

# *The Senior Project Experience*

Class of 2013



Bethany College  
Bethany, West Virginia



## **British Alexander**

Dayton, Ohio

Major: Communication and Media Arts

### **Music Censorship**

The censorship of music has been occurring for many years, but it became much more controversial when Tipper Gore and her friends formed the Parent Music Resource Center to monitor the lyrics of songs. Censorship attempts to remove lyrics that are considered profane, violent, unlawful, or sexually obscene. This project reviewed songs from three genres--country, rock, and hip-hop/rap. These songs were group into high explicit, medium explicit, and low explicit categories. The explicit and clean versions were examined to determine what was removed from the explicit songs to change them to clean versions, and whether the meaning of the songs were changed by removing the words. Results showed that no matter how many words were removed, the songs still had the same meaning.

## **Hailey Astorina**

Washington, Pa.

Major: Communication and Media Arts

### **Pinterest Promotes Business Growth and Success, Specifically for Whole Foods Market**

Pinterest Promotes Business Growth and Success, Specifically for Whole Foods Market This study examined how the virtual pinboard, social sharing network, Pinterest, promotes business growth and success, specifically for Whole Foods Market. A content analysis was performed by collecting and examining analytics on business success through Pinterest. The data collected was categorized according to three criteria of new media marketing: interactivity, customization and social interaction. Throughout this project the interest in the audience, or receiver of communication, will, and, has been targeted to determine that Pinterest promotes business growth and success for Whole Foods Market. The theory in which I applied to this study was the Uses and Gratifications Theory. Media explosion has resulted in improved media usage overall. Through the three major characteristics of new media, individuals are engaging in online activities now more than ever.

## **Tyler Babinchok**

Weirton, W.Va.

Major: Psychology

### **Would You Rather? Study on Aggression Levels & Hobby Preference**

The study presented is an examination of individuals' aggression levels and whether the levels of aggression correlate with what hobbies they prefer to participate in. To test the hypothesis, a survey was conducted with the "Babinchok Scale of Frustration & Aggression" measuring the levels of aggression with the addition of a list of 34 various hobbies. Fifty-five participants completed the 54 question survey answering questions involving their aggression levels and what hobbies they prefer. The results suggest that aggression levels in individuals appear not to have significant correlation with the type of hobbies the individuals have interest in.

## **Michael Bashioum**

Wyano, Pa.

Major: Physical Education - Teaching Certification

### **The Pros and Cons of Switching from a Bowl System to a Playoff System in Division 1-A Football**

The American ideal does not occur far too often in our lives. In business and government there is little fairness and there is no level playing field. In sports, it is still possible, and fans are desperate for it. Everyone is allowed the opportunity to win fair and square on any given day. A sport without a playoff to determine its champion should not be seen as a sport at all. The NCAA utilizes playoffs to determine its champions in eighty-eight different sports from football to hockey and divisions from Division 1-A to Division 3. All sports that is, except for football at the Division 1-A level. The Bowl Championship Series has complete control of Division 1-A postseason football, and consists of five games. Its most important purpose is to select the top two teams in the country to square off in the BCS National Championship. However, the major factors that influence the Bowl Championship Series is money, television, the desire to get the top two teams facing off in postseason play, and above all power. A solution to the numerous flaws with the Bowl Championship Series will be provided in order to please above all the fans, as well as the big shots of the Bowl Championship Series.

## **Brittany Bizila**

Moon Township, Pa.

Major: Sports Management

### **Alumni Study: Sports Study**

This study was conducted to show what alumni who graduated from 1990 to present have done since they graduated from Bethany College. Within the study the alumni were asked if they attended grad school, how much they make, and what is their current job. The survey was sent out via e-mail to alumni who I was able to get e-mail addresses for. There was a high success rate of returned surveys. The survey asked some personal questions about their beginning and current salaries as well as when they graduated. Many of the surveys' responses included comments which provided suggestions to help the sports related department, along with the majors, be more useful to the undergraduates. A lot of alumni suggested the Physical Education department add a Health and Wellness course along side of the Physical Education major. Other comments were about how the alumni want to be more involved in what is going on here at Bethany College, which even includes the athletic department along with the Sports Studies Majors. Here at Bethany College we have different majors in Sports Studies, which are physical education with teacher certification, sports management, sports communication, and physical education without teacher certification. With conducting the survey, I was able to gather information on how the alumni got jobs when graduating from Bethany College. I was also able to see, if at any certain time over the past years, if it was harder or easier to get a job when just coming out of college with getting an undergraduate degree. The research ended up proving that Bethany College needs to do a better job at helping students be more prepared to enter the work force.

## **Rebecca Braithwaite**

Pittsburgh, Pa.

Major: Psychology

### **Gender Roles: Attitudes Toward Women's Sports and Title IX**

The hypothesis of this study is that males will have a negative attitude towards women's sports, but a more positive attitude toward Title IX, and women will have a positive attitude for both. The study will be conducted using college students of both genders from Bethany College.

The participants will take two surveys. One survey will assess attitudes towards women's sports, and the other survey will assess attitudes towards Title IX. The surveys will ask questions using a Likert scale. The attitudes towards women's sports survey will also include a few multiple choice questions. Each participant will take both surveys and be given as much time as they need to complete each. Scores from each participant will be compared in regard to male versus female attitudes.

## **Tyler Buchanan**

Claysville, Ohio

Major: Biology

### **Analysis of the Adaptive Immune Response Against Tumor Pericytes and VECs in the RENCA RCC Model**

Most recently, DC IL-12 vaccines incorporating HLA-A2 restricted tumor-associated stromal antigen (TASA) derived peptides have been shown to elicit a HLA-A2 restricted type-1 CD8+ T-cell-dependent reactivity against selective tumor-associated stromal cells, but not tumor cells, in HLA-A2 transgenic mice with established HLA-A2<sup>neg</sup> B16 melanomas and MC38 colon carcinomas resulting in tumor eradication or dormancy. The proven efficacy of DC IL-12 vaccines pulsed with TASA derived peptides in the B16 and MC38 models has led to further investigation in the effectiveness of these vaccines in other solid tumor models such as renal cell carcinoma (RCC, RENCA). Delta-like kinase 1 (DLK1) was one of the TASA derived peptides used in the B16 and MC38 models which resulted in effective treatment. DLK1, a known tumor pericyte antigen in renal cell carcinoma, was chosen as the TASA derived peptide for this study. Balb/c mice bearing established renal cell carcinoma tumors were treated by intratumoral (i.t.) injection with DC IL-12 DLK1 on days 9 and 16. CD8+ T-cells isolated from the spleens of treated mice recognized tumor pericytes and tumor vascular endothelial cells (VECs) but failed to recognize kidney pericytes or VECs based on secretion of interferon gamma (IFN- $\gamma$ ). Serum samples from naïve, untreated, and treated mice were incubated with pericytes and VECs from tumors and kidneys of untreated mice and analyzed by Flow Cytometry to detect antibody reactivity to pericytes and VECs. An increase in antibody response was observed in the tumor VEC group. Although the results of this study have indicated a T-cell and humoral response against tumor stroma (pericytes/VECs) these studies must be repeated to confirm these findings.

## **Ryan Busch**

Moon Township, Pa.

Major: Physical Education - Teaching Certification

### **Physical Education and the Healthy in the Classroom**

Abstract: For my senior project I decided to focus on the connection of physical education and health to academic performance in the classroom. I did my study at Moon Area Middle School, in a 7th and 8th grade. As part of my study, I met with three teachers of the Middle School (English teacher, social studies, and physical education) and talked about if they use physical education in their classroom, and some ideas of how to use new physical activities to give their students the best well rounded chance for success in the classroom. In my research I found that students who participate in the recommended amount of physical education each day have the ability to retain more information and have an overall better environment in the classroom. While I was at Moon, I taught the same lesson to a class without physical education, and with physical education. The 8th grade English class that I taught was given a survey with spelling mistakes in it, they got 5 minutes to look over the survey and answer it while looking for spelling mistakes. After the 5 minutes was up, the students did a ten minute physical activity involving math and physical education. I would ask the whole class the same question, if the students got an answer right they got to pick their activity to do, if they got it wrong they did pushups. They then got 5 more minutes to go over the survey and see if they could get any more of the spelling mistakes. The result was that students after the physical activity found more mistakes then they did the first time. I then went to the internet and tried to find factual information to back up my results of my survey and my meetings with the teachers. In my research, I found that there is a connection between receiving the recommended physical activity and a day and success in the classroom. In conclusion, I come to relies that if teachers would use physical education in the classroom they would give their students a better chance in their classroom and would also promote a higher learning environment.

