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## LETTER FROM THE PRESIDENT



To Our Celebration 2014 Participants and Guests:

Welcome to Northern Kentucky University's annual Celebration of Student Research and Creativity. I offer my congratulations to the students and faculty members participating in this year's event. To our guests and visitors, thank you for joining us and supporting our students and our university.

This year is the 12th in which NKU has held the Celebration of Student Research and Creativity. This event is designed to recognize the outstanding research and creative work of our students, performed under the guidance of faculty mentors.

Student research and creative work are important because they contribute to our knowledge, and the projects enable our students to apply what they learn in the classroom. This "active learning" is a defining feature of an NKU education as we develop more service-learning courses, internships, co-op experiences, and opportunities for student research.

Direct faculty-student interactions foster deeper learning and better assimilation of knowledge for undergraduates. These working relationships develop students' critical thinking and analytic skills, as well as oral and written communication skills needed to present their work. These interactions also nurture the deep intellectual bond between faculty member and student – a core value of an NKU education.

These posters and presentations exemplify the high-quality work by undergraduate researchers at NKU. These students are future leaders in the development of the intellectual infrastructure of the Commonwealth. Their talent gives me great faith in the future of our region, our state, and our country.

The outstanding presentations for this year's celebration set a high standard, serving as inspiration for future student projects and research. Again, congratulations to all whose work is showcased in this year's event, and my thanks to all who have helped make this celebration very memorable.

Sincerely,

A handwritten signature in black ink that reads "G Mearns". The signature is fluid and cursive, with the first name "G" being a large, stylized letter.

Geoffrey S. Mearns  
President



## LETTER FROM THE PROVOST



Dear Celebration Participants,

It is my great pleasure to welcome you to NKU's 2014 Celebration of Student Research and Creativity!

This year's event continues the remarkable tradition of celebrating the outstanding scholarly and creative work being produced by NKU's students under the sponsorship of our faculty. The continued growth in the number of participants each year is a true testament to the dedication of our students and faculty. This week long event is truly a wonderful opportunity for our students to display their scholarship and creativity through poster presentations, oral presentations, interactive demonstrations, performances, and exhibits of artistic work with the campus community.

The Celebration of Student Research and Creativity provides significant evidence of the close interaction between students and faculty that has become a hallmark of the NKU educational experience. These opportunities enhance student learning via intense engagement in a chosen academic field coupled with strong connections with faculty providing a strong foundation for student success. This work is challenging and takes extra effort, but the rewards are astounding!

In closing, I join President Mearns, the deans of our colleges, and the chairs of our academic departments in congratulating the students whose work is showcased during this annual celebration and thanking the faculty who supported them.

Sincerely,

A handwritten signature in black ink that reads "Sue Ott Rowlands". The signature is fluid and cursive, with the first name "Sue" being the most prominent.

Sue Ott Rowlands  
Provost and Executive Vice President for Academic Affairs

## SCHEDULE OF EVENTS “Celebrate NKU: All Around Campus”



### POSTER PRESENTATIONS, INTERACTIVE PRESENTATIONS AND MANY ARTISTIC PRESENTATIONS

#### Student Union Ballroom

Tuesday, April 15

12:45-3 p.m.

2-2:15 p.m.

Provost welcome

### ORAL PRESENTATIONS WEDNESDAY, APRIL 16 - FRIDAY, APRIL 18

#### Science Center 207

Wednesday, April 16

2-4pm

Biological Sciences, Chemistry,  
and Physics & Geology

Thursday, April 17

12:15-2:15pm

Biological Sciences, Chemistry,  
and Physics & Geology



#### Griffin Hall 124

Thursday, April 17

3:30-5:30pm

Communication,  
Computer Sciences, and  
Psychological Science

#### Steely Library 102

Monday, April 14

1-3pm

English

*Disciplines with oral presentations also include Management; Social Work; Sociology, Anthropology, and Philosophy and World Language & Literature. Contact these departments directly for specific times and dates or visit our website at [celebration.nku.edu](http://celebration.nku.edu)*

#### Tent on the Plaza

Tuesday, April 15

11-11:30am

*The Arabian Nights* by Reprise/  
Book Connection Reveal

Wednesday, April 16

1:00-3:00pm

Celebrate National Poetry Month:  
Open Mic

Thursday, April 17

1:45-2:45pm

Storytelling:  
*Stories, Tales, & Lies: An Anthology*

3:00-4:00pm

Broadway Chorus Troupe

Friday, April 18

11:30am-1:30pm

Student Computer Music

2:00-3:00pm

Anointed Voices

#### Corbett Amphitheater

Wednesday, April 16

10:00-10:30am

Percussion Ensemble

10:35-11:00am

Northern Chorale

12:00-12:30pm

Symphonic Winds

12:30-1:00pm

Jazz Combo 3

1:00-1:40pm

Women's Ensemble

2:00-2:30pm

Concert Band

2:30-3:00pm

Vocal Jazz

3:00-3:45pm

Jazz Ensemble



### Thursday, April 17

12:15-1:00pm	Chamber Choir
1:00-1:40pm	Steel Drum Band
1:40-2:00pm	Brass Choir
2:00-2:30pm	Jazz Combo 1
2:30-3:00pm	Jazz Combo 2
3:05-3:35pm	Orchestra
3:35-4:05pm	R&B Combo

