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The Committee gives deepest thanks to
Ms. Jill Lynott and Ms. Grace Morrissey
for all their assistance in organizing this forum.

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Katlyn Beaton, Aubrey LeDonne, Michael Magistro, and Kenia Sedano  
Sponsored by Dr. Ann Cerminaro-Costanzi

The Role and Effect of Eroticism in Hispanic Literature

The intent of our presentation is to highlight the role and effect that eroticism has had in Hispanic literature. The group will be illustrating the importance of eroticism in two novels, Como agua para chocolate by Laura Esquivel and El elogio de la madrastra by Mario Vargas Llosa, and in various poems by Federico García Lorca and Pablo Neruda. The theme of eroticism has been an integral part of Hispanic literature since its origins. Beginning with El libro de buen amor through La Celestina, El Quijote, the mystic poetry of San Juan de la Cruz, and the twentieth century writings of Federico García Lorca, Gabriela Mistral and Pablo Neruda, erotic themes and imagery have always been present. Still, societal forces have continually sought to censor or discredit this content. To this day, eroticism continues to dismay audiences who often mistake it for pornography, when in fact, its constant presence throughout literary history tells us that it speaks to something instinctive and essential in the human experience, something worth depicting for countless artists, and for us, something worth studying.
Amanda Battle  
_Sponsored by Dr. Andrew Dattel_  

The Relationship Between Inattentional Insensitivity of Visual, Tactile, and Olfactory Stimuli

Thirty-six participants were tested on inattentional blindness (IB), inattentional insensitivity for tactile stimuli, and inattentional insensitivity for olfactory stimuli. Inattentional insensitivity (IIS) is the inability to detect the sensation of a salient stimulus while performing a task within a congruent sensory modality. The Invisible Gorilla video (Simons, 2003) was used to test IB. Half of the participants were tasked while engaged in each sensory condition, and half of the participants were not tasked. Chi square analyses showed that tasked participants displayed more IB than non-tasked participants. In addition, tasked participants in the tactile condition displayed more IIS for a salient tactile stimulus than participants who were not tasked. No differences were found between groups for IIS in the olfactory condition. High working memory (WM) participants showed better performance than low WM participants in the tactile task. High WM participants also showed better performance during the visual condition (i.e., higher accuracy for basketball counts). Finally, results suggest a possible relationship between IIS with performance across different sensory modalities.

Ashleigh Gillet  
_Sponsored by Dr. Andrew Dattel_  

Reading for Pleasure and Creative Thinking

This experiment will measure whether or not people who read for pleasure think creatively and vice versa, are people who think creatively more likely to read for pleasure? This study will be breaking down creativity to its most basic form. It will also break reading up into two parts; reading for pleasure and reading for necessity. By breaking each of these down it will be easier to study and see if in fact creativity and reading are comparable. Creativity being measured specifically through the arts. In this study the independent variable is reading for pleasure and the dependent variable is creative thinking. The expected result for this study is that there will be a positive correlation between reading for pleasure and creative thinking.

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Poster Presentations

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Samantha Coco  
_Dominate the Box Office: Predictive Characteristics of Book-Based Films_

**Communication Arts**

Vincent Schultz, Autumn Granza, Lindsey Matylewicz, Satara Dickey, Evan Felser  
_CMA’s Spring National College Media Convention_

**Communication and Speech Disorders**

Stephanie Borger, Sidney Kishbaugh, Danielle Plunkett, Amy Micklos  
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**Health and Physical Education**

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_Non-Contact Femoral Fracture in a Healthy High School Football Player: A Case Study_

Kurtis Kessler  
_Great Toe Fracture: A Case Study_

**Mathematics**

Joshua Carey  
_The Bisecting Envelope of a Triangle and other Polygons_

**Nutrition and Dietetics**

Catherine Carter  
_Registered Dietitians’ Personal Use, Perspective, and Education Level of Intuitive Eating in the Southern Tier of New York and Northeastern Pennsylvania_

**Psychology**

James Armstrong  
_Psych Department: Scheme Expectations and Perception Stability_

Jared Arzie  
_Effects of Media on Gender Attitude_

Olivia Basar  
_Lyrical and Instrumental Music During Study Tasks:_
Motivation, Normative Claims, and Necessary Irrationality

Prima facie, it may seem that someone who is not motivated to do what she thinks she ought to do is irrational. We may think that it seems intuitively nonsensical if a person recognizes a given claim as normative and applicable to herself, and yet is not motivated by the claim or does not act upon it. Surely, this is a much more complicated issue. In fact, this claim hinges on several concepts, grounded in teasingly diverse areas of philosophy: the definition and application of necessarily, what it means to be irrational, and, indirectly, what it means for something to be a normative claim.

Given a case where a person is not motivated to do what she thinks she ought to do, in order to evaluate whether that person is necessarily irrational or not, we must explore what we mean by ought statements, necessity, and rationality. In this paper, I shall offer definitions of these concepts extrapolated from relevant philosophical discourse, and then I will argue that under these conditions, a person is not necessarily irrational because rationality is entwined with an actor’s reasons.
Paper Presentations

Chelsea Sheehan  
Sponsored by Dr. Brian Monahan

Crime in the Times: Comparing Online and Print Crime Coverage in Local News

Crime is arguably the most prominent topic in local news, often occupying the first few minutes of television newscasts and the front page of print coverage. This study examines the representation of crime in print-based local news by comparing online coverage with traditional coverage provided by the same news source (The Scranton [PA] Times-Tribune). Data are taken from a sample of thirty days of news coverage of crime content from a six-month period. The analysis explores the overall presence of crime content (relative to other topics), the types of crime featured, and the placement of crime stories in each format. Preliminary findings will be presented, followed by a discussion centered on how the move toward online coverage may influence the form and content of local crime news.

Rebecca Schwalb  
Sponsored by Dr. Jeremy Rich

False Hope: The Effect of Egypt’s Arab Spring on the Marginalized Groups in Egypt: The Quest of the Muslim Brotherhood and Egyptian Women for Equality in Democracy

This paper examines the "failures" of the Arab Spring to deliver promised socio-political change for the marginalized groups of Egyptian society. Focusing on two very different, but not unrelated groups, this paper offers a historical look at both the Muslim Brotherhood and Egyptian women before and after the Arab Spring. The paper addresses the socio-political progress sought by each of these groups as well as their involvement with and reactions to the various regime changes in Egypt from 2011 to 2013. By looking at the Muslim Brotherhood and women's rights activists, groups with sometimes opposing ideologies, as well as their political trajectories within the overall disappointment in the political agency or lack thereof afforded to them after the Arab Spring events, this paper argues the overall failure of the Arab Spring to improve socio-political status of Egypt's minority groups and identifies the systemic obstacles to the socio-political changes they seek.
Socioeconomic Factors and Suicide

Suicide is a top ten cause of death in the United States and has many influencing factors. Socioeconomic status is very important and crucial in society and does the pressure or difficulties involved with this influence one’s decision to commit suicide? The study uses multiple regression as well as bivariate analysis of data in conjunction with literature review to understand the socioeconomic factors that cause suicide. Data from the Sweet/Martin SPSS data editor (STATES10) was used to analyze and interpret data to answer the research question of “do socioeconomic factors influence one’s decision to commit suicide. Results from data analysis found that there was no statistical significance in the tests run through the data editor. Findings from literature review however found statistical significance between socioeconomic factors and suicide.

Risk Factors Predicating Adolescent Suicidal Behavior

“This suicide doesn’t end the chances of life getting worse; it eliminates the possibility of it ever getting any better.” – (SAVE, 2013)

The current study examines the relationships between suicidal behavior and common risk factors such as substance use and depression among American adolescents. This study utilizes the National Longitudinal Study for Adolescent Health, (Add Health), a nationally representative sample of more than 90,000 adolescents in grades 7-12 in the United States. The survey responses from the 1994-95 Wave 1 Data of the Add Health Study: Social, Behavioral, and Biological Linkages Across the Lifecourse are used in performing this study. Regression analysis is used to explore the association between suicidal behavior (suicidal ideation and attempts) and substance use (alcohol, marijuana, cocaine); as well as measures of other social risk factors (depression, hopelessness, and easy access to alcohol, drugs, and firearms within the home). Among these measures, demographics such as age, gender, race, and ethnicity are considered. The results demonstrate that adolescents reporting depression and hopelessness have the strongest association with suicidal ideation and attempts.
Alicia Reger  
*Sponsored by Dr. Brian Monahan*

**What Makes A Happy Marriage?: Exploring Social, Economic, and Relationship Factors**

A number of things can determine marital happiness; these things include money, sex, and the amount a person works. This study looks at how these elements and how they can measure marital happiness in people who are currently in a marriage. Several variables, including sex, satisfaction with income, sex with someone other than their spouse, and labor force status, will all individually go through bivariate analysis with the dependent variable of marital happiness. Knowing this, all variables then can be compared to one another as a whole through linear regression. Significance levels can be viewed from both bivariate and linear regression. The data derived from such methods suggests that three out of the four variables in fact influence marital happiness: sex with someone else, frequency of sex, and financial satisfaction. It also suggests that labor force status does not influence marital happiness with the other variables in the picture. However, while it remains insignificant in the bivariate analysis, it does begin to have a stronger relationship with the dependent variable when it is the only one that influences it.

