15th Annual

University of Nebraska at Kearney

April 4th 2013

CONTENTS

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SCHEDULE OF EVENTS

Student Research Day Schedule: April 4, 2013

7:30am to 9:00am:	Students set up posters in Student Union, Ponderosa Room
9:00am to 11:00am:	Poster Judging
12:00pm to 1:15:	Luncheon
	Guest Speaker, Emily Balcetis Asst Professor of Psychology at New York University
1:30pm to 3:30pm:	Oral Presentations
	Open Poster Viewing
3:30pm:	Awards Ceremony

LUNCHEON GUEST SPEAKER

Emily Balcetis

Asst Professor of Psychology at New York University

Dr. Emily Balcetis is an Assistant Professor of Psychology at New York University in Manhattan. She received her Ph.D. in 2006 from Cornell University in Social and Personality Psychology. In 2001, she received a BA in psychology and a BFA in music performance from the University of Nebraska at Kearney.

Her research centers around the effects of motivation on visual perception and decision-making. She studies motivated perception within domains including romantic relationships, health and fitness, legal decision-making, politics, and self and social judgment. She received the Cornell Clark Teaching Award in part for her involvement of undergraduate students in research and unique educational techniques, inspired by the teaching styles she saw implemented at UNK. Her research has been recognized by the Society for Experimental and Social Psychology with receipt of the 2007 Dissertation of the Year Award, the 2010 Sage Young Scholars Award, and the International Society for Self and Identity 2011 Best Paper Award. In addition, research conducted by Dr. Balcetis and her colleagues has been discussed in the popular media including such sources as National Public Radio, Newsweek, Time Magazine, ScienCentral, and Skeptical Inquirer.

While at UNK, Dr. Balcetis studied saxophone performance with Dr. David Nabb, and conducted research in the psychology department with Dr. Richard Miller, Dr. Krista Forrest, and Dr. Bill Wozniak. She considers herself fortunate to have been mentored by such generous and supportive faculty during the early years of her career and is grateful for their continued friendship.

POSTER PRESENTATIONS

Ponderosa Room

FINE ARTS AND HUMANITIES

BEHAVIORAL/SOCIAL SCIENCES

NATURAL/PHYSICAL SCIENCES

PROFESSIONAL/APPLIED STUDIES

GRADUATE STUDIES

ART AND ART HISTORY

Presenter: Kelly Skunes 1.

Department: Art
Advisor: Chad Fonfara
Title: *Venetian Glass*

Description: Venetian techniques in glassblowing have been around for thousands of years. It takes true mastery of the glass to be able to create thin, delicate, beautiful goblets. To create these forms, one needs to have a solid understanding of glass, quick, practiced hands, and a multitude of patience. These forms take hours upon hours of practice, but the rewards are tremendous. These techniques are not only good for goblet-making, but will translate into other glass forms. My project for the semester is to focus on these techniques, practice them, and get a bit closer to mastering them.

Presenter: Travis Stewart 2.

Department: Art and Art History
Advisor: John Stanko
Title: *Author as Illustrator: Storytelling through Different Eyes*

Description: An exploration of storytelling can start in many different places, and in many cases, writers and illustrators begin at opposite ends of the spectrum when it comes to telling stories. But for all of the differences, the value behind each solution, written or illustrated, is inherent, and the ability to execute both very well is a sort of holy grail among interested storytellers. This project was an attempt to bridge that gap between authors and illustrators, to explore and the discover the mystery behind writing and illustrating a good story for that perfect combination. To accomplish these goals, I was lucky enough to collaborate with an aspiring author in illustrating a children's picture book, as well as explore existing picture books and the minds of their creators for the secrets within.

COMMUNICATIONS

Presenter: Brandon Drozd 3.

Department: Communication
Advisor: Dr. Amber Messersmith
Title: *Collegiate Greek Leadership Influence on Professional Success*

Description: The purpose of this study was to further understand how leadership roles affect undergraduate leaders while in college, as well as how these experiences influence them upon graduating and entering into their career. This study draws upon the leadership principles outlined in Kouzes and Posner's well-known work, The Leadership Challenge (2007). These principles were used as a springboard to compare and contrast with the Greek leaders' experiences. The researcher conducted a total of 11 in-depth interviews with past Greek officers. Using thematic analysis, the researcher was able to discern general themes of what the leaders learned. The results of the study revealed Greek leaders learned as undergraduates to improve communication skills, understand various personalities, and gain organizational experience. This study has practical application for universities, Greek advisers, and Greek leaders as to what undergraduates can gain from the leadership experience and apply in their careers.

MODERN LANGUAGES

Presenter: Catalina Jaimes 4.
Department: Modern Languages
Advisor: Dr. Chris Jochum
Title: *Foreign Language Vocabulary Instruction: An analysis of short and long-term retention*

Description: The purpose of this study was to determine the extent to which various modes of vocabulary presentation in a foreign language account for the most significant levels of short and long-term retention. This study randomly selected UNK students with different levels of Spanish knowledge and categorized them in three groups. All students were randomly presented with a common list of Spanish words in different formats, including visual, oral, aural, and written, and assessed for their short-term retention. Two weeks later the subjects were assessed again to measure their long-term retention. The data collected was analyzed to determine significant difference between both the modes of vocabulary presentation and subjects' demographic variables. No statistically significant relation was found, but further research is suggested.

Presenter: Mary Stuart 5.
Department: Modern Languages
Advisor: Dr. Chris Jochum
Title: *A Comparative Analysis of Effective Teaching Strategies in American and Peruvian Schools*

Description:This poster session will present the results of a case study that examined the extent to which instructional strategies varied in secondary foreign language classrooms in the United States and Peru, based upon a model of effective practice presented by Marzano, Pickering and Pollock (2001). This study consisted of over 60 hours of classroom observations along with teacher interviews and collecting classroom instructional materials. Five overarching themes emerged from the various data sources which revealed significant, observed instructional differences between the two countries: (1) focus of the class (grammar-based or contextual), (2) types of questioning strategies, (3) use of the target language, (4) teacher expectations and student engagement and (5) student/teacher interactions and teacher involvement. The focus of this session will be to elaborate on the themes of focus of the class and use of the target language.

Presenter: Kathy Venteicher 6.
Department: Modern Languages
Advisor: Dr. Chris Jochum
Title: *An Analysis of UNK Student Teacher Preparation*

Description: The purpose of this study was to assess the perceptions of current UNK students who were completing their student teaching experience during the fall semester of 2012 in order to determine the extent to which, if any, their undergraduate preservice teacher education preparation had an effect on the perceived success of their teaching abilities and confidence in their subject areas. Both qualitative and quantitative results will be presented along with recommendations for future research.

MUSIC AND PERFORMING ARTS

Presenter: Jonathan Hunzeker 7.
Department: Music and Performing Arts
Advisor: Dr. Seth Fletcher
Title: *Comprehensive Study of Trombone F Triggers*

Description: Research was conducted and compiled into a comprehensive report on the designs and performance of trombone F triggers.

Presenter: Nolan Pribnow 8.
Department: Music and Performing Arts
Advisor: Valerie Cisler
Title: *Musician's Health & Wellness*

Description: Wellness is a primary topic today in both Music Performance and Education. Overuse injuries are becoming more predominant among instrumentalists. These injuries occur due to improper technique patterns that develop overtime. In most cases, these injuries developed are not corrected by experienced pedagogues who are trained to diagnose and rehabilitate musculoskeletal injuries. This semester's goal was to research and make an annotated bibliography of resources explaining musicians' wellness, in addition to informational resources pertaining to overuse injuries. Other projects included attending webinars and studying the training manual for the new "ProformaVision" sEMG Biofeedback Technology purchased by the Department of Music & Performing Arts.

Presenter: Cindie Reneau 9.
Department: Music
Advisor: Dr. Ting-Lan Chen
Title*: Positive Impact to Emotion and General Psychological Health in Humans through Music*

Description: Why is music ubiquitous? What causes one to be emotionally aroused when listening to music? What occurs in the brain when experiencing positive emotions induced by music? This project explores the connection between humans and sounds, physically and psychologically, and analyzes the functions of and makes connections between the areas in the human brain that dominate musical activities and positive emotions. The research outcome reveals the direct link between music and positive emotions based on the anthropological and neurological evidence, supported by a historical timeline of recorded musical events to demonstrate human's application of music throughout centuries when facing significant life events. The data collected from a survey developed for this project will also provide the information and the answers to the hypothesis that all people are emotionally moved by music despite their background in music and the genre of the music.

GEOGRAPHY

Mark Gardener 10.
Department: Geography
Advisor: Jason Combs
Title: *Internet Access and the Digital Divide*

Description: Many people are familiar with the concept of the digital divide between the areas that have the opportunities to access and/or take advantage of digital resources, namely the Internet, and those that do not. The purpose of this paper is to take the concept of the digital divide a step farther. Today, more people all over the world have access to the Internetthan in the past and it would be worthwhile to examine through what medium the Internet is accessed. The first part introduces the four most popular Internet browers: Apple Safari, Google Chrome, Internet Explorer, and Mozilla Firefox. Using data collected from November 2012 through January 2013, Internet access is evaluated to determine the percentage of access through each medium. What was discovered is that in North America and the Asian countries where Internet access is more prevalent and readily available, the most common medium is Internet Explorer. European nations and/or countries with less Internet frequency prefer Google Chrome or Firefox as their medium. The remainder of the paper discusses why this may be the case and explains the spatial pattern of browser choice. Key words: Browser and Internet.

Presenter: Lane Hoskins 11.
Department: Geography
Advisor: Jason Combs
Title: *Geographical Perspective of the Anaconda Plan*

Description: In the spring of 1861 the Anaconda Plan was created by General Winfield Scott. The plan consisted of a blockade of the southern ports and an advance of Union troops down the Mississippi River. Its name is derived from how the plan is perceived on a map, much like a snake suffocating its victim. In order for this plan to work it was critical for the North to cripple the South at the port cities of Charleston, Savannah, and New Orleans. In theory, if the North could weaken the South economically the war would be over more quickly than a continental military affair. The division of the South would also rely heavily on the ability of Union troops to successfully occupy the Mississippi River and its ports. The plan was not executed as devised for various reasons including a weak navy incapable of successfully shutting down southern exports. Winfield Scott had many diplomatic roadblocks as well, as his plan was heavily criticized, thus further preventing its success. Geography plays a tremendous role in every war and the Civil War is no exception. General Scott's plan focused on the South's landscape and how to use it to the North's advantage. Key Words: Anaconda Plan, Civil War, Mississippi River.

Presenter: Ryusuke Machida 12.
Department: Geography
Advisor: Jason Combs
Title: *Globalization and Gender Issues*

Description: The world is shrinking via globalization making it easier for people to exchange information and ideas. Information, for example, about gender issues has become more accessible via globalization as data is more readily available. Information about access to education, especially in predominantly Muslim countries, is now available. Turkey is different than most Muslim countries in regard to women's issues and opportunities, in part due to interventions by International organizations. This project explores what has occurred in Turkey and compares those outcomes to those in more strict Muslim countries in the Middle East and Africa. Key Words: comparative culture issues, gender issues, globalization, Muslim.

Presenter: Dayana Rodriguez 13.
Department: Geography
Advisor: Jason Combs
Title: *Examining recycling rates indifferent states of the USA*

Description: Environmental sustainability and protection have become areas of concern since the 1950s. Although concern for the environment has increased, the public's opinion on environmental policies and plans of action is still divided. Not only are these differences in opinion seen on the individual-level but also in the global-level. Socioeconomic status, race, ethnicity and industrialization level all impact attitudes on the environment. This paper studies how socioeconomic status and ethnicity affect environmental views by analyzing data on community recycling efforts. It was found that socioeconomic status contributed the most while at the global-level industrialization was a determining factor on environmental views. Research needs to continue however, so that external variables may be decreased and more accurate results can be found. Key words: Ethnicity, Socioeconomic, Sustainability.

Presenter: Nicolas Stoll 14.
Department: Geography-GIS
Advisor: Paul Burger
Title: *Just What the Doctor Ordered*

Description: Health care facilities track a variety of information, from prevention and treatment plans to infectious disease and chronic illness occurrence rates. A more recent trend is the utilization of patient data for understanding the customer base and market area of a clinic. Through the spatial analysis components of GIScience, patients as 'consumers' of health care are analyzed from both a geographic as well as a socio-demographic perspective. Identifying the areal extent of the market area of a health care clinic in the Omaha metropolitan area allows for the construction of Lifestyle Segmentation Profiles (LSPs) of the customer base to better understand and serve existing and future patients. Key Words: GIScience, Health Care, Omaha.

Presenter: Kaitlyn Taylor 15.
Department: Geography
Advisor: Jason Combs
Title: *Generational Political Patterns: The Case Study of Presidential Election Results in Kearney, Nebraska*

Description: The spatial examination of voting patterns is not a new field of study. In the late 1780s, the Massachusetts Centennial noted the "number and division of the votes, among the different classes of citizens" in the gubernatorial race between James Bowdoin and John Hancock, and suggested that Bowdoin was supported by physicians, lawyers, and gentlemen, while Hancock had the backing of laborers and servants (Jensen 1966: 226). Another early study conducted by Edward Krehbiel (1916) examined British Parliamentary elections from 1885 through 1910. Krehbiel (1916: 432) found that "geographical or natural factors have contributed very materially in creating the conditions which determine political predilections; and that a multitude of artificial factors have done likewise." This study has a number of goals. One is to educate young people about their responsibilities as informed citizens and to encourage them to participate in the political process. Although important, the primary objective of this study is not to be another civic engagement program. The key concern is the spatial examination of voting trends at the precinct-level in Kearney, Nebraska, a relatively affluent community of nearly 31,000, which is located in central Nebraska just north of the Platte River and Interstate 80. Not just analyzing results from the 2012 presidential election either, but a comparison of the actual vote to which candidate was favored by students in the Kearney Public School (KPS) system.