## **Marjorie Card**

Ft. Worth, Texas

Major: English - Literature

### **The Secret of Design: An Ecocritical Study of Matriarchy, Patriarchy, and Nature**

The apparent neglect to incorporate the novel, *The Secret Garden*, in the developing canon of ecocriticism seems ironic, at best, because with the slightest insight into the novel with an ecocritical lens many crucial elements of the human experience are revealed through the tools and theories associated with ecocriticism. In Frances Hodgson Burnett's novel *The Secret Garden*, the systems of Patriarchy must work and operate interdependently and equally with Matriarchy and Nature in order to exist which may best be seen through an analysis of the characters Mary and Colin as they undergo a significant transformation during the restoration of the three systems, referred to as the tripod.

## **Taylor Cassidy**

Barboursville, W.Va.

Major: English - Creative Writing

Minor: Visual Art

### **Regional Voices**

My senior project is a short story collection that is set in a small fictional town named Bertha. Bertha is located in the southwest corner of West Virginia, along the border of Ohio and Kentucky. My main objective for creating this collection was to depict the current realistic struggles that rural towns face in America. My stories take the perspective of different characters and show "the issues" Bertha has from many different angles. The collection was inspired by themes and characteristics from the writings of Donald Ray Pollock's *Knockemstiff* and Sherwood Anderson's *Winesburg, Ohio*.

## **Alexes Cevallos**

Astoria Queens, N.Y.

Major: Communication and Media Arts

### **The Parallels of the Civil Right Leaders Martin Luther King Jr. & Malcolm X to Professor X & Magneto within the X-Men Movies**

The goal for this study is to show how the Civil Right Leaders Martin Luther King Jr. and Malcolm X are parallel to the fictional characters Professor X and Magneto throughout the X-Men films (X-Men, X2 United, X-Men: The Last Stand, & X-Men First Class) which is based on the popular Marvel Comics X-Men and how they have comparable back stories, points of views but most importantly having the same goal.

## **Hilary Clark**

Claysville, Pa.

Major: Elementary Education

Minor: Visual Art

### **Philosophy of Education**

My philosophy of education is a mixture of hands on learning with philosophers: Jean Piaget, Vygotsky, and John Dewey. I believe students learn best by peer to peer learning, scaffolding, and hands on learning.

## **Fletcher Coffman**

Clarksburg, W.Va.

Major: Physical Education - Sports Management

### **Do Men Like to Show off for the Ladies? : Effects of a Coed Weight Room On Male Lifting Productivity**

The Bethany College varsity football team and the varsity volleyball team began their off-season lifting program in the spring of 2013. The football team lifted in two different groups at separate times of the day (morning and afternoon). The female volleyball team weight-trained at the same time and in the same weight room as the afternoon group. The purpose of this study is to support the hypothesis that if males weight-train in a coed environment, then their lifting productivity will increase. The football players were tested before and after the 6-week cycle in three different lifts: bench press, hang clean, and squat. The changes in weight of each lift from the pre-test to the post-test for each player was ran through an ANOVA. The ANOVA helped determine if

there was any type of association between whether the afternoon groups numbers had increased after a 6-week cycle of weight training with females. The analyzed data show that there were no significant levels to help support the hypothesis being tested. Although no associations were found, additional research should be done to further the possibility of advantages for coed weight training.

**Jessica Cole**  
Connellsville, Pa.

Major: Psychology

### **Breakup Distress in College Students**

The objective of this research is to find if relationship breakup distress can cause problems with depression, anxiety, sleep disturbances, academic performances, and intrusive thoughts in college-aged students. A survey was used in conducting the research in which college students whom have recently experienced a breakup answer questions about what they experienced in their day to day lives.

**Patrick Coleman**  
South Park, Pa.

Major: Physical Education - Sports Management

### **How Early is Too Early?: Specializing in Sports**

There has been a recent surge in debates over the topic of specializing in sports. Specialization is when one concentrates his or her efforts in a special activity, field, or practice (“specialize”, n.d.). There is a trend toward specializing in one sport in efforts to become successful. It is very rare to find any two or three sport athletes these days. Common thought is that the younger a child is when he or she focuses on one sport, the better off they will be. Is this necessarily true though? Within this research, the researcher will be discussing advantages and disadvantages to help prove the hypothesis. The hypothesis is to prove that specialization in sports at a young age is not necessary for success. Based on research, the disadvantages of specializing outweigh the advantages, helping to prove the researcher’s hypothesis. Research shows that even though specializing can help an athlete become successful, it is not needed. On the other hand, some disadvantages of specializing are potentially dangerous to the athlete, such as a lack of time management, burnout, and overuse injury. Based off the research found, this researcher found that an athlete does not have to specialize to become successful.

## **Tanner Coles**

Emmaus, Pa.

Major: Chemistry - Biochemistry

### **Silver Nanoparticles and their Effect on Pharmaceutical Spectra in Raman Spectroscopy**

Surface Enhanced Raman Spectroscopy (SERS) can provide ground breaking analysis to different areas of business including the federal government, pharmaceutical companies, and biological research companies. Raman spectroscopy is a method which allows researchers to study the vibrational, rotational and low frequency modes in a system, which in many cases is a solution. SERS can detect and analyze drug mixtures quantitatively, which allows for more efficient quality control procedures and techniques to be developed. Already, Raman has been utilized by the Environmental Protection Agency (EPA) to detect unsafe levels of heavy metals in samples of water. This early detection could allow for the closure of an area surrounding the detected contamination prior to the population feeling the effects. The Federal Drug Administration (FDA) utilizes Raman to test different pharmaceuticals for their concentrations to ensure safety for all who consume the drug. To further continue research similar to the FDA, SERS will be utilized to study major name brand over the counter pharmaceuticals. These pharmaceuticals were analyzed for active ingredient concentrations, which were compared to expected values. This method was tested using silver nanoparticles in solution with pharmaceuticals. The resulting SERS spectra showed that concentrations of different chemicals that can be analyzed. Upon further analysis, the enhanced SERS spectra could be used to determine the active ingredient concentrations of pharmaceuticals to within 1.0% of their marketed values.

## **Kimberly Cornelissen**

Elizabeth, Pa.

Major: Psychology

### **Correlation of Prejudice towards People and Dogs**

To be prejudice means to have negative beliefs, emotions or behavioral intentions regarding another person based on that person's membership in a social group (Binder et al., 2009). A study was conducted to see if there was a correlation between people that are prejudice towards

dogs are also prejudice towards people. Participants were to rate how aggressive each dog was based on the picture shown. At the end of the survey, participants answered questions regarding people prejudice. After tabulating the results, there was no significant difference between people and dog prejudice. There was a significant difference between the dogs people viewed as the friendliest and most aggressive.

## **Stephanie Cramer**

Dunkrik, Md.

Major: Psychology

### **Extroversion as a Predictor of Academic Performance**

This study examined personality traits, extroversion and introversion, as predictors of academic achievement. Previous studies have found that extroversion does have a negative effect on academic performance in higher levels of education. Researchers believe that a more introverted, independent study is required for higher levels of education, therefore, extroverted students struggle more in higher levels of education, because of their preference for their social lives. A sample of 145 participants, students from Bethany College, both male and female participated in the study. Extroversion and introversion were measured with a personality test very similar to the Big Five test, and academic achievement was measured with an online survey that asked questions about GPA and class performance. Students who participated filled out an online survey, and received extra credit in return.

## **Marcus D'Aguiar**

Upper Marlboro, Md.

Major: Visual Art

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

My senior art show took place on saturday, April 13th, in the Renner Art Gallery. I hd somewhere from 7-12 pieces in the show, my favorites being my 3D shoe sculpture's and my balsa wood assault rifle. Along with me peers who were also particapents in the show, we put together an amazing display of artistic creativity for all of the viewers.

## **Olivia Evans**

Avella, Pa.

Major: Biology

### **Antibacterial Properties of Cichorium intybus, Plantago major, and Daucus Carota**

The increased use of antibiotics over the past 50 years has led to a surge in antibiotic resistant bacteria. With first line antibiotics, and at times second and third line, failing to curb the increase in bacterial infections, a new approach must be considered. Plants have aided humans for centuries, with several plants providing countless medicinal benefits. This study examines the antibacterial properties of three plants commonly found in the Bethany, WV area and are known to exhibit antibacterial properties: Cichorium intybus, Plantago major, and Daucus carota. This was tested by using decoctions and tinctures of the dried plant parts in a modified version of the Kirby-Baur anti microbial sensitivity method. The decoctions and tinctures were tested against three bacteria: Pseudomonas aeruginosa, Staphylococcus aureus, and Escherichia coli. Most of the plant extracts did not exhibit antibacterial properties; S. aureus was affected the most, primarily with decoctions. Further research with stronger extracts needs to be conducted in this area of research before concrete conclusions can be made.

## **Cody Eyerman**

Somerset, Ohio

Major: Physical Education - Teaching Certification

### **Football Camp**

Planned, marketed and held the Bethany Football Individual Development Day Camp on April 20, 2013.

## **Brittany Faris**

Washington, Pa.