### Farris Amphitheater

#### Thursday, April 17

1:00-1:30pm	Dance Tour Troupe
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## ARTISTIC EVENTS

### Near Tent on the Plaza

#### Thursday, April 17,

11am-2pm	Painting on the Plaza
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### College of Business Building, 1st floor

#### Thursday, April 17

11:30am-1pm	DAV wall project
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### Fine Arts Center, 3rd Floor – Main Gallery

#### Thursday, April 17

3:30pm	Senior Art Exhibition Short Presentations by Artists
5:00pm-7pm	Senior Art Exhibition Opening Reception

### Griffin Hall Digitorium

#### Friday, April 18

11:00am -1:00pm	Photography at NKU
1:00pm-2pm	Film Festival

## REACH FOR THE STARS EVENTS

### NKU Haile Planetarium, SC 409

#### Monday, April 14

1pm	Earth, Moon, Sun
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#### Thursday, April 17

1pm	Kentucky's Cascade Cave
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### Landrum Academic Center 200

#### Wednesday, April 16

Noon -1 pm	Behind the scenes: Museum of Anthropology
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# ARTISTIC PRESENTATIONS

## Multiple Locations



**A-1: ROBERT HUELSMAN, ALEX SCROGGINS, MICHELLE ERIKSEN, BRIGETTE BEDEL, ZACHARY LAWRENCE**  
**The College Movie Festival** Friday, April 18 1-2pm, Digitorium

FACULTY SPONSOR(S): CHRIS STROBEL, COMMUNICATION

Abstract: Over the course of two months, five groups of filmmakers from NKU (along with students from Xavier, Cincinnati State, Miami, Brown Mackie College and the Ohio Center for Broadcasting) made movies as part of the eighth annual College Movie Festival. Their work was reviewed by over a dozen local professionals, and will be screened in a public movie theatre near the end of April 2014. Our NKU films "Agoraphobia", "Home at Last", "One Way to Die", "Tripudium" and "Unexpected" are screened here as a preview to that public performance.

**A-2: STACEY BARNES**

**Masking** Tuesday, April 15 12:45-3pm SU Ballroom

FACULTY SPONSOR(S): KRIS YOHE, ENGLISH; DARYL HARRIS, THEATRE & DANCE

Abstract: This quilt represents the history of slavery and redemption in the Caribbean Islands. Specifically, the dark background represents the dark history of slavery in Barbados, the colors of the feathers represent the carnival celebrations that now occur in the Caribbean, and the vertical lines represent the Bearded Fig Tree that is all over the island of Barbados. During our visit to Barbados, many of the locals explained the history of how slaves communicated with one another by masking their feelings and by masking efforts to escape slavery.

**A-3: RACHEL ELLISON**

**The Truly Disadvantaged: Job Loss, Brain Drain & Distressed Communities** Friday, April 18, 11am-1pm Digitorium

FACULTY SPONSOR(S): JOAN FERRANTE, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY; BARBARA HOUGHTON, VISUAL ARTS

Abstract: The 10 photos selected for the presentation capture life in the the four poorest counties in Kentucky: Magoffin, Lee, Breathitt, and Owsley counties. Sometimes referred to as "The White Ghetto," these counties lie in the heart of eastern Kentucky. Coal mining is still one of the most coveted jobs yielding wages of \$25 an hour or more – but these jobs are moving West. This area is also affected by brain drain: the most skilled and academically gifted youth move away when they can. The effects of these losses are visually represented.

**A-4: EMILY WIETHORN, MOLLY BREEDEN, BRIAN BURKE, ROBERT CATE, BRIANA COLLINS, COLLEEN DONOHOU, LWAM EYASSU, BRITTANY HILL, WATCHAREE IEMWIMANGSA, SARAH PIRON, JOHN RICHARDSON, CHAD SCHWEITZER, TAYLOR STANLEY, KELLY TRUMBO**

**Documentary Photography: The 505 Project** Friday, April 18, 11am-1pm Digitorium

FACULTY SPONSOR(S): MATTHEW ALBRITTON, VISUAL ARTS

Abstract: Each Fall semester, a course in documentary photography is offered. The class focuses on social documentary by having students volunteer for local nonprofit organizations. Prior to the individual semester-long project, the entire class engages on a documentary project together. The Fall 2013 class worked with the Scripps-Howard Center for Civic Engagement to produce a photo essay in the census-track 505 area of Newport, KY. Each student produced a series of 10 images responding to the people and places present in the 505.