Presenter: Blake Weeder 16.
Department: Geography
Advisor: John T Bauer
Title: *Immigrant Origins in South Central Nebraska*

Description: The late 1800s saw a great influx of European immigrants to the United States. Nebraska was one state that was greatly impacted by the mass movements of the immigrants, so much so, that today many Nebraskans can trace their ancestry back to Europe by means of only a few generations. The true impact of European immigrant populations can be seen by examining census records. I summarized the birthplaces of all adults in four Nebraska counties using the US Federal Census of 1880. The maps of four European origins, German, Swedish, Danish, and Russian, show that those immigrants settled in clustered ethnic communities, particularly in rural areas, whereas native-born Americans tended to settle apart from these communities and in the small villages and towns.

POLITICAL SCIENCE

Presenter: Karson Kuntz 17.

Department: Political Science
Advisor: Dr. Christie Maloyed
Title: *State Standards*

Description: Recently both Colorado and Nebraska have found themselves in a transitory process in their state standards. Both are currently involved in changing either some or all of their core subject areas. For Colorado, Senate Bill 212, passed in 2008, requires the Colorado Department of Education to implement new standards in all content areas all at once, whereas Nebraska decided to visit and change one content area per year. This year just happens to be social studies. My research is focused on Social Studies in Nebraska and Social Sciences standards in Colorado. The research explains the similarities and differences between the methods and procedures used to accomplish these revisions. In addition, I look at the role local control plays in the development of new state content standards.

Presenter: Angelo Verdugo 18.

Department: Political Science
Advisor: Dr. Christie Maloyed
Title: *Obama and Russia: 2008-2012*

Description: President Barack Obama asserted his willingness to cooperate with Russia on the issue of the world's nuclear stockpiles prior to his intial term, and certainly struck important deals with that nation such as in the instance of the New START, the successor to START I. What were some of the major diplomatic agreements, between the United States and Russia, made during this first administration under President Barack Obama according scholars and connoisseurs? Did these agreements find some sort of correlation towards an ultimatum, or did they simply fluctuate here and there?

Presenter: Luke Zinnell 19.

Department: Political Science
Advisor: Dr. Machida
Title: *The Constitutionality of School Prayer at Graduation Ceremonies*

Description: The issue of prayer at high school graduation ceremonies presents a conflict between two fundamental rights awarded in the Constitution. The Establishment clause prohibits the government from promoting one religion over another or promoting religion over non-religion in general. The Free Exercise clause, on the other hand, gives individuals the right to carry out their religious activities. The Supreme Court ruled, in the case of Lee vs. Weisman, that school prayer at graduation ceremonies was unconstitutional. However, the specific nature of that case allowed many exceptions to the Court's ruling. For example, more student-initiated prayers occurred at many graduation ceremonies. This has put many school administrators in a difficult situation. A loud religious majority have scoffed at the idea of prayers being left out of the graduation ceremonies. But, the principals know that if they allow prayers, even student-initiated prayers, they could be setting themselves up for a lawsuit.

PSYCHOLOGY

Presenter: Chelsea Atkins 20.

Department: Psychology
Advisor: Dr. Forrest
Title: *Step by Step: Is there a recipe for murder?*

Description: We analyzed self-generated persuasion, which is a police interrogation technique. This technique involves an interviewer asking a suspect to describe how they would hypothetically commit a crime. We presented our participants with a specific murder scenario involving jealous passion and looked at common answers. We expected more similar answers than what we found. Participants listed a total of 9 ways to kill and 16 ways to cover the crime up. However, two ways to commit murder were mentioned more than the others: the use of firearms and poison. They were mentioned in 30.65% and 27.42% of the scenarios, respectively. Also the top ways mentioned to cover up the crime were using gloves and having a good alibi, being mentioned 30.65% and 20.97% of the time, respectively.

Presenter: Kevin Kalkowski 21.
Co Presenter: Shelby Peters
Department: Psychology
Advisor: Wayne Briner
Title: *The Effect of Nanoparticle Administration on the Vascular Tree*

Description: Nanoparticles are rapidly being developed as therapeutic tools. One concern surrounding the use of these substances is the effect on vascular perfusion. Hypothetically nanoparticles may produce hemagglutination by changing RBC or thrombocyte membrane characteristics. Alternatively, nanoparticles may also adhere to each other producing a traveling thrombus. In any regard the risk of micro thrombus to micro perfusion environments is important to explore. We are currently undertaking a vascular corrosion cast study of rats after being intravenously injected with metal nanoparticles and being allowed to survive for a short time and then being perfused with a liquid polymer. The resulting plastic cast of the vascular system is being examined for disruptions in perfusion patterns.

Presenter: Kirsty Kulhanek 22.
Department: Psychology
Advisor: William Wozniak
Title: *Perception of Safety in Urban Environments*

Description: This research project explored the effects of environmental cues in urban environments on the perception of safety. Cues explored in the research were darkness vs. light, presence of people vs. absence of people, and a visible exit or no visible exit. Stimulus materials were images of alleyways modified to contain different combinations of the variables. Images were presented to student participants in PowerPoint slides. Participants rated how safe they might feel in each area, and how likely they thought it was that a crime might occur there. Each group of students saw one of two sets of 16 images. Darkness, absence of people, and no visible exit significantly decreased perception of safety. This research could be applied to increase public usage of areas that are perceived as unsafe.

Presenter: Shelby Peters 23.
Co Presenter: Kevin Kalkowski
Department: Psychology
Advisor: Wayne Briner
Title: *The Acute Effect of Nanoparticles on Lung Histology*

Description: Metal nanoparticles exert their effects in a manner different that soluble salts or microscale materials. Potential differences in effects may include non-receptor mediated actions at the cell membrane mediated by pinocytosis. It is unclear how pharmacologic and toxic activities of these agents will evolve with these different mechanisms. To study this we are examining the effects of three different nanoparticles on lung histology. Our initial analysis indicates that copper oxide nanoparticles produce significant lung consolidation within two days after intraperitoneal administration.

Presenter: Jane A. Sosoo 24.
Department: Psychology
Advisor: Dr. Krista Fritson
Title: *A Correlational Study of Extraversion and Self Esteem*

Description: Previous research on extraversion suggest that extroverts are more likely to have higher levels of social interaction and higher levels of performance in school and at work (Furnham, 2011) Conversely, introverts are perceived as less socially interactive and may have lower performances in school and at work. Their perception of self-worth might have played a role in these results. In this study, self-esteem is assessed to explore the relationship between extroversion and introversion. The Rosenberg scale and the Big Five personality traits will be used respectively to assess self-esteem and extraversion levels through a survey of college students. We hypothesize that, in addition to being more socially interactive, performing better in school and at work, extroverts have a higher self-esteem than introverts.

BIOLOGY

Presenter: Morgan Abert 25.

Department: Biology
Advisor: Dr. Kimberly Carlson
Title: *Production and Validation of Drosophila melanogaster Nora Virus Monospecific Antisera*

Description: Nora virus is a picorna-like virus that has four open reading frames (ORFs), as opposed to the one long ORF found in most members of this group. The coding potentials of the ORFS are not fully characterized, but ORF1, ORF3, and ORF4 are believed to code capsid proteins. There are three viral proteins identified in ORF4 that are of interest, VP4A, VP4B, and VP4C. The purpose of this study was to produce monospecific antisera to purified whole Nora virus and purified recombinant VP4B, and to evaluate the specificity of both via Western blot analysis. Nora virus was purified from infected D. melanogaster flies on CsCl gradients and His-tagged recombinant Nora virus VP4B protein was purified on Ni+2 columns. Both whole virus and VP4B were injected into mice to make polyclonal antibodies. The resulting monospecific antisera were evaluated in Western Blot assays. The results showed that a majority of the predicted Nora virus structural proteins were detected using whole virus antiserum. Monospecific antiserum against VP4B detected two proteins in purified virus. The production and validation of monospecific antisera is a useful tool to investigate other aspects of Nora virus such as replication sites in host flies and the location of the various structural proteins in the virion.

Presenter: Justin Buchanan 26.

Department: Biology
Advisor: Dr. Kimberly Carlson
Title: *No Guts, No Glory*

Description: Nora virus was recently discovered in four species of Drosophila and one species of Nasonia. This virus is classified in the Picornaviridae, which includes human pathogenic viruses, such as Hepatitis C virus, Poliovirus, and Rhinoviruses. The mode for transmission of Nora virus has yet to be conclusively shown. The proposed modes of transmission in D. melanogaster are horizontal (fecal-oral) and vertical (gamete transmission). To examine the mode of transmission and site of replication, we used infected female D. melanogaster, removed their digestive tracts and ovaries, and tested each separately for the presence of Nora virus. Reverse transcription-polymerase chain reaction with Nora virus specific primers, and Western blot analysis were used to detect the virus. The results showed that Nora virus was primarily localized to the gut (trace amounts were found associated with the ovaries). Nora virus associated with the ovaries could be washed away, suggesting that the virus was a surface contaminant. Therefore, the mode of transmission appears not to be vertical. Previous work using dechorionated eggs from infected flies showed that flies could be cured of the virus via this method. These observations are all consistent with a fecal-oral route of transmission and not a vertical transmission route for Nora virus.

Presenter: Tad Fuchs 27.
Co Presenter: Ryan Sowle
Department: Biology
Advisor: Dr. Kimberly Carlson
Title: *Effect of diet on physiology and lifespan of Drosophila melanogaster obesity mutants*

Description: Obesity is a global problem that in addition to contributing to health related diseases, may reduce life span. To test this hypothesis, Drosophila melanogaster, the fruit fly, were used as a genetic model to study the role of triacylglycerol (TAG) storage. Utilizing the Drosophila obesity mutant, brummer (bmm), and its associated control, diet composition was manipulated to determine if physiology and lifespan could be impacted. High sugar and low sugar diets with a carbohydrate consistency were utilized. The flies were reared on a standard stock diet and then mated in couples of 50 males and 50 females per bottle. Four days after eclosure, females were collected and 10 were placed on either the high or low diet. Each week for 5 weeks, a sample of the females were frozen for TAG assay analysis. At the end of the experiment, survival curves were constructed, and the TAG analysis was performed.

Presenter: Kyle Gibbens 28.
Department: Biology
Advisor: Dr. Janet Steele
Title: *Smoking and Pregnancy: Is the Damage Already Done?*

Description: Premature birth is a major risk factor for women who smoke while pregnant, although the mechanisms behind this effect are unknown due to the large number of chemicals and compounds composing the smoke. The effects of smoke on myometrial contractions can be seen by exposing female Long Evans rats that have never been pregnant to cigarette smoke extract for a period of three weeks. A survival surgery was performed in order to remove the uterine horns, which were then cut into two cross-sections. These cross-sections, when placed in an isolated tissue bath and exposed to increasing concentrations of oxytocin, were forced to contract while a computer recorded the contractions. The results showed that there was a significant difference in the frequencies and durations of contractions when compared to the control group. This suggests that smoking prior to pregnancy can predispose the myometrium to abnormal responses in the presence of oxytocin.

Presenter: Amanda Hagstrom 29.
Department: Biology
Advisor: Letita Reichart
Title: *Stressed or chill? Response of Nestling Red-winged Blackbirds to a Perceived Stressful Event*

Description: During nestling development, chicks experience a myriad of social and environmental cues that may influence baseline levels of corticosterone (CORT), the avian stress hormone. This hormone is primarily involved in regulating homeostasis in organisms and is associated with survival. Few studies have measured how these factors can influence baseline levels of CORT in nestlings during development. Yet, measures of baseline levels of CORT may provide a method to evaluate nutritional stress or competition among offspring within the nest. Thus, for this study, we simulated a stressful event through a handling procedure to modify CORT production in nestling red-winged blackbirds (Agelaius phoeniceus). These levels were compared to baseline levels of CORT in order to determine how much CORT varied. Data analysis suggested that a handling time of five minutes was insufficient to create a significant increase in CORT levels in these nestlings. However, a larger sample size in future studies could perhaps yield a different result. Through the continued study of CORT modification due to stress, this research could shed light on how humans react variably to stressors in their environment.

Presenter: Kellie Hansen 30.

Department: Biology
Advisor: Dr. Dawn Simon
Title: *Evolution of rRNA introns in the lichen Physcia*

Description: Introns have been found in all sequenced eukaryotic genomes and comprise one third of the human genome. However, the origin of introns has historically been difficult to study. This is due to lack of conservation and the inability to locate intermediate forms. However, lichen-fungi have several different types of introns within their ribosomal RNA (rRNA) genes, some of which are likely transitional forms. In this project, species from the genus Physcia is used as a model to understand intron origin at one site within the large subunit (LSU) rRNA gene. Several specimens have been collected from central Nebraska and genomic DNA extracted from each. Two regions of the rRNA are being sequenced, the LSU surrounding the intron of interest and the internal transcribed sequence (ITS). The ITS will be used to understand the evolution of the host organism, which will be compared to the evolutionary history of the introns.

Presenter: Taylor Hyatt 31.