Major: Social Work

Minor: Spanish

### **The Effects Of Equine Assisted Therapy**

My senior project was about how horses can help children, young adults and even older adults that have some form of a disability improve their social and cognitive skills. Its main focus was on how it helped them in their everyday lives. It showed that small group sessions and single person sessions, worked the best to help these individuals learn their

basic motor function skills along with their simple words and colors; the larger the group the more difficult it was for the instructor to provide the one on one care that some of the individuals may have needed in order to assure that the therapy session had been having its desired effect. The study showed that for this particular facility, that it was a great way to help individuals with a disability because of how small it was, but it was inconclusive for larger facilities as there were not enough people enrolled at this particular facility to make the assumption for the entire disabled population.

## **Andrew Ferguson**

Brilliant, Ohio

Major: Theatre

Minor: Music

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

My project was a performance of Noel & Gertie by Sheridan Morley, it was performed in Maxwell's on February 28th through March 2. Noel & Gertie chronicles the friendship of Noel Coward and Gertrude Lawrence through their years as child actors all the way up to the death of Gertrude Lawrence. I performed as Noel Coward, the show was directed by Professor Luke Hardt.

## **Taylor Fleegle**

Lusby, Md.

Major: Spanish

Minor: Secondary Education

### **Mis reflexiones en estudiar al extranjero en Costa Rica y una comparación entre el sistema escolástico del Estado de Maryland y el sistema de Costa Rica**

My senior project is about my travels to Costa Rica when I studied abroad in 2012. I took notes while I was staying there to have specific memories to write my senior project. The second half of my senior project is comparing different aspects of the schools systems in Maryland to the school systems in Costa Rica.

## **Johnathan Foster**

Cumberland, Md.

Major: Psychology

### **Society. A Cause For Concern: Racial Preferences Among Collegiate Students**

This study extends the previous research conducted by Kenneth and Mamie Clark in their landmark doll study. However, this study examines collegiate students instead of small children. This study also examines the Latino/a and Asian races' racial preferences. I hypothesized that the Caucasian race would be the most overall preferred, with African Americans showing the highest preference toward the Caucasian race. Results of my analyses did not reveal support for my initial hypothesis; however, when qualified by the participants' racial development stage and their gender by racial development stage, there was, in fact, evidence supporting my hypothesis. The discussion both explains and delves into potential explanations for the findings.

## **Demi Frankhouser**

Uniontown, Pa.

Major: Psychology - Pre-Physical Therapy

### **“Boos and Woos” The Effects of Audience on Athletic Performance**

The study performed researched the effects of audience on athletic performance. I hypothesized that there would be a significant positive relationship in the perception of whether an audience effected play positively. Sixty participants took part in a survey made of questions to measure this idea of how audience affects athletic performance. The results were statistically significant and did support the initial hypothesis. Participants survey results suggest that there is a positive relationship between audience enthusiasm and athlete performance.

## **Carly Garneau**

Beavercreek, Ohio

Major: Chemistry - Biochemistry

Minor: Mathematics

### **UV Radiation and Its Link to Skin Mutations**

Artificial UV light is one of the highest contributing factors to skin mutations, which is linked to cancer in many young adults. The use of tanning bed has been steadily increasing over the years and averages

out to about a 20% increase each year in just young adults alone. This experiment is being completed to find out if UV radiation from tanning beds does cause skin mutations, which are linked to skin cancer. Red worms will be used for the experiment because red worms contain several biomolecules similar to those found in humans. Tetraene and triene sterols are just two of the most common biomolecules found in the skin of the worm and humans. When the worms are exposed to the UV radiation, there will be signs of mutations; which increases in severity as the time of exposure increased. The other part to this experiment is testing to see if different levels of Sun Protection Factor (SPF) can provide enough protection to help prevent or even reverse the formations of mutations. The overall results of this experiment showed a connection between mutations and the use of UV radiation. As the time of exposure increased the severity of the mutation increased. This supported the hypothesis. The second part of the experiment was testing if SPF helped prevent the mutations from occurring. The SPF prevented mutations from forming during fifteen minutes of exposure, which supported the overall hypothesis of the experiment.

**Annie Grogan**

Kailua, Hawaii

Major: Religious Studies

### **Women's Reproductive Control Throughout History**

This essay examines women's struggle throughout history for control of their bodies in regard to the control they have over reproduction: the decision and accessibility of abortion and birth control specifically. I will concentrate on women's explicit roles concerning reproduction and their slight variation throughout time. The focus of this essay is to briefly trace the history of Ancient and Western women's roles in reproduction while focusing on the practices and policies dealing with abortion and birth control. I will also discuss briefly the influence patriarchal religion has had on decisions and practices regarding reproductive control, rights and regulations. I will concentrate my research on history from the Paleolithic era in the Ancient Near East ranging to the modern Western world. After tracing the history of birth control and abortion, my main focus will then turn to the response and issues of the post-industrial modern Western world regarding birth control and abortion. I will be including the 2012 Presidential election which is a prime example of the

conflict between religion and government's influence on birth control and abortion policies in modern society. I will also explore the reproductive policies of other modern civilizations as a comparison to the Western, Christian society. It is necessary to visit the policies and practices of history in order to move forward in modern culture. I will seek to show that twenty-first century women should no longer be under patriarchal oppression, as women centuries ago, but rather be valued as equals in a society where women can make their own decisions about reproduction. Through this paper I hope to illustrate the effect patriarchal society and religion has had on women and reproduction throughout time. Also examining religion's effects on modern society and what women can do and have done to change the patriarchal norms and create a culture that is egalitarian.

## **John Haag**

McKeesport, Pa.

Major: Education

### **My philosophy of education**

Democratic teaching has been around for a while, but has it been used to its full potential? Every single educator has a different style of teaching. There are many teaching styles and philosophies that exist among educators. Some typical teaching styles include the authoritarian and democratic perspective. These two teaching styles are at opposite ends of the spectrum. Authoritarian educators act almost as dictators to the students, where the educator holds the true power in the classroom. On the other end, democratic educators let the students have more of a voice and control over their learning experience. I understand that children need to have a voice in their own learning. Many of my teachers I have seen come and go had such a monotonous and classic teaching style. I believe that a "hands on" democratic approach to teaching and learning is necessary in the classroom. Learning is unique to every child, and teachers must understand how important their role is.

## **Katelynn Hackathorn**

Valley Grove, W.Va.

Major: Elementary Education Minor: Special Education & Visual Arts

### **Student Teaching Placement**

I student taught at Hooverson Heights Primary School in a third

grade classroom as well as an autism classroom for 6 weeks at Ritchie Elementary School. I worked closely with my cooperating teacher to better myself as a future educator.

## **John Hajny**

Dillonvale, Ohio

Major: Equine Studies - Pre-Veterinary

### **The Effects of Several Commercial Products and Home Remedies on *Dermatophilus congolensis* the Etiologic Agent of Rain Rot in Equids**

Rain Rot is a dermatitis found among farm animals caused by the bacteria *Dermatophilus congolensis*. There are several commercial products and remedies to treat rain rot. It was hypothesized that these products have different levels of efficacy. *D. congolensis* was cultured in vitro and the efficacy of several treatments was tested and compared using the disk-diffusion method. The results of the test proved that it is more effective to make your own mixture of Copper Sulfate and water at 30% (w/w) to treat the infection than to buy any of the products tested in the study for the same purpose. The Copper Sulfate solution was the most effective treatment tested leading to the conclusion that it will be most effective when used in the field.

## **Edwin Holmes**

Virginia Beach, Va.

Major: Communication and Media Arts

### **Twitter's Effect on the Perception of Sports**

Since 2006 Twitter has been a major source of communication. As of 2012 Twitter had over 500 million registered users. Twitter is used for promotion and a way to spread news faster and easier and for self expression. Among many others the sports industry is one that uses Twitter as a promotional form of communication. Sports teams and athletes individually often use Twitter for promotion and for fan ship. Most athletes have over a million followers and most interact with their followers. This study focuses on determining the relationship between athletes and if their tweets change the perception of how viewers see the athletes and the sport. This interaction between fans and athletes makes the fans feel closer to their favorite athlete or sports teams by being able to converse with them. My goals for this project are to find out the effect of twitter on the sports world and how athlete's tweets effect fans perception of that sport.

# Marcus Kulab Johnson

Los Angeles, Calif.