Michael Sexton  
*Sponsored by Dr. Brian Monahan*

**Does Being Male or Female Really Affect the Amount of Sex You Have**

My research study is Sexual Frequency and the difference between males and females. A number of things that affect how often a male or female has sexual intercourse are things such as how much education someone has received, if they are male or female, if you have a strong religious faith and background, if you have a strong opinion on premarital sex and if someone’s socioeconomic index affects how much sex someone has. All of my independent variables are going to be run through bivariate analysis with my dependent variable of sexual frequency followed by linear regression which compare all of my data and allow me to figure out if they are significant or not. With strength of religion it is not significant in affecting how often someone has sex, even though common sense would make it seem like it did. All of my data combined makes each and every variable different from when it was run through bivariate.
Parental Involvement and School Related Behavior

The research in this paper addresses how parental involvement decreases the chances of negative school related behavior in adolescents. The data was collected from a number of adolescents nationally represented throughout the United States in the data set ‘Add Health Wave I’. The principal questions that will be answered throughout this paper relate to how parents interact with their teenagers at home regarding to their behavior at school, both with their teachers/faculty and with their friends. The dependent variable in this study is going to be school related behavior, but will be referred to as school delinquency. The components of this variable that make up school related behavior are: trouble with teachers, if they have ever been expelled, if they have ever received out-of-school suspension, and if they frequently skip school. A few of the independent variables in this study that test the parents’ overall interest in their teen’s schoolwork are: how often mom works on a school project, how often dad talks about grades, and whether or not the adolescent lives with both parents. Discussed in the literature review is how past research shows that teenagers typically do better in school in a myriad of aspects when parents are avidly involved in their lives outside of the home. This research is going to reveal how negative school related behavior increases as parental involvement decreases.
Can We Predict Student Success? Exploring How Social Background Factors Influence Educational Attainment

President Obama called for every American to commit to at least one year of higher education or post-secondary training. While many supported this push toward education, critics argued that not everyone has the necessary motivation or skills to be successful in post-secondary education. This study explains how various social factors influence individual academic performance. Through secondary analysis of the General Social Survey, a nationwide longitudinal social survey, the research examines how variables such as race, gender, socioeconomic status, and family background impact educational success. A regression model was constructed and the analysis shows that socioeconomic status is an important factor in academic success, while race, gender, and family variables displayed less significant effects. This paper concludes what this study will mean for policy makers, educators, and current prospective students.

Juvenile Delinquency in Relation to Family Structure

This study is looking to see if there are any correlations between the juvenile delinquency rate and the family structure. Variables such as single mother homes versus a duel parent home, poverty rate, and child abuse rate will be used to conceptualize family structure in this study, while juvenile arrest rate is used to measure the juvenile delinquency rate. If a child from a single family home or home where poverty or/and abuse is present I believe that the delinquency rate would increase; and if a child is from a structured environment then that child is more likely to be stable and not be involved in delinquent acts. Previous literature and similar research is used to support or show a different understanding of these variables all used together. Along with previous literature a data set was used to gather data that has already been collected, this data is from the States10 data set. After gathering the data and running my own correlations I will be able to prove or disprove my hypothesis.
Poster Presentations

Samantha Coco
Sponsored by Dr. Art Comstock

Dominate the Box Office:
Predictive Characteristics of Book-Based Films

Book-based films are very popular but little research examines the characteristics of this film category that tends to lead to the highest profits. This study analyzes how certain traits of book-based films affect profitability by utilizing a ratio of worldwide gross revenue divided by the estimated total budget over a five-year period from 2008 to 2012. Genre, season, MPAA rating, and celebrity influence are examined using the average and median profitability ratios. Celebrity influence, critic reviews, audience reviews, and release date are tested using regression analyses. The results find that book-based and non-book-based films do share some similar characteristics that influence profitability, but they also have many differences. In particular, the data indicates that book-based Action/Adventure films and the Holiday season tend to provide the greatest profitability results. Audience reviews, which are unique to this study, show an even larger impact on gross revenues than critic reviews. Finally, release date, which is also unique to this study, finds that a longer time lapse between the book publication and movie release date tends to yield higher gross revenues.

Jason Cortese
Sponsored by Dr. Brian Monahan

Alcohol Abuse in Adolescence as a Depression Stabilizer

This study focuses on the correlation between alcohol abuse and depression among adolescents. Elements that may be considered as identifiers of depression during adolescence, such as disrupted family structure, low self-esteem, deviant peers, and parental rejection are considered in regard to alcohol abuse. On a side note, biological sex is also considered as a factor, within consideration that depression levels may be dependent on biological sex, therefore increasing abuse of alcohol. This study uses bivariate analysis and multiple regressions of variables derived from the literature review to establish an understanding of how depressed adolescents may use alcohol to cope with their depression. Results from the data analysis did not prove to infer strong associations between the variables to conclude a strong standard. However, the data was headed toward a direction to establish a positive output, and the literature proved to believe that such a correlation might be identified as significant in some cases.

Francisco Dijol
Sponsored by Dr. Brian Monahan

Don’t Blame the Poor: Exploring Poverty as a Structural Issue

Poverty is a social issue that has plagued the United States for many years. This study was created to explore how social factors such as race, government spending on education, single parent households, percentage of population graduated from high school, and median household income affect poverty rates on a state level. After various tests were ran there were strong correlations and significant relationships between these variables and there linkages to poverty. The research relies heavily on peer reviewed articles that also visits this topic and have introduced significant findings to the subject as a whole. After a multiple linear regression the findings show that these variables account for roughly over ninety percent of contributors to poverty. Revealing this information can assist the process in reducing or potentially remedying this issue of poverty statewide.
Sequencing of KLF2 DNA Fragments for RNAi Analysis in Caenorhabditis Elegans

Obesity is the leading cause of heart attack and type II diabetes worldwide. Although studying humans would be the most effective method to research obesity, one of the best genetic models for fat biology research is *Caenorhabditis elegans*. Previous research has shown that *C. elegans* Krüppel-like Factors (KLF1 and KLF3) play a role in fat metabolism. We are currently examining KLF2 to determine its role in fat biology. KLF2 and its homologue in humans is a protein-coding gene that has been isolated and sequenced in both *C. elegans* and humans respectively. In this project the purpose of sequencing was to confirm that the amplicons were the correct endogenous sequence that will be later used in RNAi experiments. Briefly, four different amplicons of the KLF2 transcription factor gene that encompassed exons one and two were cloned into a TOPO-TA vector and then cycle-sequenced to confirm the full amplicons were present in the vector. These vectors will then be used in future RNAi experiments to further characterize the KLF2 gene.

Megan Brosky, Elizabeth Bruinix, Erica Chaplin, Alexa Glenn, Kristen McAndrew, Michele Wadud, and Jennie Wisdom
*Sponsored by Dr. Kielty Turner*

Self-Care and Levels of Stress among Junior Year BSW students

Eleven BSW students in Social Work quantitative research class measured their levels of stress in relation to doing self-care activities. Participants were divided into two groups. For the first 4 weeks of the study, group X was assigned an hour of self-care per week. Group Y had no assigned self-care. Group assignments were switched at week 4. The participants filled out a weekly self-report of compliance with their assigned task and their level of stress. Self-Care was associated with a marginal decrease in self-reported stress levels. A limitation of the study is the design which compares intervention effectiveness at the start of the semester to the time during midterms in the semester.

Vincent Schultz, Autumn Granza, Lindsey Matylewicz, Satara Dickey, Evan Felser
*Sponsored by Ms. Ann Williams*

CMA’s Spring National College Media Convention

On March 13, 2014, we were given the opportunity to travel to New York City to attend the College Media Association’s National Convention. During our stay at the Sheraton, we were able to attend multiple sessions related to our fields of study. The sessions we attended varied from digital media, advertisements, journalism, and several other topics. These sessions occurred periodically throughout the day and allowed us to understand and discover interesting concepts; while making connections with professionals in our field.

Outside of these group sessions, there were also a number of critiques we were able to visit. The critiques offered attendees the chance to get first hand feedback on their own work and the work of their publication. For our critique, our student newspaper and website were evaluated. Through these evaluations, we were able to make a plan that we will use in the future to improve our publication and our content.

One of the largest highlights of the trip was being able to present our own information to guests. In groups, we were able to speak with audiences about fundraising, social media, managing a newspaper, and ways to organize a news team. During these presentations, we received tremendous feedback and suggestions that benefited all parties involved. Through this experience at CMA, we gained confidence in ourselves and in our team that we will use in the future to benefit our staff, our news, and our college.
Stephanie Borger, Sidney Kishbaugh, Danielle Plunkett, Amy Micklos  
Sponsored by Dr. Bruce Wisenburn

Systematic Review of Auditory Comprehension Therapies for Adults with Aphasia

This systematic review is an objective compilation of research articles focusing on auditory comprehension therapy for aphasia. Aphasia is a condition that affects expressive and receptive language skills, typically as a result of a stroke. People with aphasia may have difficulty understanding spoken language at the word or sentence level. Therapies for auditory comprehension deficits may involve pointing to pictured items stated by a clinician, or following one-step directions. A systematic review objectively analyzes therapy studies to calculate an effect size, which represents the level of gains patients made in treatment. These effect sizes may be compared to gain a general idea of a therapy’s efficacy and also provide a list of treatment approaches that are supported by research evidence.