Department: Biology
Advisor: Dr. Panaitof
Title: *The Search for an Octopamine Receptor in the Burying Beetle, Nicrophorus orbicollis, using Primers Generated from Cross Species Comparisons*

Description: Juvenile Hormone is studied as a key molecule that controls reproductive behavior and parental care in the burying beetle (Nicrophorus orbicollis). However, hormone levels alone cannot account for the behavioral changes that burying beetles undergo during a reproductive cycle. The change from nest defense by both sexes and the behavioral plasticity observed in the intensity and duration of male parental care need further explanation. The neuromodulator octopamine (OA) is important in the control of reproduction and parental behavior in other insect species such as honey bees (Apis melifera) and ants (Streblognathus peetersi). However, the DNA sequence for the burying beetle octopamine receptor is unknown. I hypothesize that primers generated from cross species comparisons of octopamine receptors of other insects can be used to identify an octpamine receptor in the burying beetle.

Presenter: Brandon Karlin 32.

Department: Biology
Avisor: Paul Twigg
Title: *Study of Lipid Deposition of Chlamydomonas reingardtii When Stressed With Copper Deprivation*

Description: Fuel sources from fossil fuels are in a limited supply and a new sustainable resource needs to be utilized to displace fossil fuels. Microalgae are a means to replace fossil fuels by using photosynthesis to produce lipids which can be used for sustainable biofuels. The microalgae C. reinhardtii serves as model organism for studying and producing biofuels because of the organism's ability to grow in diverse conditions, not utilize cropland, and efficiently produce energy. Nutrient deprivation, such as nitrogen, has been known to increase the lipid production of C. reinhardtii. Further studies in metallic cofactor deprivation, such as copper, could further increase lipid production.

Presenter: Derek Kleier 33.

Department: Biology
Advisor: Dr. Dawn Simon
Title: *Intron Degeneration in the Lichen Fungi Teloschistes*

Description: Introns are noncoding sequences with no known general function, but understanding their origin may give us insight into this. Specifically, we hypothesize that spliceosomal introns in ribosomal RNA (rRNA) arise from autocatalytic group I introns. Here we focus on the fungal genus, Teloschistes. This lineage has rRNA introns that are variable in size, some displaying hallmarks of spliceosomal introns and others with standard group I intron structures. The primary objective is to increase sampling and discover introns that represent intermediate steps in the transition from group I to spliceosomal. We have collected 14 specimens from Central Nebraska and focused on six of these. In order to better characterize the species, and increase our data set of introns, we are sequencing the internal transcribed spacer (ITS) and a portion of the SSU rRNA. After sequencing, analyses will be performed to characterize the host fungi and their introns.

Presenter: Alyx Lingenfelter 34.

Department: Biology
Advisor: Dr. Keith Geluso
Title: *Diet and Prevalence of Chytrid of Non-Native American Bullfrogs (Lithobates catesbeianus) at Valentine National Wildlife Refuge, Nebraska*

Description: American bullfrogs (Lithobates catesbeianus) have been widely introduced beyond their native range in North America and can negatively impact native amphibians in these wetland environments. Bullfrogs were introduced to Valentine National Wildlife Refuge in the Sandhills of Nebraska, and little is known regarding their distribution, abundance, and impact on other vertebrates on the Refuge. Bullfrogs can directly affect native amphibian populations by consuming individuals as well as indirectly by propagating the chytrid fungus (Batrachochytrium dendrobatidis) for which bullfrogs are known carriers of the disease. Native northern leopard frogs (Lithobates pipiens) also occur at the Refuge, and L. pipiens is a species whose population has significantly declined in parts of its distribution in North America.

Presenter: Kelsie Musil 35.

Department: Biology
Advisor: Dr. Paul Twigg
Title: *Effect of Zinc and Nitrogen Deprivation on Lipid Accumulation in Chlamydomonas*

Description: Chlamydomonas reinhardtii is a model alga for the study of many processes. With the increasing emphasis on biofuels, Chlamydomonas and other algal genera have been examined as possible fuel sources. Recently, it has been demonstrated that Chlamydomonas will produce large amounts of lipid droplets under conditions of nitrogen deprivation. The goal of this study was to examine how lipid accumulation was affected by zinc deprivation. Zinc is a required element for Chlamydomonas growth and is a cofactor of superoxide dismutase. Oxidative stress has also been shown to cause lipid accumulation and zinc was chosen for this reason. We will present our lipid accumulation time course separately showing the effects of zinc, nitrogen, and both zinc and nitrogen deprivation. This project was funded by the NSF-EPSCoR program grant "Nebraska 2010-15 RII Project: Nanohybrid Materials and Algal Biology" (award number EPS-1004094) with funding for the microscopy facilities from the INBRE program (1P20RR164169).

Presenter: Dayana Rodriguez 36.

Department: Biology
Advisor: William Hoback
Title: *Burying Beetles, Nicrophorus SP., Can Survive a Fortnight Without Food*

Description: Burying beetles are decomposers that include the American burying beetle (Nicrophorus americanus). This species is endangered and to conserve it, population checks are routinely done. Pitfall traps are a commonly used method of sampling however, several factors can affect trapping efficiency. In ground beetles, starved beetles are more likely to be caught however; a similar study has not been conducted on detritivores which includes burying beetles. We conducted a laboratory trial using N. orbicollis where half of the individuals received ground beef every other day and the other half only received water. We tested survival times and mass loss of the two groups. We found starved beetles to lose approximately 1.1% of their mass per day with 50% mortality by day 9 and 100% mortality by day 18. Mass loss and death occur rapidly, suggesting that a five day trapping period should detect most beetles in an area.

Presenter: Hayley Rudder 37.

Department: Biology
Advisor: Paul Twigg
Title: *The environmental effects of the Keystone XL Pipeline on the threatened and endangered species of Nebraska*

Description: This project examines the possible effects of the proposed construction of the Keystone XL pipeline in Nebraska. More specifically, I used a comparative methodology to assess the possible biological effects on species in the area. I examined issues such as the effects of the pipeline on native endangered species in the affected Nebraska counties, and what the likelihood would be that the line would leak and how would those same endangered species be affected. I determined which Nebraska counties would be impacted and what endangered or threatened species existed there. I also examined other existing portions of the pipeline within Nebraska that are currently in use and determined how much those ecosystems had changed for comparison to the final portion of the Keystone project known as Keystone XL. I will present my results indicating that while these species are affected there is a likely chance for survival of these species from this study.

Presenter: Jeff A. Shaw 38.
Department: Biology
Advisor: Dawn Simon
Title: *Fungal Diversity of a Cottonwood Root System*

Description: Mycorrhizal fungi are symbiotic partners of plants that facilitate nutrient uptake. Historically, identification has been based primarily on morphology, but better estimates of diversity can be obtained using molecular techniques. In our research, DNA was extracted from four spatially distinct locations within the root system of a single cottonwood tree (Populus spp.) that vary considerably in soil characteristics. Using PCR, a region of the fungal ribosomal RNA was amplified, cloned, and sequenced. We obtained 135 clones from these four sites and phylogenetic analyses were performed to determine diversity. The sequences fall into two broad categories: ectomycorrhizal fungi and general soil fungi. We found more than 10 clusters of ectomycorrhizal fungi, with each cluster approximating a distinct species. These clusters are closely related, with a nearest BLAST match in GenBank to the same environmental sample. This suggests that there is diversity in mycorrhizae that is not yet represented in GenBank sequences.

Presenter: Landon J. Ziemba
Co Presenter: Jason A. Obermiller 39.
Department: Biology
Advisor: Brian C. Peterson, Casey W. Schoenebeck
Title: *Drought Impacts and Predicting White-tailed Deer Age Using Antler Metrics in South-central Nebraska*

Description: Electronic deer check systems offer natural resource agencies alternatives to mandatory in-person check stations resulting in potential savings in money and personnel. However, a reliable means for hunters to classify deer age must be established to set future management goals. We evaluated the use of six antler metrics to predict age class of white-tailed deer (1.5 and ≥ 2.5). Additionally, antler metrics during drought conditions (2012) were compared using means and standard errors with antler metrics taken during normal conditions (2009-2011). Main beam length was the most accurate measurement to classify age. For white-tailed deer, 93% (114/123) of the 1.5 age class and 93% (251/271) of the ≥ 2.5 age class were correctly classified using MBL (cut-off of 364 mm). Therefore we found that antler metrics can be used to classify age classes. Yearling deer had differences between drought and normal conditions for 2 of the 6 antler metrics evaluated, however effect size was not consistent between conditions. Conversely, 2.5 year old antler metrics were consistently smaller (3 of 6 metrics) during drought conditions.

CHEMISTRY

Presenter: Noah Broekemier 40.
Department: Chemistry
Advisor: Dr. Hector Palencia
Title: *Kinetics of biodiesel synthesis catalyzed by an N-heterocyclic carbene*

Description: Biodiesel is a renewable fuel obtained from the transesterification between vegetable oil and alcohols, commonly methanol. Sodium methoxide is the standard catalyst used in the industry to produce biodiesel. However, this catalyst is sensitive to moisture and needs 65 °C/30 minutes to produce biodiesel; additionally, an excess of methanol to oil (ratio 1:6, 100% excess, 2 equivalents) is needed to drive the reaction to completion. We had developed evaluated the catalytic activity of different N-heterocyclic carbenes (NHCs) as organocatalysts for the transesterification between soybean oil and methanol. In general NHCs are less sensitive to moisture, shorten the reaction time, and at difference of standard catalyst, such as NaOCH3 and NaOH, they do not need a large excess of methanol (10 mol % excess is enough, 1.1 equivalent). A kinetic study of an NHC was carried out at different temperatures results compared with the sodium methoxide.

Presenter: Nolan Broekemier 41.
Department: Chemistry
Advisor: Dr. Hector Palencia
Title: *Synthesis of esters from carboxylic acids and alcohols catalyzed by BrØnsted acids*

Description: Esterification is an important reaction used to produced solvents, plasticizers, fragrances, biofuels, and other intermediates. The direct synthesis from alcohols and carboxylic acids require the use of strong mineral acids as catalysts under prolonged heating and with a large excess of the alcohol to drive the reaction to completion. The reaction is particularly difficult for fatty acids and alcohols with long hydrocarbon chains, which are interesting as biofuels. The use of alternative catalysts working under milder conditions can save energy and make the direct synthesis of esters more attractive, avoiding the use of reactive intermediates or expensive reagents. We had developed BrØnsted acids, ionic liquid-type that are able to catalyze the reaction with a variety of alcohols and carboxylic acids under milder conditions and with high yields. Our latest findings will be presented.

Presenter: Aspen Clements 42.

Department: Chemistry
Advisor: Mahesh Pattabiraman
Title: *Cyclodextrin Mediated Cross-Photocycloaddition of alkenes of Alkenes*

Description: Photocycloaddition of alkenes is an important class of photochemical reaction studied for its many practical applications. Several strategies were developed in the past to improve efficiency of photocycloaddition of alkenes and Cyclodextrin mediated photocycloaddition is a convenient and effective strategy. However, thus far the strategy has been employed for the photoreaction between alkenes of the same species (A + A –> A-A). We have been engaged in investigating the feasibility of affecting cross-photocycloaddition between two alkenes of two different species (A + B –> A-B). We chose to investigate the cross-photocycloaddition between substituted cinnamic acids and coumarins. This far our studies indicate that the selective cross-photocycloaddition between the alkenes could be achieved, and in fact selectivity in favor of the cross-product could be realized in some cases.

Presenter: Kirsten Lipps 43.

Department: Chemistry
Advisor: Dr. Christopher Exstrom
Title: *Preparation of gold nanoparticles via oxalate reduction of HAuCl4 without the presence of polymeric stabilizing agents.*

Description: Gold nanoparticles show great potential for use in nanoscale biomedical sensors due to surface plasmon resonance (SPR) frequency changes that occur when biological analytes are drawn to close proximity of the nanoparticles. The aqueous solution-based preparation of gold nanoparticles from the reduction of HAuCl4 by oxalate ion is a facile, one-pot method that produces anisotropic nanoparticles with near-infrared SPR frequencies where there are few biological interferences. While previous literature indicates that polymeric capping agents such as polyvinylpyrrolidone (PVP) are necessary stabilize the product gold nanoparticles, we have discovered that running the reaction at more diluted reactant concentrations, PVP or other capping agents are not necessary. UV-vis spectroscopy and transmission electron microscopy evidence indicates that nucleated "seed" nanoparticles rapidly grow and form anisotropic shapes. This is followed by concurrent spherical ripening and aggregation processes. Effects of reaction pH and HAuCl4:oxalate molar ratios will be discussed.

Presenter: Bethany Lueck 44.