Major: Psychology

Minor: Spanish

## Conditioning REM Sleep

For many college students, sleep is a luxury they feel they can not afford. Stressed from time constraints, projects, and exams, students often attempt to address their stress with substituting their regular sleep schedule. Ironically, to deprive oneself of sleep would be detrimental to the body and the individual's cognitive functions. During sleep deprivation, the person skips through the four stages of sleep cycle. Stages one through three are responsible for process of low brain activity, while Stage four sleep or Rapid Eye Movement (REM) is responsible for high brain activation such as processing memory. Studies on REM sleep is highly correlated with the completion of complex tasks Empson & Clark (1970). In addition, declarative memory was found to be less affected by REM Sleep deprivation than procedural memory function, although this debate still has not been completely decided (Walker, 2005) Researchers Karni and Sagi (1991) showed that subjects improved in visual discrimination tasks with an cogent procedural component after a period without rehearsal, and the improvement was larger following an interval including REM sleep. More recently, Gais Plihal, Wagner, and Born (2000) found Non-REM sleep (Stages one through three) related improvement in the same visual task as used by Karni and Sagi, wheras Stickgold, Whidbee, Schirmer, Patel and Hobson (2000) showed that the combination of Non-REM sleep and REM sleep is essential for this improvement to occur. Whidbee, Schirmer, Patel and Hobson (2000) showed only visual task discrimination improvement, and not in cognitive functions. In this present paper, the conditioning of detaching sleep stages 1, Stage 2, and Stage 3 in the favor of only Stage 4 is investigated. It is hypothesized that persons can (from their baseline score) obtain an equal or greater score on cognition tests, when conditioned to detach stages one through three from their regular sleep schedule to thirty-minutes every two hours, thus spending the time that would be for stages one through three, freely or productively. After the investigation through the literature review, a research design is made based on the implications of all three journal article.

## **Renée Jones**

Chantilly, Va.

Major: Interdisciplinary Studies

### **Creating Myth: The Commercial and Critical Success of J.R.R. Tolkien's *The Lord of the Rings***

The *Lord of the Rings* established the fantasy genre as not only commercially viable, but even profitable. The roots of *The Lord of the Rings*' unexpected success has been a matter of inquiry for critics and scholars arguably since the series' publication. The success derives from Tolkien's skillfully created combination of contrasting elements. The *Lord of the Rings* couples the narrative structure of a traditional epic romance with a fantastic setting and content to create a historic romance that appeals to readers both through its familiarity and its strangeness. The familiarity of the narrative structure evokes a pleasurable, comforting reading experience, identified by Roand Barths as *plaisir*, while the fantastic elements elicit feelings of strangeness, causing the unsettling but ultimately more rewarding feeling Barth terms *jouissance*. These factors, combined with a copyright controversy made *The Lord of the Rings* widely accessible to college students and drastically increased its visibility, resulting in its eventual success in American markets.

## **Emily Jump**

Milford, Del.

Major: Physical Education - Teaching Certification

### **Bethany College Pitching and Hitting Skills Clinic Guidelines**

The following study was designed in order to benefit and increase the skills of local youth softball players in the tri-state area. The investigator decided to host a pitching and hitting skills clinic through the Bethany College softball team. The goal of the study was to run an organized and effective clinic to benefit participant's softball skills. The clinic success would be determined through participant feedback at the end of each clinic. The clinics were advertised through emails and postings on the Bethany College athletics page. The investigator used a variety of drills to cover key fundamentals of softball hitting and pitching. Focusing on basic mechanics and fundamentals was crucial in enhancing the performance of these young athletes. Video analysis was highlighted in both clinics in order to enhance motor performance through visual feedback. A variety of equipment was used at each clinic to aid the participants in increasing

their fundamentals and performance. A proper instructor to participant ratio was put in place to make sure one on one instruction was available for each participant. A safe and manageable environment was setup along with the following things, and the clinics were very successful and participants expressed that they would be interested in attending a clinic in the future.

**John Kazalas**  
Pittsburgh, Pa.

Major: Accounting

**Whether CVS Corporation or Walgreens Co. is the better Investment.**

My project will determine whether Walgreens Co. or CVS Corporation is the better investment. In determining the outcome, looking into the companies' history and background is essential to see where they have been and how they each have developed over the years. Another important factor when doing investment analysis is how innovative each company is and where they are headed in the future. After gathering background information and other significant research, it is important to define and calculate financial information as well as ratios to help investors make an informed decision. The calculations of the financial information and ratios will help determine which company is a better investment when comparing the outcomes side by side. The ratios that were calculated will fall into the categories of profitability, liquidity, activity, debt, and market. Each of the ratios were calculated and then compared to one another for years 2010, 2011, and 2012. Also, each company's stock information for 2013 as well as investor analysis, will allow for a more informed investment decision. When all of the ratios are calculated, and the information is analyzed a decision can be made on which company is the better investment. The summation of all of the information that was configured concludes that CVS Corporation is the better investment.

## **Mariah Kemmerer**

Royersford, Pa.

Major: Biology

### **Use of *Pseudomonas aeruginosa* as a Diagnostic Tool to Determine the Metastatic Potential of Cancer Cells.**

Tumor metastasis is the major cause of cancer related deaths. There is currently no diagnostic test to predict whether a tumor has the ability to become metastatic. Previous studies of metastatic MTLn3 cells and non-metastatic MTC cells found that the opportunistic bacterial pathogen, *Pseudomonas aeruginosa*, was internalized more efficiently in MTLn3 cells in association with their highly metastatic properties. We investigated this concept further in this study, with the possible outcome of using *Pseudomonas* as a tool to predict the metastatic potential of a tumor. Prostate cancer cell lines, LNCaP, Du145 and PC3, having increased degrees of metastasis were infected with *Pseudomonas* strains expressing mutant forms of the type III secretion effector ExoS, previously found to influence the establishment of *Pseudomonas* infection. ExoS includes GTPase activating protein (GAP) activity that targets Rho proteins and ADP-ribosyltransferase (ADP) activity that targets Ras and ERM proteins, which are altered during tumor development and metastasis. Western blotting and immunofluorescence analyses revealed that inactivation of ExoS ADP activity enhanced ExoS translocation into metastatic Du145 and PC3 cells, with an E379A mutation playing a dominant role in enhancing ExoS translocation. These findings identify the ability of ExoS ADP activity to differentiate metastatic and non-metastatic tumor cells and potentially serve as a diagnostic tool to predict tumor metastasis. (Supported by NIH Grant 5P20RR016477 to the West Virginia Idea Network for Biomedical Research Excellence)

## **Elizabeth Kletzli**

Carnegie, Pa.

Major: Visual Arts - Studio Art

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

For the Visual Arts Senior project, the seniors had to create art and display it in a show at the Renner Art Gallery located at Bethany College. Prior to the show being displayed, seniors were to create news release, post cards, and posters to advertise the showing of their work throughout the years at the school. The show was up for two weeks, and on the 13th of

April, 2013, a reception was held in the Art Gallery to welcome family, friends, and guests to experience the art that was created.

## **Mari Kolanko**

Weirton, W.Va.

Major: Psychology - Pre-Physical Therapy

### **How Big is Your Personality: Does Size Really Matter?**

Perception of a body type has many factors on what that person thinks and how they will act toward other individuals. In this report is an overview of how 130 participants rated Stunkard line drawings of men and women in the topics of desirability, athleticism, health, intelligence, and friendliness. Dr. John H. Hull and I carried out a form of this study in the fall of 2011 at Bethany College, Bethany, WV, with undergraduate students. In the spring of 2013 the same survey was administered to adult employees at Weirton Medical Center, Weirton, WV. Ten mixed-design ANOVA tests were conducted comparing the answers from both male and female undergraduate students and adults. The products yielded from the study shows for desirability, athleticism, and health, most agree on a specific range of body types, but for intelligence and friendliness you may be surprised with what we have found. With asking yourself, "How big is your personality: Does size really matter?" We have found that it often does, but depending on who is doing the judging.

## **Thal Kratzke**

Oak Hill, Va.

Major: Mathematics

Minor: Computer Science

### **Run and Gun Video Game**

This senior project will be building a video game using the Unreal Development Kit, or UDK. The video game will be a run and gun platformer, much like Metal Slug or Contra. The purpose of this is to learn the process of making a game. Video game companies tend to look at what one has created on resumes.

## **Bradley Kubis**

Aliquippa, Pa.

Major: Biology

### **Coarse Woody Debris in the Second-Growth Forest at Dysart Woods, Ohio**

Coarse woody debris was measured within Dysart Woods located in Ohio. This woods has several permanent plots established, two in old-growth and two in second-growth sections of the forest. Measurements were taken in the north facing permanent plot of second-growth. The permanent plot consists of thirty-five individual plots which are 10 meters by 10 meters. These measurements were taken in order to determine the mass and volume of coarse woody debris, along with determining the most influential species and decay class. Logs and snags which were longer than one meter and had a diameter larger or equal to ten centimeters at one point were measured throughout the plots. The total volume of coarse woody debris is 14.9 cubic meters and the total mass is 7.3 megagrams. It was determined that *Acer saccharum* had the largest volume and mass per hectare. The values are 15.0 cubic meters per hectare and 8.4 megagrams per hectare. Also, decay class three had the largest volume with 15.4 cubic meters per hectare and mass with 8.0 megagrams per hectare. Another deciduous forest around the same age had a mass of 16 megagrams per hectare. A coniferous forest around the same age had a mass of 44 megagrams per hectare.

## **Ben Lighter**

Bowie, Md.