**A-5: TIMOTHY ANDRESS**

**Hungry Ghosts** April 17-25 NKU Art Gallery, Fine Arts Building

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; MARC LEONE, VISUAL ARTS

Abstract: Hungry Ghosts is a series of oil paintings and drawings that explore the increasingly intimate relationship between people, technology, and information.

**A-6: EMILY CHIAVELLI**

**All Flesh is Grass** April 17-25 NKU Art Gallery, Fine Arts Building

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS, BARBARA HOUGHTON, VISUAL ARTS

Abstract: In December and January of 2013/2014 I spent several weeks photographing in the Middle East and Central Asia; most notably, in Kabul, Afghanistan and Lahore, Pakistan. My street photographs from this series chronicle the daily life of people living in these places we hear so much about on the news; I explore brief interactions between people who are familiar to one another and people who are complete strangers, as well as their reactions to me.

**A-7: BEN FARRELL**

**Teratoma** April 17-25 NKU Art Gallery, Fine Arts Building

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; MARC LEONE, VISUAL ARTS

Abstract: My work incorporates peculiar and sometimes vulgar imagery, mostly from nature, in a surreal way. It draws parallels to the works of Salvador Dali and Ernst Haeckel while breaking free from the borders of a regularly squared-off picture plane. The work is an avenue through which conglomerates of separate, yet related, components come together to form a single entity, and prompts the viewer to question how and why those different elements interact and relate to one another.

**A-8: TOMMY MACFARLAND**  
**Art and the Prohibition Period**

April 17-25 NKU Art Gallery, Fine Arts Building

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; KIMBERLY ALLEN-KATTUS, VISUAL ARTS

Abstract: This is a visual representation of a semester long project researching art and visual elements related to the prohibition period in the United States. It examines visual elements that were both for and against this movement.

**A-9: DIDEM MERT**

**Inter(re)actions** April 17-25 NKU Art Gallery, Fine Arts Building

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; ANA ENGLAND, VISUAL ARTS

Abstract: My functional ceramic work explores design and function and how each simultaneously affects one another. The relationship between the maker, the user, and the work itself is one of the most valuable aspects of handmade pots. My exhibition not only displays the work itself, but also includes a book documenting a meal created specifically for the pieces. The book also includes documentation of the interaction between the participants. The pots are fired for about sixteen hours in a wood-fired kiln. The time taken to fire the work, within a group, reflects the time shared creating and eating a meal.

**A-10: MICHAEL MOLLOY**

**Spiritual Ostranenie** April 17-25 NKU Art Gallery, Fine Arts Building

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; STEVEN FINKE, VISUAL ARTS

Abstract: Spiritual Ostranenie is an interactive, multimedia art show that examines the search of self through spirituality in a globalized world. It follows the artists observations and experiences to understand what it means to be human and what in this life is sacred.

**A-11: JENNY REED**

**A Family Reunion** April 17-25 NKU Art Gallery, Fine Arts Building

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; ANA ENGLAND, VISUAL ARTS

Abstract: My senior show exhibition will be a body of artwork that consists of 8 ceramic sculptures. The majority of my work for this exhibit is composed of medium sized (one to three feet) hybrid creatures. I am creating pieces that visually encompass various identities found in the family structure. The pieces will include traditional roles such as the mother as well as pieces that convey the separation from family. These identities will use visual and narrative cues to create complex feelings within viewers that consists of positive and negative emotions. I hope viewers will acknowledge the presence of conflicting emotions and consider the relationship emotions have to our socially constructed reality.

**A-12: JILL ROSS**

**Twenty Something - New Work by Jillian Ross** April 17-25 NKU Art Gallery, Fine Arts Building

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; ANDREA KNARR, VISUAL ARTS

Abstract: Twenty Something explores the plight of contemporary young adults and the pressures to conform with antiquated goals and ideals. This new body of work will feature serigraphs and charcoal drawings depicting the expectations placed upon us from birth. Twenty Something encourages everyone to not to settle.

**A-13: MADELINE WALKER**

**Digital Divide** April 17-25 NKU Art Gallery, Fine Arts Building

FACULTY SPONSOR(S): DAVID KNIGHT, VISUAL ARTS; BRAD MCCOMBS, VISUAL ARTS

Abstract: From the obsolete to the innovative, our attitude towards technology is now one of impulse, anticipation, and uncertainty; the irony of such technology, is that it both perpetuates and limits our abilities but raises questions about our evolution as a species. This dynamic relationship perpetuates the process I engage in. The organic sculptural process I engage in combined with a more mechanical editing style points to the potential balance I see for humanity. Through video installation, I address the role of the image in an overly saturated media, as well as the role of memory, anatomy, bioethics, and environment.