Department: Chemistry
Advisor: Dr. Christopher Exstrom
Title: *Effects of pH in the synthesis of branched gold nanoparticles in water/methanol solutions*

Description: Gold nanoparticles show great potential for use in nanoscale biomedical sensors due to surface plasmon resonance (SPR) frequency changes that occur when biological analytes are drawn to close proximity of the nanoparticles. Introducing anisotropy, such as branching, to the nanoparticle shape creates a longitudinal SPR with frequencies in the near-infrared region where there are few biological interferences. While star-shaped nanoparticles have been reported to form upon the reduction of HAuCl4 in 20:80 water:methanol solution, we have discovered that adjusting the reaction solution pH affects the extended aggregation of these particles. To form gold nanoparticles, set quantities of 0.05 M HAuCl4 and sodium ascorbate were reacted in water:methanol mixtures (ranging from 20:80 to 50:50 compositions) containing 0.4% polyvinyl alcohol (PVA). NaOH was added to adjust pH to values between 5.5 and 12.4. SPR frequencies in reaction solutions were monitored by UV-vis spectroscopy and product nanoparticles were characterized by transmission electron microscopy. As pH is increased, greater nanoparticle aggregation into microscale "lacey" or "ribbon" branched structures is observed with maximum aggregation occurring at pH 12.3. At this high pH, $Au(OH)_4^-$ is expected to play a more prominent role in the nanoparticle formation and aggregation mechanism. In the mixed solvent system, this species may show a greater degree of coordination to gold nanoparticle surfaces and facilitate the linking of particles while helping to stabilize them during aggregate formation. We have ruled out a simple ionic strength effect. The replacement of NaOH with NaCl results in bulk gold precipitation.

Presenter: Bjorn Lund
Co Presenter: Thomas Webber 45.
Department: Chemistry
Advisor: Dr. Christopher Exstrom
Title: *Laser-Induced and Thermal Decomposition Studies of Nanocrystalline Pyrite FeS2*

Description: Because of favorable optical absorption properties, high natural abundance, and extremely low extraction and processing costs, the semiconductor material iron pyrite (FeS2) is being explored as a next-generation solar cell absorber material. The nanocrystalline form of pyrite FeS2 may be easily synthesized but its stability under thermal stress has not been investigated. Raman spectroscopy was employed to observe the laser-induced decomposition of nanocrystalline pyrite FeS2. A direct relationship between incident He-Ne laser power and the degree of sulfur loss was observed. The phase transformation from FeS2 to FeS was observed. At high laser power, rapid sulfur loss in combination with air oxidation converted the FeS2 to Fe2O3. In an effort to elucidate the decomposition mechanism due to a non-focused heat source, pyrite FeS2 samples were subjected to air oxidation at temperatures ranging from 50-500 oC using thermal gravimetric analysis. Using temperature profiles that consist of increasing the temperature by 10 degrees per minute from room temperature to 500 oC followed by a 30-minute hold at 500 oC, only partial sulfur loss was observed, possibly resulting in the formation of a pyrhottite (Fe1-xS) phase compound. The non-equilibrium conditions employed in TGA may contribute to this slow sulfur loss. Further results will be discussed.

Presenter: Qiao Song 46.
Department: Chemistry
Advisor: Dr. Gene Wubbels
Title: *Novel Smiles Photorearrangement and Intramolecular Oxidative Photodisplacement of Hydrogen by an Amine*

Description: When 2-(4-nitrophenoxy)ethylamine(PNPEA) is irradiated (350 nm) at 0 C in aqueous solution at pH 11, three dihydrobenzene intramolecular adducts can be detected by NMR. It seemed possible that the zwitterionic precursor of these adducts could undergo a novel sigmatropic rearrangemnet to give a Smiles photorearrangement, undergo oxidation to a benzoxazine, or suffer nucleophilic ring opening to give phenolic or aniline products. We report progress on unraveling this complex solution photochemistry. Experiments with photolysis in buffered solution at pH 9.2 indicate by NMR and by UV-vis analyses that a minor amount of Smiles photorearrangement product is formed, and that in situ oxidation with 3,5-dinitrobenzoic acid causes major conversion to the benzoxazine.

Presenter: Rebecca Svatora 47.
Department: Chemistry
Advisor: Dr. Christopher Exstrom
Title: *Effects of aminopropyltrimethoxysilane on gold nanoparticle aggregation and binding to crystalline and glass substrates*

Description: In the fabrication of a gold nanoparticle-based sensor devices, a chemisorption technique may be employed where the nanoparticles are cast as films from solution onto a substrate that has been treated with a thiol- or aminosiloxane self-assembled monolayer. We have adapted a literature procedure to form stable gold nanoparticle coatings on borosilicate glass, fused silica, quartz, and sapphire substrates. In a typical procedure, a detergent-cleaned (with sonication) substrate was submerged in 1-10% methanol solution of aminopropyltrimethoxysilane (APTMS) for 10-20 minutes. After drying, this treated substrate was submerged for 2-150 minutes in a 1 mM gold nanoparticle solutions prepared from the reduction of HAuCl4 by sodium citrate. Film growth was monitored by UV-vis spectroscopy. Film thickness and roughness measurements are in progress. This coating procedure has been equally effective for making films from spherical and branched gold nanoparticles prepared in our laboratory. Although gold nanoparticles are stable when coated on APTMS-treated substrates, the addition of APTMS to a solution of spherical gold nanoparticles induces particle aggregation (as observed by transmission electron microscopy) that results in the emergence of a longitudinal surface plasmon resonance at 660 nm. Titration results suggest that it may be possible to control this aggregation. Such investigations are underway.

Presenter: Junqi Wang 48.
Department: Chemistry
Advisor: Haishi Cao
Title: *Understanding the ICT effect in N-aryl-1,8-naphthalimides*

Description: N-aryl-1,8-naphthalimide is a widely used fluorescent molecule due to its unique photopysical features. Many of fluorescent chemosensor have been developed based on N-aryl-1,8-naphthalimide by using different mechanisms, such as photoinduced electron transfer (PET), fluorescence resonance energy transfer (FRET), and internal charge transfer (ICT). Recently, a family molecules have been synthesized for investigation of internal charge transfer effect in N-aryl-1,8-naphthalimide, particularly for the stabilization effect to ICT from the aryl moiety.

Presenter: Thomas Webber 49.
Department: Chemistry
Advisor: Dr. Christopher Exstrom
Title: *Studies of Iron depletion in the solvothermal preparation of nanocrystalline pyrite FeS2 in oleylamine*

Description: Because of favorable optical absorption properties, high natural abundance, and extremely low extraction and processing costs, the semiconductor material iron pyrite (FeS2) is being explored as a next-generation solar cell absorber material. The solvothermal synthesis method presents a potentially effective way to avoid costly high-vacuum manufacturing steps but surface site vacancies in product nanoparticles seem to inhibit photovoltaic activity. This has stimulated our interest in monitoring the rate of iron depletion from solution and the iron content in product nanoparticles during the course of solvothermal reactions. In our studies, FeCl2 and hexanediol were heated in oleylamine for 1 hour at 100 oC. A solution of excess sulfur dissolved in oleylamine was added and the reaction was heated to 220 oC. That temperature was maintained for 0, 0.25, 1, 2, or 4 hours. Product nanoparticles were isolated and characterized by Raman spectroscopy. During the course of the reaction, a progression of mackinawite (FeS), greigite (Fe3S4), pyrrhotite (Fe1-xS), and pyrite (FeS2) formation was observed. The iron content in the nanoparticles was quantified using ICP-OES. From these measurements, 100% of the iron rapidly depletes from solution upon sulfur addition but the iron yield in the product nanoparticles decreases during the reaction to 70% after 4 hours. These data suggest that during FeS2 nanoparticle formation, sulfur diffusion into the particles is accompanied by some Fe diffusion from the particles back into solution. We are now investigating the possibility of Fe depletion from solution upon heating but prior to sulfur addition. Preliminary results will be discussed.

Presenter: Corey Willicott 50.
Department: Chemistry
Advisor: Dr. Annette Moser
Title: *Development of Methods to Detect Atrazine in Water and Soil Samples*

Description: Analytical methods were developed to determine herbicides, atrazine in particular, in soil and agricultural drainage water. Soil samples were processed using microwave-assisted extraction (MAE) and analyzed by using gas chromatography-mass spectrometry (GC-MS). Water samples were processed using solid-phase extraction (SPE) with C18 cartridges and analyzed by using GC-MS. Validity for both methods was determined by using atrazine-d5 as an internal standard. The MAE and SPE methods allowed for the determination and confirmation of atrazine with good reproducibility and low detection limits. These methods were then used to test atrazine levels in soil and water samples collected near the Platte River.

Presenter: Kyle Woodworth 51.
Department: Chemistry
Advisor: Frank Kovacs
Title: *Site-Directed Mutagenesis of the Aromatic Binding Site of Ascorbate Peroxidase in Switchgrass*

Description: Ascorbate Peroxidase (APX) is an enzyme found in many plants. APX uses ascorbate to break down hydrogen peroxide, which is harmful to plants. This enzyme not only has a binding site for ascorbate, but also has an aromatic binding site. This aromatic binding site has shown to be active in previous experiments, but not as strongly as the ascorbate binding site. Using a homology model of APX from a pea plant, a particular amino acid was found that may play a significant role in the aromatic binding site. That amino acid, W41 (W—Tryptophan), was then mutated by site-directed mutagenesis to W41F (F—Phenylalanine) and W41R (R—Arginine). The mutagenesis products were checked for the proper mutation using DNA sequencing. Once the mutations were verified, the mutants were expressed and purified as proteins and their enzymatic function tested using enzyme assays.

Presenter: Lingyun Yang 52.
Co Presenter: Mengnan Wang
Department: Chemistry
Advisor: Haishi Cao
Title: *Detecting CN- in biosamples by using ICT fluorescence chemosensor*

Description: As one of the most poisonous anions, cyanide may cause death with blood concentration of 23-26 uM. By now, many approaches based on expensive instruments have been well developed for detecting cyanide. However, there is still a great demand for a simple and rapid method to detect the cyanide with concentration in micro molarity range. In our research group, a boronic acid based chemosensor has been synthesized for detection of CN- using internal charge transfer (ICT) mechanism.

COMPUTER SCIENCE

Presenter: Ben Versaw 53.
Department: Computer Science
Advisor: John D. Hastings
Title: *Efficient Rendering of Terrain*

Description: Will present an alternative more efficient method that is an improvement from the current method of rendering 3D terrains using height maps. Reducing the work load on the computer allowing for larger and more detailed 3D worlds.

GEOGRAPHY [NPS]

Presenter: Brian Ellis 54.
Department: Geography
Advisor: Jason Combs
Title: *Natural Disaster Impacts in the United States*

Description: This project seeks to spatially examine natural disaster related damage in the United States. For this paper data was gathered from Hurricanes Andrew and Katrina as well as from the Northridge and the Loma Prieta Earthquakes. They are contrasted with each other to determine if there is a pattern when it comes to natural disasters and where people locate. Where development occurs, for instance, exacerbates economic losses as disaster-prone and fragile areas, such as barrier islands, are developed. Natural disasters do influence behavior but people often build more natural disaster proof buildings rather than avoid sensitive areas. Finally, considering the extreme economic impacts and loss of life that accompany natural disasters this study evaluates whether or not policies should be developed to prohibit the development of sensitive areas. Keywords: Development, Earthquakes, Economic Losses, Hurricanes, Natural Disasters.

Presenter: Ryan J. Peschel 55.
Co Presenter: Colt A. Dorsey
Department: Geography
Advisor: Dr. Jeremy S. Dillon
Title: *The Case of the Cracked Tennis Court: Poor Service, or Geology's Fault?*

Description: We conducted a soil-geomorphic investigation of an outdoor tennis/basketball court in western Kearney. The court has cracked so severely it is no longer usable. Subsequent "patching" efforts were unsuccessful. Our goal was to determine if the cracking is due to soil and geologic factors at the site, or to other causes such as climate or construction quality. We obtained 10-foot continuous soil cores from each side of the court and across the property. Our preliminary results show that the ground on the western portion of the court is saturated with water for longer periods than the eastern portion. We believe that this is caused by the road with and small culvert west of the court. Thus the cracking is due to differential settling. We are currently conducting laboratory tests to quantify soil strength under different moisture conditions as a test of our preliminary explanation.

Presenter: Jonathon Sliva 56.
Department: NPS
Advisor: Jason Combs
Title: *Examining Deforestation in the Amazon Basin Utilizing Satellite Data: 1986-2009*

Description: Since the early to mid-1970s deforestation has been on the rise in the Amazon Basin due to the need for raw materials. This desire for raw materials has caused an expansion of the logging industry in sensitive areas such as the case for the Amazon Basin. This project first defines the geographical location of the Amazon Basin and the sensitivity of this region. After establishing a clear definition concerning the region's sensitivity, a brief overview of the history of deforestation in this area is offered. The remaining portion of the project focuses on information gathered through the technique of remote sensing. The spatial distribution of deforestation is thoroughly evaluated and reveals that this process is dynamic and having a profound effect on the Amazon Basin's landscape. Key Words: Amazon Basin, deforestation, remote sensing.

MATHEMATICS

Presenter: Josh Brummer 57.
Department: Mathematics
Advisor: Jacob Weiss
Title: *Study of Time Scale Calculus*

Description: Time scale calculus is a relatively new branch of mathematics which unifies discrete and continuous analysis. This project examines some of the partially explored theorems and results of time scale calculus, and looks to expand upon them in unique new ways.

COMMUNICATIONS DISORDERS

Presenter: Kiley Anderson 58.
Department: Communication Disorders
Advisor: Linda Crowe
Title: *Comprehension Improvement in Students Using the FRAME Routine*

Description: The purpose of this study was to evaluate the effectiveness of a specific strategy in improving typically developing children's reading comprehension. The results suggest students benefited by using the FRAME, thus increasing their reading comprehension scores.