Major: Religious Studies

### **12 Step Programs as an Emerging Faith Tradition**

How do we define religion? What makes it possible to have vastly different Eastern and Western traditions fall into the same category? In this project, various characteristics of an Eastern tradition and a Western tradition are analyzed in order to ascertain similar qualities. From there emerges a working definition of religion. As a test, the definition is applied to 12 step recovery programs that are culturally non-religious. The national organization clearly identifies recovery programs as a secular entity. However these programs provide a source of strength in time of need, loving communal support, ritual, and symbolism, all

elements of this project's definition of religion. If the argument of 12 Steps as religion holds, cultural connotations surrounding "church," "spirituality," and "religion" in modern culture could shift ever so slightly. The goals of this project do not include an attempt to break ground on the First Church of Alcoholics Anonymous. The primary goals are to both demonstrate a mastery of concepts involved in defining religion, and validate those in recovery who identify these programs as their personal religious tradition.

### **Gage Lotozo**

Somerset, Ohio

Major: History

### **Reinhard Heydrich**

My project was a research paper on the life of Reinhard Heydrich, a sadistic Nazi general.

### **Brittany Marsh**

Bunker Hill, W.Va.

Major: Chemistry - Biochemistry

### **Biosorption of Heavy Metals by Algae**

Heavy metal contamination in wastewaters leads to many severe complications for the environment and its inhabitants. Traces of these contaminants, such as cadmium, lead or zinc, are found in waterways from different industries and factories, by the release of contaminated wastes through run off, which eventually makes it to larger bodies of water. Consequently, a method of removing these contaminants must be determined. One possible method of removal is uptake by algae. To look further into this method, five species of algae were placed into separate heavy metal solutions of iron and zinc. Using Raman spectroscopy, the exposed algae were compared to control groups. Principal Component Analysis (PCA) was applied to the Raman spectra of the algae. The loadings of the PCA were able to be clustered based on exposure by metal type. The main spectra features were found to be 1000 cm<sup>-1</sup> to 2000cm<sup>-1</sup>, which are in the shift region for amides, proteins and lipids. Further experiments will need to be conducted to examine the mechanism of biosorption by algae.

## **Daniel McClelland**

Moundsville, W.Va.

Major: Chemistry - Biochemistry

### **The Effect of Nanoparticle Exposure on Cell Viability**

The physical properties of nanoparticles make them very reactive, and their size allows them to easily interact with biological systems. Nanotoxicology investigates the toxicity of nanoparticles. Research has shown that exposure to nanoparticles has negative effects on biological systems. Nanoparticles are being expelled into the environment, whether it is from power plants and production companies or vehicle emissions. The main objective of the research was to determine whether or not exposure to gold nanoparticles has a negative effect on cell viability. This was done by exposing Jurkat cells to different concentrations of gold nanoparticles for twenty hours, performing an MTT cell viability assay, and measuring the absorbances of the cultures via a microplate reader. From the various absorbances calculated, statistical analysis was used to determine whether or not the differences in the absorbances between the cultures exposed to gold nanoparticles and the control group were significant. The mean and standard deviation were calculated for each set of absorbances. The t-test was then performed to determine if there was a significant difference in between the experimental cultures and the control. It was determined that exposure to 2.5%, 5%, and 10% solutions of gold nanoparticles did not have significant negative effect on the viability of Jurkat cells.

## **Janae McGinnis**

Hummlestown, Pa.

Major: Psychology

### **Failure Over Motivation**

This research looks at how a failure can cause people to deviate away from the failed task. The participants used are Bethany College students (N=62). They were asked to complete two questionnaires and a test. The test was determined by what group they were randomly put into. This research looked at if receiving negative feedback would make the participants want to retry a similar task to do better. The information found with this study was that the participants didn't show any change when given the feedback.

## **Mallory McKnight**

Paraskala, Ohio

Major: Elementary Education

Minor: Special Needs

### **My Philosophy of Education**

This paper reflects on my educational philosophy views which are progressivism and constructivism. My paper also talks about teaching strategies I used during my student teaching experience.

## **Colleen McNurlen**

Washington, Pa.

Major: Communication and Media Arts

### **From the Gym to the Workplace: Interviewing Professional Women about their Experiences with Sexual Harassment**

This project examines why women are being sexually harassed in the workplace. Showing results from surveys, interviews, and studies done over the years. Also what men look for when they are choosing a victim. In order to understand sexual harassment for this project I will be interviewing four professional women that are in power positions to see if they have seen or experiences sexual harassment and to see their company's policies on the topic. Theories will be linked together to see why sexual harassment happens and what we are designed to think and do about it. People who have been sexually harassed will be able to understand why it happened to them and how to avoid this action again in the future.

## **Katrina Miller**

Avella, Pa.

Major: Communication Media Arts    Minor: Non-Profit Marketing &  
Non-Profit Management

### **Persuasive Elements In Tweets**

This study broke down different elements in tweets and measured which of the elements receives the most engagement from users. Tweets were taken from the famous fast food chain McDonalds, and the well-known soda brand Coca-Cola. The dependent variable in this study is the number of times the message has been retweeted. In order to assess what elements participated in persuading users to retweet, tweets were breaking down original tweets into several categories. Retweets for each of the categories will then be averaged out to find what elements received the most retweets.

## **Bethany Mullins**

Evanston, Ill.

Major: English

Minor: Secondary Education

### **Romeo and Juliet: The Teen Years**

For my senior project, I created a unit plan focused on the text of Romeo and Juliet by William Shakespeare. The unit includes activities that examine the use of language through insults and works on developing the student as a writer. The four week unit concludes with a writing workshop where students perfect two written pieces: one creative and one persuasive that reflect the themes learned while reading Romeo and Juliet. This unit is designed to engage 9th grade students on a personal, relevant level in order to create a better understanding of the text in connection to the world, other texts, and the self.

## **Douglass Murray**

New Cumberland, W.Va.

Major: Psychology

### **Stress on the Rise: A Survey of College Students' Stress Levels Due to Financial Struggles**

This study examines how the economic recession has affected college students' stress levels. Forty-eight undergraduate Bethany College students completed a twenty-nine-question survey. Data were analyzed using SPSS to do a two-tailed correlated t-test. The results indicated that college students who are facing financial struggles have higher stress levels than college students who are not struggling financially.

## **Cortney Newland**

Carmichaels, Pa.

Major: Elementary Education

### **Student Teaching Placement**

Fall Semester 2012 - Wellsburg Primary (Kindergarten) - Avella Elementary (2nd Grade) Philosophy of Education Paper: This is a detailed document on my Philosophy of Education including my thoughts, beliefs, and ideas of education based on several theorist, multiple philosophies, and my own educational experiences in the classroom setting as a student and as a teacher. This document provides the reader with a clear understanding of my teaching methods, techniques, as well as what I feel works most efficiently to create the most effective and successful classroom for all students.

## **Taylor Norman**

Charleston, W.Va.

Major: Political Science

Minor: History

### **The Addition of an Intermediate Appellate Court in West Virginia: Beneficial or Detrimental to The Legal Climate?**

Whether West Virginia should implement an Intermediate Appellate Court to their judicial system due to their recent label as a “judicial hellhole.”

## **Gabriela Nunez**

Centreville, Va.

Major: History

Minor: Religious Studies and Spanish

### **The Council of Trent; the Council that Ended Conciliarism.**

Since the early days of the Christian Church, ecumenical councils were a common practice within the Church to discuss and solve matters related to Christian doctrine. Yet, as the influence and power of the Church grew, so did the power of the man in charge of dealing with its daily affairs, the Bishop of Rome. Constant criticisms on the papacy led to the belief that perhaps one man should not be the overseer of all. This climaxed with the breakthrough of a Reformation outside of the Catholic Church, which evoked a movement of Counter Reformation within the Church. The Council of Trent convened from 1545 to 1563, in order to deal with the Protestant Reformation, and it is considered one of the most important councils in the history of the Catholic Church. The Council not only discussed the Protestant situation, but established decrees that defined Catholic doctrines and traditions, and deposited its trust on the Pope to carry out the newly reformed Church. It became the Council that put a stop to the conciliarist tradition for over 300 years.

## **Matthew Paonessa**

Niagara Falls, N.Y.

Major: Physical Education - Sports Management

### **Compensation for Athletes**

The NCAA has shown an inconsistency when governing their rules throughout the athletic realm of college sports. This rule is too complex to look at all in one, its best looked at broken down to help understand why there is a problem with the rule. This paper shows one part of the

problem with the inconsistency of governing the rule. With Terrelle Pryor and Cam Newton, both have a similar aspect to their investigations. These two case studies during the same season help to illustrate the point being made that the rule needs to be looked at and redone. To help show inconsistencies with these cases, both Reggie Bush and Ray McElrathbey from Clemson will be used as comparisons to the two cases. To also show this, a survey was conducted and thoughts of college fans. Through this survey, information was gathered to see what fans think about the NCAA rules, enforcement, and items that pertain to the case. This rule enforcement of students being paid or compensated to play has brought out the most inconsistencies in my mind.

## **Jared Patrick**

McMechen, W.Va.