**A-14: CAITLIN HARRAH, AMY FIGHTMASTER, KATHRYN MILLER**

**Transcription, Articulation, and Production:** Tuesday, April 15 Noon, SU 104

FACULTY SPONSOR(S): GISELE LORIOT-RAYMER, WORLD LANGUAGE & LITERATURE

Abstract: Mastering French phonetics requires extensive work in identifying speech features such as syllabic division, linking patterns, rhythm, accent, intonation and understanding the precise articulation of vowels, semi-vowels and consonants. In FRE 401 we applied our semester-long practice of French phonetics to a final creative project. We each selected a song--Disney's "Nuit sans fin," "Sous le ciel de Paris" and "La vie en rose" by Edith Piaf--transcribed it into the International Phonetic Alphabet, reflected on specific sounds in the selection, and gave a performance to demonstrate our understanding of the French phonetic system and our oral proficiency.

## INTERACTIVE PRESENTATIONS

Abstracts are listed by department of the first faculty sponsor.



### I-1: OLIVIA FRANXMAN, AARON ANGEL Predicting Crime Hotspots

FACULTY SPONSOR(S): BEN MARTZ, BUSINESS INFORMATICS

Abstract: The City of Covington Police Department approached NKU for assistance with predicting crime hotspots to better serve its community. To accomplish this, the project involved data collection and cleaning, building a database to house the information, utilizing ArcGIS to map information, analyzing the data to identify correlations, and using Excel and Tableau to display a dashboard for trends in data and potential predictions. The project created a simple, easy-to-use interface that points out potential trouble areas based on sectors through use of past data and a predictive modeler.

### I-2: KEVIN SCHULTZ, WYATT NOLEN, JAMES LLOYD, ROBERT HUELSMAN, MOSEF ASAD, BROOK CLIFFORD, MAGGIE PUND, KODY KAHLE, STEPHEN WILDER, NANCY CURTIS, RICHARD CRACCHIOLO, ELANI SININGER, Collaborative Approaches to Journalism Innovation

FACULTY SPONSOR(S): MICHELE DAY, COMMUNICATION; MARY CUPITO, COMMUNICATION

Abstract: This project used digital technology to obliterate boundaries that separate print, broadcast and online news. A cross-disciplinary team of students from journalism, media informatics, computer science, visual communication, and electronic media and broadcasting worked together to experiment with powerful new ways of storytelling. They produced a series of multimedia stories published on TheNortherner.com, the website of NKU's student-run news organization. One documented the travels of NKU's new provost through interactive maps. Another tracked campus recycling through an animated timeline. And a final package that includes video, slideshows and data visualizations explores technology's impact on areas from music to science.

### I-3: TYLER FUNK, KASSIANI KOTSIDOU Analog to digital voice filter utilizing FPGA technology

FACULTY SPONSOR(S): KASSIANI KOTSIDOU, ENGINEERING TECHNOLOGY

Abstract: Using a field programmable gate array (FPGA) it is possible to design a circuit that receives analog sound through a microphone and alters the output in many ways. This project will utilize only a handful of components. We will be using an Avnet Spartan-6 LX9 MicroBoard, and a microphone, a speaker, and an analog to digital converter microchip from SparkFun. This project will display the versatility of FPGA boards. The hope is to implement this project into future engineering curriculum to show how theory translates into practical application.

### I-4: NICOLE HUDSON

#### Haiti's Poverty Caused by Turbulent History and Unsuccessful Aid Efforts

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: Haiti's tumultuous history has led to little being done on the economic front, causing the country to be plagued by poverty. Political instability, which began when Haiti gained its independence, has led to problems in developing the country. In addition, foreign aid is not targeted the correct way and the aid often just covers the effects of the poverty, instead of targeting the source. Therefore, if the various intergovernmental organizations, nongovernmental organizations and multinational corporations targeted their efforts at creating an economy and creating a more stable government, Haiti could more successfully overcome poverty.

### I-5: DANIELLE OTT

#### War Crimes, Genocide, and How They are Addressed by International Law

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: I have created a website addressing the international issues of war crimes and genocide, why these go against human rights, and how they are dealt with on an international scale. I explain what war crimes and genocide are, as well as give a few examples. Each example shows attempts at international intervention through the use of tribunals. Although each case shows advances in international law, my website briefly explores why it is difficult for international criminals to be apprehended and tried.