Presenter: Candace Long 59.
Department: Communication Disorders
Advisor: Linda Crowe
Title: *Comparison of Inhibitory Control in Bilingual Young Adults*

Description: The executive control functions of the human brain allow for higher thought processes. One of these processes is attention, which includes both selection and inhibition (Bialystok 2005). Within the last decade, research studies have discovered an advantage in the inhibitory control function for young and old bilingual individuals over their monolingual counterparts (Bialystok, Martin, & Viswanathan, 2005; Bialystok, Barac, Blave, & Poulin-Dubois, 2010; Salvatierra & Rosselli, 2011). This advantage was absent in the young adult population; however, all young adults were undergraduate students. The current study investigated the effect of education on the inhibitory control of young bilingual adults. The two sample groups were non-college educated and current college students. All participants were Spanish/English bilingual and 20 to 30 years old. The Simon task measured inhibitory control. This study was a close replication of previous studies (Bialystok et al., 2005 and Salvatierra & Rosselli, 2011) with a different target population.

Presenter: Catherine Paulsen 60.
Department: Communications Disorders
Advisor: Dr. Erin Bush
Title: *Concussion Awareness of School Professionals in Rural Nebraska*

Description: To prevent our youth athletes from concussions and the life altering side effects, educators working with school-age athletes have both a moral and legal obligation to enforce LB260. In order to do this effectively, educators must have adequate knowledge of concussions and concussion management. New legislation and/or policies are often challenging to implement in to well-established programs. The researchers wish to identify the knowledge of concussion and concussion legislation in rural Nebraska, as well as determine the current practices and changes in practice addressing this legislation by school professionals involved in youth athletics. This knowledge will help to identify, further, what practices are effective, and how we may support these professionals with program changes when necessary. **Dr Bush and I plan to have data and information prepared by the time of Student Research Day, however, if this is not feasible, we still plan on me presenting at the Nebraska Speech Hearing and Language Association fall convention.

Presenter: Christine Younes 61.
Department: Communications Disorders
Advisor: Dr. Jan Moore
Title: *Simultaneous Language Acquisition in Bilingual Toddlers*

Description: The focus of this research project is to study simultaneous language acquisition in toddlers speaking Arabic and English or Spanish and English. The study focuses on parts of speech (nouns, verbs), syntax, and code-switching. Data was gathered for each participant for two days in the participant's natural environment using a LENA recording device. Parents reported additional language data using a Communication Development Inventory in both languages. The language samples were then transcribed and compared to norms, investigated for patterns in word use, and searched for patterns of code-switching.

FAMILY STUDIES

Presenter: Drew Comito 62.
Department: Family Studies
Advisor: Dr. Jennifer Crosswhite
Title: *An Investigation of Adolescent Delinquency*

Description: Research has examined a few areas when discussing the topic of delinquency in adolescents. Parenting styles, self-control, attachment, communication and modeling are all areas of interest. In this study, three subjects were interviewed, two female and one male who have all engaged in delinquent acts. During the research some common themes emerged in self-control, attachment, communication and modeling. The subjects lacked self-control but at the same time demonstrated an understanding of self-control; they had weak attachments with their mothers and weaker attachments with their fathers. Along with weak attachment there was poor communication and many people modeling negative behaviors. All of these areas have the ability to increase delinquency.

GEOGRAPHY

Presenter: Barry J. Jeffs
Co Presenter: Jennifer Frisch 63.
Department: Geography
Advisor: Dr. Vijendra K. Boken
Title: *Impact of climate change on water resources - is our future safe?*

Description: The goal of the research is to gain a better understanding for the cause of Climate Change with the effects of drought conditions. The MODIS satellite system was used to help monitor past precipitation and drought conditions in Nebraska from 1999 to present day. Data collected from the Drought Monitor on precipitation and temperature was analyzed to determine current drought trends to include the summer of 2012, Nebraska's worst drought season in many years. Imagery taken both day and night, by the Aque and Terra satellites since 2003 was analyzed to determine the cause and effects of drought conditions. Data on vegetation growth, increase or decrease in yields of crop production (corn, soybeans, and wheat)was studied to determine what effects the drought had on the economic status for agriculture based farming operations. Recommendations will be used to help asssist farmers.

HPERLS

Lindsey Eubanks 64.
Department: HPERLS
Advisor: Dr. Todd Bartee
Title: *The Relationship between Distal Forearm Bone Mineral Desnsity and Self-Reported Periodonatal Disease*

Description: Background: Women with osteoporosis are three times more likely to experience tooth loss than those that do not have the disease. The purpose of this study is to determine the relationship between the bone mineral density (BMD) of the distal forearm and self-reported periodontal disease and tooth loss among women. Methods: Approximately fifty women 19 years or older will complete a brief medical history and a self-report of oral health questionnaire. This will be followed by a scan of the distal forearm using dual energy x-ray absorptiometry as the criterion measure of BMD Results: Based on Pearson correlation analysis of the relationship would suggest that women with higher BMD of the distal forearm have better oral health. Discusssion: Dentists should consider promoting physical activity to improve BMD among their patients to protect against the effects of periodontal disease.

Presenter: Hannah Harmon 65.
Department: HPERLS
Advisor: Dr. Nita Unruh
Title: *The Effect of Competitive Entertainment on Tri-City Storm Hockey Ticket Sales*

Description: This research project takes a closer look into ticket sales for the USHL Tri-City Storm Hockey team that is located in Kearney, NE. The objective of this research project is to see how other competitive entertainment in the local area and state, such as high school sporting events and Husker Football, affect ticket sales for a Tri-City Storm Hockey game. By comparing ticket sales of Tri-City Storm Hockey games during the 2012-2013 hockey season that share the same dates as other competitive entertainment will help see if there is an effect on Tri-City Storm ticket sales.

Presenter: Danielle Perry 66.
Department: HPERLS
Advisor: Dr. Kate Heelan
Title: *Association Changes in Physical Activity Levels and Serum HDL-C with Weight Loss Among Obese Children and Adults*

Description: Increased physical activity, as a component of weight loss interventions, has been associated with beneficial increases in serum high-density lipoprotein cholesterol (HDL-C) levels in overweight and obese children and adults (Wood et al., 1991; Reinehr et al., 2006). Serum HDL-C is inversely related to the incidence of cardiovascular disease (Barter et al., 2007). PURPOSE: To determine whether changes in physical activity levels are associated with a change in serum HDL-C levels in obese adults and children as part of a pediatric obesity treatment intervention. METHODS: HDL-C and steps/day at baseline and six months for adults and children who completed a family-based pediatric obesity treatment program will be obtained and examined. The association between the change scores in the number of steps/day and serum HDL-C levels from baseline to six months will be determined using Pearson correlation coefficients. The associations between these variables will be examined separately for children and adults.

Presenter: Krista Scheer
Co Presenter: Sarah Siebrandt 67.
Department: HPERLS
Advisor: Dr. Gregory Brown
Title: *Undergraduate Research Fellowship: from Plan to Publication*

Description: This presentation is a chronicle of 2 students' experiences in the Undergraduate Research Fellowship program over the past two and a half years. What began as a simple plan to evaluate the heart rate, oxygen consumption, and ventilation due to different physically active video game systems, developed into a poster presentation at the 2013 Annual Meeting of the American College of Sports Medicine in San Francisco, and now into a manuscript submitted for publication in the International Journal of Exercise Science. Important steps along this journey, such as CITI Human Research Training, will be highlighted.

Presenter: Bridgette Schneekloth 68.
Department: HPERLS
Advisor: Dr. Gregory Brown
Title: *Kinect™ Sports compared to Live Track Performance for Physical Activity*

Description: The majority of research evaluating the energy expenditure of the Microsoft Kinect has assessed physically active video gaming as a more active alternative to the traditional sedentary video gaming. Consequently, it is not well documented as to whether or not the Kinect can be used to accurately measure athletic ability and report sports performance. The purpose of the proposed research project is to compare physical activity (via accelerometry) and step counts to physically active video game playing (XBOX 360 Kinect Sports Track) with the same responses to live track performances in order to determine if Kinect Sports accurately represents athletic ability.

Presenter: Sarah Siebrandt 69.
Co Presenter: Krista Scheer
Department: HPERLS
Advisor: Dr. Gregory Brown
Title: *That's a super-sized monster-mug, but how much soda are you really drinking?*

Description: After the recent ban in soda consumption in the state of New York, it is questioned how much soda is someone actually consuming. The purpose of the proposed research project is to assess the actual amount of soda being consumed in a 44 ounce self-serve fountain drink purchased from a gas station / convenience store. We collected data from 100 UNK students at the Kwik Shop across the street from UNK's campus on one afternoon. We recorded the mass of the cup, mass of the ice in the cup and then the total mass of the cup and the drink. The kind of drink was also recorded. Statistical analysis is still being run on the data. In conclusion we hope to find that the majority of individuals drink less pop than the suggested size labeled on the cup.

Presenter: KayCee Upton 70.
Department: HPERLS
Advisor: Dr. Gregory Brown
Title: *Elevator versus Stair Use by UNK Students in Centennial Towers East*

Description: Physical Activity is essential for the prevention of numerous diseases and the promotion of an overall healthy lifestyle. In order to be effective, physical activity does not need to be "exercise", but can simply be a matter of incorporating physical activity into a person's daily lifestyle (1; 3) Simple activities, such as taking the stairs instead of the elevator, can have a meaningful impact on overall health by increasing a person's daily physical activity (4; 5) The proposed research project will evaluate stair use compared to elevator use in a residence hall on the UNK campus. On numerous occasions and at varying times, persons will be observed as they ascend from the first floor in the residence hall. They will be recorded as stair users or elevator users (2; 3; 4). Spring 2013 will be the preliminary data collection for this project, to determine the success of point-of-decision prompts (2;4).

Presenter: Taylor Warren 71.
Department: HPERLS
Advisor: Dr. Scott Unruh
Title: *Freeh Report Quantifying the Impact of the Freeh Report on Policies and Procedures at Select Colleges and Universities*

Description: The survey that was prepared is being used to quantify the impact of the Freeh (2012) report on NCAA colleges and universities. This survey was sent out to 1015 athletic directors and 857 human resource representatives to all divisions of NCAA schools. The main purpose of this study is to determine whether or not athletic departments are reacting to issues raised by the Penn State scandal. We are looking to find out if policies for reporting allegations of sexual misconduct involving student athletes or youth that are using the athletic facilities for institutionally sponsored events were reviewed or improved.

Presenter: Shelby Zimmerman 72.
Department: HPERLS
Advisor: Dr. Kate Heelan
Title: *Nutritional Choices of UNK Students*

Description: It is not uncommon to hear of the "freshman 15" or weight gain during college. One assumed culprit is the food being eaten at college cafeterias. Cafeterias provide a smorgasbord of food with an "all-you-can-eat" buffet, making it challenging for many students to not overeat. PURPOSE: To determine if students at UNK will make healthier food choices if education is provided on-site using a Stoplight Eating Plan at the Market at 27th Street dining commons. METHODS: During lunch, videos were taken of the food choices and food consumption of 23 students. For four days following, table tents and posters were displayed in the cafeteria educating students on the Stoplight Eating Plan (Epstein, 1988). During education, videos of 18 students' food choices and consumptions were taken again. Comparisons were made between the total number of healthy foods chosen and consumed between baseline and after education.

MARKETING

Presenter: Justin Vogel
Co Presenter: Jacey Schultheiss 73.
Advisor: Jacey Schultheiss
Title: *The Funeral Service Industry: Consumer Knowledge and Perceptions*

Description: Although the Funeral Services Industry accounts for more than $13 Billion in annual revenue, one of the largest criticisms of the industry is the lack of knowledge that consumers have about the industry and its services. In order to become more effective marketers, funeral homes need to become more aware of consumers' knowledge and perceptions regarding this industry. In the fall of 2012, primary data collection was conducted regarding consumers' perceptions and knowledge of the funeral service industry by a team of student researchers. The study results will help to determine what the consumer perceptions and knowledge of the industry are, to discover what factors are important to consumers when choosing between traditional and cremation funeral services, to establish how consumers become aware of funeral homes and service offerings, and to determine what criteria are important when selecting a particular funeral home.

BIOLOGY

Presenter: Adrienne Conley 74.

Department: Biology
Advisor: Dr. W. Wyatt Hoback
Title: *Trap and relocate in burying beetles (Nicrophorus americanus, Nicrophorus marginatus) and its implications for conservation*

Description: The American Burying Beetle (Nicrophorus americanus Olivier) is an endangered species whose range has been drastically reduced due to a variety of factors. These factors include, but are not limited to, habitat fragmentation, the reduction in preferred carrion availability, light pollution, and human expansion. In the hopes of preserving this species a trap and relocate protocol has been established to move the beetles away from direct harm (i.e. construction). Related species including Nicrophorus marginatus, Nicrophorus carolinus, and Nicrophorus orbicollis were used to gauge the effectiveness of the USFWS trap and relocate protocol. It was found that control area transects had higher recapture rates overall, however, recapture rates of moved beetles were similar to beetles originally collected from a site. It appears that moving beetles does not have a detrimental effect on beetle populations, but more trials are needed to determine the importance of this finding.

Presenter: Jeremy Grauf 75.

Department: Biology
Advisor: Dr. W. Wyatt Hoback
Title: *Fish community improved from groundwater input into Dry Creek, Nebraska*

Description: On June 8th, 2012, the Nebraska Tri-County Natural Resources Department (NRD) began pumping groundwater into the creek to offset water depletions in the Platte River Watershed, and to increase forage fish for the federally endangered least tern (Sternula antillarum). This study used backpack electrofishing to assess fish diversity and abundance in Dry Creek. Sampling began June 6th, 2012, and ended on August 21, 2012. Catch per unit effort (CPUE), Shannon Diversity Index, and the Gini-Simpson Diversity Index were calculated before and after pumping was initiated. CPUE increased significantly after the groundwater was added. Red shiners (Cyprinella lutrensis) and creek chubs (Semotilus atromaculatus) had the highest CPUE increases (309% and 396%, respectively). Diversity also increased based on the Shannon Diversity Index and the Gini-Simpson Index, however, not significantly. Pumping groundwater to offset depletions from irrigation appears to have benefitted the fish community in Dry Creek during drought.