Major: Accounting

### **Whether Dominos or Papa John's is the better Investment**

My project will determine whether Domino's Pizza or Papa John's is the better investment. A look into each company's history and background is important in determining what kind of market and success they have developed over the years. Another essential factor when doing an investment analysis is research on the economy in order to discuss how well growth will be for each company. Growing in the economy will be determined by whether each company has innovative and technological capabilities. After this research, it is important to define and calculate financial information and ratios to describe how they can affect an investor's decision. The calculations of the financial ratios help determine which company is a better investment through comparison. The ratios calculated will fall into the categories of profitability, liquidity, activity, debt, and market. After the calculation of the ratios, an analysis is necessary for comparing each company's market strategies and ability to change according to the economy. Each ratio will be calculated and displayed in bar graph form. Stock information for 2012 and projected information will allow for better analysis along with an analysis from financial advisors and management comments. Once all the information is configured, calculated, and analyzed a decision can be made on which company is the better investment. The summary of all the information collected brought the project to a conclusion that Domino's Pizza is the better investment.

## **Olivia Pavlic**

Wheeling, W.Va.

Major: Physics

Minor: Spanish

### **The Wilson Cloud Chamber: A Study of Particle Detection and Particle Physics**

The expansion cloud chamber was invented by C.T.R. Wilson in 1895. It was the first particle detector and was instrumental to the early study of the atom and subatomic particles. Since then, other particle detectors have been invented and the cloud chamber is now an artifact of the past. The study of atomic and sub atomic particles has continued and with more advanced technology it has led to the Standard Model, the generally accepted theory of particle physics.

## **Olivia Pavlic**

Wheeling, W.Va.

Major: Mathematics

Minor: Spanish

### **Analysis and Morphogenesis of the Sprott H System**

The chaotic attractor is seen as the defining characteristic of a type of chaos. The analysis of chaotic attractors is discussed, with special consideration given to the Sprott H system. The structure is identified and analyzed through probability distributions, reconstruction of the phase space, time series, Poincare section, correlation dimension, and the characteristic Lyapunov exponent. These characteristics are then applied to the morphogenesis of the chaotic system. The original system will be evolved using methods set forth by Akhmet and Fen. It will then be shown that the attractor of the evolution of the system carries the same characteristics as the original systems attractor, showing true morphogenesis.

## **James Reeves**

Macedonia, Ohio

Major: Communication and Media Arts

### **Developing Television Programming for Bethany College's Television Station through Focus Groups**

Bethany College has owned a television station broadcasting on BCTV Channel 14 on the local cable provider, Comcast Cable. The contract for the local cable station itself is provided by the town of Bethany with its

current contract with Comcast. The station started with the first student executive producer, Nancy Becker, class of 1977. In the late 80's BCTV made renovations to its station and brought in New Media advisor Jim Forbes to work with Jeff Feaster to continue the work of Russ Cook, a professor with the Communication and Media Arts Department. After these men left to follow their individual careers in the spring of 2009, Doug Sicchitano was hired to advise the department and to continue the work of live programming to the web. However, because of his part time status, no work was done in the studio and programming for the television channel was not pursued. As owners of the channel, Bethany College has been responsible for providing content. For the past five years, the Department of Communications and Media Arts has shown little programming other than a looping slide show of about 30 still photographs which is changed monthly. There is current interest among Bethany students and faculty to devote time and resources to produce better programming for the channel that might meet the needs of the community. This project focuses on determining what the Bethany audience including students, faculty of Bethany College and the members of the local community would like to see offered on BCTV.

## **Cathleen Reid**

Ellicott City, Md.

Major: Elementary Education

Minor: Special Education

### **Philosophy of Education**

The definition of education has gone back and forth between a liberal and conservative view point. As I have gone from observing to student teaching my philosophy of education has adapted. My philosophy of education has adapted to include the utilization of multiple intelligences, differentiated instruction, having an organized classroom, and the Olweus Bullying Prevention Program. This paper examines how I plan on implementing Howard Gardner's Nine Multiple Intelligences into my lessons. Differentiating my instruction to effectively meet my student's learning needs will also be discussed. Making sure a classroom is organized is an important aspect for educators and students. A classroom should have enough room to walk around without feeling cramped or bumping into anyone or anything. Also the supplies in a classroom should be marked and easy to find, especially for substitute educators. As a conclusion the paper will examine the up and coming anti-bullying program, Olweus Bullying Prevention Program.

## **Katy Romitti**

Follansbee, W.Va

Major: Elementary Education

Minor: Special Education

### **Student Teaching Placement**

All teachers have their own philosophy of education and procedures that they use to have a successful classroom. Each has their own opinion of what is effective and what is not. I believe that liberalism, problem based learning and technology in the classroom are essential components to have an effective and well- run classroom. Research and strong opinion has developed this belief for me. Implementations of these components have been put into action during both of my student teaching placements and have seemed to work successfully. Success is the ultimate goal that I have for all the students I encounter. Success, to me, is being an effective teacher that changes lives. Problem based learning consists of problem solving, group work skill, self-directed learning, and the use of critical thinking skills. Technology in the classroom consists of using technologies such as computers, iPads, Smart Boards, etc. in the classroom on a constant basis. Making technology a routine is more effective and efficient because the students need to know how to use these devices. Lastly, Liberalism in education consists of giving the students a say in the rules and consequences that they have to adhere to in the classroom. This instills a sense of responsibility and choice in a setting where the students are used to being given structured directions for everything. It is a nice change of pace for students. All of these aspects make up my philosophy of education and I believe they work as long as the teacher is willing to also put in the work setting the tone of the classroom.

## **Sean Rupert**

Oakdale, Pa.

Major: Physical Education - Sports Management

### **Athletes with Learning Disabilities: Their Perceptions of their Learning Disabilities and their College Support Services**

This study examined the perceptions of NFL and college football players with learning disabilities about their disabilities. The areas that were looked at in this study were what type of learning disabilities the athletes have, how they dealt with the learning disabilities throughout college, what people thought about the athlete having a learning disability,

and NCAA requirements with athletes having a learning disabilities. In addition to summaries of famous professional athletes and coaches with learning disabilities, four interviews were held with athletes that have learning disabilities asking them about how they dealt with their learning disability in the classroom and on the field. The small number of athletes agreeing to participate in the interviews limited the study.

### **Rachel Samlall**

Warrenton, Va.

Major: Communications and Media Art

#### **The Impact that Social Media Has on Consumer Purchasing Behavior**

This study explored the question of whether Social media has an impact on consumer purchasing behavior. The two primary theories used in this study were Media Ecology Theory and Uses and Gratifications Theory. The methodology used was a survey. In order to conduct the research, the researcher distributed an online survey through SurveyMonkey.com with questions related to the use of social media and brand awareness. The study found that individuals prefer being marketed towards online because it was convenient and provided more information up front about the brand or company's products.

### **Dominique Sansbury**

Washington D.C.

Major: Psychology

#### **Attachment Styles: Differences in Processing Time & Emotional Response across Ambiguous and Unambiguous Situations**

Studies have shown that cognitive models that are developed in childhood exist into adulthood and develop what are known as the attachment styles. Past research shows that each attachment style has its own characteristics, behaviors, perceptions and responses. This study will test emotional response and processing time to ambiguous and unambiguous situation scenarios. I hypothesized that secure attached individuals will respond calmly and collectively to both the ambiguous and unambiguous situation scenario and would respond in reasonable timing, but a little faster to the unambiguous. The ambivalent attached individuals will respond frantically to the ambiguous situation scenario and distressed and overwhelmed to the unambiguous situation scenario. They will respond very quickly to both situation scenarios. Avoidant attached individuals will respond very slowly to both situation scenarios and with a passive emotional response.

## **Erin Scrimger**

Reisterstown, Md.

Major: History

Minor: German

### **From Folk Culture and Language to Blood and Iron: The Change in German Nationalism Ideologies during the Nineteenth Century**

During the Nineteenth century, two different concepts of Nationalism presented themselves in Germany. The first option was championed by Johann Gottfried Herder and emphasized the influence of cultural traditions on a group of peoples or country. These included folk songs, stories, and especially the importance of language in creating a cultural identity. The second ideology stressed the influence of politics on Nationalism. This form of Nationalism is represented by the thoughts and actions of Otto von Bismark. Both philosophies grew out of contemporary movements. Influencing Herder was both the Enlightenment and Romanticism, while Bismark was more influenced by to push of countries to assert themselves and the Industrial Revolution. Ultimately, the political Nationalism won out in Germany, and this project explores why by comparing the two ideologies and the world at the time of both of these men.

## **Charles Seel**

Elkins, W.Va.

Major: Chemistry - Biochemistry

### **Molecular Modeling & Anticoagulants**

Used a molecular modeling program to test the binding abilities of three different anticoagulants to their target proteins or macromolecules. The three anticoagulants used were heparin, warfarin, and dabigatran. The molecular modeling program used was AutoDock Vina.

## **Bethany Selph**

Whiting, N.J.

