incorporated engaging, interactive teaching strategies and activities to improve students scores from the pretest to the post-test. The intervention showed results of improved student achievement.

Michael Ainsworth

Monroeville, Pa.

Major: Sports Media and Information

What are the Perceptions of Bethany College Football Players on NFL Players Use of Twitter

This study examined the content and views on how Bethany College football players perceive NFL players based off of their use of Twitter. A nonrandom convenience sample was conducted using quantitative research by creating a survey using SurveyMonkey.com to 50 Bethany College football players from the ages of 17-25 years old, and the academic standings of freshmen-seniors. An analysis of the data collected appears to indicate that Bethany College football players feel as though Twitter affects an NFL player's image. These results were revealed by the data collected off of SurveyMonkey.com.

Michael Albert

Point, W.Va.

Major: Religious Studies

American Buddhism: Social Engagement, Religious Dialogue, and Gender Issues

This project explores the integration of Buddhism into American culture and focuses on the issues of social engagement, religious dialogue, and gender issues.

Brenna Anderson

Oakmont, PA

Major: Elementary Education

Minor: Special Education

Vocabulary Instruction

This study is designed to determine the effects of using a multiple intelligences approach to learning vocabulary in the Social Studies discipline. The study was conducted in a small rural school in the Northern panhandle of West Virginia. There were seventeen total students in the room, and the unit consisted of a pretest, five days of instruction, and a posttest. Data was collected using the pre and posttest scores to determine the effectiveness of the methods used. Methods were proven to be effective in 99.95% of classrooms.

Jacob Arbaugh

Staunton, Virginia

Major: Communications and Media Arts

Minor: Equine Studies

Public Relations and Marketing within the Bethany College Equine Studies Department

This project is an overview of how Public Relations and Marketing work in the Equine Industry, and how we can improve those skills in the Equine Department here at Bethany College with the information found. This study is quantitative and qualitative as the researcher gathered information from surveys and in depth interviews. The theory driving this study is Elaboration Likelihood Model. There are not that many schools who offer a degree in Equine Studies not to mention any smaller ones who can give students the personal one-on-one attention you get at Bethany College. The researcher found that the Equine Studies Department at Bethany College is not promoted to its full potential; this study lays out an improvement guideline to aid in the promotion of the department to potential students.

Jordan Ault

Jeannette, Pa.

Major: Accounting

Best Buy vs. RadioShack, Which is the better investment?

My senior project will determine whether Best Buy Company or RadioShack is the better and safer investment. Essential to determining the outcome, a look into the companies' history and background is needed to see where they were and how well they have developed over the many years of business. The history and background will provide a better look inside each company rather than just realizing they are still in business. Whenever doing an investment analysis, another important factor is seeing how innovative each company currently is and how their outcome for the future is looking. In order to help investors make an informed decision, I will be gathering other significant research and defining and calculating financial information, which consists of many different ratios. With these calculations of financial information and comparing each company side-by-side, it will help better determine which company is a better investment between Best Buy and RadioShack. The calculations will relate to three years of essential financial information from both companies which will consists of profitability, liquidity, and debt ratios. The three years being analyzed are 2010, 2011 and 2012. The analyzing process will consist of thorough examination of Balance Sheets, Income statements and Statements of Retained Earnings and Stockholders' Equity. After calculating the ratios, this information will allow for a better understanding of where each company stands and possible future standings which will help investors make a more informed decision. After extensive research and analysis it was determined that Best Buy is the better investment and the more safe investment as well.

Chelsea Benson

McMurray, Pa.

Major: Elementary Education

Minor: Special Education

Using Small Group Instruction and Center-Based Learning to Achieve Improvement in Kindergarten Students' First Name Writing Skills

This study focused on small group instruction and the implementation of center-based learning activities to improve 22 kindergarten students' abilities to write their first names. After observing the group of students

during their first few days of school, it was found that the majority of the students could not accurately write their first names, while some students could not write their first names at all. In response, West Virginia Next Generation Content Standards and Objectives were used to create a first name writing unit, which contained lessons created to fulfill these standards. The overall goal of the unit was to improve the students' first name writing skills by the conclusion of instruction. Students were first initially assessed on their ability to write their first names; then, the instruction of the created lessons was implemented. Instruction was delivered through small groups, and center-based activities were created to practice and develop skills. To suit each individual student's needs, differentiated instructional strategies were used to ensure that students were learning in a manner best suited for their individual abilities. After instruction, the students were once again assessed to determine how much progress was made. All 22 students demonstrated positive improvement from their initial assessment to their final assessment of their first name writing skills.

Melinda Bierhals

Cabot, Pa.

Major: Mathematics

Minor: Education

Personalities in Mathematics

Teachers are always looking for effective ways to reach their students so that they can become better learners. An interesting thought that deserves some looking into is the idea of a mathematical personality. There have been studies done in various subjects to test personalities but there have not been enough studies done in just mathematics. A way to test personalities is by taking a personality test. The tests that will be looked at in this study are the Myers-Briggs Type Indicator and Real Colors. The research conducted in this study will show that there might be a connection between a student's personality and the type of grade they receive in a math class. Some questions to be considered are: Is there a type of personality that does better at math than others? And, does a person's personality affect their grades that they receive in math classes?

Zach Burton
Hurricane, W.Va.

Major: Accounting

Whether Ford Motors Co. or General Motors Co. is the Better Investment

The project I am working on will determine whether Ford Motors Co. or General Motors Co. is the better financial investment. Throughout the research I will be conducting, I will be able to determine the outcome by first looking in detail in each company's history and background. This is vital because I will be able to see where their success has been and what proper steps they have made in the past, in order to be successful in future years. After I have gathered a sufficient amount of background information for each company, I will then analyze critical financial information, as well as calculating financial ratios. This is very important because this is something that a potential investor can look at for each company side by side to compare, and help them make a decision on which company they would like to invest in. Categories for each company's ratios will be comprised of liquidity, profitability, debt, cash flow, and market. The information I will be using for each company to conduct these ratios will come from the financial information from the years 2010, 2011, and 2012. Along with all of the financial information and the calculations of the ratios I will conduct, I will also provide each company's stock information for the year 2013, and for part of the 2014 year. This will add more important information and details that possible investors will be able to relate to because they are will be familiar with what the stock analysis stands for, and will further inform them on which company to invest in. Finally, when the ratios and all financial information is analyzed, a decision will be able to be made on which company is the better investment. The outcome of all this information that has been analyzed is that General Motors Co. is the better financial investment.