HUMAN PERFORMANCE

Presenter: Kate Hannon 76.

Department: Human Performance
Advisor: Dr. Kate Heelan
Title: *Childrens BMI Percentile Change in One Year*

Description: Childhood obesity has become a national epidemic with 16.9% of children and adolescents between 2 and 19 years old being obese (Ogden et al., 2010). Nebraska reports that 31.5% of children are overweight or obese which ranks 21st in the nation (Trust for America's Health and the RWJF). The Centers for Disease Control and Prevention (CDC) define overweight as a body mass index (BMI) between the 85th and 94th percentile for age and gender. Obese is defined as a BMI above the 95th percentile for age and gender. PURPOSE: To examine the percent of kindergarten through 4th grade students who move from a normal weight to an overweight or obese weight status within one year. METHODS: BMI was calculated for all Kearney Public Schools kindergarten through 4th grade students during two consecutive years. We will evaluate the percent of students who moved from a normal weight to an overweight or obese category in one year.

Presenter: Tiffanie Bailey 77.
Co Presenter: Brandy Rose, Jayce Magnani
Department: School Psychology
Advisor: Max McFarland, Jayce Magnani
Title: *Predictive Capacity of Multiple Variables on Standardized State Reading Assessments*

Description: The AIMSweb MAZE curriculum based measurement (CBM) is examined as a predictor of student scores on the Nebraska State Accountability (NeSA) assessment. In addition two groups of students are compared, those receiving free/reduced meals (F/R) and those receiving free/reduced meals and English language learner (ELL) services. Group designation is examined as a predictor of student NeSA scores as well. The purpose of this study was to examine whether either of these variables or the combination thereof can be used as a predictor of student scores on the NeSA. Archival data on 3rd, 4th, and 5th grade students was used to complete data analysis. Major findings include; there is a high correlation (r = 0.557) between the Fall MAZE score and the Spring NeSA score students in this research, there is a significant difference in scores on the Spring 2010 NeSA between the 4th grade students receiving free/reduced meals (F/R) and those receiving free/reduced meals and receiving ELL services (F/R + ELL) , and that the students with higher Fall 2009 MAZE scores and who were not receiving ELL services did in fact score higher on the Spring 2010 NeSA.

Presenter: Kayla Brown 78.
Co-Presenter: Cassie Prothman
Department: School Psychology
Advisor: Dr. Max McFarland
Title: *A Comparison of the Ethical Standards of NASP and ISPA*

Description:The National Association of School Psychologists (NASP) and the International School Psychology Association (ISPA) have both adopted ethical codes to best serve the profession of school psychology and the individuals, groups, and organizations involved. In this study NASP's Principles for Professional Ethics and ISPA's Code of Ethics have been examined for commonalities and uniqueness as well as how frequently the roles and functions of school psychologists are addressed in the codes. The purpose of the study was to explore the need to serve both associations effectively in light of recent globalization in the field of school psychology. Of the 90 listed ethical elements, there is a 56.9% overlap between both ethical codes. It was concluded that differences exist because of culturally specific circumstances and priorities in ethics.

Presenter: Jamie Jacobson 79.
Co Presenters: Kaylee Messersmith & Stacy Romick-Imig
Department: School Psychology
Advisor: Dr. Max McFarland
Title: *Ethnicity and the Nebraska State Accountability Test in Reading*

Description: The purpose of the present study was to examine the average scores of third, fourth, and fifth grade children from a Midwestern public elementary school to determine the impact of ethnicity on the Nebraska State Accountability (NeSA) test in reading. Three hundred fourty-seven students took the NeSA in the spring of 2010. An Analysis of Variance was used to analyze the data. The results showed that there was no significant difference among African American, Hispanic, and Caucasian children ($p > .05$). However, all groups scored well below the state-defined proficiency level.

Presenter: Danielle Nguyen 80.
Co Presenter: Melissa Wiles
Department: School Psychology
Advisor: Dr. Max McFarland
Title: *Predicting the NeSA-R*

Description: Schools in Nebraska, as well as other states, have been under increased pressure to work on achieving higher standards for students. This study's objective was to predict Nebraska State Accountability – Reading (NeSA-R) scores using data from the curriculum based measurements AIMSweb Maze and AIMSweb Oral Reading Fluency. It was found that these measurements significantly predicted test scores on the NeSA-R. Session attendees will learn about the predictive validity of state standardized tests.

Presenter: Cassie Prothman 81.
Co Presenter: Kayla Brown
Department: School Psychology
Advisor: Dr. Max McFarland
Title: *A Comparison of the Ethical Guidelines, NASP, ISPA and LPA*

Description: This study compares the ethical guidelines of the National Association of School Psychology, International School Psychology Association and the Lithuanian Psychological Association. These three associations were compared to discern differences and similarities between and among these individual ethical codes and they were also compared to the roles and functions of school psychologists. Results suggested that ethical codes and roles and functions overlap. Session attendees will learn the differences and similarities of the three ethical codes.

Presenter: Greg Sandman 82.
Co Presenter: Marissa Fye
Department: Counseling and School Psychology
Advisor: Dr. David Hof
Title: *Starting a PFLAG Chapter in a Rural Community*

Description: The poster will address the theme of "enhancing counselor community engagement" by providing a real-life example of partnering with the LGBTQ community to start a PFLAG chapter in a rural Midwestern town. Counseling graduate students collaborated on the planning and initiation of the chapter, the operation of which was then transferred solely to community volunteers. The project will be displayed on a poster that meets conference regulations with pictures, text, and will be enhanced by Ipad display and interaction. The poster will contain purpose and rationale, step by step instruction, research data on attitudes and opinions in the community regarding the LGBTQ population as well as personal and professional experiences in forming the chapter. It is hoped the presentation will educate others and inspire them to replicate this process in their own communities.

Presenter: Erin Sexton 83.
Department: School Psychology
Advisor: Dr. Max McFarland
Title: *Factors for Prediction of NeSA Test Results Among Fourth Grade Students*

Description: This research will examine factors for prediction of NeSA test performance. This presentation will show how well AIMSweb scores can predict student performance on the NeSA state test as well as investigate the effect free and reduced lunch eligibility and English language learners have on predicting the NeSA test among fourth grade students. Participants will better understand factors that can predict performance on the NeSA test.

Presenter: Jessica Shepard 84.
Co Presenter: Brittney Cates
Department: Counseling and School Psychology
Advisor: Dr. Max McFarland
Title: *Maps and Demographic Factors for Prediction of NeSA Test Performance*

Description:The purpose of the present study was to determine if MAP assessments and the absence or presence of participation in free and reduced lunch and being an English language learner (ELL) or not predicted performance on the Nebraska State Accountability (NeSA) assessment. One-Hundred Ninety-Seven students in the third-fifth grades in the Midwest, 94% of whom qualified for free and reduced lunch were given both the MAP assessment and the NeSA Reading test. The results indicated students who were ELL and had free and reduced lunch performed significantly worse than those students who only qualified for free and reduced lunch ($p < .05$). It was also determined that MAP testing is the most significant predictor of performance on the NeSA state assessments ($p < .05$).

Presenter: Kayla J. Singleton
Co Presenter: Heather S. Smutny 85.
Department:
Counseling and School Psychology
Advisor: Dr. Max McFarland
Title: *A Comparison of Accreditation Standards for NASP, ISPA, and Lithuania*

Description: The purpose of this study is to compare the accreditation standards of NASP, ISPA, and Lithuanian Accreditation Standards. The comparison was done to determine the overlap and uniqueness of each. " The degree to which overlap exists will perhaps enable trainers to discern the degree to which international training experiences consistent with the standards can be developed while not only not compromising accreditation, but conversely, while enhancing breadth of international training" (Gosda, 2012 p.3).

Presenter: Heather S. Smutny
Co Presenter: Kayla J. Singleton 86.
Department:
Couseling and School Psychology Department
Advisor: Dr. Max McFarland
Title:*Comparison of 1974, 2000, and 2010 NASP Ethical Standards*

Description:This study analyzed the NASP Profession Codes of Ethics, codes published in 1974, 2000, and 2010. By comparing and contrasting these NASP ethical standards, the study showed the extent standards overlap and the extent each code addressed unique elements. Overlap among the codes was calculated and a weighted 'overall' overlap was calculated using a formula created by Archwamety, McFarland, and Beckman (2012). The weighted 'overall' overlap among the three NASP ethical codes was 11.76%. Ethical standards were aligned with four roles and functions: direct intervention, indirect intervention, assessment and research. The NASP 2010 ethical code revealed a greater focus on the research role of school psychologists compared to the previous NASP ethical codes. Indirect intervention roles held less focus in the NASP 2010 ethical code compared to the previous ones. This analysis highlights the bi-directional relationship of ethics and scope of practice, i.e., ethics impact practice and practice impacts ethics.

Presenter: Darcie Tramp 87.
Department: Counseling & School Psychology
Advisor: Dr. Max McFarland
Title: *A Comparison and Analysis of Three International Codes of Ethics for School Psychologists*

Description: The following discusses similarities and differences among three different ethical codes: the International School Psychology Association (ISPA) Code of Ethics, the European Federation of Psychologists' Associations (EFPA) Meta-Code of Ethics, and the Code of Ethics of the Lithuanian Psychological Association (LPA). Examined information includes ways in which the three ethical codes overlap, ways in which each ethical code is unique, and how the ethical elements in each code fit into the roles and functions of school psychologists. Of 117 listed ethical elements, there is a 14% total overlap among all three ethical codes.

Presenter: C. L. Veal 88.
Co Presenters: Catherine Ruhlman, Kyle Heilbrun
Department: CSP
Advisors: Max McFarland and Teark Archwamety
Title: *Factors that Predict State Reading Test Results among Third, Fourth, and Fifth Grade Students*

Description: Since federal legislation such as No Child Left Behind (NCLB) and the Individuals with Disabilities Education Improvement Act(IDEIA)of 2004 have been enacted, the high stakes associated with asessments have had a profound effect on public schools. NCLB requires all public schools to administer a state-wide standardized test to students annually. Schools which receive funding by the federal government through the Elementary and Secondary Education Act of 1965 must make Adequate Yearly Progress in test scores (Botzakis,2004). Although curriculum, instruction, and programs offered by schools affect progress on assessment, other factors enter into individual students' performance on these assessments. Students living in low socioeconomic environments and English language learners have obstacles to overcome which affect their education and thus affect statewide assessments. These obstacles need to be considered when determining successful schools by the State Department of Education.

PERFORMANCE SCHEDULE

Sandhills Room

	Presenter:	Advisor:	Title
1:30 - 1:50	**Natalie Hall**	**Chen**	*Dance Music in Bach's Six Unaccompanied Violin Sonatas and Partitas*
1:50 - 2:10	**Addison Heeren**	**Campbell**	*Next to Normal: A Lecture Recital*
2:10 - 2:30	**Victoria Klaus**	**Nabb**	*Native American Flute and Music: Past and Present*
2:30 - 2:50	**Brooke Harris**	**Nabb**	*Maps and Demographic Factors for Prediction of NeSA Test Performance*

MUSIC

Presenter: Natalie Hall
Department: Music
Advisor: Ting-Lan Chen
Title: *Dance Music in Bach's Six Unaccompanied Violin Sonatas and Partitas*

Description: The focus of this research project is Johann Sebastian Bach's Six Sonatas and Partitas for Solo Violin, BWV 1001-1006. Since their birth, these six compositions have been standard repertoire for every serious violinist, and they function as both a brilliant example of Baroque music and an essential pedagogical tool. A close correlation exists between the three Partitas and various types of dances from different regions in the Baroque period. This performance therefore will highlight the influence of the Baroque dances on these compositions. The connection between Bach's three Partitas in the aspect of performance practice and the accompanying dance techniques and stylistic traits will also be demonstrated. The repertoire selection consists of Allemande from Partita No. 2 in D Minor, BWV 1004, Gigue from Partita No. 3 in E Major, BWV 1006, and an excerpt from Courante from Partita No. 1 in B Minor, BWV 1002.

Presenter: Brooke Harris
Department: Fine Arts/Humanities, Music
Advisor: Franziska Nabb
Title: *Maps and Demographic Factors for Prediction of NeSA Test Performance*

Description: The purpose of the present study was to determine if MAP assessments and the absence or presence of participation in free and reduced lunch and being an English language learner (ELL) or not predicted performance on the Nebraska State Accountability (NeSA) assessment. One-Hundred Ninety-Seven students in the third-fifth grades in the Midwest, 94% of whom qualified for free and reduced lunch were given both the MAP assessment and the NeSA Reading test. The results indicated students who were ELL and had free and reduced lunch performed significantly worse than those students who only qualified for free and reduced lunch ($p < .05$). It was also determined that MAP testing is the most significant predictor of performance on the NeSA state assessments ($p < .05$).