### I-6: ABIGAIL SCHERER

#### Sustainable Development in Costa Rica

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

Abstract: Costa Rica is a beautiful country, rich with resources and biodiversity. It is recognized for its rapid development and strides toward conserving and protecting the natural resources the country harbors. Costa Rica is comprised of scenic cloud

forests, volcanoes, rainforests, and plantations all geared toward the sustainable development of Costa Rica. A slideshow compiling visits to UPEACE, the Small Huetar group indigenous reserve, Nacientes Palmichal, The Costa Rican Humanitarian Foundation, the Doka Coffee Estate, and the Monteverde Institute serve as prime examples of the country's efforts toward a more sustainable economy for now and for the future.

## ORAL PRESENTATIONS

Abstracts are listed by department of the first faculty sponsor.



### O-1: JOSEPHINE BROWN, SMITHA INFANTE

#### Spontaneous alternation behavior in three genotypes of mice exposed to polychlorinated biphenyls during gestation and lactation

FACULTY SPONSOR(S): CHRIS CURRAN, BIOLOGICAL SCIENCES

Abstract: Cytochrome P450 1A2 (CYP1A2) is known to play a role in metabolizing toxicants including PCBs. CYP1A2 upregulation is dependent on the binding affinity of the aryl hydrocarbon receptor (AHR) to a ligand, in our case coplanar PCBs. We previously found learning and memory deficits in *Cyp1a2*(-/-) mice exposed to PCBs during development compared to *Cyp1a2*(+/+) mice. Poor-affinity *Ahr*<sup>h</sup>*Cyp1a2*(-/-) and high-affinity *Ahr*<sup>h</sup>*Cyp1a2*(-/-) mice had deficits in novel object recognition and Morris water maze tests compared with *Ahr*<sup>h</sup>*Cyp1a2*(+/+) mice. In the current project, we are testing spatial learning and working memory using the Y-maze test of spontaneous alternation.

### O-2: LOGAN FEHRENBACH, WESLEY PARSONS

#### Colonization of Newly Formed Ephemeral Ponds in a Temperate Wetland Ecosystem and the Impacts of Invasive Species.

FACULTY SPONSOR(S): RICHARD DURTSCHKE, BIOLOGICAL SCIENCES

Abstract: Wetlands that are a critical component for the survival and reproduction of amphibian species have vastly declined since the 1600s. We analyzed the colonization of newly formed wetlands in comparison to established wetlands to evaluate differences that exist between ponds with or without invasive species present. We monitored local amphibian population movement and phenologies using mark-recapture and various censusing field techniques including frog calls using sound-recorders. All new ephemeral ponds were colonized during their initial year; however, our findings suggest differential use by amphibians in reference ephemeral ponds impacted by invasive species compared to those devoid of invasive species.

### O-3: WESLEY PARSONS, LOGAN FEHRENBACH

#### Niche occupancy, behavioral activities and physiological capacities of an introduced urban lizard, *Podarcis muralis*

faculty sponsor(s): Richard Durtsche, Biological Sciences

Abstract: The Lazarus lizard (*Podarcis muralis*), occupying urbanized saxicolous microhabitats, has exploded in population size in Cincinnati from its original introduction from Italy in 1952. Our investigations test theories of niche occupancy by introduced species to determine vacancy of urban niches, competition with native species, and expansion of their physiological parameters away from their native populations. To test these theories, we evaluated time-activity budgets, physiological capacities across temperatures, and food ecology across lizard sex and age (size). These lizards occupy elevated rock and tree habitats, and spend 48% of their day in movement. Their peak physiological activities were at 38°C.

### O-4: SANDRA STONEBRAKER

#### Nutritional needs and the functional ontogeny of tadpole digestion

FACULTY SPONSOR(S): RICHARD DURTSCHKE, BIOLOGICAL SCIENCES

Abstract: Tadpoles are found in many freshwater systems around the world, yet very little is known about their nutritional ecology. Nutrient composition and assimilation knowledge is important to understand tadpole nutritional needs, the functional ontogeny of vertebrate digestion, and can be beneficial to threatened species captive breeding programs. In this study we are collecting the digestive tract contents of tadpoles at different stages of development and analyzing what elements are present in the digesta at each section of the gut. With this information, we will be able to better understand the nutritional needs of tadpoles at varying life stages.

### O-5: ALEXUS RICE, STEFANIA GUGLIELMI

#### Toxic cyanobacteria in residential ponds: Are there real health risks?

FACULTY SPONSOR(S): MIRIAM KANNAN, BIOLOGICAL SCIENCES; STUART OEHRLI, CHEMISTRY

Abstract: Collection of cyanobacteria blooms from residential water bodies tested positive by HPLC for a number of cyanotoxins, in particular microcystins. These blooms are associated with allergic reactions and liver illnesses including cancer. We observed high toxin concentrations along with large amounts of bacteria in the gelatinous cover of *Microcystis*. The genus *Aeromonas* are commonly found to be associated with toxic cyanobacteria, particularly in the later stages of a bloom. We



hypothesize that the bacteria quickly degrade the toxins and it is possible that the health risks of cyanobacterial blooms, except in the case of ingested water, are not serious.