Brittany Mikajlo  
Sponsored by Dr. Vijay Ramachandra

Affective Theory of Mind May Be Unimpaired in People with Aphasia

There is some research which shows that theory of mind (ToM) is distinct and separate from language, and is unaffected in people with aphasia. In the current study, we aimed at investigating the relationship between language and affective ToM in people with aphasia. Six individuals with aphasia were given a language task, the reading the mind in the eyes test (RMET), a measure of affective ToM, and a test of emotional recognition of faces. The emotion recognition and the eyes tests were also administered on 6 healthy age-matched controls. The results suggest that affective ToM is unimpaired in people with aphasia. It also indicates that performance on an affective ToM task is unrelated to the level of language impairment. The current findings are in line with results of previous case studies that have revealed an intact ToM (cognitive) despite severe grammatical deficits in people with aphasia. This is, however the first study that has looked at the relationship between language and affective ToM. These findings need to be cross-validated by future research using more number of subjects and a wider variety of affective ToM tasks.

Michalena Vitucci  
Sponsored by Dr. Deanne Garver

Advancements in Canine Cancer Studies and its Role in Application to Human Patients: Can Researching a Cure for Canine Cancer Lead to a Cure for Humans?

Cancer is one of the world’s most devastating diseases and everyone knows at least one person whose life has been affected by it. What people don’t realize, however, is that dogs, particularly golden retrievers, which are one of the world’s most popular breeds, suffer the same disease as we do, due to our similar genetic characteristics. Cancer is the leading cause of death among golden retrievers in the world. Through research that is being done today, scientists may be able to answer many important questions pertaining to the disease, such as how cancer develops, how cancer can be treated through short-term and long-term therapies, and even an overall cure for the disease. Through two new studies that are being performed as of 2012, this may be possible and the world may finally have cure for one of the most insidious killers. Through these two studies, scientists plan to repeat an experimental protocol created in 2002 for a golden retriever, Navy, stricken with bone cancer, which resulted in his cure from the disease. If science proves that this will work repeatedly in the golden retrievers, then humans will start receiving the same treatment with the hope of producing the same results and officially finding a cure for cancer, thus offering the opportunity to save millions of lives.
Analysis of Fat Deposition in klf-3 MicroRNA Injected Caenorhabditis elegans

Krüppel-Like Transcription Factors (klfs) act as regulators for many important metabolic processes in animals, such as fat storage and fat transportation. Klf-14 in humans has been linked to the onset of type-2 diabetes, so further investigation of klfs is of great interest to the scientific community. Caenorhabditis elegans have three klf genes, and both klf-1 and klf-3 have been shown to directly affect lipid deposition. It has been shown that the klf-3 mutant (ok1975) has higher fat concentrations than the wild type. RNA interference studies have indicated that suppression of the klf-3 gene in wild-types induces the same fat phenotype observed in mutant klf-3. Our goal was to test endogenous microRNA that targets klf-3 mRNA, and determine if it will produce the same effect as the klf-3 double stranded RNA. To test this klf-3 microRNA was introduced into the worms via microinjection and a fat staining assay (oil red o) was used to measure the deposition of lipid droplets in individual worms. Briefly, the stain was applied to starved injected wild-type and klf-3 (ok1975) mutants, as well as un-injected controls. In addition to the fat deposition analysis, worm morphology and fecundity results will be presented at the meeting.

Non-Contact Femoral Fracture in a Healthy High School Football Player: A Case Study

**Background:** A 17 y/o male football player sustained a femoral fracture during a running drill. Previously, the athlete was being treated for a possible quadriiceps strain with the GameReady and interferential electrical stimulation. At the time of injury, the athlete felt pain after planting his leg with a torsional force. The athletic trainer observed edema in the thigh and proceeded to take a vital assessment. The athletic training staff splinted the athlete and EMS was called. **Differential Diagnosis:** Quadriiceps strain, non-contact femoral fracture, slipped capital femoral epiphysis. **Treatment:** Upon arrival to ED, the athlete was sent for X-rays which indicated a fracture. An MRI and a bone scan came back negative. Surgery was deemed the appropriate treatment and a metal rod was placed in the femur. The athlete was initially NWB with crutches. Rehabilitation after surgery consisted of RICE and passive stretching, progressing to AROM and strengthening during FWB. **Uniqueness:** Force needed to create trauma to the femur is typically described as force from a car accident, making non-contact femoral fractures rare in the healthy, athletic population. Possible causes are typically associated with underlying conditions such as calcium deficiencies or tumors. **Conclusions:** The cause of this injury is still unknown because all tests were negative. It is plausible that the athlete had developed a stress fracture allowing the torsional force to result in a spiral fracture of the femur. The key in a clinical evaluation is to address all possible injuries associated with the signs and symptoms presented.
Great Toe Fracture: A Case Study

**Background:** The athlete is a 16-year-old football player. His past medical history includes a tibial plateau fracture on the affected leg one year prior and a cuboid fracture in affected foot two years prior. He reported having his foot stepped on laterally while everted. At the time of injury the athlete complained of intense toe/foot pain, and was unable to bear weight. The athlete reported pain on the lateral aspect of the foot where the impact had occurred, as well as around the first MTP joint and first metatarsal with minimal to moderate inflammation and discoloration. Range of motion (ROM) in first MTP and IP joints was limited. Initial pain scale was 7-8 at rest, 10 weight bearing. **Differential Diagnosis:** Bone contusion, 1st MTP sprain, great toe fracture **Treatment:** Physician evaluation revealed a transverse fracture to the proximal phalanx of the great toe. A walking boot and crutches were administered to allow for healing. Treatment consisted of 15 minutes of cold whirlpool and buddy taping with the second digit. He progressed to ROM exercises, joint mobilizations, and strengthening. **Uniqueness:** Due to the mechanism of injury, a fracture was not expected. **Conclusions:** A great toe fracture was not expected in this instance due to the mechanism of injury and clinical presentation. Radiography revealed the fracture. The athlete was treated and progressed without complication. The athlete returned to practice 17 days post-injury.

Joshua Carey
*Sponsored by Dr. Thomas Kent*

**The Bisecting Envelope of a Triangle and other Polygons**

The bisecting envelope of a triangle is a cusped figure composed of three hyperbolic segments and is contained within the triangle. A line tangent to any one of the three segments will always bisect the area of this triangle. The envelope can be discovered for any triangle by mapping the simplest case (a right, isosceles triangle with area 2) using a nonsingular affine transformation to map it to any desired triangle. In this paper we set out to find the bisecting envelope of all convex and concave polygons and determine whether they are all made of hyperbolic segments, segments of other conics, or something else entirely.

Cassandra Schwartz
*Sponsored by Dr. Deanne Garver*

**Detection of Stress Modulators in the Diagnosis of PTSD**

Post-traumatic stress disorder (PTSD) is a type of severe anxiety disease from which approximately 7.5% of the American population suffers. The symptoms of this disease are severe and significantly lower and individual’s quality of life. In extreme cases, patients with PTSD can harm them and others. This is why it is unfortunate that the current method of diagnosis has such gaping flaws; approximately one in two cases of PTSD go undiagnosed. This prompted me to ask two research questions: first, is there a better way to diagnose PTSD, and second, can changes in hormone levels after experiences a trauma offer sufficient statistical significance for use in PTSD diagnosis? After research the topic, I determined that there may be indeed be a better way to diagnose PTSD using stress hormone levels, such as that of cortisol, a stress hormone excreted into the body from the adrenal glands. Using lateral flow immunochromatography blood tests, levels of norepinephrine, epinephrine, and cortisol can be analyzed and used to help diagnose PTSD, along with other behavioral psychological evaluations.

Cassandra A. Schwartz and Briana R. Bacchetta
*Sponsored by Dr. Christopher Brey*

**Teaching Fundamental Genetic Concepts In An Undergraduate Genetics Laboratory Course Using The Model Organism Caenorhabditis Elegans**

The laboratory course was designed to provide undergraduate students with limited bench experience an opportunity to engage in the research process using a model organism *Caenorhabditis elegans*, while learning basic molecular techniques. Each laboratory success was predicated on the next laboratory exercise. Ultimate goal of the lab course was to have students in groups of two or three isolate, clone and sequence a gene fragment from the Krüppel like transcription Factor, KLF-2, a gene the instructor is currently investigating in his research. Those groups that were able to successfully clone and sequence their gene fragment had the option to continue the research project in the Spring 2014. Student results and course feedback will be presented at the Undergraduate Research Symposium.
Effects of Acid Mine Drainage on the Catawissa Creek Watershed

Acid mine drainage is a threat to all aquatic life in the water that it affects. It forms from the reaction of rocks, that are a source of sulfur-bearing minerals, with water. Specifically, pyrite exposed to air and water forms sulfuric acid. The effects often include water having a lower pH and the presence of metals. Currently, limestone tanks and drainage ponds are being used to reduce the effects and precipitate out metals. During the course of this study, water samples will be taken from four different points throughout the Catawissa Creek Watershed. Several tests will be done both on-site and in lab in order to get a better indication of the quality of the water. Macroinvertebrate samples will also be taken from the Creeks. Both will aid in determining whether efforts to counter the effects of acid mine drainage are working. Also, the date can be used to see if conditions will allow the trout population to be restored.