MUSIC & PERFORMING ARTS

Presenter: Addison Heeren
Co Presenters: Katherine Ridder, Codie Milford, Madison Hoge
Department: Music and Performing Arts
Advisor: Dr. Sharon Campbell
Title: *Next to Normal: A Lecture Recital*

Description: Joseph Campbell's research on the Hero's Journey studies the theory that every story ever told is the same narrative, with a different face. Next to Normal is a new rock musical following the life of Diana as she and her family deals with mental illness. In this project I have focused on Diana's personal journey and uncovering the manner in which the Hero's Journey may be embedded within the text, music, and staging of the show.

Presenter: Victoria Klaus
Department: Music and Performing Arts
Advisor: Franziska Nabb
Title: *Native American Flute and Music: Past and Present*

Description: The oldest surviving instrument (now dated at 42,000-43,000 years), found in the hillside caves of southwestern Germany, happens to be a flute made out of the bone of a vulture. This does not prove that the flute was the first instrument ever built, but it shows that the flute played and still plays a vital role in the history of mankind. My project is based upon the flute that was developed on the North American continent by the Native American peoples. The Native American flute is an instrument that is currently played by Non-Natives and Natives alike. This instrument and the Native culture have inspired many composers to write pieces to express the multiple stories and legends surrounding Native Culture. Through my research, I have uncovered music that connects the past to the present, blending the Native and the US/European Cultures into a unique form of expression.

ORAL PRESENTATION SCHEDULE

Ponderosa C

	Presenter:	Advisor:	Title
1:30	**Woiak**	**Schoenebeck**	*Seasonal Changes in Zooplankton Density within Harlan County Reservoir*
1:45	**Prenosil**	**Hoback**	*Maximum Swimming Ability of Three Nebraska Fishes*
2:00	**Frisch**	**Springer/Reichart**	*What's Staining the Coyote's Coat?*
2:15	**McGovern**	**Kovacs**	*Testing Thermal Stability of Engineerged Ascorbate Peroxidase*
2:30	**Person**	**Willis**	*Appell Hypergeometric Function F^1 its Evaluation and More*
2:45	**-**	**-**	
3:00	**Veburg**	**Biggs**	*"Empress That I Am"*
3:15	**-**	**-**	

Ponderosa D

	Presenter:	Advisor:	Title
1:30	**Gibbs**	**Mitchell**	*Flute and Oboe-Like Instruments in Non-Western Cultures*
1:45	**Danforth**	**Mitchell**	*Modern Film Scoring Techniques*
2:00	**McVey**	**Combs**	*Franklin Fox and the 15th Michigan Infantry*
2:15	**Hartman**	**Biggs**	*The Parthenon Frieze: Representation Interpretation*
2:30	**White**	**Lilly**	*Nationalism, Youth and Gender in Postwar Bosnia*
2:45	**Jorgensen**	**Burbul**	*Restoring the Native American Spirit*
3:00	**McPhillips**	**Honeyman**	*Bridging the age gap in young adult literature*
3:15	**Vera Chavez**	**Hart**	*The New Conciousness*

ORAL PRESENTATION SCHEDULE

NSU 310

	Presenter:	Advisor:	Title
1:30	**Swenson**	**Fleig-Palmer**	*Health Care Reforms: The Impact on Businesses and Managers*
1:45	**Fennessy**	**Fleig-Palmer**	*Selection of Creative Individuals Through Interviews to Facilitate Innovative Organizational Cultures*
2:00	**Klingeloeffer**	**Broekemier**	*Keeping Downtown Businesses Involved and Vital in Development Organizations*
2:15	**Machamire**	**Tenkorang**	*Money Demand and Supply during Zimbabwe's Hyperinflation and Dollarization: 1998-2010*
2:30	**Encinger**	**Crosswhite**	*NAK-Nursing at Keyboard: Exploring Online Social Media Breastfeeding Support Groups*
2:45	**Boken**	**Hill**	*Arranged versus Love Marriages: A Comparison between the United States and India*
3:00	**Peeks**	**Stolzer**	*Boys Will Be Boys: The Possibility of Misdiagnosing Appropriate Biological Behavior*
3:15	**Anderson**	**Crowe**	*Comprehension Improvement in Students Using the FRAME Routine*

NSU 312

	Presenter:	Advisor:	Title
1:30	**Carder**	**Machida**	*From Here to Timbuktu: How Traveling Shapes One's Views of theWider World*
1:45	**Jadlowski**	**Longo**	*The Price Tag for Justice - Plea vs Trials*
2:00	**Atkins**	**Miller**	*Effects of Undeserved Reward and Personality on Short and Long-term Generosity*
2:15	**Reier**	**Fritson**	*Anxiety Levels in Multiple Choice Testing When Consecutive Answers Correspond to the Same Letter Answer*
2:30	**Guthrie**	**Miller**	*The Effects of Stress on Personal and Moral Decision Making*
2:45	**Gotschall**	**Miller**	*The Influence of Dress on Self Confidence*
3:00	**Carman**	**Miller**	*The Influence of Parenthood on Moral Decision Making*
3:15	**Griffiths**	**Miller**	*The Influence of Parenthood on Moral Decision Making*

BIOLOGY

Presenter: Erik Prenosil
Department: Biology
Advisor: Dr. Hoback
Title: *Maximum Swimming Ability of Three Nebraska Fishes*

Description: The western mosquitofish (Gambusia affinis) has been introduced throughout North America to help control the mosquito population and has naturalized to areas of low flow in many states. It competes with many native species including the plains topminnow (Fundulus sciadicus) and northern plains killifish (Fundulus kansae). Reintroductions of plains topminnow have been conducted with a mixture of success with presence of mosquitofish contributing to failure. Knowing the swimming ability of the fish could increase the success of introductions by targeting areas where native species have an advantage. A swim tunnel was constructed to assess the maximum swimming speed of these species. Thirty individual adults of each species were tested. For plains topminnow the mean maximum swimming speed was 29.07 cm/s while western mosquitofish mean maximum swimming speed was 22.79 cm/s. The northern plains killifish had a mean swimming velocity of 45.64 cm/s.

Presenter: Zachariah Woiak
Department: Biology
Advisor: Dr. Casey Schoenebeck
Title: *Seasonal Changes in Zooplankton Density within Harlan County Reservoir*

Description: Zooplankton communities experience seasonal changes in densities and size structures influenced by their relationships with the biotic and abiotic processes within the system. This study investigated seasonal trends in zooplankton density for four important taxa, Daphnia retrocurva, D. pulicaria, Calanoida, and Cyclopoida, within Harlan County Reservoir during both drought (2003-2006) and non-drought (2007-2011) reservoir conditions. Zooplankton densities during drought years were higher than normal years for all zooplankton taxa evaluated. For example, average D. pulicaria density peaked at 19.00/L ± 4.20 (SE) during May under drought conditions compared to 7.96/L ± 1.61 during May under normal conditions. In addition, temporal differences in peak density were noted between drought and normal conditions for some of the taxa evaluated. The average peak density of Calanoids during drought conditions was 56.50/L ± 5.46 and occurred in July, while during normal years it was 20.34/L ± 4.01 and occurred in May. The results of this study provide fisheries managers insight regarding the impacts environmental conditions play on seasonal zooplankton densities within Harlan County Reservoir.

BIOLOGY

Presenter: Jennifer Frisch
Department: Biology
Advisor: Dr. Joseph Springer, Dr. Letitia Reichart
Title: *What's Staining the Coyote's Coat?*

Description: Nebraska contains varying climates across the state which influence the coat coloration of native wildlife. For example the Sandhills have influenced the coloration of deer mice, Peromyscus maniculatus. Deer mice are generally dark brown however the subspecies living in the Sandhills have a light coat coloration which matches the soil color. Anecdotally, coyote (Canis latrans) coat coloration across Nebraska follows this same pattern. Coyotes along the Missouri River are dark and coat colors are lighter westward across the state and into Wyoming. We hypothesize that coyote coat coloration differs within Nebraska genetically. No study has documented genetic differences for coyotes in the Midwest. DNEasy QIAGEN ® Kits were used to successfully extract DNA. We have begun optimization of microsatellite loci using Polymerase Chain Reaction. We have identified the loci we will use to determine differences in coyote color and will begin genotyping soon.

CHEMISTRY

Presenter: Jayne McGovern
Department: Chemistry
Advisor: Frank Kovacs
Title: *Testing Thermal Stability of Engineerged Ascorbate Peroxidase*

Description: The goal of this project is to engineer a thermal stable mutant for ascorbate peroxidase. The ascorbate peroxidase used in this experiment to make the mutant was obtained from switchgrass. The mutated enzyme had two disulfide bonds added to the structure of the enzyme. The mutations occurred at methionine 36, alanine 100, glycine 58 and alanine 94, all four of the amino acids were changed to cysteine by site directed mutagenesis to make two disulfide bonds. The amino acids were chosen because of their proximity to each other on the structure of a related enzyme. The mutated enzymes were grown in bacteria cell and the purity of the proteins was tested with gel electrophoresis and spectroscopy. The mutated enzymes were then verified with DNA sequencing.

MATHEMATICS/ STATISTICS

Presenter: Grant Person
Department: Mathematics and Statistics
Advisor: Barton Willis
Title: *Appell Hypergeometric Function F1 its Evaluation and More*

Description: The Appell function F^1 is a generalized Gauss hypergeometric function of two variables. We will show that every function that is a product of powers of three linear factors can be integrated and expressed in terms of F^1. During this research, code was written for the Maxima Computer Algebra System in order to evaluate these integrals and express them in terms of F^1. Also, a numerical approximation of F^1 was coded for Maxima using various series representations of F^1. It was found that the numeric approximation summand satisfies a linear recursion relation. Therefore the sum could be evaluated with the use of Clenshaw summation. As a result, the numerical evaluation that was developed requires fewer computations then other methods studied and allows for arbitrary precision floating-point numbers.

HISTORY

Presenter: Megan Veburg
Department: History
Advisor: Dr. Douglas Biggs
Title: *"Empress That I Am"*

Description: The Enlightenment changed the world. As an intellectual movement, it altered people's lives, their governments, and their thoughts. The world would never again be the same. Medieval constructs in practice for centuries would die and the social contract as it is known today was born. Russia's Enlightenment did not develop or culminate in the same fashion as their Western counterparts. As they always had, the role of the tsars took on a different one than Western monarchs, too. Being inherently different from the West, Russia's Enlightenment was dissimilar to Europe's, producing, as Empresses Elizabeth I and Catherine II illustrate to either extreme, different sorts of rulers. This paper, "Empress That I Am: Elizabeth I, Catherine II, and Ruling the Russian Enlightenment," discusses these particular elements of this period in Russia.

MUSIC

Presenter: Jonathan Danforth
Department: Music
Advisor: Dr. Darleen Mitchell
Title: *Modern Film Scoring Techniques*

Description: My creative project capped the final touches on a four work symphonic series meant for film. The series, entitled "Welcome To Zodak" is the score for a film that develops intrigue, drama, terror, and romance. The movie itself is being developed in a series of books. The oral presentation presents modern film scoring practices, and how my pieces use modern techniques. Examples from John Williams, and Hans Zimmerer are used to show the correlation between my musical works and modern music scores.

Presenter: Daniel Gibbs
Department: Music and Performing Arts
Advisor: Dr. Darleen Mitchell
Title: *Flute and Oboe-Like Instruments in Non-Western Cultures*

Description: Exploring global instruments, specifically flute and oboe-like instruments from Asian countries, Armenia, and Egypt has been the focus of my research. I will present the Japanese shakuhachi, Armenian Duduk, and Egyptian Zurna with the help of a fellow student. Along with the instrumental demonstrations, I will discuss the instruments including the anatomy, types of scales played in these cultures, the tuning systems used, micro-tuning in folk music and instruments, and the different rhythms used in folk music. The role of music in the culture involves specific texts for rituals, work songs, and songs for rites of passage. The societal role of music involves gender assignment, community status, and narrative song. Finally, There is the use of improvisation and embellishment traditionally used in the repertoire in these countries. The impact of this study is to expand the awareness of global music which will enhance future work for music educators and composers.

GEOGRAPHY

Presenter: Sally McVey
Department: Geography
Advisor: Jason Combs
Title: *Franklin Fox and the 15th Michigan Infantry*

Description: This research examines the life of Franklin Fox, a typical Civil War soldier, through the diary he kept during the conflict's final months. This piece of history was found tucked away in a wall of the historic Frank House at the University of Nebraska-Kearney. Fox's story and account of the Civil War's final months add to the already large historical body of work by providing personal insights to the events, including the burning of Columbia, South Carolina and President Lincoln's assassination. His account adds rich personal detail to a traumatic time in America's history and it is through this primary source that more documentation is added to the 15th Michigan infantry's records. Franklin Fox's diary is significant in that it personalizes the war by providing firsthand accounts of the day to day experiences of a common soldier. Key Words: Civil War, General Sherman, President Lincoln, and 15th Michigan Infantry.

HISTORY

Presenter: Colten Hartman
Department: History
Advisor: Douglas Biggs
Title: *The Parthenon Frieze: Representation Interpretation*

Description: The eastern frieze adorning the Parthenon has been viewed as representing an ancient festival of Athens, Greece known as the Panathenaic Procession. However, a further analysis of the frieze in comparison to other temples of the period illuminates the possibility of this theory being flawed or incorrect. The alternative theory that the content of the frieze relates more with Greek mythology than with a mortal festival, is both possible and probable.