Halee Cramer
Dunkirk, Maryland

Major: Physical Science

Minor: Mathematics

Silver Nanoparticles and their Effect on Surface-Enhanced Raman Spectroscopy

This experiment was undertaken with the pretense of gaining further knowledge of how silver nanoparticles affected Surface-Enhanced Raman Spectroscopy and the physics involved in the process. To do this, silver nanoparticles were created through the method of titration of Silver Nitrate with Sodium Borohydride and then used to test UV/Vis Spectroscopy and SERS. The UV/Vis test would theoretically acknowledge the presence of silver nanoparticles by yielding a spectrum that peaked at 400nm. To the eye, this would be the image of the color yellow, which is what the AgNP solution should appear as. If nanoparticles are in fact present they should positively enhance the Raman Spectra. However unsuccessful creating the nanoparticles; the resulting imperfect solution of nanoparticles was still used to carry out the UV/Vis and SERS. The results showed the 2:1 chemical ratio between sodium borohydride and silver nitrate was inadequate and that the solutions had aggregated with time.

Cam Cooper
Hurricane, W.Va.

Major: Financial Economics

The Economic Sense Behind Compensating Student-Athletes

During recent years there has been an ongoing debate of whether or not the NCAA should begin compensating its student-athletes. Since the student-athletes are directly responsible for generating the revenues of the NCAA, shouldn't they be allowed to get a piece of the cut? My paper takes a look at the main revenue generating sports in the NCAA, Division I football and men's basketball, and determines how much the "star" players within these two sports are worth. There are many past studies which claim that the NCAA uses its cartel and monopsonistic power to exploit these student-athletes from obtaining their true free-market value. By collecting and analyzing recent data from the NCAA, I was able to conclude that the "star" athletes of these two sports generate \$1,144,076.79 each year while the "full scholarships" they receive are only worth between \$30,000 and \$40,000.

Alexander DelGiorno

Wadsworth, Ohio

Major: Chemistry

Protein Concentration in Muscle Tissue after Various pH and Temperature Exposure

Muscle proteins are known to be found in up to 40% of an adult human's body and are made of a series of amino acids formed in a polypeptide chain. This chain can be altered by external chemical exposure or an increase in temperature through a process called denaturation. Chicken and pork samples were heated at 60°C, 80°C, and 100°C in water with the 0°C sample used as the positive control. They are then exposed shortly after boiling to solutions with pH values of 4, 7, and 10. Using ultraviolet visible spectroscopy (UV/Vis), absorbance was measured and concentration was calculated using Beer's law. The concentrations were statistically compared between temperatures and then between pH to test the hypothesis that protein concentration decreased as temperature increased. Additionally, the analysis was performed to determine the effects on protein concentration from the three different pH values. Using UV/Vis, the calculated concentrations provided a $p > 0.05$ for both pH and temperature differences which indicates that there is no significant difference between protein concentrations for all variables of pH used and the four temperatures that each sample were heated. Additional methodology could be utilized to identify enzymatic activity within proteins to determine denaturation after boiling and pH exposure.

Arielle Elsass

Canton, Ohio

Major: Sports Management

Gender Equity on ESPN

The purpose of this research is to analyze ESPN's SportsCenter, to determine whether male athletics (both individually and team-oriented) are covered significantly more than female athletics (both individually and team-oriented). Entertainment Sports Programming Network Inc. (ESPN) is a sports network committed to serving sports fans worldwide. Data will be collected from ESPN during the Olympic Games and after the Olympic Games. Also, data will be collected from The National Broadcasting Company (NBC). ESPN's SportsCenter will be analyzed within their network, across networks with NBC, and in respect to the

Olympic Games. This study will use both qualitative content analysis and statistical data analysis.

The three hypotheses created for this research are:

1. There will be a significant difference between the numbers of male athletics shown within ESPN highlights compared to female athletics
2. ESPN's SportsCenter will depict more female athletics during the time of the Olympic Games; however, male athletics will still be the dominant coverage
3. ESPN's SportsCenter will depict less women during the Olympics in comparison to NBC.

All three hypotheses were tested and proven true. ESPN's SportsCenter during the time of the study showed significantly more males than females.

Jacob Fischer

Huntington, W.Va.

Major: Chemistry and Mathematics

Synthesis of Polyaniline Nanofibers for use in Determining Rate of Carbon Dioxide Emission in Carbonated Beverages

Conducting polymers have been a material of extensive investigation in recent years, and one of their main uses is as a sensor of an analyte in solution. The conducting polymers were synthesized via interfacial polymerization. The product of the polymerization was then analyzed using Fourier Transform Infrared (FTIR) Spectroscopy and compared to the known spectra of emeraldine salt of polyaniline. The polymer was then drop-cast onto a microscope slide between two pieces of copper foil, and allowed to dry to form the sensor. When exposed to an acid or base, the polymer sensor exhibits a change in resistance. This property was utilized to monitor the release of carbon dioxide (CO₂) from carbonated beverages. Carbon dioxide converts to carbonic acid when exposed to water which would then exhibit a resistance change on the polymer sensor. It was found that CO₂ escapes from the beverage at a logarithmic rate, which is confirmed by the reaction's theoretical kinetics.

Peter Franklin

Allison Park, Pa.

Major: Accounting

Facebook and LinkedIn: What is the Better Investment

This project will discuss and test for which company is a better investment between two social media companies, Facebook and LinkedIn. Long term investment gains were the goal of the study. The history of both companies was presented to help set the stage and give the reader an understanding of the companies beginning as well as their products. Following the company history, the paper delves into the methods and comparisons that will take place. The basis of the comparison is off of financial ratios as well as researchers analysis. Financial ratios are very important to consider whenever looking to invest in a company. There are many ratios completed on three years of the companies, 2011, 2012, and 2013. The classifications of ratios examined in the paper are liquidity, profitability, debt, and investment valuations. Definitions of each ratio are given prior to the analyzing of each ratio respectively. The research into the future of each company is also taken into account. All of this information was crucial in the consideration for the better investment. Following the presentation of all of this information it was decided that Facebook was a better investment for a long-term return.

James Gifford

Parkersburg, W.Va.

Major: Environmental Science

Minor: Botany

Conductivity Prior to and Before Hydraulic Fracturing at Bethany College

Hydraulic fracturing (fracking) is a natural gas and oil drilling technique that involves more than a million gallons of water, chemicals, and sand being pumped underground at extreme high pressures. This process can have a wide impact on water quality, public health, and the environment. The objective during this research was to find if any pollutants would show up in the water system after fracking. I measured conductivity of headwater streams that emerge just below the well pad, before and after fracking. By doing so, this will show if there was any spikes in compounds in the water. After data was collected, T-tests were run to find the mean and standard deviation of the before and after drilling measurements. Overall there were no significant raises in conductivity

readings such as at the Parkinson's Run Bridge test site, the mean of the readings was 567 μS before drilling, and 568 μS after ($P=0.469$). This shows that the well that was being tested has not failed yet.

Maria Giles

Follansbee, W.Va.

Major: Chemistry

Minor: Equine Studies

Effect of Whole Body Vibration on Stride Length

Stride length is a determining factor in the quality of ride in a horse; a longer stride length creates a more comfortable ride than a shorter stride length. Stride length measures the distance traveled in one stride which is the movement of one foot striking the ground, lifting, and striking the ground again as a horse is walking. The stride length of a horse can be increased through an increase of muscle mass because a horse will be able to more easily move its legs. Claims have been made that whole body vibration increases muscle mass which should, in turn, increase stride length. This project studied the effects of whole body vibration on the stride length of four horses.

