

# *The Senior Project Experience*

Class of 2012



Bethany College  
Bethany, West Virginia



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**Lauren Amrhein**  
Coraopolis, Pennsylvania  
Major: Psychology

## **Will Lemon or Lavender Affect Long-Term's Memory of Recalling Lists of Words?**

Research has shown a tie between long-term memories and the olfactory system. Research including rose scents and memory games showed that those administered the scent had a 13% increase in memory than those that did not. The hypothesis in this study is, if scent helps aid long-term memory, then the lemon-scent will create this biggest impact on memory. In this study, participants from Bethany College attempted to memorize a list of thirty words in ten minutes in either the presence of lemon, lavender or no scent. Then the following day participants returned to sit in the same room with the same scent and recall as many of the words as possible. The results were not significant at  $[F(2,20)=0.159, p=.854]$ . None of the other statistics came out significant either. Confounds of this experiment include both rooms that varied and sound distractions as well as others.

**Lindsay Arnold**  
Pittsburgh, Pennsylvania  
Major: Social Work

## **Drug Court Mentoring Program**

The purpose of this study is to gauge interest on drug court graduates' interest in serving as mentors. By graduating, the participants of this study have successfully completed the drug court program. The hypothesis is that the participants will have some interest in serving as a mentor. There were thirteen graduates surveyed within the first circuit drug court. More than half of the participants were interested in serving as mentors, therefore the hypothesis stated was proven correct.

# **Melissa Baldwin**

Belle Vernon, Pennsylvania

Major: Psychology

## **Choice vs. No Choice**

This study investigated the effect of choice versus no choice has on motivation to complete a fine motor task. Participants were randomly assigned to either receive a choice of task options or assigned to a task. I hypothesized that increased motivation will be shown in subjects when given choice than those that are assigned to a task. I hypothesized these results based upon the theories of intrinsic motivation and self-determination theory. Participants replicated a sample picture with either colored pencils or watercolors depending on their individual task, and then completed the Intrinsic Motivation Inventory Scale. Data did not support my hypothesis, but when a second analysis was performed results showed a significant difference in usefulness and choice scale in terms of condition. Limitations, implications and future research of the study are also discussed.

# **David Peter Bentrem**

Paris, Pennsylvania

Major: Equine Management

## **Equine Hoof Wall Moisture Content**

Abstract: Knowledge of the equine hoof wall moisture content allows horse owners and equine professionals to better manage and care for the hooves of the horses. Better management of the moisture content of the hoof wall will result in reducing hoof wall issues related to hoof wall moisture content, second in turn the horse owner will incur lower costs of vet and farrier bills. Additionally soundness, performance and longevity of the horse will improve. The objective of this study was to determine the effects of different stabling management techniques used in the equine industry, to see which had the most effect on the moisture content of the hoof wall. The difference in moisture content was determined by weighing hoof wall trimming samples from three different groups of horses and then dehydrating the samples.

# **Jennifer Briskey**

Dublin, Ohio

Major: Psychology

Minor: Business Administration

## **Research Survey**

Consumers' buying behavior can be influenced by scent, which can lead to an increase in product sales. For this study there were 17 males and 33 females from Bethany College. The researcher had participants take part in a survey about their purchasing behavior in Macy's and Abercrombie and Fitch. The hypothesis that the detection of an aroma will increase the consumers' buying behavior was supported by the results. This study found gender to be a contributing factor because more females purchased merchandise at the stores than men.

**Aaron J. Carolla**  
Uniontown, Pennsylvania  
Major: History

**The Evolution of the Presidency**

When studying the history of the United States of America, potential scholars have an almost endless number of topics to choose to study. Among the most fascinating and important topics to examine is the evolution of the office of the Presidency of the United States. Since the founding of the country in the late 1700's, only forty-four men have had the distinct honor of being the executive leader of the government. The men who have held the office are a unique and fascinating group of Americans and have done their job with varying degrees of success. Additionally, there have been four distinct eras of American Presidents including the Early Presidents, Nineteenth-Century Presidents, Twentieth-Century Presidents, and "Modern" Presidents. In this discussion, examples will be given of presidents from each era. Also, arguments and explanations will be provided as to why each president has been placed in each division. Each era is unique and interesting, as are the arguments as to why each man is grouped in each respective division. No matter how one looks at it, no one can deny the importance of the evolution of the presidency.