Generation of NAP1 Yeast Deletion Strain and Tagged Strain for Characterization with MPS3 and other Chromosome Associated Proteins

Nap1 is a histone chaperone found in the organism Saccharomyces cerevisiae, commonly known as bakers’ yeast. Nap1, as a histone chaperone, is used in replacing and removing the H2A and H2B histones that make up the nucleosome complex. In addition, Nap1 acts as a regulator of microtubule dynamics and interacts with a mitotic cycle protein Clb2p during mitosis. Nap1 also controls the bud process in morphogenesis. There is evidence that the Nap1 gene is linked to a nucleosome shuttling protein and affects the mitotic process. Also several studies identified Nap1’s presence in the cell is needed for the cell to gain normal function within the cell cycle. Nap1’s function as a histone chaperone connects it with the histone variant Htz1. Htz1 physically, genetically, and functionally interacts with the nuclear envelope protein Mps3. Both Htz1 and Mps3 function in DNA damage repair. We hypothesize a connection may exist between the histone chaperone and Htz1 and Mps3. In order to pursue this hypothesis, Nap1 deleted and tagged strains need to be generated.

Registered Dietitians’ Personal Use, Perspective, and Education Level of Intuitive Eating in the Southern Tier of New York and Northeastern Pennsylvania

The purpose of this study was to examine the Intuitive Eating Scale (IES) score as well as the perspective and education level on Intuitive Eating (IE) of registered dietitians (RDs) in New York and Pennsylvania. Data for this cross sectional analysis was collected from January-February 2014. Participants (n=31) were 43.2 ± 13.1 years old, 100% Caucasian, 94% female, and 96% currently employed as RDs. Participants completed a 39-question electronic survey which included demographic questions, the Intuitive Eating Scale (IES) and questions about personal feelings, use in practice and background education of IE. The participants’ responses were analyzed using IBM SPSS version 21.0. The mean score of the IES was 3.45 ± 0.636 out of a maximum score of 5.0; the higher the score the more an individual practices the components of IE. In regards to personal feelings, 37% of participants liked IE, while 41% answered neutrally. Only 29% answered that they had previous formal education on IE. IE was rated as a useful tool when treating patients according to 35% of participants but only 29% report using it on a regular basis in practice. The mean IES score of RDs was slightly higher than the score found from a previous population of collegiate females suggesting the RDs may follow the components of IE more than the average individual. Additionally, results show a lack of education about IE. Because many RDs find the IE approach to be useful with patients, further formal education for RDs on IE may be beneficial.
James Armstrong  
Sponsored by Dr. Andrew Dattel

Psych Department: Scheme Expectations and Perception Stability

The idea that schema are rigid will be tested by different situations depicting typical behavior, and atypical behavior for certain recognizable roles. Current research has looked at how schemas are created, and who or what may be responsible for their creation. Little has been done to address how strong a schema is help onto when presented in situations that do not make sense for it. Thus, the purpose of this experiment will be to determine what the stability of various perceptions is for the roles being portrayed. The participants will be composed of undergraduate students who will assess whether or not they find the behaviors in a particular situation typical or not, and may identify why. The independent variable is the role in the situation being presented and will have two levels: either typical or atypical. The dependent variable is a participant’s response to these situations, and will provide information on how strong scheme influence their perceptions. This experiment will test the theory that created schemas are relatively strict and resistant to certain behaviors that will ‘break’ them, at least temporarily, and is expected to cause participants to chance how they interpret the individual in a particular role with regard to the situation being expressed.

Jared Arzie  
Sponsored by Dr. Andrew Dattel

Effects of Media on Gender Attitude

The study will be looking at the effects of media on gender attitudes. It will determine if attitudes are similar across males and females when watching different types of media content. The study will look at students from a small college in Pennsylvania. The study is a quasi-experiment using both females and males and exposing them to forms of media content that is in people’s everyday life. The study should show that males and females have different attitudes toward the same media content.

Deena Maurer  
Sponsored by Dr. Lisa Antoniacci

Characterization of the Interaction Between Two Chromatin Associated Proteins in Yeast

Mps3 is the yeast nuclear envelope SUN-Domain protein found conserved in eukaryotic cells that functions in many nuclear/chromosome related processes. The successful transmission of chromosomes during cellular division is essential to cellular function. Any defect in the mechanisms responsible for genome integrity can lead to disease states in the cell. Two essential processes insuring genome integrity are DNA damage repair pathways and sister chromatid cohesion. Mps3 functions in both of these pathways and is therefore important for genome integrity. A recent study identifies Mps3 physically associating with three Replication Factor C Complexes (RFC) that are also important in DNA repair/replication and cohesion. In addition, the same study showed a physical and genetic interaction between Mps3 and the histone variant Htz1, and that the interaction is important for promoting DNA damage repair. Current unpublished data also identifies Ctf18 as genetically interacting with Mps3 and that the interaction is important for DNA damage repair function. Because both Htz1 and Ctf18 physically interact with Mps3, we hypothesize that Htz1 may also interact with Ctf18. This study investigates the possible interaction between Htz1 and Ctf18 through the use of Co-Immunoprecipitation.

Kristin McHale  
Sponsored by Dr. Lisa Antoniacci

Using Longtine PCR to Generate Chl1 Deletion and Tagged yeast strains

The protein Chl1 acts as a DNA helicase in yeast cells and also plays a role in DNA repair, sister chromatid cohesion, and in sustaining genome integrity. Chl1 physically interacts with Eco1, a protein required for sister chromatid cohesion and responsible for the acetylation of Mps3, a nuclear envelope protein that also plays a role in DNA repair and chromatid cohesion. Because of their similar functions and interactions, Chl1 may interact with the nuclear envelope during sister chromatid cohesion and DNA repair. In order to study the relationship between Chl1 and Mps3 we first need to generate Chl1 reagents. This project will generate both a deletion and tagged strain of Chl1 to study genetic and physical connections between Chl1 and Mps3.
Julie Kibui and Vimal Ray  
*Sponsored by Dr. Deanne Garver*

**The Metabolite Fate and Pharmacokinetics of Two Organic Acids in Human Plasma**

The main goal of this study is to determine the metabolism and pharmacokinetics of naproxen (Aleve) and chlorogenic acid (an active ingredient in Green Coffee Bean Extract) in human plasma. The proposed research study is conducted by solid phase extraction (SPE) of plasma samples and electrospray liquid chromatography/mass spectrometry (LC/MS) analysis. Serial blood samples were taken after a single oral dose of each drug and plasma samples were obtained by centrifugation. These drugs and their metabolites are separated from other plasma components by SPE. Liquid chromatography separated the components of extracted plasma samples; these components were identified and quantified based on their mass by mass spectrometer software. An important aspect of this assay validation is to determine the concentrations of both parent compound and of reactive acyl glucuronide metabolites that are generated from each of these drugs. These reactive metabolites are not detected if samples are not stabilized with acid upon collection. For some drugs in this class of compounds, a higher concentration of acyl glucuronide metabolites may lead to the development of idiosyncratic toxicities that could be severe and life-threatening.

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Michael Legath  
*Sponsored by Dr. Lisa Antoniacci*

**Characterization of PP2A involvement in chromatin related mechanisms**

Protein Phosphatase 2, or PP2A, is an enzyme that is found conserved in eukaryotic cells ranging from yeast to humans. This enzyme is encoded for by the PPP2CA gene. PP2A, one of four major Ser/Thr phosphatases, is used in the negative control of cell growth and division. This phosphatase is made up of a heteromeric core enzyme, which contains a catalytic subunit and constant regulatory subunit. It has a structural A and catalytic C subunits, with a regulatory B subunit. When the C subunit binds with the A and B subunits, several holoenzymes are produced. To better understand the function of this enzyme, we are generating several reagents in yeast to assay its involvement in chromatin related mechanisms and a potential connection with the nuclear envelope protein Mps3. Longtine PCR is being used to generate deletion and tagged yeast strains of the PP2A gene.

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Olivia Basar  
*Sponsored by Dr. Andrew Dattel*

**Lyrical and Instrumental Music During Study Tasks: Effect on Test Performance**

The present study observed the effects that both lyrical and instrumental music have on test performance for different study tasks. Two independent variables were included in this study; one being a music condition, and the other being different study tasks. The music condition was a between-subjects design, so participants were randomly assigned to the lyrical music condition or the instrumental music condition. The study task condition was within-subjects, in which all participants completed a reading comprehension task, a word recall task, and a letter memorization task. The dependent variable observed was test performance. During this experiment, participants listened to either the lyrical or instrumental music through headphones while completing all three study tasks. Data for this study was collected from 32 undergraduate students from a small, liberal arts college in Pennsylvania. Participants were both male and female; ages 18 and older. Results showed a main effect for the reading comprehension task, in that percentage of correct answers was significantly lower than percentage correct on the other two study tasks. No significant difference was found for the music condition in any of the study tasks, nor were there any significant interactions between the two variables.