The whole body vibration equipment used in this study uses active proprietary vortex wave technology and is known as TheraPlate. Each horse was treated on the TheraPlate two times per day for five days then once per day for another five days for a total of fifteen treatments within ten days. The stride length of each horse was determined before and after each treatment for comparison. This study found that after only one treatment on TheraPlate, the stride length for all horses increased. For three of the horses, the increase after the first treatment was 0.2 feet. The greatest increase in stride length by the end of the study was 0.7 feet, and the smallest increase was 0.25 feet. Treatment on TheraPlate was proved to increase the stride length of all four horses in this study.

Benjamin Gregg

Eighty Four, Pa.

Major: Accounting

Which is a better future investment Microsoft v.s. Sony Corporation

For my senior project I will be looking into and determining which is a better and more efficient company to invest in, Sony or Microsoft? The goals and purpose of this study is to simply analyze the two companies

as far as their statements of cash flows, historical cost, and how they are projected to do in the future financially using various amounts of data such stocks and potential investors. All while looking at what company overall gets a better return on the investment that is being made. The scope of the study as far as what will be included in this experiment will be things such as financial records like balance sheets, income statements, statement of cash flows for the years 2011,2012,2013 and various financial ratios that will be 1calculated to show just how successful each company is and what company over succeeds the other. When using a method of study, I will be using reliable sources to gather and obtain my information. I will be using their own websites to obtain information, the Bethany College library and its website, Standard & Poor website which consist of majority of anything that you can find on the New York Stock Exchange. This is where I will be gathering some of my ratios from, as well as searching business magazines like the Wall Street Journal and the NY Times which will greatly help finalize my paper. I will be searching their ratios as stated using various amounts with their respectable sources that they came from. I will be conducting and using simulations such as experiments that consist of products that students like in real situations in school and looking for any outside people that do not attend Bethany College to determine what they may like as a non-student. With this experiment comes another step that will consist in my project for example surveying the student population in a random survey just so it is unbiased and fair for what I am looking for. An example of this would be looking at different groups of students that vary in college. Such as not just student athletes and not just people that live in sorority and fraternity houses. The survey will consist of multiple students and with this their conclusion as far as what company do they prefer and if they own any of their items and how used. If surveys are not permitted in my survey I will be looking forward to focusing on personal interviews with students for the analysis of Microsoft and Sony Corporation. This would include asking basic questions about products from each company and their future outlook. Looking at the history and background I want to look at the items that these two companies have put out and discussing my personal experience with each of them. Also I will be using relevant background readings as far as what is put onto their website and journals. I would like to see how each of these companies do in the future particularly looking at some of the new items they have coming out on sale. Some possible problems with this topic is that since these are two very popular companies it is easy to get side tracked with it and also easy focus on one topic rather than looking

at the two companies as a whole. Some possible back up topics was comparing gas-well industries, phone companies like Droid vs. I phone.

Matthew Grimard

Lowell, Mass.

Major: Social Work

Agency Preperation for Problematic Youth

Behavioral Health Agencies around the United States face the complex problem of problematic youth. This study uses a survey research design method in order to provide the agency with an estimated number of children that are being positively affected by the interventions received. The agency's individual programs are intended to have intervention methods in place in order to reduce the child's Child and Adolescent Functional Assessment Scale (CAFAS) score below a 100. An initial CAFAS is completed upon intake for every child, and the researcher compared the initial CAFAS score to the CAFAS score of the child upon completion of the program. The survey design allowed the researcher to compare the two scores and record the data accurately. This study contains a sample of twelve participants, two from each of the agency's programs. According to the findings, about 75% of the participants improved their CAFAS scores to under a 100. The results show that the interventions being applied in the different programs are successful. Implications for practice and future research are also discussed.

Heather Hamm

Milton, Vt.

Major: Interdisciplinary Studies: Psychology and Special Education

Effects of Speech Therapy Intervention

Speech therapy sessions were examined in two different schools to determine the importance of the intervention techniques. One student with an articulation disorder and one student with autism were observed during two two-month intervals. Sessions employing evidence-based practice were more efficient. Duration and frequency of session, technique of the intervention presentation, skills focused on during the session, and reinforcement type/frequency contributed to effective intervention sessions. Individualized instruction with the intervention tailored to the student was crucial for optimal success. Together, these findings suggest that individualized instruction, frequent speech sessions, and reinforcement

are essential factors in improving speech for students in speech therapy. Further information and studies exclusively focused on either articulation disorders or autism would be beneficial to the area of research.

Margaret Helme

Medford, Mass.

Major: English Literature

Minor: Religious Studies

The Ancient and Most Noble House of Black: Harry Potter and the Question of Life

Anthropomorphism is a staple of the fantasy genre, with human traits often being assigned to animals, objects, and even setting. Bestselling juvenile fantasy author J.K. Rowling makes heavy use of this device in her Harry Potter series. This paper examines the characteristics of the house at Number Twelve Grimmauld Place and attempts to determine whether these could indicate sentience. The members of the Order of the Phoenix fight a war with Number Twelve and the house fights back, recruiting the house-elf Kreacher and many dangerous Dark objects as its soldiers. Special attention is paid to the manipulation of characters' emotional tensions while they reside at Number Twelve, an ability which is shared by Voldemort's Horcruxes.

Alexander Henry

Austintown, Ohio

Major: Political Science

The cause of the end of the Cold War: Policies and actions of the western world or Soviet Union's own demise?

The Cold War was a decisive time in the foreign policy history of the United States. The Cold War spanned over many years starting in 1947 and ending in 1991. The prime countries involved in the Cold War were the western civilizations of United States, and close ally Great Britain. Opposite to the western civilizations was the eastern power, Union of Soviet Socialist Republics (USSR). Although the war was not a direct military confrontation, it directed United States foreign policy for years to come. The end of the war was seen as a major victory for the western world and the leaders at the time were praised greatly. The focus of this senior project is to find who and what the real reason was for the end of the Cold War. To find the answer to these questions scholarly sources were reviewed in finding a conclusion to this topic.

Kelly M. Hess

Eighty-Four, Pa.

Major: Communications and Media Arts

Minor: Visual Arts

Best Practices in Interviewing Using Social Media Systems

The purpose of this study is to evaluate whether Bethany College seniors are becoming more aware of Social Media and its reputation related to job interviews. The theory driving the study is Social Penetration Theory. This is qualitative research; specifically, a focus group. The focus group consisted of six to eight people; the majority were college seniors between the ages of 18-30 years old. There were three research questions. The first one: How social media affects an individual when applying for a job? The second, How does a person's Social Media usage affect them when applying for a job? Finally, What are the best practices related to Social Media? The researcher hoped to discover if this would have an impact on the lives of the participants in this focus group, and make them more open to social media? Overall, the researcher found the research subjects minimally are aware that employers are increasingly viewing applicant's social media sites as a part of the interviewing process.