**Kristen Cottrill**  
Hurricane, West Virginia  
Major: Biology

**Does Peak Grip Strength Correlate with One's Chronotype?**

Circadian rhythms refer to the physiological processes that are controlled by external factors, or Zeitgebers, such as light. Biological rhythms are classified as ultradian when they are substantially shorter than 24 hrs and infradian when their rhythms are substantially greater than 24 hrs. It is thought that peaks in ultradian cycles can be determined by a person's chronotype. For instance, a parameter such as grip strength can be used to measure a person's morningness or eveningness traits. Studies have suggested that chronotype is genetically determined when researchers found Clock gene to be a major player in determining if a person is a lark or an owl. Researchers found that larks contain a longer version of the gene in comparison to owls. Therefore, it can be hypothesized that the circadian ultradian rhythm of grip strength can be monitored through autorhythmometry in order to determine if chronotype will predict the time of peak grip strength. Subjects participated in The Owl/Lark Self-Test to determine chronotype and measured their grip strength roughly one to two hours over the course of one or two consecutive days using VernierLab equipment and a hand dynamometer. The data was then imputed into graphical form in order to evaluate when the peak of grip strength occurred, and then I statistically determined whether grip strength is an indicator of chronotype. The time of each subject's peak grip strength was compared to their self-test results using a one-tailed T test that rendered a p value of 0.17641. The results were considered insignificant and further research is suggested.

## **Alyssa Davis**

Shadyside, Ohio

Major: Elementary Education

### **Student Teaching Placement**

I completed two student teaching placements during my spring semester. The first was in Wheeling, West Virginia at Steenrod elementary school, in a Kindergarten class. The second was at Hooverson Heights Primary in Follansbee, West Virginia, which was a third grade room. My project was on my philosophy of education.

## **Samantha Dillinger**

Beloit, Ohio

Major: Religious Studies

Minor: Philosophy

### **Evolution of Lilith: The Night Demon**

Mesopotamian reference to the character Lilith, reaches back to the 3rd millennium BCE, from the Sumerian epic Gilgamesh, Enkidu and the Netherworld. These demonic women are often seen as the ones with no husband and troll the streets searching for men in order to ensnare them. These women are similar to 'Ishtar' who peers through a man's window, planning how she will love him, seduce him, and kill him. Lilith's sexuality is also of a different statute, she cannot bear children and her breast do not produce milk, only poison. Through this the evolution of Lilith will be traced from Sumeria to modern thought and interpretation. In popular belief Lilith became not only the grandmother of the devil or the devil himself, but also the arch-mother of witchcraft and witches.

# **Rebecca L. Dixon**

Hubbard, Ohio

Major: History

## **Andersonville Military Prison: A Struggle for Survival**

As military prisons go, Andersonville was one of the worst prisons to ever be formed on American soil. The prisoners who were sent there, were non officer Union soldiers who were captured by the Confederates or prisoners who were moved from Belle Isle military prison, to relieve the overcrowding there. However, Andersonville also became overcrowded with its prisoners. With a max capacity of 10,000, Andersonville struggled to hold the 45,000 soldiers that would eventually be sent there. The soldiers who were sent to Andersonville did not have life in anyway shape or form. When the prison was originally built, it was not built to be a place where thousands of Union soldiers were going to lose their lives. Almost 13,000 union soldiers lost their lives while they were in Andersonville, even though Andersonville was only open for 15 months. In these 15 months, these soldiers faced many struggles, including starvation, illnesses, a group of prisoners known as the Raiders, the installation of the Dead Line and Commander Henry Wirz. Any of these problems by themselves were a struggle, but the fact that many of the prisoners had to deal with not just one of these, but all of them make life almost unbearable, and 13,000 were not able to survive this struggle. This paper also not only discusses the events and prisoners lives while they were in the prison, but what happened to Henry Wirz after the war was over, and how he faced trial for war crimes.

# **Margaret Harris**

New Albany, Ohio

Major: Communications & Media Arts

## **AM/FM Radio & Media Convergence**

The research question for this study garnered two hypotheses: has AM/FM radio decline been brought upon by media convergence? and what are the uses and gratifications of radio listeners? The participants of this study ranged in age from 18-55 years or above, gender ethnicity. The main demographic of respondents were white females aged 18-25, which was the targeted sample population for this study. The survey method was used to gather results due to its ability to be rapidly distributed, fast response rate and accessibility. The findings of this research study proved that within the sample population, there was no correlation between media convergence and the usage of AM/FM radio via the radio. This information is extremely beneficial to students and communication professionals because it shows the trends in radio listening habits and how those habits are being affected by other media forms, more specifically media convergence.