Presenter: Philip T. White
Department: History
Advisor: Carol Lilly
Title: *Nationalism, Youth and Gender in Postwar Bosnia*

Description: This paper will consider the impact of the war in Bosnia on youth and gender roles. During the summer of 2012, I conducted interviews with a series of young women and men in Sarajevo and Zenica regarding their perspectives on current issues facing them. Based those interviews, I have drawn a number of conclusions. First, ethnic conflict continues to permeate daily life in Bosnia, preventing wartime healing. Second, the postwar Bosnian government is fraught with corruption which leaves youth with a pervasive sense of disenfranchisement and despair. Accordingly, they feel they have no opportunities within Bosnia for either educational advancement or careers. Finally, it appears that women have adapted better to this postwar environment far better than have men. They are more willing to take the initiative to begin rebuilding their country often without pay or outside direction.

JOURNALISM

Presenter: Hanna Jorgensen
Department: Journalism
Advisor: Derrick Burbul
Title: *Restoring the Native American Spirit*

Description: Restoring the Native American Spirit is a project I took on in honor of my Grandfather, Ralph Wilson. His father, Otto Wilson, took these photographs of Native Americans over seventy-five years ago and passed them on to my Grandfather who has stored them for many years. My time spent on this project involved scanning the original photographs and restoring them using Photoshop and Aperture. I then gathered information from my Grandfather about the Native Americans in the photographs. The final stage of my project was having the restored photographs printed on 16x20" mounting boards. The original photos were last displayed March 31 to June 10, 1984 at the Douglas County Historical Society under the title of, "One Man's Vision." With the recent passing of my Grandfather, seeing these photos in their final stage makes me very proud to be a part of the Restoring of the Native American Spirit.

ENGLISH

Presenter: Lacey McPhillips
Department: English
Advisor: Susan Honeyman
Title: *Bridging the age gap in young adult literature*

Description: Though many scholars have addressed the issue of whether children can be accurately represented by adult writers in literature, the same issue for adolescents has been largely untested. This project considers the challenges of bridging the age gap between adult writer and adolescent audience from the perspective of a writer after comparing fiction written by both adults and teenagers.

MODERN LANGUAGES

Presenter: Blanca Vera Chavez
Department: Modern Language
Advisor: Dr. Hart
Title: *The New Conciousness*

Description: In this Undergraduate Research project, I did a literature search of critical studies on the work of Latina/Chicana writer Gloria Anzaldúa's work. Anzaldúa promotes a new awareness or consciousness of Latina identity. Several scholars have examined her writing closely. Their essays have perspectives on the Chicana's living style and how they are affected by living in the borderland. Being between two cultures has mixed feeling, not being able to fit in, whom to listen too. The Chicana women have a new perspective on life, the new consciousness. Anzaldúa believes that the future belongs to the Chicana women. In preparation for the research, I read Anzaldúa's books Borderlands / La Frontera: The New Mestiza, Making Face, Making Soul/ Haciendo Caras, Entre Mundos/ Among Worlds: New Perspective on Gloria Anzaldúa and This Bridge we Call home among other books and articles. I examined twelve journal articles and book chapters, discussed them with my faculty advisor, and wrote an annotated bibliography using Modern Language Association documentation style.

MANAGEMENT

Presenter: Amanda Swenson
Department: Management
Advisor: Dr. Michelle Fleig-Palmer
Title: *Health Care Reforms: The Impact on Businesses and Managers*

Description: The Patient Protection and Affordable Care Act law was put into place by President Barak Obama in 2010. This act made changes to employee health benefits. The purpose of this research project is to have a better understanding of how the healthcare law is affecting businesses benefit programs and how managers communicate changes to employees. In this paper a study will be conducted through interview to learn about ways managers have been taking to address these changes. Two areas of interest include the overall impact of the health care reform on businesses, and wellness programs created to help employees. This paper also looks at how managers are communicating changes to employees. Based on the interviews of managers in different organizations, results show they prefer to use a direct approach for communicating changes to employees. Managers are also looking into ways to facilitate wellness programs to reduce health insurance expenses.

Presenter: Margaret Fennessy
Department: Business Management
Advisor: Dr. Fleig-Palmer
Title: *Selection of Creative Individuals Through Interviews to Facilitate Innovative Organizational Cultures*

Description: The selection of creative individuals is important because of the recession and changing technology. The recession itself has increased demand for creativity. Changing technology is making creativity more important. Creativity is defined as the production of novel and useful ideas in any domain. First, creativity is promoted through organizational culture. Many companies use the traditional form of management which revolves around high specialization and is often anti-creative. Companies that want to promote a creative culture should utilize a contemporary style of management, which involves variation in the organization, such as flexible job structure, and open communication. Second, the key to finding creative employees and fitting them to the right organization is being able to assess creativity. There are many assessments that measure creativity which employers can administer to job candidates. However, the type of interview matters more when assessing job candidates' creativity. There are two main types of interviews: situational and behavioral. Behavioral interviews are better for determining if a candidate is creative. Hiring for creativity is critical to managers today and this paper highlights two factors, i.e. organizational culture and behavioral interviews, that are important for managers to know.

MARKETING

Presenter: Lisa Klingelhoefer
Co Presenter: Jackie Ziemke
Department: Marketing
Advisor: Greg Broekemier
Title: *Keeping Downtown Businesses Involved and Vital in Development Organizations*

Description: Many downtown development organizations have had difficulty keeping their shopping areas in their citizen's choice set as well as having their local businesses stay involved in maintaining vital a downtown area. Surveys collected data from the downtown organization's members concerning their current levels of involvement with the organization and the events, their views of the organization, and ideas on how to improve the retail events and the organization. Information was also gathered from nonmembers on why they are not members as well as factors that would encourage them to become members. This information will be used by the organization to determine a strategy to create an increase in their numbers of members in the downtown area; as well as developing an approach to increase their current member's involvement within the organization and its events. Other downtown revitalization organizations in similar situations may also find this research to be of value.

ECONOMICS

Presenter: Roy Machamire
Department: Economics
Advisor: Dr. Franj Tenkorang
Title: *Money Demand and Supply during Zimbabwe's Hyperinflation and Dollarization: 1998-2010*

Description: The lack of stability and fiscal discipline in Zimbabwe caused the government to excessively print money to pay for their bills. Civic unrest and corruption in the immediate government officials caused negative economic effects and hence forced the Reserve Bank of Zimbabwe to continually spend and print money. The government's interference with the Reserve Bank disabled the bank to keep its primary goal; that is to maintain the internal and external value of the Zimbabwean currency. This study examined the implications of excessive money supply on income and price stability in Zimbabwe.

FAMILY STUDIES

Presenter: Amy Encinger
Department: Family Studies
Advisor: Dr. Jennifer Crosswhite
Title: *NAK-Nursing at Keyboard: Exploring Online Social Media Breastfeeding Support Groups*

Description: Pregnant and breastfeeding mothers' use of online breastfeeding support groups was examined, as well as, whether online breastfeeding support groups served as a means of social support (e.g., instrumental, informational, and emotional). Participants (n = 690 pregnant and/or breastfeeding women) were recruited via Facebook and listservs who then completed an online survey. Results revealed mothers most often accessed social media sites geared toward breastfeeding during pregnancy and at 0-3 months post partum in order to gain information and seek support for themselves. Findings also suggested that mothers who participated in online breastfeeding support groups gained emotional support from participation. While there is currently no research about online breastfeeding support groups, findings from this study provide initial evidence that online breastfeeding support groups may be a viable option for women to gain breastfeeding support.

Presenter: Sangeeta Boken
Department: Family Studies
Advisor: Dr. Toni Hill
Title: *Arranged versus Love Marriages: A Comparison between the United States and India*

Description: The presentation will compare arranges marriages and love marriages giving examples of the United States and India and will include factors responsible for the success and the failure of the marriages.

Presenter: Charla Peeks
Department: Family Studies
Advisor: Jeanne Stolzer
Title: *Boys Will Be Boys: The Possibility of Misdiagnosing Appropriate Biological Behavior*

Description: Abstract In the United States boys are increasingly receiving a psychiatric diagnosis for appropriate biological behavior. Stolzer postulates that 10-12 million children are labeled in early to mid childhood and approximately 90% of them are boys (2011). The normative behaviors presented in males and indicative behavior hypothesized as ADHD place boys at risk for mass labeling, and misdiagnosis. The purpose of this presentation is to challenge the prevalent trend in diagnosing and treating normal developmental behavioral patterns in male children, by providing an alternative lens which illuminates natural behavior differences that exist between male and female children across the globe. Topics of discussion will include 1). Biological development comparing girls to boys ages 6-12 years of age. 2)Methylphenidate use in treating ADHD. 3) The risks associated with methylphenidate use.4) The critical effects methylphenidate produces in the brain. 5) Alternative solutions to medicating children.

COMMUNICATIONS DISORDERS

Presenter: Kiley Anderson
Department: Communication Disorders
Advisor: Linda Crowe
Title: *Comprehension Improvement in Students Using the FRAME Routine*

Description: The purpose of this study was to evaluate the effectiveness of a specific strategy in improving typically developing children's reading comprehension. The results suggest students benefited by using the FRAME, thus increasing their reading comprehension scores.

POLITICAL SCIENCE

Presenter: Kevin Carder
Department: Political Science
Advisor: Satoshi Machida
Title: *From Here to Timbuktu: How Traveling Shapes One's Views of the Wider World*

Description: The purpose of this study is to investigate the process by which individuals develop their attitudes toward the broader world outside of their home country. Specifically, this study examines how Americans' foreign travel experiences may affect their trust of different cultures and their opinions on issues of foreign policy. We produce an online survey and send it to a large sample of adults living in the United States in order to assess the frequency and duration of their travel experiences as well as their foreign policy attitudes and level of trust for people of different nationalities, ethnicities, and religions. Because traveling abroad exposes people to different cultures, ideas, and worldviews, it is expected that people with more experience traveling abroad are more trusting and accepting of other cultures as well as more open, liberal, and internationalist in their views on issues of foreign policy.

Presenter: Katie Jadlowski
Department: Political Science
Advisor: Dr. Longo
Title: *The Price Tag for Justice - Plea vs Trials*

Description: Issues of justice have long captured the attention of citizens,students, and academics. One issue that has tremendous impact on the criminal justice system is how cases involving criminal defendants are resolved. Not all criminal cases are resolved in court nor are all guilty defendants given a prison term. It is not clear that variations result in justice. My research will examine the dimensions of the Nebraska criminal justice process from arrest to plea bargain or imprisonment to determine if justice is served. I will examine the data from Nebraska's most populated county, Douglas county and compare it with data from Buffalo county, a mid-sized county. The analysis will reveal the variations found in criminal justice in Nebraska.

PSYCHOLOGY

Presenter: Chelsea Atkins
Department: Psychology
Advisor: Dr. Miller
Title: *Effects of Undeserved Reward and Personality on Short and Long-term Generosity*

Description: Other studies have shown that unfair losing creates selfishness and entitlement; we wanted to see if unfair winning would have the opposite effect. This study examined how undeserved winning affects a person's generosity when playing a computer game. In the experimental condition, the computer broke creating an undeserved winner. In the control condition, no computer broke, creating a fair winner. In splitting their winnings, undeserved winners were more generous than fair winners. This finding might suggest a power that runs against the process of entitlement and selfishness associated with unfair losing.

Presenter: Jana Reier
Department: Psychology
Advisor: Dr. Krista Fritson
Title: *Anxiety Levels in Multiple Choice Testing When Consecutive Answers Correspond to the Same Letter Answer*

Description: Anxiety levels were examined in 179 psychology students at UNK. Participants were asked to complete an anxiety survey packet before and after they completed their second exam of the semester. Two forms of the exam were created, one in which no more than three answers corresponded to the same letter answer and one where no less than three answers corresponded to the same letter answer. The results show that there is no significant effect between anxiety and test version taken. However, the data has shown that there is a significant effect for test version taken and gender. More analysis is being conducted to determine if there is any effect on test score, and GPA.

Presenter: April A. Guthrie
Department: Psychology
Advisor: Richard Miller
Title: *The Effects of Stress on Personal and Moral Decision Making*
Description: This study examined the effects of stress and cultural orientation on moral decision-making. Participants completed a cultural orientation scale and tried to solve several puzzles, two of which required cheating to solve. Individualists cheated more when performance reflected individual achievement while collectivists cheated more when performance reflected group achievement.

Presenter: Erin Gotschall
Co Presenter: Elizabeth Weidner
Title: *The Effects of Dress on Self-Confidence*

Description:This study examined the way people perceive themselves and whether dressing up or dressing casual influences this. Undergraduate students at the University of Nebraska at Kearney were asked to give a short speech and then rate themselves on their public speaking skills, how nervous they were, and their perceived performance on the task.

Presenter: Jacqueline Griffiths
Co-Presenter: Saki Uemura
Department: Psychology
Advisor: Dr. Richard Miller
Title: *The Effects of Humility and Self-construal on Group Member Acceptance*

Description: This study examined the effects of cultural orientation (individualism/collectivism) on acceptance and likeability of egotistical vs. humble "do-gooders" who make valuable contributions to the group. The results indicated that collectivists but not individualists were less likely to approve of a self-centered "do-gooder" despite their value to the group.

Presenter: Breanna Carman
Department: Psychology
Title: *The Influence of Parenthood on Moral Decision Making*

Description: This study examined the effects of parenthood on moral decision-making. Participants completed an online questionnaire involving eight moral dilemmas with care- and justice-based response options. Fathers had a higher care orientation and a lower justice orientation than non-fathers. In addition, mothers had a lower care orientation than fathers.

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