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Michael Blazina  
*Sponsored by Dr. Andrew Dattel*

**Perceptions of Others: Social Status Based on Dress**

This experiment examined how people perceive each other based on dress and level of education. The participants were instructed to view a series of photographs of affluent soccer players from Europe. The photos shown varied from professionally dressed to more casually dressed. Each photo was also accompanied by an education level caption. The education was one of four levels ranging from dropped out of High School to graduating from College. The participants were asked to rate the men in the photos from 1-5 based on what they thought of their social status. It was expected that participants would find men with higher education and dress as the highest and people dressed more poorly with a lower level of education as the lowest in status.
Music and its Effect on Music

The effects of music on listener’s emotions, as well as the connection between music and color are investigated in one study. The current study was conducted to determine if there is a correlation between the emotions evoked by music and the emotions associated with the colors indicated by the participants while listening to music. The population will include psychology students are Marywood University, using a within subject design between twenty-one participants. It was hypothesized that while participants were listening to different genres of music they would identify colors that indicated a corresponding mood to the emotion evoked by the song. The study suggested that there is a strong correlation between the emotions resulting from music exposure and the emotions associated with the colors chosen during the music exposure.

Psychophysiological Analysis of the Effects of Music on Movie Scene Interpretation

The aim of this study was to measure the effects that film music has on a viewer’s scene-interpretation. This study, based on the Physiognomic Perception Theory, paired emotionally neutral film clips with film scores of different modalities with the expectation that the music will affect the viewers’ interpretations of the scenes. This study also assessed the physiological effects that different music modalities have on the viewer. As post studies have shown, music with major tonalities often yield higher activation in the left hemisphere as well as higher rating of happiness, whereas music with minor tonalities often yield higher activation in the right hemisphere as well as higher ratings of sadness and anger. Likewise, films scored with different musical tonalities often result in different feelings about the films being watched. The current study combines different aspects of these studies to find the different subjective and physiological effects that music has on movie-watching.

Nature: A Rich Source of Potential Pharmaceutical Agents

Nature has been used as a source of medicinal products for millennia. These natural sources include terrestrial plants, marine organisms and microorganisms. The natural products derived from these sources sometimes referred to as secondary metabolites, are compounds with high chemical diversity and unique molecular and biochemical properties. These natural products therefore provide numerous species and organisms with unique characteristics required for survival. These properties also make natural products novel drug sources. While majority of these nature derived products are terrestrial, marine ecosystems are thought to harbor extensive potential beneficial products. The marine world which comprises majority of the world’s biodiversity remains largely unexplored, particularly due to inaccessibility and high exploration costs. This as well as an increase in modern methods of synthetically producing drugs has put a back seat to natural product research. Supplementary emerging technologies, however, are enabling access to marine reservoirs where promising medicinal products are likely to be situated. Currently, numerous important drugs which have revolutionized modern medicine are derived from natural sources. These include anticancer, antimalarial and antiviral drugs. Just as the discovery of these has been beneficial, diverse marine sources are likely to produce a new wave of equally important drugs to modern medicine. Here, I advocate for the continuance of natural product research by highlighting the unexplored marine sources and the great potential they hold based on previously successful drugs obtained from natural sources.
Fluorescence Analysis of Modified RNA CUG Repeats Responsible for Myotonic Dystrophy 1

Myotonic dystrophy type 1 (DM1) is a genetic disorder and form of muscular dystrophy that affects approximately 1 in 8000 people. It has multisystemic symptoms and has been identified as the most common form of adult onset muscular dystrophy. This disease is caused by expanded CTG repeats in the 3' UTR of the dystrophia myotonica protein kinase gene. Upon transcription, these repeats fold into CUG stem-loop structures that sequester the alternative splicing factors, muscleblind-like proteins (MBNL1, MBNL2 and MBNL3). The localization of MBNL proteins to the stem-loops hinders these proteins from performing their normal splicing functions, therefore causing mis-splicing of their target pre-mRNAs, subsequently leading to symptoms associated with DM1. MBNL proteins bind to the GC regions of the helical structure within the stem-loop. We propose that this binding is possible because U-U mismatches in the helix enable helical flexibility, causing regions of the helix to relax and open. This relaxation process known as ‘breathing’ allows MBNL proteins to access the Watson-Crick face and bind to the CUG repeats, indicating the proteins preference for relaxed binding sites. RNA CUG repeats can be modified and stabilized via adding the base analog pseudouridine (Y) in place of uridine. Repeats containing Y are stable and therefore breathe less, consequently reducing the binding affinity of MBNL proteins, allowing the proteins to carry out their normal functions. We hypothesized that a fluorescence measuring approach can be used as an indication of breathing and therefore stability in CUG repeat stem-loops containing varying levels of Y. To test the hypothesis, RNAs containing varying levels of Y as well as the fluorescent base analog PyrroloC (a fluorescent probe) were synthesized using in vitro transcription for fluorescence spectroscopy studies. The fluorescence of PyrroloC correlates with the degree to which this base analog is stacked in the CUG or CYG structures. As predicted, we found an increased intensity with the CUG RNA compared to the CYG. In the future, this novel approach will be used to study how MBNL proteins interact with these RNAs as well as different types of drugs that target the toxic CUG repeats.

Anxiety has been described as a normal reaction to stress (Anxiety Disorders 2011-2013). This experiment provided a background on how anxiety can occur through an anxiety provoking situation. The population consisted of male and female Psychology students ages 18 and older in Northeastern Pennsylvania. 26 participants were selected. The participants were randomly selected to either watch an action packed movie clip or a musical piece with photos of nature and animals. Then they took a Likert Scale Survey that asked what their level of anxiety was after watching the movie they were assigned to. The independent variables were the movie clip and musical piece, and the dependent variable was anxiety. The initial goal of the experiment was to conclude that the musical piece will decrease anxiety and the movie clip will increase anxiety. That was the case in some participants, but in other participants, the movies showed no effect on anxiety. It was found that some participants who viewed the action packed movie had a decrease in anxiety after watching the video. This has given the conclusion that the level of a person's anxiety factors in. It has also been concluded that it may depend on the person and how they react to watching movies. Because some participants had less anxiety after watching the action packed movie clip, It has been concluded that the movie distracted them from their anxiety.
The Effects of Situational Depression on Academic Self-Efficacy and Perceived Academic Performance

The following research tests the potential causal relationship between feelings associated with depression and lowered academic self-efficacy and academic performance. Prior research has shown that students experiencing depression symptoms face higher rates of interference in their academic functioning and report lower academic performance (Hysenbegasi, 2005). The participating population for this study was undergraduate students attending Marywood University. Participants in this study will experience created neutral, uplifted, or depressed mood, produced by visual stimuli in the form of a short video clip. This study will then be measuring participant’s academic self-efficacy and collecting self-reports of academic performance. It is hypothesized that there will be evidence pointing to lower academic self-efficacy and lower self-reported academic performance levels for those who are exposed to the depressive mood creating stimuli (gskik).

Analysis of the Lackawanna River Above and Below the Lackawanna River Basin Sewer Authority Treatment Plant in Olyphant Pennsylvania

This project was designed to analyze the effects that the LRBSA Treatment Plant has on the Lackawanna River over a four month period of sample collections from January 2014 to April 2014. Water samples were collected and analyzed for the presence of dissolved oxygen, total chlorine residual, copper, nitrate, sulfate, and phosphate concentrations. The chemical components of chlorine, copper, nitrate, sulfate, and phosphate were measured using a HACH DR 5000 UV-Vis Spectrophotometer. Dissolved oxygen concentrations were measured using a HI 9142 (HANNA Instruments) Portable Waterproof Dissolved Oxygen meter. In addition to the chemical components measured in the laboratory; outside temperature, water temperature, and pH were measured on site using a thermometer and HACH pHTestr 10. Once collected, the data was then used to indicate differences found above and below the plant that was used in determining the effects on the aquatic life and biological community as a result of the discharge into the Lackawanna River. The samples were collected above and below the discharge point into the Lackawanna River, below the plant at point LR1 and above the plant at LR2.
The purpose of this presentation is to demonstrate the given opportunity to experience research as an undergrad under both the direction of Dr. Deborah Hokien and Dr. Christopher Brey. In lieu of obtaining an internship first under Dr. Hokien’s direction, I was able to perform techniques learned in previous classes to be applied to breast cancer cell lines UACC & MCF7. Being that this research can be difficult in acquiring the necessary results needed, research was further continued under Dr. Brey by working with the yeast cell line, YPH 500, as a practice model for procedural purposes. This poster demonstrates both time well spent under both professors as research guides and demonstrates the results received through performing such techniques.

Amanda Gretz
Sponsored by Dr. Lisa Antoniacci

Generation of Pol30 deleted and tagged strains in Saccharomyces cerevisiae

PCR (Polymerase Chain Reaction) is used to amplify a specific fragment of DNA. PCR has many applications such as diagnosing diseases, identifying bacteria, and identifying viruses. This research uses PCR to generate a tagged strain of POL30. POL30 is a proliferating cell nuclear antigen (PCNA). It functions as the sliding clamp for DNA polymerase delta. Also, it may function as a docking site for other proteins required for mitotic and meiotic chromosomal DNA replication and for DNA repair. Pol30 interacts with the Replication Factor C complex. Many subunits of this complex also interact with the nuclear envelope protein Mps3. After the generation of tagged and deleted strains of Pol30, we will use these reagents to determine if Pol30 and Mps3 interact in any capacity.