**Matthew Hartig**  
McKeesport, Pennsylvania  
Major: Sports Management

## **High School Recruiting: Importance of Rankings and Playing Professional Basketball**

The recruiting process in collegiate sports is one of the most important parts of any athletic program at the college level. Recruiting web sites have been developed over the years to provide thorough and substantial player rankings for colleges to utilize in order to find and recruit the best basketball players in the world. The top recruits in men's basketball will try to further their talents throughout their college years in order to become a draft hopeful for the National Basketball Association (NBA). For this reason, this study was performed to distinguish which of the three main recruiting web sites produce the most accurate and valid rankings in relationship to the players getting drafted into the NBA. The three recruiting sites that were examined were Rivals.com, ESPN.com and Scout.com. The methodology that was used to formulate the results of the study was as follows: The top twenty-five recruits from a five-year period (2005-2009) were studied from each web site listed above in order to determine how many of the ranked players ended up playing professional basketball. From this study, the results section of this case were able to be formulated in a proper comparative analysis which distinguishes which web site provided the most accurate and useful rankings possible. For this reason, this project determines the overall validity of recruiting player rankings in relationship to the player becoming an NBA draft pick.

# **Maggie Hilinski**

Pittsburgh, Pennsylvania

Major: Equine Management

Minor: Business Administration

## **Testing the Effects of Exercise on the Equine Heart Rate**

The objective of this study was to compare maximum equine heart rates (HRs) measured in beats per minute (bpm) after separately completing a dressage test and a jumping test. Eight horses, ranging in breed and age, were used from the Bethany College school horse program at Pegasus Farms Equestrian Center. Prior to testing, resting HRs were acquired using a Cardiosport heart rate monitor. This monitor transmitted HR results to a corresponding wrist watch where HR results were received and then recorded. Over a two week period, horses were ridden by the same rider to provide a control for the experiment and decrease variability. The horses endured dressage tests and jumping tests of beginner novice eventing level which is the lowest level in the discipline. The heart rate monitor was placed against the horse, under the saddle, for the duration of each ride. In doing so, HRs were immediately transmitted to the watch after completing the tests and recorded. The horses were then cooled down for two minutes before returning to the barn to be untacked. Their HRs were then recorded at 10min, 15min, and 20min after exercising. This was performed to determine the length of time the HRs required before returning to resting HR. In analyzing the results, a paired t-test was performed at a standard 5% significance level to test the null hypothesis. The null hypothesis states that HRs after the jumping test are equal to HRs after the dressage test. The alternative hypothesis states that HRs after jumping are higher than those HRs after dressage. At the 5% significance level, there is enough evidence to reject the null hypothesis. Therefore, evidence shows that dressage heart rates of the 8 horses did not equal the jumping heart rates. In fact, there is sufficient data to show that the jumping rates are higher and support alternative hypothesis.

# **Amanda Hineman**

Balko, Oklahoma

Major: Psychology

Minor: Religious Studies

## **Gender Identity Relations with Disney Princesses**

Gender Identity Relations with Disney Princesses starts out with the definition of how gender identity is found and how there is a difference in gender identity and gender role, it does not matter if you are male or female to what your gender role turns out to be because your gender role is determined by not only your parents but people that surround you. My hypothesis is that people who self-identify as being highly feminine will prefer a fictional character that also shows feminine qualities, while those who self-identify as being highly masculine will show preference for masculine characters. Individuals who are androgynous should also prefer an androgynous fictional character. I had students from Bethany College take a survey that was linked on Facebook and they answered questions from the BEM test and also questions about certain Disney Characters and how they liked and identified with them. My results came out as significant for only Ariel seeing that people of androgynous quality identified with her. But the other Characters were not significant. In the discussion I continued covering about gender role and gender identity I also highlighted that I would have changed how I gave the survey and that in the future I would like this study to be distributed to Elementary schools and continuing.

# **Kathryn Hobbs**

Wheeling, West Virginia

Major: Elementary Education

## **Student Teaching Placement**

My Philosophy of Education Paper. discusses my theory of hands-on learning with the use of technology in classrooms. It also discusses personal experiences from student teaching and recommendations for educators to incorporate my philosophy into their classrooms.