#### O-6: TRENT ROBERTS

##### **Comparative study of airborne culturable bacteria and fungi in lakes with and without cyanobacterial blooms.**

FACULTY SPONSOR(S): MIRIAM KANNAN, BIOLOGICAL SCIENCES

Abstract: Reports of increased respiratory illnesses and allergies are commonly associated with the presence of harmful algal blooms (HABs) in the area. A new method was developed to study if there is a relationship between HABs and other algal blooms and the presence of airborne fungi and bacteria. A remote control boat was used to drag two styrofoam boards with plates containing various selective media to culture bacteria aerosolized from the water. Lakes with and without HABs or other blooms were sampled. We report here on the diversity, quantity and composition of the airborne microbial flora collected in this comparative study.

#### O-7: JULIE MOSES, MARTIN BARKER

##### **The effect of cyanobacterial blooms on zooplankton species diversity in two Northern Kentucky lakes**

FACULTY SPONSOR(S): MIRIAM STEINITZ-KANNAN, BIOLOGICAL SCIENCES

Abstract: Zooplankton are an important part of aquatic ecosystem's food chains. A decline in their diversity can lead to alterations in the food web. Zooplankton rely on phytoplankton for food. However, man-made nutrient inputs have become increasingly common and have accelerated the eutrophication of lakes, leading to surges in phytoplankton called algal blooms. These can be predominately composed of toxic cyanobacteria that outcompete the non-toxic algal species that are consumed by zooplankton. We investigated the effects of toxic algal blooms on zooplankton communities and found a significant decline in species diversity compared to lakes with no such blooms.

#### O-8: KRISTA LOOSE, VICHETH KONG, DANIEL GHERE

##### **Photodegradation of mixtures of estrogens**

FACULTY SPONSOR(S): PATRICK HARE, CHEMISTRY

Abstract: High concentrations of estrone (E1) and 17 $\beta$ -estradiol (E2) in surface waters have been shown to change the gender of the wildlife exposed to them, leading to interest in photodegradation as a possibility to reduce the estrogens in affected areas. E1 photodegrades quickly to produce a single major product (P1), while E2 and estril (E3) take longer to produce minor products. Since different estrogens are often found in surface waters together, this research focused on the photodegradation of mixtures. It was found that in a mixture the rate of degradation is slowed for E1 and drastically increased for E2 and E3.

#### O-9: THUY DO, ERICA AMATO, ALMA ONATE, TIMOTHY DUNN, JANELLE TUCKER, REBECCA KIDNEY, EMILY HOFMANN, Synthesis and Biological Evaluation of Bifunctionalized Isoflavonone Aromatase Inhibitor

FACULTY SPONSOR(S): MALILI, CHEMISTRY

Abstract: Breast cancer ranks second as a cause of cancer death in women. The aromatase inhibitor (AI) was an attractive hormone therapy treatment to prevent the growth of breast cancer cells. In our preliminary study, several isoflavonone compounds have been identified to be active inhibitors against aromatase. Here, we present our study to improve these inhibitors by incorporating two functional groups into one single molecule. These compounds were synthesized via a gold (I)-catalyzed annulation reaction. Isotope labeled compounds and NMR spectroscopy were utilized to investigate the annulation reaction mechanisms.

#### O-10: KEVIN BEERS

##### **C3Lab Project: Students' Science Process Skills in the General Chemistry Laboratory**

FACULTY SPONSOR(S): KEREEN MONTEYNE, CHEMISTRY

Abstract: The Integrated Cognitive and Conceptual Curriculum for the General Chemistry Laboratory (C3Lab) is a collaborative research project between Northern Kentucky University Department of Chemistry and California State University Department of Chemistry and Biochemistry. The project focuses on the development of a series of integrated inquiry-based laboratory activities in general chemistry. One of the goals of these activities is to scaffold students' development of science process skills key to learning in inquiry-based environments. Over the past two years, students' responses to laboratory assessment items (e.g., prelab quiz, lab reports) were collected and analyzed. Results of this analysis will be presented.

#### O-11: ZACHARY EWING

##### **Modular Synthetic Strategies to Design new Fullerene-Transition Metal Systems**

FACULTY SPONSOR(S): KEITH WALTERS, CHEMISTRY

Abstract: In our research program, the focus is to find an efficient, practical method to create a system connecting fullerenes (and other extended aromatic systems) with transition metals. Throughout the research, many different methods have been tried with varying degrees of success. The interaction of these systems with light have been the focus of ensuing systems have been studied for their possible use in solar cells. The focus of this presentation will be on the various synthetic strategies used

to create these systems and the lessons learned for designing future small molecular and polymeric systems.