Brian Davitt
Sponsored by Dr. Andrew Dattel

The Effects of Recorded Music on Heart Rate in College Students

This study sought to find statistically significant evidence that music can affect heart rate. 16 participants were recruited for the study, and they consisted of students from a small liberal arts university in North Eastern Pennsylvania. They were chosen on a volunteer basis via an online service. The study included one independent variable with five levels. The levels were four different types of musical scales that were presented in various orders, as well as silence. The dependent variable is heart rate. Music was prepared using Garageband. Participants were offered a choice between one of two cards that determined the order of the stimuli they received. Heart rate was measured a pulserate oximeter attached to their finger. For statistical analysis a Paired Samples T Test was used. The results indicated that was a statistically significant difference in heart rates after listening to music. Specifically, they were between G Major and C Minor ($M = -5.78125, SD = 3.81212$), $t(-6.066) = 4.073, p = .001$, Starting Heart Rate and C Minor ($M = -3.18750, SD = 5.12795$), $t(-2.486) = 4.073 , p = .05.$, and G Major and Silence ($M = -3.98958, SD = 5.27519$), $t(-3.025) = 4.073 , p = .01.$
Sarah Demjanick  
_Sponsored by Dr. Andrew Dattel_

**The Effect of Social Comparison of Dietary Restraint and Body Dissatisfaction of Restrictive and Non-Restrictive Eaters**

The present study examined the effect that social comparison with peers had on dietary restraint and body dissatisfaction of restrained and non-restrained eaters. The study was conducted on college-aged females. Participants listened to an audio clip of a female peer discussing her weight concerns and restrictive eating behaviors with another peer. Informing the participants of the peer’s weight relative to their own facilitated social comparison. Participants were assigned to one of three groups: (1) informed the peer weighs more, (2) informed the peer weighs less, and (3) not informed about the peer’s weight (control). Dietary restraint and body dissatisfaction were assessed prior to and post audio stimulus. The degree of social comparison was assessed after the final dietary restraint and body dissatisfaction assessments. Results are expected to indicate further dietary restraint and body dissatisfaction when a high level of social comparison is observed.

Courtney Dress  
_Sponsored by Dr. Andrew Dattel_

**College Students’ Social Media Use and Knowledge of Current Events**

This study looked at college students’ use of social media websites and their knowledge of various types of current events. The researcher answered the question of whether or not there was a correlation and how strong any correlations were. The 26 participants in this study came from the population of undergraduate students at a small northeastern university. Participants answered questions that assessed their own social media use including types of social media used, time spent on social media sites, habits of obtaining news, and also demographics like their gender and age. Next, participants completed a test about current event topics that made the news in the last year in major categories like entertainment, politics, sports, and so on. Results showed a correlation between amount of social media use and knowledge of current events. Results also showed some other both surprising and significant correlations. Data analyses were done using a Pearson correlation to examine any relationships between any variables being examined.

Alexandra Coolican  
_Sponsored by Dr. Deanne Garver_

**Can Bioprinting be the Future of Transplantation?: A Comparison of Previous and Upcoming Methodologies for Transplants**

Currently there are 120,594 people in the United States alone on the transplant waiting list. This number grows higher and higher every year, but the number of organ donors is on the decline. 3D bioprinting may be the future of bioengineering and regenerative medicine. A normal inkjet printer can be manipulated into a thermal inkjet printer, or a direct-write printer, and actually print human cells. Although this new methodology is still currently in the development phase, within a few years a patient could perceivably have an organ or tissue printed for them, and according to their specific needs. Before this happens, researchers need to find a way to incorporate the vascular elements into the solid organs, such as the kidney. Whether this new technology becomes available to patients within 5, 10, or 20 years is dependent upon the speed of new advances and the determination of how the FDA will regulate this rapidly emerging area of biotechnology.

Leigha Dolcemascolo  
_Sponsored by Dr. Deanne Garver_

**Current Advances in Treatment of Glenoid Labrum Injury and Rehabilitation**

The glenoid labrum is a circular piece of cartilage that secures the head of the humerus into the glenoid cavity to the articular surface of the scapula. If a patient incurs the same repeated motions and places stress on the joint, some damage can occur which causes pain, instability, and swelling in the glenohumeral joint. To diagnose the injury, a physician will perform an array of tests to determine where, how severe, and the type of tear that is present in the glenoid labrum. Once the tear is identified, the surgeon determines the preferred surgery and treatment process. In the surgical procedure, the surgeon drills holes in the glenoid cavity portion of the scapula, places anchors, and sutures the cartilage back to the bone. The surgeon then sends the patient to rehabilitative surgery to strengthen the musculature of the glenohumeral joint. Many surgeons state that the best treatment for a tear of the glenoid labrum is a combination of arthroscopic reparative surgery and non-surgical treatments/rehabilitative therapy.
Brittany Burger
Sponsored by Dr. Lisa Antoniacci

Generation of Yeast Mutants I DNA Damage and Repair Pathways and Co-IP between Cdc5 and Htz1

Two proteins of the Alternate Replication Factor Complex (RFC) in yeast Ctf18 and Rad24, play a role in DNA repair and replication. A recent study identified that these two proteins, plus the yeast protein Htz1, physically interact with the nuclear envelope protein, Mps3. This first study will generate 3 new mutated strains of yeast that are knocked out for both (1) Htz1 and Rad 24, (2) Rad24 and Ctf18, and (3) Htz1 and Ctf18. The generation of these mutants will provide a better understanding of the role that Ctf18, Htz1, and Rad24 play in DNA repair, and how they interact with each other. In addition it may provide information as to how all three of the proteins are connected to the functions of Mps3, and the role their interactions play in sister chromatid cohesion. It has already been reported that a physical interaction occurs between Mps3 and the histone variant Htz1. These two work together in DNA repair and DNA growth, and interact in vivo. It has been shown that both Htz1 and Mps3 function in DNA damage repair.

Mps3 has also been shown to interact with the protein Cdc5. Cdc5 is a cellular protein that plays multiple functions in mitosis and cytokinesis, and has been shown to have a physical interaction with Mps3 in two-hybrid screening. After seeing how Mps3 has been shown to interact with the four aforementioned proteins, this study will determine if these genes/proteins interact with each other through generation of double mutants and through running a Co-IP between the two proteins Cdc5 and Htz1.

Bernandine Lomema, Laura Burke, Thomas Fritz, Ashley Frederick, John Fabbri, Kristen Delfin, Marybeth Steinhart, Ashley Buckley, Katelyn Boyd, Alia Degregorio
Sponsored by Dr. Andrew Dattel

Frequency of Some Common Behaviors of Statistics Students who took Statistics in the Afternoon

This study surveyed students who took statistics in the afternoon class (on Tuesdays and Thursdays from 1:00-2:30). Nineteen students (15 f, 4 m) answered questions about how many hours per week they studied, how much time they spent on the internet, how many hours a week they worked, how much sleep they got each night, how many caffeinated beverages they consumed each day, etc. Correlations between variables were conducted. A dependent means t-test was conducted between hours slept on weeknights compared to hours slept per weekend night. An independent means t-test was conducted of some of the differences between gender. Results were compared to the morning statistics class.
Comfort Levels of College Students Exposed To Public Displays Of Affection Between Other Couples

In today’s society public displays of affection are prevalent, if not the norm. Because of this, the question is raised of whether or not PDA affects people’s comfort levels. It was our hypothesis that our dependent variable, comfort, or (as we will define it) a state of ease, would be influenced by the exposure to varying levels of our independent variable, PDA. In particular, the higher the level of PDA shown, the lower the level of comfort the participant will report. Our independent variable, PDA, was comprised of three levels of videos that were shown to the participants: low (hand holding), moderate (kissing), and high (passionate kissing). The participants consisted of 33 male and female undergraduate students ranging in ages 18-24. Each participant was shown all three levels of the PDA videos and counterbalancing was used to reduce confounds. After watching each video, they were asked to fill out a brief 6-question survey assessing their comfort level. We scored the questionnaire by using a 5-point Likert Scale rating system (“not at all comfortable” to “very comfortable” = 5). From these scores we will be conducting one-way ANOVAs for within-subjects to determine the variation between reported comfort levels at each level of PDA shown.

Kirby Gordon
Sponsored by Dr. Andrew Dattel

Reading Comprehension as a Function of Race and Jury Decision

In this study, 30 participants were asked to read four different criminal cases and complete a reading comprehension test and survey based on these cases. Participants were asked if they agreed or disagreed with the verdicts as well as the sentence, in addition to other questions. Participants were given a photo with each case. The first group of participants had photos of all black males and the second group has photos of all white males. The purpose of this study was to examine if those with higher reading comprehension are either more or less likely to allow race to influence their decision to either agree or disagree with the verdicts and/or the sentences imposed in the cases. Participants were undergraduate students enrolled in a psychology course at Marywood University.