# **Katherine Horneffer**

Reisterstown, Maryland

Major: Education and Psychology

## **Physical Education and the Young Child**

What are the most important subjects taught in school? Most parents and educators would argue that reading, writing, and arithmetic should be primarily taught. In the aftermath of No Child Left Behind, greater emphasis has been put on these subjects, so the children can pass the annual state tests. More time and money are spent on the basic academics making it difficult for the teacher to find time to fit in everything that is important for children, but time must be found. High expectations and much pressure are put on educators today. Within the guidelines of state and local objectives, teachers and principals must make daily decisions that affect the futures of their students. Reading writing, and arithmetic are important, but other subjects should not be left out. Physical Education is one subject that teachers should make room for in their busy schedules, especially for preschoolers. Plato said according to Rae Pica (2011a), “The right education must tune the strings of the body and mind to perfect spiritual harmony.” (p. 1) Current research and modern educators appear to agree with Plato, because physical education is highly recommended. In general, researchers note that physical education is necessary for young children so that they can form healthy habits early; build basic movement abilities as a foundation for more difficult movements; gain confidence in their physical abilities; fight off obesity; enjoy learning; and increase creativity. This paper presents what research says about physical education; what developmental psychology is behind physical education for preschoolers; how physical education can be best implemented in a preschool program; and how physical education is being conducted in a local Head Start program.

# **Sarah Jerome**

Harrisonburg, Virginia

Major: Elementary Education

Minor: Special Education

## **Student Teaching Placement**

My student teaching experience occurred at Steenrod Elementary School with Ms. Peters' 3rd grade class and at Hooverson Heights Primary school within Mrs. Mazzella's Autism Room. In both placements, I was provided the wonderful opportunity to interact with fantastic students and fellow teachers while developing professionally. I will always treasure the time I spent within these classrooms and plan to utilize the many lessons I learned in my future career.

# **Ryan Johnson**

Steubenville, Ohio

Major: Biology

## **The Effects of 5-HTP and L-DOPA on Forelimb Regeneration in Axolotls (*Ambystoma mexicanum*)**

Albert Meier and colleagues discovered that animals exhibited advanced or delayed circadian rhythms for various processes in the body when injected with hormones in different time relations. In particular, Meier thought that serotonin precursor, 5-hydroxytryptophan (5-HTP), and dopamine precursor, L-dihydroxyphenylalanine (L-DOPA), could take part in a temporal synergy to elicit seasonal shifts in the circadian rhythms of various vertebrates. For this experiment, forelimb regeneration was teamed with temporal synergism of those two precursor hormones in hopes of finding the correct temporal relation that will advance the circadian rhythm for regeneration. Thirty-six axolotls were chosen for this experiment and they would be separated into two experimental groups (8- hour and 12-hour) and one saline control group. The photoperiod was set to continuous light. Drugs were administered before, and periodically after amputation of the forelimb. Measurements were taken on six different occasions and were used to obtain graphical representations. The results indicated that the 12-Hour temporal relation of 5-HTP and L-DOPA led to an increased regenerative response. The results also showed that light intensity plays a role in the regeneration mechanism.

**Kyle Kelley**  
Salem, West Virginia  
Major: Physics  
Minor: Math

## **Second Harmonic Generation: Doubling the Frequency of a Laser**

Second harmonic generation, or frequency-doubling, is a phenomenon of non-linear optics that is used extensively in the sciences and in the consumer industry. Doubling the frequency of a source of light, most commonly a laser, causes the wavelength to be halved, thereby changing the color of the laser. For example, doubling the frequency of a red laser changes the light emitted to green. This optical effect is utilized in physics experiments, household Blu-ray players, and even in common green laser pointers. Acquiring and dismantling the latter, along with thoroughly studying the theory of lasers and second harmonic generation, was the focus of this project. By studying a green laser pointer's components, most notably the non-linear crystal that generates the second harmonic, but also the configuration of these components, a demonstration of the effect is provided and greatly aids in conceptualizing the extensive research performed on the subject. A detailed understanding of the theory and mathematics behind the phenomenon, and the workings of lasers, was achieved, and the components studied can be used again to later benefit the department when teaching the subject of optics, linear or non-linear.

# **Elizabeth Krinock**

Weirton, West Virginia

Major: Psychology

Minor: Criminal Justice

## **The Effect of a Familiar Environment on Eyewitness Testimony**

This study focuses on the effect of a familiar environment on the ability to recall details of a crime. The hypothesis to be tested was that students who watched a clip from a familiar environment will be able to recall more details. Thirty-five males and eighteen female undergraduates from Bethany College, Bethany West Virginia volunteered to participate. Each participant was randomly assigned to watch a crime clip filmed on Bethany campus (clip one) or a crime clip filmed in an unfamiliar environment (clip two.) The participants were then given a survey containing true or false statements about the crime clip they just watched. The subjects who watched crime clip two had a higher mean score. The results were statistically significant though they did not support the hypothesis.