Meredith L. Holl

Mogadore, Ohio

Major: Physical Education & Sports Studies - Sports Management

Alcohol and College Athletes

This study demonstrates that student-athletes face many additional challenges not associated to other students. They are expected to juggle a variety of responsibilities that often take up all the hours they are awake in a given day. This reality creates the potential for a very stressful environment. Similar to that of other students, they choose to "blow off steam" in a similar manner to other students, drinking alcohol. However, the limited amount of free time can be a direct contributor to their partaking in behaviors defined as binge drinking. Additionally, the "normal" behavior associated to college students such as consuming large quantities of alcohol has a much greater negative impact on student-athletes.

Nathan Irey
Wellsburg, W.Va.

Major: History

The Life and Times Of Baseball and America: 1912-1972

Baseball and America have mirrored each other and the reflection is shown in society. Both have gone through times of racism with the banning of African Americans from baseball, and the American belief of separate but equal ideology kept African Americans from being equal in the eyes of the majority of Americans. The fight to unionize the players took half of a century and it's similar to some of the battles fought by coal miners and factory workers to create a labor union. The use of radio and television brought both baseball and America's politicians into the living rooms of the American people. Whether it was the New York Yankees led by Babe Ruth and Lou Gehrig or the American people hearing President Franklin Roosevelt on the radio with his fireside chats, the coming of television in baseball led to more people watching the game than ever before. While in American politics, television influenced the Presidential race between Richard Nixon and John Kennedy in 1960. The move west after World War II, with the help of the transcontinental airlines impacted baseball greatly. The movement of the American people west also brought two historical franchises, the New York Giants and Brooklyn Dodgers, to California where baseball finally reached both coasts.

Morgan Jacobs
Hurricane, W.Va.

Major: Biochemistry

Lipid Isolation and Biodiesel Synthesis from Various Algal Species

In an effort to preserve the well-being of the Earth from harmful fossil fuels, researchers have found renewable and sustainable alternatives in the area of biofuels. Algal biodiesel has become a topic of interest in this area. Not only is algal biofuel environmentally friendly, it is easy to cultivate and has a high potential for biofuel production. To utilize algal biofuel to the utmost extent, different algal species were examined using gas chromatography-mass spectrometry (GC-MS) to determine which species contained the most fatty acid methyl esters (FAMES). The algae were converted to biodiesel using methanolic hydrochloric acid and hexanes. The hexanes were partially evaporated from the synthesized biodiesel using a rotary evaporator and the FAMES were identified from

the GC-MS spectra. It was found the seawater based algal biodiesel overall contained more FAMES than the freshwater based samples.

Charlotte King

Harpers Ferry, W.Va.

Major: Communications and Media Arts

Minor: German

Examining the Effects that Various Sized Models in Print Magazines Have on Young Women

Five women from Bethany College viewed a student-created print magazine with content relating to fashion, body image, body satisfaction, healthier eating, exercising, and fashion tips. They were then interviewed on an individual basis about the content of the magazine. The student-created magazine did successfully reduce the thin ideal and negative self-image for women.

Amber Lancaster

Weirton, W.Va.

Major: Biology

Effects of Carbohydrate Diets vs. Protein Diets in *Drosophila melanogaster*

Drosophila melanogaster (*D. melanogaster*) are an ally to human disease, including diabetes. *D. melanogaster* were used in this experiment to see if different concentrations of a carbohydrate diet and a protein diet would affect their reproductive and development rate. This was done by exchanging the normal vial of *Drosophila* Medium, Formula 4-24, and water to Formula 4-24 and different concentrations of 1%, 3%, 5%, 10%, and 15% solution of a sucrose solution and a yeast solution. Each test group of *D. melanogaster* had their own food source as well as its own concentration. The results showed that the higher the concentration of the solutions had a more distinct difference in the development and amount of *D. melanogaster* were produced. The *D. melanogaster* fed yeast diets had a higher number of life with a faster rate of development compared to the *D. melanogaster* fed sucrose diets. Using *D. melanogaster* as a resource for human diseases like diabetes can potentially help find a different, more effective treatment.

Alix Lilly
Davis, W.Va.

Major: Biology

Mechanism of Propanil Mediated Immune Response Enhancement: The Role of XX vs. XY Sex Chromosome Complement in Sexually Dimorphic Immune Response

The project studied the influence of the XX chromosome immune response after exposure to heat killed *Streptococcus pneumoniae* treated with the herbicide propanil. Previous studies demonstrated a significant increase in immune response to HKSP in mice exposed to the herbicide propanil. Interestingly, female mice responded to the propanil exposure with higher HKSP immune responses than male mice. This sexually dimorphic response was shown to be dependent on the presence of an XX sex chromosome complement. Our studies investigated the mechanism of propanil-mediated immune enhancement in XX versus XY female mice. The hypothesis was that the propanil exposure inhibits the inactivation of gene expression on the X inactivated chromosome, increasing the immune response in XX males and females. By measuring the specific immune-regulating genes, IRAK 4 and TLR-7 by using real-time quantitative PCR analysis, we anticipate seeing increased levels of expression that would correlate with an increase in the immune response of the XX mice. Splenocytes from XX and XY 4-core mice were isolated and gene expression was analyzed by ELISPOT and ELIZA before RNA isolation could be performed. This project required isolating the RNA from the splenocyte samples before precipitating the samples to run real time PCR. The concentrations of the RNA were taken before the precipitation step. PCR was not able to be performed due to the machine breaking and the only results obtained were the RNA concentration levels. The concentration levels can vary based on multiple influences on the RNA samples. Future research can be conducted to study the methylation patterns of the X-chromosome along with removing the splenocytes in time intervals starting 6 hours after propanil exposure to study the degradation of the mRNA. Females have a ten percent increase of acquiring an autoimmune disorder than men, and most autoimmune disorders are linked to the sexually dimorphic immune response. Increased chance of acquiring an autoimmune disease may be linked to environmental chemical exposure, which may act as a mechanism of enhancement for autoimmune diseases.

Amanda Madurski

Mount Clare, W.Va.

Major: Psychology

If the Shoe Fits: A Study on the Perception of Stereotypes

Stereotypes are based upon the perception of different stimuli. Stereotypes have been correlated with trait words, providing that stereotypes can be formed from work associations. Through the use of a survey, participants rated particular stimuli (either a visual aid or written description) on a stereotype. The results showed partial support for the hypothesis, with significance on one stimulus. Non-significant results may be due to lack of stereotyping, or the stimulus having multiple purposes. The research is able to provide insight in to marketing campaigns, along with contributing to knowledge on stereotyping.