Major: Psychology

Minor: Criminal Justice

### **Human Sex Differences: Are You Even Listening?**

Human sex differences were examined in this study, in terms of which sex is more likely to respond to different types of stimuli. The two specific types of stimuli presented were auditory and visual, in the forms of poster and PowerPoint presentations, as well as verbal information paragraphs. The hypothesis stated that human males were more likely to pay attention

to the visual stimuli, and human females were more likely to respond to the auditory. The data was analyzed using a Crosstabulations and Chi Squared. It was found that there is a significant difference between men and women. Women are actually more visual than men, and in one case men are more auditory than women.

## **Chelsey Sheppard**

Prosperity, Pa.

Major: Psychology - Pre-Physical Therapy

### **The Effects of Background Music on Memory**

The purpose of this research study was to see if memory recall would be better when music was playing or when there was no music playing. My hypothesis is that memory recall will be better when there is no music playing. There were 23 participants in this study ranging in ages from 18-25. The design of the study is a repeated-measures analysis of variance. Participants were asked to look at images for one minute while music was playing, then the images were taken away and they were given 30 seconds to write down as many images as they could remember. This same process was repeated for two more types of music and once with no music. The results of the study showed that the results were significant and memory recall was better when there was no music playing. The results of this study do have real-world implications in that it shows that memory recall can be better when distractions, such as music and noise, are eliminated.

## **Kayla Smuck**

Weirton, W.Va.

Major: Visual Arts - Studio Art

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

My senior art show is in the Renner Art Gallery and the reception will be held April 15th. The show has six seniors and we all have 14-20 pieces per person and they had to be our best work over the past years or previous years. We are required to bring our pictures of our pieces to the library and an artist statement.

## **Heidi Soriano**

Austintown, Ohio

Major: Elementary Education

Minor: Special Education

### **Student Teaching Placement**

For my senior project, I student taught for seven weeks in a general elementary education setting and seven weeks in a special education elementary setting. My general education placement was in a third-grade classroom at Franklin Primary School in Brooke County. My special education placement occurred in a resource room for second and third graders at Weirton Heights Elementary School in Hancock County.

## **Cassandra Spalding**

Claysville, Pa.

Major: Biology

### **The Effects of Melatonin on Chromatophore Area**

The skin color of an axolotl depends upon pigment cells known as chromatophores. Chromatophores have pigment-containing, light-reflecting granules in cells that are found in amphibians, fish, bacteria, reptiles, crustaceans, and cephalopods. These cells contain three types of pigment that are found in an adult axolotl's skin: melanophores, xanthophores, and iridophores. The process known as metachrosis (blanching), allows the axolotl to adapt their skin color to the changes in the immediate environment. This is induced by the pineal gland, which regulates the dispersion of the hormone melatonin. Melatonin is the hormone that regulates blanching in axolotls which quickly gathers the melanin-containing granules, and are then situated around the nucleus of the cell to induce blanching. During this experiment, seven axolotls were subjected to ten milligrams of melatonin for twelve hours in two hour increments for a total of twenty four hours in continuous light. Prior to melatonin exposure, each axolotl was subjected to a before melatonin photo. After twenty four hours in a melatonin aquaria, the axolotls were subjected to another photo, this one for the after effects of melatonin. The images were uploaded onto Motic 2.0 Software program to allow for image comparison. Each before and after axolotl were compared by selecting three chromatophores on each before and after image, and were measured for changes in their area. These results were presented

in three charts, each with two scatterplot graphs. The scatterplot graphs represent the chromatophores before and after exposure to melatonin. Upon collecting all results and graphs, the data strongly suggests the exposure to melatonin causes a 33% decrease in chromatophore area.

## **Victoria Spriggs**

Hackettstown, N.J.

Major: Visual Arts - Studio Art

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

The Bethany College 2013 Senior show was held in Renner Art Gallery. The show was on display from April 5-14, 2013. This show featured the following senior visual art majors Carl Cosentino, Kayla Smuck, Victoria Spriggs, Brennan Davies, Marcus D'Aguiar-Alexander and Elizabeth Kletzli. On display was a combination of various artistic media, from ceramics, printmaking and painting. My work was mainly 2D in nature containing a large number of paintings. This show took several weeks to arrange and was a collaboration of the various talents of these artist's.

## **Kenneth Stables Jr**

Bel Air, Md.

Major: Psychology

### **A Correlation of Genetic Factor Taste Buds and Painful Experiences to Pain**

Pain is something that is found universally across human existence which is a very important defense mechanism. Because pain is subjective, this results in the extreme difficulty of measuring it; what one person may regard as extremely intense, another person may regard as barely noticeable, and vice versa. The following experiment was conducted to see if there is a significant genetic relationship between taste buds and painful experiences to pain using the Modified Green Scale for rating. Forty-six participants volunteered for this study, 23 males and 23 females. Results in regards to the relationship between pain and the number of taste buds were not enough to be significant. The relationship of participants' top three (3) most painful experiences to pain resulted in one significant relationship, that being the third top ranked painful experiences and pain. The regression model used in the experiment yielded significant results, as well as three (3) significant coefficients was found: rank one, rank two, and taste buds. Limitations and directions for future research are mentioned.

## **John Sticha**

Murrysville, Pa.

Major: History

### **Disaster of Omaha Beach**

6, June 1944, is a day that will live in infamy. On this date the Allied Forces of World War II began their invasion of Western Europe through Operation Overlord, storming the beaches of Normandy, France. This was the largest amphibious invasion ever attempted and overall was one of the most successful invasions in human history. Combining forces, the United States, Great Britain, and Canada, successfully landed forces on the western coast of France and a few miles inland, which at that time were heavily controlled and defended by Axis powers. Normandy beach, the focal point of the invasion, was split into five different sections; Juno, Gold, Sword, Utah, and Omaha. United States forces were to invade the sections of beach named Utah and Omaha. These two were some of the bloodiest sectors of the invasion, costing thousands of Americans their lives in a matter of hours. This operation was planned for several months prior to the actual date of invasion, but crucial information about the German defenses that were available to the Allied intelligence were overlooked. Poor decision making by American officers, in all aspects of the invasion were displayed throughout the entire day. Officers responsible for clearing the invasion went ahead with it despite poor weather conditions, instead of delaying till weather conditions were more stable. While, overall the invasion was considered a success, unnecessary amounts of American lives were lost on Omaha beach, gallantly fighting under a misinformed invasion plan, with unsuccessful preparation, poor decision making, and inclement weather conditions.

## **Kayla Taormina**

Monaca, Pa.

Major: Psychology - Pre-Physical Therapy

### **The Correlation between Sporting Event Outcomes and Romantic Relationships**

This study looked at the correlation between sporting event outcomes (i.e. victory or loss) and romantic relationships. I hypothesized that romantic partners will rate their relationship as being more satisfying and enjoyable following a winning game outcome and demonstrate

higher levels of negative affect and irritability after a loss. One hundred and two college students completed a survey requiring them to report on their mood as well as their significant others behavior toward their relationship following a game outcome. Results from this study supported the initial hypotheses. Participants reported less enjoyment interacting with their partners following a defeat. Male participants tend to allow game outcomes to negatively affect their romantic relationship following a defeat.

## **Summer Terrell**

Bridgeville, Pa.

Major: Elementary Education

Minor: Special Education

### **Student Teaching Placement**

I student taught at South Central Elementary School in Canonsburg, Pennsylvania for my general education practicum. Working collaboratively with my cooperating teacher, he taught me many things regarding classroom management, time management, organization skills, and multisensory education. My special education practicum was in Ritchie Elementary School in South Wheeling, WV. My cooperating teacher, Jen Shriner, was great; she helped me adjust to the special education setting, walked me through assessments (both formative and summative), and helped me become part of each child's learning experience.

## **Marlo Trabert**

Wheeling, W.Va.

Major: History

Minor: Secondary Education

### **A Win or Lose Situation: The Hidden Agenda of Title IX**

Just a few short years after Dr. King's speech on Washington and all the Civil Rights Movement issues were settling down, a new issue was being introduced as a way to increase the equality among American college students. Title IX, known as the "Landmark Civil Rights Law", was introduced and passed by Congress in 1972 as part of the Higher Education Act and officially enforced by 1975. However, why has there been so much controversy over a law that was written to ensure equality for all in an educational environment? Questions have been asked and have raised concern about how fair this ruling actually is. What is the real issue behind this regulation about equal opportunity? Title IX seems

more beneficial to women and toward athletics, yet it is an educational act. There seems to be more than meets the eye and a hidden agenda when dealing with Title IX.

## **Jason Utt**

New Martinsville, W.Va.

Major: History

### **A Love Triangle: Society, Business, and Government in America during the 1920s**

The information provided within this research will highlight Henry Ford's impact on society and big business, politics concerning mass production and mass consumption, and society itself throughout America in the 1920s to explain how the relationship of a fiscally careless society and conservative government worked to create a boom for the economy – a boom that would be shortly followed by a bust in which all played a major role. The automobile industry can be credited, in this research, as the driving force behind big business. Industry became so apparent in the 1920s that it seemingly controlled the country, rather than the elected government. This can be supported by the idea that the people elected a government whom they knew would allow the big businesses of the time operate at their own will, not under strict regulations. Essentially, the government was working with the people by not working with them. The stock market crash of 1929 in America was directly aided by Henry Ford's company as a result of a society feeding their needs and a hands-off governmental approach.