# **Matt Landowski**

New Kensington, Pennsylvania

Major: Business Administration

## **Can a Microbrewery be a Successful Start-Up Business in Western Pennsylvania during the 21st Century?**

Starting a business takes time, organization, and hard work. In this project I will be starting-up my own microbrewery. This project will include gathering all of the related information such as costs of equipment, employees, packaging, advertising, and construction necessary to establish a microbrewery. The five-year plan that is produced based upon the costs will provide me with the framework for having a successful company.

# **Jacky Michele Marcus**

Amsterdam, Ohio

Major: Psychology/Pre-Physical Therapy

Minor: Spanish

## **Character Strength Knowledge and GPA in College Students**

Thirty-nine undergraduate students (28 females and 11 males) from Bethany College, in West Virginia participated in this study. They took the VIA Survey of Character which ranked them on 24 different character strengths, which were later compared to the five strengths they previously chose to best represent themselves. This was then correlated with their GPAs. The hypothesis that college students who correctly identified their top five character strengths would have a higher grade point average than those who did not was not supported. A significant correlation was not found between knowledge of one's character strengths and a high grade point average. However, there was a significant correlation between number of correctly guessed top five character strengths and knowing one's number one character strength.

# **Brittany McAdoo**

West Alexander, Pennsylvania

Major: Psychology

## **Hair Color, Body Art, and Cosmetics as it Pertains to Promiscuity in Women**

This study is about what physical traits a woman has that makes her appear promiscuous. The participants of the study took a survey based on different pictures of women. In each picture the woman had different physical traits and the control woman was average and appears non-promiscuous. The 106 participants rated each woman on how promiscuous she appeared to be and what traits made her appear promiscuous such as hair color, cosmetics, and body art. Results showed the woman with no body art to be more promiscuous than woman with body art, the woman with blonde hair was rated more promiscuous than woman with brown hair, and the woman with cosmetics was rated more promiscuous than woman with no cosmetics. Three hypotheses were used for this study. Women with blonde hair will be rated more promiscuous than women with brown hair. Women with body art will be rated more promiscuous than women with no body art. Women with cosmetics will be rated more promiscuous than women with no cosmetics.

**Megan McShane**  
Pittsburgh, Pennsylvania  
Major: Social Work  
Minor: Criminal Justice

## **Analysis of Residential Family Therapy Programs**

The purpose of the research project was to analyze the effectiveness of residential family therapy and to identify common parenting skills that client's parents seem to need the most improvement. Residential family therapy can be defined as a service provided by an agency where both the youth and family live onsite together and receive therapy to build their family skills. Secondary research was used to investigate different types of therapy families receive and the effectiveness of family involvement in a child's treatment. A survey was also conducted with a West Virginia state agency responsible for child placement. The survey was based on the importance of parenting skills and the need for improvement in common parenting skills by the parents of clients.

**Morgan Minor**  
Wellsburg, West Virginia  
Major: Political Science

## **Business Plan**

Internship program in The Gambia, Africa tailored to the needs of all students. The hypothetical program would allow students to experience the trials of life in a developing nation.

# **Sarah Mizzoni**

Pembroke, Massachusetts

Major: Biology

## **Scientific Experiment**

Project was based upon my internship over the summer at the Associates of Cape Cod. I worked in a biomedical laboratory, bleeding horseshoe crabs and processing their blood. The blood is used to make an assay for endotoxin detection. The experiment I worked on was finding an alternative endotoxin test method to the current LAL assay used in the industry today. The use of modified carbon nanoparticles combined with fluorescent polarization was determined to be a promising alternative to LAL. This test had a shorter overall reaction time, which was the end goal, to find a new test that would detect endotoxin as well as the current LAL assay but in far less time. Fluorescent carbon nanoparticles are the future for endotoxin testing in the biomedical field.

# **Kyle James Nannah**

Sebring, Ohio

Major: Business Administration

## **Which Company Within The Fast Food Industry Is The Best Investment?**

“Which Company within the Fast Food Industry Is the Best Investment?” is a look at the macro economy and its effects on the fast food economy and whether the stocks will have success. To accomplish this goal, the analysis included an examination of six major economic indicators. An examination of the restaurant industry will provide a better understanding of the current state of fast food restaurants and their short and long term growth prospects. This study also includes an in-depth analysis of four companies; two major companies and two smaller companies. After completion of the company analysis, a portfolio will be created with funds invested into each company for a three month period. A prediction will be done on each company to based on it’s finical analysis. Throughout the next three months, these four stocks will be monitored within the portfolio. At the end of the three month period, there will be a realized gain or loss calculated for each company and the portfolio. The results of the gain or loss will indicate the company with the best performance.