Effect of Chlorogenic Acid and InSea2 in Blood Glucose Regulation

Consumption of excessive levels of sugar is known to produce physiological stress, leading to a greater risk for insulin levels to go awry. Over time, the high insulin production may lead to insulin resistance. This resistance has been linked to the risks of developing various health conditions such as diabetes, heart disease, hypertension, and high blood lipids. An ability to reduce high post-meal blood glucose and, therefore, insulin spikes is expected to reduce the rate of diabetes and cardiovascular events. Applied Food Science, Inc. has been studying compounds in green coffee beans seeking human health benefits for over a decade. The research has demonstrated the role of a major component of green coffee bean extract (GCBE), chlorogenic acid (CGA), to have an abundance of secondary health benefits, including heart health, blood glucose management, and inflammation control through its antioxidant activity. We have recently designed a clinical study aimed at determination of the effect of CGA on the oral glucose tolerance test (OGTT) in pre-diabetic patients over a 12-week time period. Patients will be randomized to three study groups, placebo, GCBE treatment, and GCBE + Insea2, a compound which has been studied separately and shown to decrease blood glucose levels. OGTT will be evaluated in study weeks 1 and 13. Other biochemical markers of inflammation and lipid metabolism will be studied, in addition to plasma lipids. The results of this study may suggest a role of CGBE in preventing the progress of pre-diabetes to Type II diabetes.
Examination of Lipid Deposition in KLF-2 and KLF-3 Mutant Worms Using Oil Red-O Stain

The ability to metabolize lipids is of significant importance in today’s society. With the prevalence of health risks such as diabetes and obesity, it is important to understand the mechanism through which fat metabolism is controlled. The Krüppel like family (KLF) of transcriptions factors have been shown to have an effect on this process. These zinc finger DNA binding proteins have a variety of roles involving gene expression and repression. In humans there are 17 KLF genes, some of which have interactions with each other that add to the complexity of studying these genes. While Caenorhabditis elegans also possesses KLF genes, the number is limited to only KLF 1, 2, and 3. The reduced number and similar function makes their effect on lipid deposition in C. elegans an ideal organism to study. Through the use of fat staining (Oil red-O staining), it will be possible to quantify the consequences of KLF-2 and KLF-3 mutation in regards to fat storage. Examination of both KLF-2 and KLF-3 mutant strains, along with their comparison to N2 worms, will provide useful data as to the effect of KLF regulation of fat in C. elegans. This data may then be used to illuminate further areas of study with regards to KLF gene analysis and lipid metabolism.

Classical Music’s Effect on Short-Term Memory in a Cognitive Recall Test

The Mozart Theory states that listening to classical music provides short-term enhancement of mental tasks such as memorization. Classical music is believed to aid in the storage and recall of information in our memory. In this study, 24 participants were presented with 2 sets of 20 words each. Each set contained different words that were not similar to one another. One set was presented in silence, and the other set was presented with classical music playing softly in the background. Each set of words was shown to the participants for 2 minutes, and then taken away. Participants were then asked to recall as many of the words as possible. It is expected that short-term memory will be better when listening to classical music than when in silence. Data was also collected from each participant to see if age, gender, and whether or not he or she listens to classical music for entertainment influenced their recall ability.

Lost and Found: The Influence of Objects’ Value on Helping Behaviors

The purpose of this study is to observe helping behaviors depending on the value of the object found. The two hypotheses were that participants are more likely to pick up the dollar bill than the pen, and that females are more likely to try to return the item to its owner. Twenty-three participants, from a small liberal arts college in Northeastern Pennsylvania, participated. The independent variable was the target object on the ground, either a dollar bill or a pen. The results are expected to coincide with the hypotheses, being that the dollar bill will be picked up more often than the pen, and also that females will more often try to return the item to the rightful owner.
Rachel Kester and Kaitlin Carr
Sponsored by Dr. Andrew Dattel

Effects of Humor on Romantic Relationships

This experiment was about looking at the effects that humor has on relationships. This between-subjects experiment looked at different moods and how they affect humor, thus ultimately determining if humor has more of a positive impact on romantic relationships than other types of moods. The types of moods that were used in this experiment in comparison to humor were anger and depression. Participants were over the age of 18 and were from a small liberal arts university. Participants were asked to watch one clip that was humorous, angry, or depressing. They were then asked to take the Relationship Assessment Survey which asked questions about their current or past relationships satisfaction with their romantic partner. Participants were able to score up to a 35 on the Relationship Assessment Scale with 35 being the most satisfied in their relationship. We found that the mean score for those participants that watched the depressing clip was 26.7. The mean score for the participants that watched the angry clip was 28.9. Finally, the mean score for those that watched the humorous clip was 29.7. Although we did not find any significance with our research the trend of the scores show a slight difference with humor having the highest score.

Christopher Brown
Sponsored by Dr. Lisa Antoniacci

Physical Interaction Identified between Elg1 and Cdc5 in Saccharomyces cerevisiae

Elg1 and Cdc5 are proteins involved in sister chromatid cohesion and DNA damage repair in yeast cells. Elg1 is a component of the alternative replication factor C (RFC) complex that functions as an anti-establishment factor in sister chromatid cohesion. This protein is also essential for effective progression into S phase of the cell cycle. Cdc5 is a polo-like kinase that is involved in adaptations to DNA damage checkpoints as well as progression into anaphase through its phosphorylation of the cohesion subunit Scc1 to separate sister chromatids. Mps3, a nuclear envelope protein, is directly involved in DNA repair and sister chromatid cohesion in yeast cells. Mps3 interacts with all three alternative RFCs (Ctf18, Elg1, and Rad24) to carry out its function. Mps3 also physically interacts with Cdc5. Based on the interactions between Mps3 and Elg1 and Mps3 and Cdc5, it is possible that there may be an interaction between Elg1 and Cdc5. The potential interaction between Elg1 and Cdc5 was studied by performing Co-Immunoprecipitations. Initial results identify a physical interaction between the two proteins.
Choosing Charity or Non-Charity: Based off Advertisement Prices and Facts

This study examined the difference of choice of 28 Marywood University students between charity versus non-charity donating products. The three variables studied in detail are charity versus non-charity donating products, price of these products (drastic versus not drastic), and the effect of companies that donate a high percentage versus those that donate a low percentage in the form of separate fact sheets. This is represented in a mixed design experiment; charity and non-charity product and price were within-subjects and the fact sheet was between-subjects. Previous studies of Cause-Related Marketing (CRM) are reviewed and applied. The data are analyzed using t-tests and a Chi-Squared on the IBM computer program SPSS.

Bavarian Pretzels: A survey of the chemistry involved in the production of the iconic Bavarian snack

The purpose of this research project was to investigate the food science and culinary techniques behind the production of Authentic Bavarian Pretzels. This honors project was presented as part of the interdisciplinary course Special Topics: The Wine Chemistry, Culture and Cuisine of a Foreign Country that included a 10-day study abroad visit to Germany over spring break. During the study abroad experience, students were able to visit various regions and cities in Germany, including Munich, Bavaria. The results of the literary review where put to the test through a video presentation including a cooking demonstration as well as a thorough explanation of the chemical principles responsible for the characteristic taste, texture, leavening and elasticity of Bavarian Pretzels. The presentation also included a taste testing section for the class, which allows the students to formulate their own opinions and evaluate the differing characteristics between Authentic Bavarian Pretzels and those produced by the researcher in an attempt to replicate such Pretzels in the United States.

Social Desirability Bias and its Conflict with Self-Report Inventories

Social Desirability Bias interferes with proper results in self-report inventories and research that relies on them. It is important that this bias be researched upon in order to better understand its influences and as such possibly work to prevent it. Alcohol is a topic of much controversial discussion in society and is commonly used among college students, thus making it a good basis to study this bias on. This experiment seeks to find statistical significance that social desirability bias will alter the results of an alcohol usage inventory. The participants were placed in one of three groups, either positive bias, negative bias, or a neutral group with no bias as a control. The goal of this study is to find that a negative bias will cause lower alcohol usage reports and positive will cause the reverse. Once data is scored and analyzed, it is expected that this hypothesis will be supported with statistically significant data. A scale measuring social desirability will be administered to measure the effectiveness of the biases incurred.

Gender and Photo Size: Effects on Facial Recognition and Recall

Women have an own-gender bias when it comes to recalling different faces. Men are able to recall faces more efficiently when the picture of the face is smaller. My purpose of this study is to see if these theories are true. With the help of 24 volunteer students at a small liberal arts school, the manipulation of pictures will affect what the participant is able to recall. With the use of PowerPoint, the participants will watch two separate presentations. The first presentation will have an even mix of male and female pictures, along with an even mix of large and small pictures. In the second presentation, half of the pictures have been previously shown in the first one. The participant will write on a provided answer sheet “yes” if they have seen the picture before and “no” if they have not seen it. If my research is correct, females will show an own-gender bias but will not show a difference regarding size, whereas males will have a recall effect on picture size, but will not show a difference in the gender of the picture. If it is not correct, there is not an own-gender bias within women and the size of the picture does not affect men. With gender and picture size being my independent variables, these will be manipulated. My dependent variable, which is the recall, will be the variable that is measured.
Effects of Caffeine on Reading Comprehension

I will conduct an experiment to test the effect that caffeine has on reading comprehension in daily caffeine consumers, and non-daily caffeine consumers. Fifty participants are expected to participate in this study. Twenty-five in the experimental condition, and twenty five in the control condition. The experimental and control group will be given, self-report questionnaire about the daily intake of caffeine. The experimental group will receive 300 mg of Starbucks espresso in two different cups and asked about taste to avoid reactivity. The control group will receive decaffeinated Starbucks espresso the same way. A 10 minute YouTube video about taste testing water will be played to allow digestion of caffeine in the experimental group. Both groups will then be given Aquafina water the same way the espresso was given and asked about taste. Participants will be tested using the SAT practice test. They will read an article and answer ten questions. Participants will be scored on time and accuracy. There is expected to be a significant difference. Those receiving the caffeine are expected to score better than those who didn’t.
Effects of Exercise on Grade Point Average (GPA) and Overall Happiness

Previous studies have been conducted involving exercise and overall health. This experiment was based off of those studies and intended to apply the theory to specific parts of people's lives. The Beck's Depression Inventory was given to twenty college students who agreed to participate. There are twenty questions on the survey and it was designed to measure a person's depression based on their answers to different questions. Once they finished the Depression Inventory, the twenty students were to take a questionnaire that was designed specifically for this study. The questionnaire asks questions about their exercise habits, school performance, etc. Once all of participants have been surveyed and their results are in, this study will determine if the students who exercise have a significant difference in their levels of happiness and GPA as opposed to the students who do not exercise. Since exercise has been proven to increase bodily health, the goal of this study is to determine if there is a relationship with the brain in a way that translates to grades in college courses and improve psychological well-being. The expected results are that the students who exercise on a regular basis will have a higher Grade Point Average (GPA) and will be happier overall as compared to the students who do not exercise.