Dustin Maiolo

Stevensville, Ontario, Canada

Major: Chemistry

Minor: Mathematics

Synthesis of Carbon Nanotubes Via Chemical Vapor Deposition

Nanoparticles have become very popular in scientific research in recent years. Their applications and properties are utilizable in many fields. The problem has been, specifically in materials science, finding a way to synthesize a decent amount of nanotubes for a reasonable price while producing nanotubes with the correct specifications. The chemical vapor deposition (CVD) method has become more popular due to the easy access of carbon feedstocks and ability to create a variety of carbon nanoparticles. Traditionally, the carbon feedstock has been used in the form of graphite, and is transformed from a solid to a gas using a laser. In this research, single-walled carbon nanotubes (SWCNTs) will be synthesized using three different alcohol vapors as a carbon feedstock; methanol, ethanol and n-propanol, and alumina-iron supporting material/catalyst will be synthesized and used to see which will produce the most pure carbon nanotubes. By heating the system to 1000Å°C and allowing the vapors to flow through a quartz tube along with an alumina catalyst, the production of SWCNTs is predicted to proceed. The produced nanotubes would then be analyzed using Raman spectroscopy in order to determine if carbon nanotubes were produced.

Shannon Marks

Charles Town, W.Va.

Major: Communication and Media Arts

No Gravity to hold it Down: An Interactive Audience Experience

This project analyzes the movie Gravity by deconstructing the film into narrative sequences and movements defined by shifts in audience perspective. The analysis shows how the movie Gravity was able to combine 3D technology, spatial presence, and audience perception to create a multimodal interactive environment. The main finding was that Gravity moved the audience from the spectator seat into the creator seat by making them a part of the encoding process helping to define the movie's meaning.

Kayla McQuillan

Midway, Pa.

Major: Communications and Media Arts

Speed Dating and Expectancy Violation Theory

This project is to give Bethany college students more options when it comes to dating. Most students are very busy with schoolwork and other priorities. Dating is also something that many students get nervous about; speed dating is a way for them to be a part of an atmosphere where most people are experiencing the same levels of anxiety. Speed dating events usually lasts an hour excluding registration, which allows students to make time in their busy schedules to attend the event. This project wants to encourage annual speed dating events on Bethany college campus, in hopes of someone finding a match or overcoming the anxiety of dates.

Ryan Meier

Elizabeth, Pa.

Major: Communications and Media Arts

The Effect of Brand on School Reputation

This project was conducted to see what effect that brands have on school reputation. Bethany College has many athletes in enrollment and Bethany Athletics does not have a set brand to represent them. The researcher discovered through research that athletic name brands can have an effect on recruitment. Teams with name brands were thought to be more successful and gain more respect. Name brands were found to be

worn by participants due to the meaning perceived through the message of their slogan or logo. The results were gathered through percentages of survey answers.

Emily Miner

Ridgeley, W.Va.

Major: Communications and Media Arts

Communications Practicum

This project uses ethnographic methods to study vegan buying habits and cultural preferences. It incorporates theories of rhetoric such as ethos, pathos, and logos, analyzing which types of arguments are most effective in persuading this particular demographic. In order to design an objective artifact, I created a vegan book entitled “Cooking with Sprouts: A Vegan Cookbook for Parents and Children”, using proven niche marketing techniques. Then, the product was carefully evaluated by study participants and results were recorded.

Teresa Mock

Inwood, W.Va.

Major: History

Pioneers of Photography

This project explores the early days of photography and the people who made it possible, beginning with Thomas Wedgwood and ending with George Eastman and his development of the Kodak camera. The project will outline each individual's contribution to Photography and describe their importance to its development as a modern art form and science. Wedgwood was one of the first to act on the idea to create permanent images in a camera obscura. Joseph Nicéphore Niépce, a scientist, was the first to actually create a permanent image. This was the first true photograph, though he called it a heliograph. His partner, Louis Jacques Mandé Daguerre, created the Daguerreotype after Niépce's death and contributed much research and innovation to the field. The project will also attempt to outline Photography's importance to society and history, especially in terms of documentation. The invention of Photography changed the way history could be documented and the way people looked at the world. For the first time, people could see real images of war and poverty. Photography had a profound impact on both society and history.

Deanna Morrison

McKees Rocks, Pa.

Major: Elementary Education

Minor: Multi-categorical Special Ed.

Student Teaching Placement

My senior project was a Document of Student Achievement. It was completed with a 4th grade class in Brooke County, WV on the subject of vocabulary. The purpose of the DOSA was to increase student scores from the pre-test to the post-test with the use of kinesthetic stations. The results of the DOSA claimed that student engagement increased which also caused a 14.6% increase from student pre-test scores to the post-test scores. The results were positive and the DOSA was a success.

Ashlee Needy

Chicago, Ill.

Major: Sports Management

Bethany College Field Hockey Skills Clinic Guidelines

The following study was to help young athletes from the East Coast improve their field hockey skills. The investigator held a skills clinic through the Bethany College Field Hockey team. The goal of this clinic was to increase the athletes' knowledge and overall skill level of field hockey. A survey would be administered before and after the clinic to determine the success of the program. To advertise the clinic the researcher sent emails to individual players, and posted advertisements on the college website.

The procedure for this research was a clinic with key fundamental drills that would provide athletes with information to build their skills on the game of field hockey. The drills would focus on areas of the game including defense, offense, and shooting. This took place on the Bison Stadium turf. A survey would be administered before the clinic. After the clinic, a survey was administered to measure the satisfaction of the participants and if they did indeed gain knowledge that would be useful in the future. The significance of this research is that young athletes gain correct and helpful information about field hockey in a safe and manageable environment.

Steven Newhall

Inwood, W.Va.

Major: Communications and Media Arts

How Do Vines Stimulate Bethany College Social Communication

Vines are the latest social media fad and today's technology is producing them a high rate. Technology is becoming smaller and faster. Our attention span appears to be with the rate of production with technology. Generally, in the communication field one has to work with a short amount of time to craft a message that not only sticks to a consumer but produce outcomes within it. The messages come from cellular devices, television, radio, internet usage and other forms of communication. Social media sites like Vine are being integrated throughout other social media sites and can be observed as a reflection of our communication. The theory driving my research is Allan Greenberg's Pictorial Stereotypes in a Projective Test. The research question proposed is to what extent have these social media sites like Vine help or hurt our interpersonal interaction? The researcher found that consumers feel safe to target stereotypes with humor because Vine video clips are so short. Although, the negative behavior of stereotypes is not viewed as a conscious projection onto society, instead it is viewed as entertainment.

Shannan Orum

Wheeling, W.Va.