**Anthony Palus**  
South Park, Pennsylvania  
Major: Equine Studies

**Experimental Project**

Bedding for horses kept in stalls is a costly aspect of horse care. Choosing the right type of bedding is key to keeping a horse, and its owner, happy. In 2010, the Environmental Protection Agency (EPA) reported that 29% of American waste is paper, making it the most wasted nationwide. The objective of this study was to determine if shredded paper would make an applicable alternative as horse bedding compared to the most commonly used type of bedding. Waste paper was collected at various points around Bethany College for five weeks. Collected paper was shredded and used as bedding for a five-day test period. These results were compared to another test period of sawdust. The result was a shredded paper decreased dust and smell levels but a lack in the support of the horse. Results of wasted bedding are significant, with low levels of dust and high levels of absorbance, but may not be valid due to the lack of sawdust available.

# **Catherine Papp**

Wooster, Ohio

Major: International Relations & German

Minor: Cultural Studies

## **The Specter of Egypt:**

### **A Marxist Critical Analysis of the Egyptian Revolution**

The nature of the uprisings in Egypt has made it worth reconsidering the relevance of Marxist social and economic philosophy. Although many factors went into the overthrowing of Hosni Mubarak's nearly 30-year regime, including the rise of food and energy prices, corruption, lack of representation and freedom, inequality, and poverty, it was largely a movement of well-educated youth who had graduated from tertiary school only to find no jobs available. All of the above has led to an increasingly alienated citizenry, impoverished or unemployed, from their government, where average salary couldn't compare to Mubarak's millions. In order to prove Marx's theory of alienation resulting in revolution, the following factors will be closely examined: labor, society, and the poverty gap, broken down further to education, the political and judicial environment, government policies to tackle poverty.

## **Die Suche nach einer europäischen Identität:**

### **Ein gemeinsames europäisches Geschichtsbuch**

With the success of the bi-national history textbook between France and Germany, *Histoire/Geschichte*, many looked towards using this as the format for a European history textbook, which would allow for further social and political cohesion. I have investigated into whether this format is appropriate for a European history textbook, how cultural memory is formed, and the complications that Europe has still yet to overcome in order to create a collective European historical narrative. In conclusion, I offer a thematic organization for a textbook rather than the classic chronological organization, as *Histoire/Geschichte* is organized, in order to help achieve the goals of creating a European history while keeping the integrity of the many perspectives and experiences within Europe.

# **Meghan Philp**

New Martinsville, West Virginia  
Major: Cultural Studies & Spanish

## **Harry Potter and the Problem of Racism: Race, Power, Identity, and J.K. Rowling's Intent in the Harry Potter Series**

The Harry Potter Series demonstrates hegemonic, hierarchical, and true differentiations of power in the Wizarding world. Through the language of characters and the author, J.K. Rowling, we see a platform against racism, but also how racism is enacted through power inequities in the Wizarding world. This racism is meant to mirror the real world and demonstrates why J.K. Rowling included the topic of racism in her novels. This argument looks at each individual race in the Harry Potter series and analyzes how these actions or the language is racist as well as why the argument Rowling makes is important.

## **La Guerra Civil: Una guerra ciertamente mundial (The Spanish Civil War: A True World War)**

The thesis argues that the Spanish Civil War (1936 to 1939) is actually a World War. The International Brigades, founded by the communist Comintern, brought in combatants from almost every continent to fight for the leftist Republicans, while the Nationalists had help from multiple foreign armies. Because the World Wars and the Spanish Civil War have many similarities, and few resonating contrasts, the Spanish Civil War is an unofficial World War.

# **Kirstie Pomilio**

Elizabeth, Pennsylvania

Major: Psychology & Visual Art

Minor: Religious Studies

## **The Relationship between Religious & Spiritual Mindsets and Anxiety**

Religion and psychology have a unique chemistry, one that is difficult to define. It is interesting how religion can serve as both the cause and the consequence of anxiety. Studies have shown that religious people are less likely to become depressed and anxious than their nonreligious counterparts. Although that may be the case, not everybody labels themselves as religious. Some individuals refer to themselves as spiritual but not identifying with any organized belief system. Eastern faiths and philosophies have exercise like mindfulness meditation and yoga that help reduce stress and anxiety, while more conservative Westernized followers may develop anxieties over concepts like sin and predestination. This study is an effort to break down the complex relationship religion shares with anxiety. I hypothesize that those who have a similar mindset to more liberal and Eastern faiths will ultimately have lower anxiety scores as compared to those who identify better with Western and conservative traditions.