## **Maria Vallone**

Rochester, N.Y.

Major: Physical Education - Teaching Certification

### **Bethany Softball Offseason Conditioning Program**

Every year the Bethany College Softball team completes an offseason conditioning program. The main goal of this program is to prepare the players for the upcoming spring season. It is a 14 week program that includes resistance and endurance training. The players are tested before completing the program and again after in 17 different areas. After analyzing the results, the overall program proved to be effective. All of the weightlifting tests yielded significant results. On the other hand, 4 of the endurance tests concluded that the athletes had not significantly improved. This result may have been due to players not properly

completing the program or the ineffectiveness of the cardiovascular workouts. The program proved to be effective overall and improved the fitness of the softball players in many areas.

### **Joseph Voithofer**

Morgantown, W.Va.

Major: Social Work

Minor: Criminal Justice

#### **The Impact of Socio-Economic Status on Crime in West Virginia**

This researcher decided to look at if someone's socio economic class had an effect on the types of crime people may commit in their area they live. The researchers thesis is that people in the southern and more rural parts of West Virginia experience different crime that are related to the socio economic status for the people living down there. The researcher decided to send a questionnaire to a federal law enforcement agency that serves the two districts that West Virginia is broken up into. The officers were asked to rate the type of crime they see in their district along with why they believe certain crimes are occurring.

### **Cameron Ward**

Toronto, Ontario

Major: Physical Education & Sports Studies

#### **Canuck FC Mock Soccer Camp**

Year after year, parents are given opportunities for to send their children to a wide variety of camps every summer. These camps provide opportunities for children to experience social interaction, enjoyable activities, and learn through play with other children of similar age and interest. This project looks into the inner workings and outcomes of running an overnight soccer camp along with what is involved in putting a successful camp together.

### **Joseph Ward**

Washington, Pa.

Major: Mathematics - Education

#### **Trickle In and Let the Treatment Begin**

Mobile water treatment facilities create the option of cutting out the middle man to save companies such as Chevron money for transporting water more than once. The ability to treat a pit – a giant hole in the ground lined with an approved liner takes proper knowledge of

chemicals, safety, training, and practical decision making skills. A crew is properly trained in all necessary categories, and kept up to date by getting recertified. Behavior-based observations are done monthly by the safety personnel of the company to make sure of safety is the number one priority. The objective of this project is to prove that there is a positive correlation between the pit sizes versus the amount of chemical used. Mobile water treatment for Comtech Industries, Incorporation has only been operating for a few years, and is constantly trying to improve the process. In the future, pits will be mobile tanks, and the exact amount of water in a tank will be known by the level indicators on the side.

## **Sara Witmer**

Pen Argyl, Pa.

Major: Equine Studies - Pre-Veterinary

### **Equine Facial Hair Growth Testing and Its Link to Motor Laterality**

Being able to identify performance weakness prior to beginning a horse's training could save time, money, and patience for many trainers and personal horse owners. A swirl, whorl, or tricoglyph, other common names, are located on a horse's face is now being looked at as a potential identifier as to whether a weak side of a motor laterality is present in a horse's way of going. Through initial evaluation of horse's facial whorls and then running a natural turn test and a step-test, it could be confirmed possible that the idea from Sean Arkins and Jack Murphy in Limerick, Ireland may become a true theory through future research and testing. The benefits of this recent research, if it is to be tested more to be confirmed true, could be a break through into a new outlook in training; not only on a community level but in the horse racing industry as well. The purpose of this study is to investigate the validity of the conclusions made in a previous experiment held in March, 2008 by running the concept on a smaller scale. In addition to these conclusions, a couple other 'do-it-yourself' home tests are also up for validity testing. There will be two main tests, and then some picture analysis for the hair rotation growth on the horse. The main goal is to see whether the tests and the results from the previous study in 2008 can be confirmed possible on a smaller scale, with a wider variety of horses, and no mounted riding evaluations taking place.

## **Ashley Wright**

Coshocton, Ohio

Major: Psychology - Pre-Physical Therapy

### **Perceived Characteristics of Socio-Cultural Norms of Body Image**

In a faux study that I did for writing papers in psychology, I proposed using stunkard drawings to develop questions to understand how college varsity athletes and college non athletes view their body image and the perceptions of others bodies. This study will not only look at these two scenarios, but also look into how gender plays a role in body image, how different races/ethnicity groups view their bodies and others, and in general how the participants view underweight, skinny, normal, fat, and obese body size differently. Randomly assigned undergraduate participants will view stunkard drawings, then rate each of the five drawings of both male and female on twenty-two characteristics. Males and females will be included in each group permitting male/female drawings, male/female participants, and interactive effects.

## **Gregory Wrightsman**

Cortland, Ohio

Major: Religious Studies

### **Reality in the Virtually Religious Realm**

This is a research based project that uncovers why religious practitioners are driven to the religious life online. This project distinguishes the differences between “religion online” and “online religion.” “Religion online” is religious practitioners using the internet for information access and for communications for the physical world. “Online religion” is when religious practitioners use the internet to fulfill the needs of ritual and devotion. With that in mind, I look into new identities being created from religion online (or online religion), explore the physical and virtual worlds viewed as separate and how they are also in constant interaction with one another even before the internet; and finally show how the virtual world is a way for practitioners to “become divine.”

## **Simeon Young**

Washington D.C.

Major: Communication and Media Arts

### **How Twitter Was Used to Represent the NFL in the New Hitting Rules**

The NFL is a sports platform that has always been one of the most popular of sports, which people see and talk about on a daily basis. Newly brought into sports too is social networking. Social media itself has greatly influenced society's sports consumption and perceptions. In particular, websites like twitter has become very popular for the NFL. This project codes and categorized tweets and retweets surrounding the new NFL hitting rules.

## **Jessica Zavatchen**

Uniontown, Pa.

Major: Psychology Pre Physical Therapy

### **Jealousy and Relationship Quality: Can You Be Happy and Jealous?**

This study focused on levels of jealousy men and women experience in romantic relationships, along with how jealousy and relationship quality are correlated. I hypothesized that women will tend to be more jealous in romantic relationships than men. I also hypothesized that jealousy and relationship quality will be negatively correlated. Sixty-three participants from a small liberal arts college took part in the Relationship Assessment Scale and also answered questions involving jealousy in relationships. Independent groups t-tests were used to analyze the data and determine if there was a statistically significant difference in jealousy between men and women. A Pearson correlation was performed between select questions to determine a correlation between jealousy and relationship quality. The results show a statistically significant difference between women and men in six of the twenty-three jealousy statements, and women tend to be more jealous. But, relationship quality and jealousy do not correlate as strongly as I originally hypothesized. Jealousy levels are self-measurements, which could cause results to be skewed. Jealousy is a widely studied phenomenon that has many implications with relationships that are important to study through surveys and experiments, whereas relationship quality can also be a factor in jealousy.

## **Charles Ziants**

Moundsville, W.Va.

Major: Sports Management

### **The NFL and the Concussion Crisis**

My project was to show the severity of concussions and how they should be treated with extremem caution. By using the NFL I showed that it can end players careers. I studied whether there was any correlation between head injuries and career length.

## **Kelly Zogran**

Pittsburgh, Pa.

Major: Physical Education and Sports Studies

### **The New Tobacco of Today: The Rise of Obesity**

Obesity has reached an epidemic all over the world. People of all ages are becoming overweight and obese. This is happening because people are consuming more fast food and decreasing their physical activity level. Children, adolescents, and adults are becoming obese and overweight because of environmental factors, lifestyles, preferences, and cultural environment. Frequently eating fast food and seeing all of the advertisements for it can cause people to crave it. These urges make it more likely that a person will drive to get this quick, easy meal. When consuming these quick, easy meals, people do not realize what kind of calories and fat they are putting into their bodies. However, when there is no limit to the amount of food that can be ordered and portion sizes can become excessive; the larger the portion sizes the more sugar, sodium, fat, and calories. There have been many case studies performed proving that fast food is a major cause of our world's obesity problem. Not only does it include all ages but it also affects genders and ethnicities in different ways. Consequently, both over-consumption of calories and reduced physical activity is resulting in obesity.

# **Zachary Zozula**

Claysville, Pa.

Major: Communications

## **Star Athlete Effects on Soccer's Fan Base**

The basis of this study is to gather and analyze information to find if star athletes have an effect on how college soccer players react to a professional team. Do fans go primary to see the overall team or do they go to watch the individual superstars? Information will be collected through a focus group of four to eight people that consists of current college soccer players at Bethany College. The primary theories that are used in this study are semiotics and symbolic interactionism. These theories are used to support and show how a person's awareness of a certain team is affected by star athletes.



# Bethany

*A Small College of National Distinction*