#### O-12: JACOB MATIG

##### **The Influence of Age, Country of Origin, Self-Construct and Family Communication Pattern on Adult Child-Parent Conflict**

FACULTY SPONSOR(S): STEPHEN YUNGBLUTH, COMMUNICATION; AUSTIN LEE, COMMUNICATION

Abstract: Research suggests that child-parent conflict changes after adolescence and that family communication pattern and self-construct significantly predict one's conflict tendencies. However, these links have not been thoroughly tested in non-college-aged populations or across different cultures. I present results from a survey that examined adult child-parent conflict across different age groups and countries of origin. It was hypothesized that the amount and topics of adult child-parent conflict would be a byproduct of when, where, and how one is raised. Results suggest that future studies need to take a more holistic view of adult-child parent conflict.

#### O-13: BRIAN SAUER

##### **Horizontal Database Partitioning in Nosql Databases Using Data Cluster Analysis**

FACULTY SPONSOR(S): WEI HAO, COMPUTER SCIENCE

Abstract: While optimizing traditional relational database management systems is well studied and documented, there is in comparison little written about optimizing cloud based NoSQL databases. We present a system that partitions a cloud based database using data cluster analysis on database transaction log files. The intent is to move the partitions to regional edge servers, thus reducing the physical distance from the client to the data. We were successful in significantly reducing the average response time of page requests compared to that of a cloud based DBMS alone or round robin partitioning.

#### O-14: JESSICA SPROWL, ALIA ABDULLAH, DANIEL BURNS, AIMEE STEELE, DAVID DURR, MARISSA ROSSINE

##### **"High School Students 'Speak' Through Photovoice Research: Exploring Barriers to Graduation"**

FACULTY SPONSOR(S): KAREN TAPP, COUNSELING, SOCIAL WORK AND LEADERSHIP; VANESSA HUNN, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: MSW "Family Policy" students present findings from a qualitative research study that utilized mentoring and Photovoice to examine barriers and supports to high school graduation among "at risk" students from local high schools. Photovoice is an innovative, non-invasive methodology that gives high school students an opportunity to express their concerns and experiences through photography. This project allowed high school students to be the experts on their own lives and have a voice that otherwise may not be heard. Implications are discussed in addressing non-academic barriers to graduation reported by the students.

#### O-15: CAITLIN NEELY

##### **Using Pop Culture to Teach Classical Rhetoric**

FACULTY SPONSOR(S): JENNIFER CELLIO, ENGLISH

Abstract: The skills learned through rhetorical analysis can improve writing and critical thinking, but the terms and concepts can be confusing to beginning writers. Analyzing rhetorical concepts such as exigence and audience through the lens of pop culture can help students to understand, process, and apply these concepts to rhetorical situations within the academy and beyond. In this presentation, I use the NBC comedy Parks and Rec to show how television can help viewers critically analyze local government projects like the Cincinnati streetcar project. I also explore the ways that pop culture is relevant in disciplines like rhetorical theory and analysis.

#### O-16: KATHRYN NEGARD

##### **Fastened**

FACULTY SPONSOR(S): KELLY MOFFETT, ENGLISH

Abstract: I'm going to read from my poetry collection titled *Fastened* that I composed over a year-long capstone course. In this chapbook, I explore the cultural assumptions of what it means to be a woman, and how I fit into those assumptions. Additionally, I will discuss what I've learned about the composition of poetry, and how I've been influenced by other women's poetry. Specifically, I will talk about poetry techniques such as compression and line break. I will also talk about women poets from my reading list, such as Jane Hirshfield and Sylvia Plath.

#### O-17: JORDAN PADGETT

##### **Phantoms**

FACULTY SPONSOR(S): KELLY MOFFETT, ENGLISH

Abstract: I'll be reading a selection of poems from my chapbook, *Phantoms*, which is a collection of poems that I've been compiling for my Honors Capstone project over the past year. *Phantoms* touches on a number of themes, including relationships, nature, growth, and trust. As I've been working to complete *Phantoms*, I've focused on making the familiar unfamiliar, and giving ordinary ideas or memories a somewhat disconnected, haunting edge. I've learned not only to listen to the way each word works together to form a whole, but to create each line so that it can stand on its own.

#### O-18: SHANE JANSEN, KATIE SCHOSTER, JAY ROSEMAN

##### **Getting Medieval with Mobile Apps**



FACULTY SPONSOR(S): TAMARA O'CALLAGHAN, ENGLISH; JAMES WALDEN, COMPUTER SCIENCE

**Abstract:** The use of smart devices (iPad, iPhone, and Android) has exploded in recent years and is changing the way we access and interact with text. Given the popularity of these devices with students, educators are embracing the mobile app in the classroom. Our project explores how this innovative technology can be used effectively to teach Sir Gawain and the Green Knight, a medieval poem that can seem far removed from the 21st-century student experience. Using a mobile app that we are developing, we will explore how it helps students learn the poem's meaning and significant themes and imagery.