Major: Equine Studies- Pre Vet

Using Mirrors to Curb Cribbing

Cribbing is when a horse puts his incisors on a straight flat surface, bends his neck up and in and makes a gulp like sound. This can be dangerous to the horse as it has been linked to colic, or sever gastrointestinal pain that can be deadly. Cribbing also does damage to the stall the horse is housed in, as he is often biting it. There are several ways to manage cribbing, such as crib collars and removing cribbing surfaces. These methods prevent the action but do not address the cause. Cribbing is positively correlated with stress and is most seen in high stress horses. Studies have shown that installing mirrors can reduce stress in animals such as horses and birds. For this study, 24" x 24" acrylic mirrors were placed into the stalls of two cribbing thoroughbreds, ages 7 and 15. The aim was to decrease cribbing instances, where every audible grunt was considered one instance. Horse 1 did not have a significant change in

cribbing means, meaning that the mirror had no statistically significant affect on him. He had a trial one average of 66.9 instances per half hour and a trial 2 average of 72.4. With degrees freedom being 12 and a 0.05 confidence interval, he had a t-score of -0.306, which was below the p-value of 1.782. This leads to the rejection of the hypothesis that the horse would not crib any less with the mirror. This means that the averages were not significantly different, even though the horse cribbed more, if was not significant.

Horse 2 had a significant change, but his was not in the direction hypothesized. His trial one average was 173.4 instances per half hour and his trial 2 average was 328 instances, with 12 degrees of freedom and a t-score of -2.361 he was above the 0.05 confidence interval with p-value of 1.782. This means that it is necessary to fail to reject that the mirror would not lead to a decrease in instances, meaning that the mirror did not reduce his cribbing instances. In fact, his instances increased significantly.

Candace Pacheco

Fall River, Mass.

Major: Communications & Media Arts - Sports Media and Information

ECAC Analysis: Defining Strategy

The purpose of this analysis is to define the internal strategies within the Eastern College Athletic Conference (ECAC), and examine the context of the organization and its resources. A qualitative content analysis of the organization's conference office operations will be completed in order to examine the efficiency of the ECAC, as it is currently facing an uncertain transition stage into the future. External factors in relation to the conference's services will also be examined. The results of the analysis will determine if the internal operations are contingent with the external situation facing the ECAC, as well as identify what areas need to be improved in order to increase performance as an organization.

Allison Pegg

Uniontown, Pa.

Major: Elementary Ed.

Minor: Special Ed./Autism Endorsement

Student Teaching Placement

The purpose of this study was to strengthen the students' knowledge and skill of using Vocabulary Terms in Context. For the purpose the interventions and data collection this study was completed in a Fourth grade classroom made up of 15 students. The content area for this study took place during the homeroom/morning period and continued into the Reading block. For the purpose this study the textbook and vocabulary terms were pre-determined based upon the Pearson Reading Street guide. The interventions were designed to correspond with the pre-selected Reading layout program of Ed Modo. Interventions were in order to fit the needs of all students by differentiated instruction. Instruction and interventions were differentiated by the use of the theories of Multiple Intelligence and Bloom's Taxonomy. The unit and lesson activities are aligned with the West Virginia Next Generation Common Core Standards.

Flynn Pollard

Oak Hill, W.Va.

Major: Interdisciplinary Studies: International Political Economy

Minor: Communications and Media Arts

Answers to the Question of a "Race to the Bottom"

This project is largely concerned with the issue of globalization and attempts to examine and analyze a specific problem which has been proposed to have emerged from the process of economic globalization and integration. This issue, colloquially known as the "Race to the Bottom", is a theory which maintains that, in order to gain access to multinational FDI, developing states must competitively deregulate their economies to make investments more cost effective for MNCs. This project examines research on the subject and concludes that this "theory" is unable to hold up in a real world context.

Dylan Radwanski

Toronto, Ohio

Major: Accounting

A Comparative Analysis of Exxon Mobil and Chevron

My project will determine whether Exxon Mobil or Chevron is the better investment. While determining the outcome, looking into the company's history, background, and company outlook to see how each of the companies has developed over the years. An important factor for my analysis is how the companies are trying to expand and grow for the future. After obtain all of the company's history, background, and company outlook, it will be important to define and calculate a series of financial information as well as defining and calculating the ratios. This information will help in determining of the two companies are the better investment for the future. The ratios that will be used will fall in the categories of liquidity, asset management, debt management, profitability, and market ratios. Each of the different ratios will be calculated and compared for the years 2010, 2011, and 2012. When all of the ratios are calculated and the information is analyzed a decision will be derived on which of the two companies are the better investment for the future. The conclusion of all the information obtained has shown that Chevron is the better investment for the future.

Amber Ridings

Inwood, W.Va.

Major: Accounting

Minor: Criminal Justice

U.S. Generally Accepted Accounting Principles and international Financial Reporting Standards: A Comparison and Discussion on Convergence

The following project will compare U.S. Generally Accepted Accounting Principles ("GAAP") and International Financial Reporting Standards ("IFRS") on several fronts. The history and development of each set of principles, including the political, historical, and economical influences, will be reviewed. This will highlight how the two standards vary in their evolution and will be used in a later portion of the project to highlight identical forces that are shaping the convergence process. After understanding what these standards are and how they came to be, the project will explain in detail several key similarities and differences between them, defining key accounting terms, issues, and why the

standards settled on the conclusion they apply. This is important in order to understand both why convergence is needed and where the International Accounting Standards Board (“IASB”) and Financial Accounting Standards Board (“FASB”) are beginning from in trying to reconcile the differences. Returning to a historical perspective, the project will outline the progress convergence has witnessed thus far, discussing major achievements and setbacks alike to create an understanding of where the current convergence project stands. In the following section, convergence itself will be looked at in depth and the pros and cons from the opinions of educators, accounting entities, small business representatives, and the standards boards will be discussed. This conclusion of the paper, the final portion prior to the appendices, will utilize all of the compiled information (development, similarities and differences, and costs and benefits) to provide a personal judgment on whether the process should move forward and what difficulties it is likely to face.

Daniel Sabatino

Colliers, W.Va.

Major: Communications and Media Arts

The Effects of Improved Technology on NFL Attendance

This research aims to provide insight into why NFL attendance numbers are decking and determines the specific factors. This study looks at the way emergent technologies such as HDTVs, mobile applications and fantasy football are having on attendance rates. Two discussion groups were established, one featuring students from Bethany College and another featuring students from the Pittsburgh area. The results of this paper could suggest explanations to why people are attending less games and speculates what can be done to reverse this trend.

Chelsea Sebetich

Belle Vernon, Pa.

Major: International Cultural Studies and Spanish

Religion in Spain: Examining Trends in Self-Identification and Behavior

For my senior project, I chose to explore the growing trend of widespread secularization in Spain. Specifically, I measure the effects that certain data, such as, for example, the impact of Francoist Spain, has on the development and fostering of this occurrence. It is necessary to address that the notion of being “religious” can have a variety of meanings to each individual, thus, greatly affecting the interpretation of this research. I also take into account the age groups of people most and least affected by this pattern, and postulate as to why this could be. The other primary focus of this project is my speculation of what feasible repercussions there are or will be for this shift in religiosity, or lack thereof.