## **A Fine Arts Performance/Show**

The Senior Art Show reception was held on Saturday, April 14 in Renner Art Gallery. The show was a collaboration of the three senior art majors, Kirstie Pomilio, Mat Robinson, and Richard Strassguetl. The show reflected the talent and unique styles of each artist. Mat Robinson's intricately detailed pen and ink drawings got much attention. Richard Strassguetl's Byzantine inspired paintings and pencil sketches of bathers were admired by the guests. Kirstie's photography and watercolor prints were also a hit with the crowd. The show concluded a successful four years for the artists. Each of the seniors had the opportunity to sell their work to admiring guests.

# **Jenny Preston**

Wooster, Ohio

Major: Religious Studies

Minor: English Literature & Creative Writing

## **Buddhism's Prozac**

This paper deals with the practice of mindfulness which is native to the Eastern religion of Buddhism and how it relates to alleviation of symptoms of Depression. As a senior thesis in Religious Studies, this paper focuses on the teachings of Buddhism, the history of Buddhism, and what mindfulness actually means in a Buddhist context. However this paper also deals with the concept of a break through discovery in neuroscience. Scientists are now discovering how mindfulness and meditation physically changes your brain. Through MRI's, Neuroscientist can see how different parts of the brain light up during mindfulness meditation as to brain scans of those who do not meditate. Combining these scientific aspects in a world that demands scientific facts, and the religious aspect of the Buddhist Religions, this paper points out the compatibility between the two entities. After thoroughly investigating these two entities, this paper seeks out the possible controversy of what it means to take something such as a religion out of its context and use it for medical benefit. Can this be done? Through exploring the teachings of the Buddha, this senior thesis decides that the Buddha himself would have given it his blessings through his belief that the dharma will take the form best suited for someone who walks the path of enlightenment. For the Buddha, Neuroscience is no threat to the teachings of Buddhism. It is the goal of this thesis to bring to light this third wave of psychology so that it may be of help to those with whom it concerns.

## **Francis Rios**

Woodbridge, New Jersey

Major: International Relations & Spanish

### **The Viability of a Basque Nation State**

The Basques are an ethnic group that inhabit parts of north-central Spain and south-western France. For years, there have been factions within both nation-states that fight, and speak out, for independence. This paper is an analysis of the viability of such a state on the international stage, in terms of its economy, regional relations, and international relations.

## **Alyssa Schrecengost**

Wexford, Pennsylvania

Major: Business Administration

### **What Is the Economic Outlook for the Wireless Communications Industry, and Which Company Within the Industry Provides the Most Reliable Investment Environment?**

The economic outlook for the United States, and more specifically, for the wireless communications industry is discussed. Four companies (AT&T Inc., Verizon Communications Inc., Sprint Nextel Corporation, and Leap Wireless International, Inc.) are analyzed in detail using research, news, and financial ratios. What is the future outlook for the wireless communications industry, and which company within that industry has the most reliable investment environment? This paper will answer these questions using research, news, and an investment experiment. Sufficient evidence and analysis will be provided to show that the top performer was the smallest of the group, Leap Wireless International.

# **Alexander Stubbs**

Follansbee, West Virginia

Major: Business Administration

Minor: Communications and Spanish

## **Is the Pharmaceuticals Industry Worth the Investment?**

The goal of this project was to find out if it was a good time to invest within the pharmaceuticals industry. The project looks into the health of the economy, pharmaceuticals industry, and five companies within the industry in order to better understand the chance of investing successfully. The final analysis resulted in a positive outlook for both the economy and the pharmaceuticals industry. Also, it was recommended that investments should be made in Teva and Merck, while not investing in Perrigo, Pfizer, and Medco at this time.

**Matthew C. Swartling**  
Wheeling, West Virginia  
Major: Chemistry (Biochemistry Track)

## **Genetic Transferring in Bacteria and Its Effect on Antibiotic Resistance: Escherichia coli and Beta-Lactam Antibiotics**

When the body's normal defenses cannot overcome or prevent a disease, it is typically treated with antimicrobial drugs called antibiotics. These antibiotics must act within the host without causing damage to the host. If this does not occur, it can create problems in the selection of an antibiotic for treatment. To complicate things further, in recent years we have seen the development of antibiotic resistance in bacteria. The primary cause of this antibiotic resistance is a genetic mutation that can occur in several different ways. The purpose of this project was to first, genetically transfer an antibiotic resistant gene through the use of a plasmid and a bacterial transformation process to one specific strain of bacteria, Escherichia coli (JM109) and to produce a "control" sample and a "resistant" sample. These two samples were then tested for antibiotic sensitivity and resistance using the antimicrobial susceptibility disk diffusion method. The intent was to evaluate specific antibiotics, including several members of the beta-lactam producing class, and determine why and how this resistance renders an antibiotic effective or ineffective against this resistant strain of E. coli from a biochemical point of view. Lastly, from this collection of data, it was the intent of this project to compare and contrast these antibiotics and determine on a small scale, what factors can be used to choose the correct antibiotic when dealing with resistance.