Influence of Positive and Negative Emotions on False Memory

Thirty four students was recruited through a small liberal arts college and online poll. These participants was tested based on the Deese-Roediger-McDermott Paradigm. The Deese-Roediger-McDermott Paradigm is a procedure used to test false memory, participants were shown a list of words via power point and will be ask to recall as much of the words as possible. Participants were randomly assigned to three groups. One group read a short positive mood story while the second read a short negative story. There was a control group that read a neutral story. All three groups proceeded to take a simple multiple choice test following their stories to conclude they have comprehended the story. Deese-Roediger-McDermott Paradigm test contained fifteen words for each level, there was three levels of the Deese-Roediger-McDermott Paradigm that was used. One level contained list of fifteen positive words, with one positive critical lure. The second level contained a list of fifteen negative words, with one negative critical lure. The last group contained a list of fifteen neutral words, with one neutral critical lure. It is expected that positive mood participants should exhibit more false memories of the critical lure. The critical lure is a word that was never presented to the participants but somehow due to positive mood created a memory of this word. It is also expected the negative mood participants should exhibit less false memories of the critical lure. Quantities data will be reported using an ANOVA and a correlation test.
Kaithlyn Oravitz, Celestine Olsen  
*Sponsored by Dr. Andrew Dattel*

**Gender and Short-term Memory**

Previous research findings have found that females have a better short-term memory than men. In the experiment we have conducted, we would like to see if the findings are true by testing male and female face recognition and word recall. The general procedure of this experiment consisted of females and males from Marywood University recalling words and recognizing faces. We had 19 females and 14 males. Our expected results should be that females generally have a better short-term memory than men. This experiment was done to see if the previous research was correct, to prove that females have a better short-term memory and to see the differences among genders. This experiment was inspired by the previous findings on short-term memory gender differences.

Elspeth Peterson  
*Sponsored by Dr. Andrew Dattel*

**Determining Implicit and Explicit Attitudes in Stereotyping Gay Individuals**

Implicit attitudes (attitudes that are subconscious; ones of which people do not have awareness) toward gay individuals are closely aligned with the stereotypes used to categorize gay people. An Implicit Association Test (IAT) is a measurement of these implicit attitudes. Participants were evaluated on their implicit and explicit attitudes of gay people and the related stereotypes using a between-subjects design. Explicit attitudes refer to the attitudes people are aware of having. Participants were given a questionnaire regarding those explicit attitudes. As part of that questionnaire, participants were asked to provide their gender identity and sexual orientation with the response, “Prefer not to disclose,” as an option. All responses were kept anonymous. Participants were then asked to take a test similar to that of an IAT which instructed them to rapidly assign several words (either gay stereotypes or characteristics of people regardless of sexual orientation) in succession to a category. Data collection is complete, but is still being analyzed. What is hoped to be found is that the faster participants are able to assign words that are stereotypes to the “correct” category, the stronger the implicit association. It will also be noted if any connection can be drawn between implicit and explicit attitudes.

Kristan Twardzik  
*Sponsored by Dr. Andrew Dattel*

**Effects Gender Has on Word Recall**

Twenty undergraduate students were asked to participate in this study on word recall with the use of their short-term memory. The participants were told to follow all instructions to the best of their ability and to try to be as accurate as possible when taking part in this experiment. The participants needed to use their abilities to memorize and recall all the words that were presented, in a rapid manner. Systematic instructions were given before the experiment to assure that there would be no mistakes made in the process. A series of slides appeared in front of the participant using the program of Power Point. The participants, at this point, began to memorize as many words as possible in a two-minute time period. Then after the words had disappeared, they were then asked to complete a simple mental math operation out loud. After those two tasks were completed, the participants were finally able to recall the words that appeared on the screen before the math operation was presented. This process was completed three more times, for a total of four trials, until the experiment was completed. Males and females were given the same instructions and were also given the same exact slides (words) in the same exact order to avoid any confounds. The number of words that an individual can remember will be listed as the independent variable and the gender of the individual will be listed as the dependent. After running statistical analyses, my predictions will state that females will recall the most amounts of words as a group and on average each participant will recall about five to seven words in each trial.
Impact of Colors on Advertisements: Warm Versus Cool Colors

The concept of color has been marketable since early advertisements were established in the Roman and Greek era. After various progressions in history, color has had many psychological influences on human beings. Due to this, color plays an enormous role in advertisement and its impact on consumers. In this study, 21 randomly selected college students, male and female, at least 18 years old, were be shown unsystematic advertisements in either warm or cool colors. Participants were then given a questionnaire asking which product they were most likely to buy from the previous advertisements shown. Because of previous research and hypothesis, the expected results will most likely reveal that cool-colored advertisements have more of a positive impact on consumers; therefore consumers would then be more likely to remember that specific product being advertised.

The Effects of Current Stressors in Short-Term Memory Recall

The purpose of this study was to determine if there is a correlation between current stressors and short-term memory in college students. Thirty college students at a small university in Scranton Pennsylvania who participated in this study were shown two different sets of words and were asked to recall words he or she can remember. The participants then were asked a series of five questions relating to weekly stressors that most college students face (hours of work, number of tests, etc.). After being asked these questions, the students were instructed to rate themselves on a scale of one to five based on how prevalent their current stressors are. Two more series of words were then shown and the participants were asked again to write down as many words they can remember. This allowed one to conclude if current stress has an effect on short-term memory and proved if there is a positive correlation, negative correlation, or no correlation between these two variables. Short-term memory, the dependent variable, was measured based on the influence of stress, the independent variable. I expected stress to have a great effect on short-term memory; the more stress one experienced, the less words he or she will remember. However, my hypothesis was proven incorrect and there was appositive correlation between stress and short-term memory.
Kayla Prompovitch  
*Sponsored by Dr. Andrew Dattel*

**The Media’s Influence on How Women View Their Body Image**

The media has a very strong impact on the lives of everyday people because of the ongoing messages it conveys to the public. Images of models that are unrealistically thin and beautiful are presented by the media to draw in viewers. The reality of these images lead women to become dissatisfied. A study was conducted to examine how the media plays a negative role on how women viewed themselves. Independent variables in this study were presented via a power point slide show with either skinny or plus sized models. The dependent variables were determined by how the participants felt toward the models as well as how they perceived their own body image. This study included 30 female participants recruited from a small college in Northeastern Pennsylvania. Participants viewed a slide show and completed a survey and a body image scale reflecting how they felt about their bodies with respect to each model. The results were shown by an independent means t-test that yielded a significance at the $p<.001$ level. This study concluded that the thinner models did have a negative impact on the participant’s self-evaluation of their own body image.

Andrew Rabel  
*Sponsored by Dr. Andrew Dattel*

**The Effects that Fast Food Has on the Body**

Health has become a big issue in the United States and one the biggest reasons for that is the rise in fast food restaurants, such as McDonald’s and Burger King. This increasing fact of consuming fast food and junk food instead of healthy foods has led to the drop in people’s self-esteem. People’s self-esteem are dropping more and more and even at an earlier age and they are starting to have having less confidence in themselves. The purpose of this experiment is to show how one’s self-esteem is affected by one’s eating and drinking habits. The independent variable that is being tested is self-esteem, while caloric intake is the dependent variable. Participants in this study are students from small liberal arts college in northeastern Pennsylvania. Two groups (determining if you are healthy and determining if you are unhealthy, based on a 1-10 scale) are used for this thirty minute between-group, correlational experiment to show if self-esteem, which will be rated by the Rosenberg self-esteem scale, is truly affected by one going through their eating and drinking habits, as I expect to see results that show how people with a generally healthier diet have a higher self-esteem score than the individuals that eat unhealthier food and drinks. If the research hypothesis is correct, it will show the first group (the healthy group) has a higher self-esteem than the second group (the unhealthy group).

Megan Schwemmer  
*Sponsored by Dr. Andrew Dattel*

**Lifestyle and its Effect on Achievement**

An experiment was conducted to find the correlation between exercise habits and achievement and discipline. Participants were found at random from the undergraduate population at Marywood University. Participants were asked to take part in three different assessments. The first was a series of ACT style mathematics questions. The second was a questionnaire on lifestyle habits where the exercise levels were find. The participants were asked to score how much they value physical activity and other lifestyle factors. The third and final assessment was measuring levels of discipline of the participants asking questions about their behavior in different classroom activities. The result of these assessments is being scored and will be presented in poster form.