El fenómeno de la secularización en España: la especulación que se produjo y sus ramificaciones

Para mi proyecto de graduación, decidí explorar la tendencia creciente de los vastos procesos de secularización en España. Específicamente, mido los efectos que ciertos datos, como, por ejemplo, el impacto de la España franquista, tiene en el desarrollo y promoción de esta ocurrencia. Es necesario tratar de que la noción de ser “religioso” puede tener una variedad de significados para cada persona, por lo tanto, lo que afecta en gran medida la interpretación de la presente investigación. También tomo en cuenta los grupos de edad de la gente más y menos afectados por este patrón, y postulo por qué esto podría ser. El otro objetivo principal de este proyecto es mi especulación de qué repercusiones viables existen o será para este cambio en la religiosidad, o falta de ella.

Amber Smith

Ellwood City, Pa.

Major: Chemistry

Determining the Presence of the CaMV 35-s Promoter in USDA Approved Soybeans and Non-Organic Soybeans

Genetically Modified Organisms (GMOs) are animals or plants that have been genetically altered, through the insertion of one foreign gene into the species of study. GMOs were produced in hopes for a greater

yield of crop; however ethical and health concerns with the consumption and production of GMOs have become a popular interest in the United States. Genetically Modified (GM) soy in particular, contains the sequence of DNA from soil bacteria that is immune to round-up ready herbicide. The GM soy also contains the Cauliflower Mosaic Virus (CaMV 35S) promoter, which is used to transcribe and translate the soy plant. The purpose of this study is to test a DNA sample of United States Department of Agriculture (USDA) stamped soybean and non-USDA stamped soybeans for the presence of the CaMV 35S promoter. Polymerase Chain Reaction (PCR) and gel electrophoresis are used to test the different soybeans for the GM genome. The soy DNA samples were tested for the presence of GMOs, or the photosystem II gene for a total of six trials. In trial six, it is apparent that the USDA-stamped soybeans and the non-USDA stamped soybeans contained the CaMV 35S promoter at 200 bp, however the data obtained is inconclusive. Further study is needed to determine if the USDA-stamped soybeans and non-USDA stamped soybeans were positive or negative for the promoter.

Joshua Smith

Pittsburgh, Pa.

Major: Communications and Media Arts

Participants in Fantasy Football Leagues and Uncertainty Reduction: Fantasy Football Participants Weekly Interaction and Statistical Knowledge Versus the Average Fan's Weekly Interaction and Statistical Knowledge

The purpose of this study is to determine whether Bethany College students participating in fantasy football increase their overall knowledge about the National Football League (NFL) throughout the season. The theory of uncertainty reduction is driving this study. The methodology is qualitative, more specifically a focus group involving six Bethany College students. Four participants were involved in a Fantasy Football League(s) and two participants were average NFL football fans who regularly follow the NFL throughout the season. The researcher expected to find a strong fan interaction among Bethany College students who participate in Fantasy Football Leagues, especially those on major internet sites. The researcher hoped to determine if a Fantasy Football League fan is more susceptible to following the statistics of the NFL a lot closer than the intentional behavior and interaction of the average sports fan. A noteworthy finding was that fantasy football adds an additional

competitive edge to the game, and the mass media are determined to keep fans tuned in and continue to innovate ways to engage and connect with interesting people.

Chelsea Sroka

Elizabeth, Pa.

Major: Chemistry

Minor: Mathematics

Omega-3 Fatty Acid Concentration in Fruit and the Possible Treatment of Depression

Omega-3 fatty acids in fruit are thought to be able to treat depression. Food intake can affect the mental stability of a person, in particular, depression. A person's diet has been linked to depression. The increased consumption of omega-3 fatty acids can result in a decrease in depression symptoms. Omega-3 fatty acids have a double carbon bond starting after the third carbon atom from the end of the carbon chain. Chloroform-methanol extraction method was used for the experiment. The components of the seed were run through a Gas Chromatography-Mass Spectroscopy to see the amount of omega-3 present. The fruit was tested to see which contains the highest concentration of omega-3 so it could be suggested as supplement depression treatment. Omega-3 fatty acids are considered essential fatty acids because they cannot be produced by the human body but are considered vital for normal metabolism. The significance of this study can help people get nutrition from foods and plants to reduce depression symptoms. Omega-3s can help avoid side effects drugs can give someone such as suicidal tendencies and panic attacks.

Kristen Sroka

Elizabeth, Pa.

Major: Chemistry

Omega 3 Fatty Acid Content in Seafood: Potential for Depression Treatment

Omega-3 fatty acids have been linked to the treatment of depression. It is possible that they could be a potential new treatment option, used in conjunction with current antidepressant medications. Increasing seafood in the diet is one way of obtaining increased omega-3s. Different types of seafood contain different quantities of omega-3s. To determine if the different varieties of seafood contained efficient omega-3s to treat depression, the omega-3 fatty acids were extracted using the Bligh-

Dyer's method and were examined using gas chromatography and mass spectrometry (GC-MS) analysis. To establish if each seafood source can be used as potential treatment, the GC-MS analysis determined whether the seafood contained enough omega-3s. The results of the study showed that only Wild Atlantic Salmon contained omega-3 fatty acids. Therefore, only the Wild atlantic salmon can be introduced as a possible new treatment option studied for patients with depression. The tuna steaks and farmed atlantic salmon failed to show any peaks.

Shane Stout

Akron, Ohio

Major: Physical Education and Sports Studies - Sport Management

Lifeguard Training: Managerial vs. Educational

This paper is a comparison of lifeguarding certification courses. One is focused on the education of lifeguards; the other is focused on management of lifeguards. The certification courses that are under comparison are Jeff Ellis & Associates and the American Red Cross. This paper explores various aspects of each certification course including the 10/20 scanning technique, communication methods, and in-service training. Each is described and its implementation through each program is compared. The intent is not to discredit either program, rather to show the benefit of each and how they differ. Upon completion of this comparative study, the results show that when managing an aquatic facility, using the managerial program is more beneficial.

Dylan Tetting

Cocoa, Florida

Major: Physical Education and Sports Studies - Rec. & Athletic Program.

Indentured Athlete

The topic this paper covers a conversational topic in college sports right now. The controversy is if the National Collegiate Athletic Association (NCAA) should compensate student athletes for bringing in the billions of dollars for the NCAA by playing colleges sports. The two sports this paper focused on also happen to be the sports teams that also generate the most revenue, college men's basketball and college football. This paper is also going to bring attention to the NCAA and how they conduct their business on and off the field of play. It is surprising how much a non-profit organization like the NCAA is able to make, the upwards of \$12 billion

dollars. The paper also highlights a few landmark court cases that helped to change and shape how the NCAA is run today and some new court cases that may change the NCAA as college sports knows it. The question in the NCAA has changed from, Are we going to pay Student Athletes? To, “How are we going to compensate are students athletes? When we going to start compensating our student athletes?” Then the paper suggests a couple of ideas the NCAA and some outside parties that have come up with to compensate the athletes, and finally the author discusses his thoughts on how colleges should compensate student athletes.