**Hannah M. Sweetser**  
Chambersburg, Pennsylvania  
Major: English

**Mad(wo)man**

This poetry collection is based on the styles and themes of Edna St. Vincent Millay and Wallace Stevens. An introduction and exegesis shows how their contrasting styles can be compared and, furthermore, synthesized into what I write. The entire project is tied together by the concept of DNA, in both the writing, structure, and organization of the collection's pieces.

**Rebecca Leanna Thomas**  
Cambridge, Ohio  
Major: Communications and Media Arts

**Disney Final Research Paper: “An Examination Of Amount of Physical Violence in Disney Films: Male vs. Female”**

This study takes a look at physical violence in certain Disney films and compares male and female characters. This research is quantitative and uses a coding sheet to collect data. The results are totaled up and analyzed to see if there is a difference between amount of physical violence and gender. This research is a content analysis and it looks deeper than just the facts. They hypothesis is that male characters will be more physically violent than female characters in the Disney movies Beauty and the Beast, Aladdin, Pocahontas, and Mulan. The males being analyzed did appear to be more physically violent than the females being analyzed. The only movie that did not support this hypothesis was Mulan. This research asks the question of why are the females not as violent as the males and examines gender roles and stereotypes.

# **Daniella Vitale**

Davie, Florida

Major: Equine Management

Minor: Business Administration

## **Effects of TAGteach on an Equestrians Position**

The objective of this study is to see if TAGteach can improve an equestrians riding position. Seven equestrians varying in age, discipline and riding experience were selected to participate in the study. Before the study began each rider was asked to complete a survey about their riding history. The study was done in three sessions. Session 1 was pre-TAGteach evaluation, session 2 was the TAGteach ride, and session 3 was post-TAGteach evaluation. Session 1 and session 3 were both evaluated by a professional instructor. TAGteach was applied for session 2 only. Photos were taken during session 1 as a baseline measurement of the seven riders' positions (shoulder position, hand position, leg position and heel angle). They were then compared to measurements from the photos taken during session 3. In this study the null hypothesis was that the before (pre-TAGteach) measurements is equal to the after (post-TAGteach) measurements. The alternative hypothesis that was used for the study was that the after (post-TAGteach) measurements is less than the before (pre-TAGteach) measurements.

# **Nicolas Wiery**

Youngstown, Ohio

Major: Communications & Media Arts - Advertising

## **Product Categories Advertised in ESPN the Magazine Compared to Sports Illustrated During January and February, 2012.**

This research project explores what product categories are advertised in ESPN The Magazine compared to Sports Illustrated during January and February, 2012. The product categories were solely created and broken down into the categories of automotive, financial, hygiene and health, technology, apparel, media, alcohol, food and beverage, charity and military, and other. A quantitative content analysis is used to determine which product category is frequently advertised according to the number of pages devoted toward each product category. The findings for this study found that the media product category is the most frequently used in ESPN and SI during January and February, 2012. The work of this research uses appropriate data to help determine if the two opposing sports industry magazines have similar or different strategies of the products that are advertised.

**David Yuna**  
Bridgeville, Pennsylvania  
Major: Biology

**Limb Regeneration in Axolotls**

Abstract The objective of this experiment was to test whether various time-related injections of 5-Hydroxytryptophan and L-Dihydroxyphenylalanine would yield greater regeneration rates in the forelimbs of axolotls (*Amybostoma mexicanum*). Approximately 100 axolotls were placed into four experimental groups (time relations of 6,8,10 and 12 hours), and then further divided into sub-groups based upon the clock-time of injections throughout the day. Each experimental sub-group had a saline control group. Forelimbs were amputated and measured along with body length, weight and opposing arm length. Injections of the drugs then occurred on two separate occasions. Measurements were also taken two more times throughout the experiment. Finally light intensity was measured over each container housing an axolotl. Overall, the results showed that the 10-hour time relation between injections of 5-HTP and L-DOPennsylvania showed the greatest amount of regeneration. The results also indicated that greater light intensity reduces the amount of regeneration. Ultimately, after statistical analysis, the results were proven to be not significant.







# Bethany

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