Kelvin Thomas

Clarksburg, W.Va.

Major: Communications and Media Arts - Digital Media and Journalism

Audience Risk Perception and Local News Coverage of the Hydraulic Fracking Industry: An Ethnographic Study

This study examines the influence of local media coverage on audience risk perceptions of the hydraulic fracking process in the Marcellus Shale Region of West Virginia. Hydraulic fracking is a relatively new gas extraction process that has become widely used in the gas industry and has highly controversial and publicized. Risk perceptions defined as the process through which individuals and group form attitudes and make decisions regarding real or potential risk based factors such as familiarity, exposure, and experience. Media exposure is often a factor that influences risk perceptions. Focus group interviews were conducted at Bethany College and in Clarksburg, West Virginia in order to observe the two communities and to compare their perceptions of risks associated with hydraulic fracking as portrayed local press. Each group was shown one example from print and television news, followed by an open-ended discussion that was moderated by the researcher.

Taylor Verrico

Monaca, Pa.

Major: Communications and Media Arts

Minor: Spanish

Jealousy Effects with Social Media in Relationships

The following project was designed to examine how jealousy is visible through the use of social media sites. A descriptive survey was distributed to Bethany College students to answer the research question. The goal was to see if these online sites have the ability to contribute to feelings

of distrust in romantic relationships. Students presented more concern about their significant others' behavior in the context as opposed to using social networking sites when having face-to-face interaction in their relationship.

Katherine Warren

Bloomington, Ill.

Major: Communications and Media Arts - Integrated Marketing

Minor: Music

The Concern that a Single Television Series Encourages Eating Disorders in Young Female Adults: Females Vs. America's Next Top Model

The puprose of this study is to explore the relationship between media's influence on females and eating disorders rates. Participants were females ages 18-24 that attend Bethany College during the spring 2013 semester. The quantitative study required the participants to take a survey that included 16 questions regarding their demographics, mentality, and emotional state of mind. The result of this study show how these young females look at women in a single television series, America's Next Top Model, and how they compare themselves to the models, and that relation to eating disorders.

Dylan Wassel

Pittsburgh, Pa.

Major: Sports Management

Minor: Business Management

Buying Wins in the MLB

This research project is about finding out if there is a relationship between payroll and wins in the regular season in Major League Baseball. There are two different philosophies that organizations tend to use. The first is spending money on established players to join their team and the other is being conservative and building up through the draft over a certain time period. Data was collected from each Major League Baseball team from the years of 1998-2013. This data that was collected consisted of the mean, median, mode, range, and Spearman Rank Correlation Coefficient test. Once the data was collected the teams were broken up in the two leagues (NL and AL), divisions (East, West, and Central), and markets (Large and Small). The Spearman's Rank test was then performed on all of these samples which indicates whether there will be a relationship or not

between the payrolls and wins. After the tests are completed the MLB, leagues, divisions, and markets are compared to see who had the highest correlations and who was most successful. There are variables such as injuries, the stadium they play in, and the markets which affect the teams win total throughout the season that are uncontrollable.

Chelesi White

Elkins, W.Va.

Major: Biology

A Census of Neotropical Migrant and Residential Bired Species Populations of Parkinson Forest with a Concentration on the Kentucky Warbler

The alarming decline in bird populations began the country's first continous survey on birds. Dropping neo-tropical populations, neo-tropical birds being those that migrate each winter to the tropical and subtropical climates of southern Mexico, central and south America, and the Caribbean, brought concern to local areas. In 1970, the local bird survey of Bethany College began in Parkinson Forrest. Using a spot map census, territories of residential and neo-tropical birds were mapped and recorded to bring a better understanding of declining bird populations. Continous surveys have provided information on several species that no longer inhabit the Parkinson Forest, one of which being the Kentucky Warbler. The Kentucky Warbler, once a regular inhabitant of the forest, has disappeared from the study plot. With analyzation of the past and current study plot, conclusions can be drawn to identify the factors involved in the decline of the Kentucky Warbler. Preservation of the declining species can then be implemented. Continous surveys of the Parkinson Forest are encouraged to provide a plan of conservation for bird populations under the threat of similar issues.

Lauren Wiegman

Nanty Glo, Pa.

Major: Psychology - Pre-Physical Therapy

Tattoos as an Addicting Behavior

Tattooing behaviors were researched on participants in order to see if there was a correlation between tattoos and the addiction that is perceived with tattoos. A correlation between tattoos and the perceived addictiveness of tattoos was found. There was also a correlation found

between the reasons that people get tattoos and their peer influences. These findings suggest that the participants reported tattoos to be an addicting behavior, supporting the hypothesis.

Skylar Williams

Jefferson Hills, Pa.

Major: Physical Education

Minor: Secondary Education

Improving Skills to Lead to Better Basketball Players

The following project was put together and implemented to improve three different basketball skills for a seventh grade basketball team. The creator of the project put together a parent consent form, surveys, drills, and practice plans to be implemented for two months of the summer. The goal of the project was to improve all eight of the players' dribbling skills, free throws, and layups by using beneficial drills and focusing on critical elements. The success of this project was determined by analyzing percentages of made free throws/missed layups and videos of the athletes doing the skills. The team for this project was a local team that participated in a summer league. The researcher used a variety of drills and different instruction techniques to improve those three specific skills. Focusing on critical elements was extremely beneficial in improving these athletes' basketball skills. Percentages were used to show the improvement in foul shots and missed layups. Video analysis was used to show the athletes what they can improve on, and to show where they improved during the two months of this project. Winning games came along with this summer league, and this team finished second out of nine teams as a seventh grade team in a seventh and eighth grade league. The summer, as a whole, was very successful, and all of the goals were met by significant improvement being shown through the different analysis of all three of the basketball skills.

Casey Wynn

Chester, W.Va.

Major: Psychology

Minor: Criminal Justice

In the Eye of the Beholder: Gender's Influence on Perceptions of Perpetrators

This study explored the effect of perpetrator gender on perceived guilt. The hypothesis stated that women would be perceived as violent criminals less often than men. Participants included 54 individuals from a small

college. Participants received four crime scenarios ranging in violence levels: burglary was the standard of no violence; arson was the standard for low violence; rape constituted medium violence; and murder constituted high violence. Following each scenario, participants selected a photo of either a male or female as the perpetrator. The results showed that for non-violent crimes ($t(53)=3.612$, $p=.001$), medium levels of violence ($t(53)= 3.999$, $p<.001$), and high levels of violence ($t(53)= 3.248$, $p=.002$), males were selected significantly more often than females. However, female culprits were selected significantly more often for low violence crimes ($M= 1.2778$, $SD=.45211$; $t(53)= -3.612$, $p=.001$). The results indicated that for crimes of any level, gender plays a large role in determining culpability. The pictures in this study were a limitation in terms of equal attractiveness and physical appearance. Another limitation was the small sample size. Lastly, participants may have had differing opinions regarding the level of violence in the crime scenarios.



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