#### O-19: MIKAEL SOTO, JESUS ESCUDERO

##### **Coding Poetry: Sir Gawain and the Green Knight in the 21st Century**

FACULTY SPONSOR(S): TAMARA O'CALLAGHAN, ENGLISH; JAMES WALDEN, COMPUTER SCIENCE

**Abstract:** Electronic literature is a growing genre in English studies in the 21st century. Digital authors, such as Nick Montfort, are pushing the limits of our understanding of the text on the "page" by encouraging readers to read and interact with the text online. Using Nick Montfort's open-source code for his poem "Tarako Gorge," we will demonstrate how re-visioning the medieval poem Sir Gawain and the Green Knight in such an interface can help students explore the poem's meaning and better understand its themes and imagery.

#### O-20: MARY BELPERIO

##### **Snuggles Beneath the Counterpane**

FACULTY SPONSOR(S): ROBERT WALLACE, ENGLISH

**Abstract:** In my piece *Snuggles Beneath the Counterpane*, I attempted to visually represent the scene in Melville's *Moby-Dick* between Queequeg and Ishmael as they first become acquainted (and intimate) with each other sharing a bed at the Spouter Inn. Using deconstructed leather vests, I assembled Queequeg's arm. This patchwork mirrors the counterpane on which they slept with the added layer of Polynesian tattooing on Queequeg's oddly tanned arm. This loving, affectionate scene is depicted with a colorful and feminine aesthetic, representing a complex confidence that develops between two men. I felt this could most accurately be felt in a visually tactile way.

#### O-21: SHAWN BUCKENMEYER

##### **The Marriage of Word and Paint in I & Q**

FACULTY SPONSOR(S): ROBERT WALLACE, ENGLISH

**Abstract:** Herman Melville's *Moby-Dick*, a complex and dense text, is a painter's paradise because it invites multiple interpretations. As a woman artist, who has been painting for many years, my artistic mission is to explore concepts in the female voice. Reimagining the characters of Ishmael and Queequeg in the female form is my contribution to the dialogue surrounding their relationship. I & Q's relationship, the purest aspect of *Moby-Dick*, delivers a message of hope because it focuses on humanity's search for love and acceptance. Combining words and paint is my way of illustrating the beauty and universality of *Moby-Dick*.

#### O-22: DANIELLE KLEYMEYER

##### **Shear**

FACULTY SPONSOR(S): ROBERT WALLACE, ENGLISH

**Abstract:** Exploring the relationship between narrative and art, my vignette was born from the tale of *Moby-Dick* and twisted into a tangible reality. This dialectic of Leviathan forever clashing with an embittered beast of a man melded together to transverse the language of the tale. Showing each side in equal measure, I wished to investigate the interpretation between audience and author, and illustrate the notorious nature of their relationship: my monstrous mad captain to the great whale dancing beneath roiling waves. What started out as contemplation, transformed into art, became an embellishment of dissonance between form and the dynamic of experience.

#### O-23: VERONICA MITCHELL

##### **MOBY-DICK The Third Day: Two Views**

FACULTY SPONSOR(S): ROBERT WALLACE, ENGLISH

**Abstract:** The presentation will elaborate on two views of "The Chase: The Third Day" as I have rendered it artistically in a sequence of ceramic tiles. The first interpretation, a triptych, is a far darker representation than the second which depicts the subject illuminated by a spray of greens and blues reminiscent of Leroy Neiman's *Moby Dick Assaulting the Pequod*. I was also inspired by representations of whales by Claus Hoie, Leonard Baskin, and Gilbert Wilson. I chose to translate these influences, none of which was in the medium of clay, into tiles depicting the whale's fatal clash with the *Pequod*.

#### O-24: RYAN BROSSART, BRIAN CAMERON, LINDSAY NIEHAUS, ANDREW SIGAFOOS

##### **José Mourinho: The World's Greatest Soccer Coach?**

FACULTY SPONSOR(S): MICHAEL McDERMOTT, MANAGEMENT

**Abstract:** Soccer is a global business in terms of coaches, owners, players and supporters. Its globalization has created by far the largest sport, and an intensely competitive industry. The most successful teams in Europe are often the richest who can afford the best talent. The coach is key to success. José Mourinho is the highest

paid coach, and arguably the best. He has delivered instant success at four diverse clubs in four different European countries. This presentation examines his impressive record and his unique model for success. It assesses his prospects and derives lessons for leaders in business and other organizations.

#### O-25: SEAN CARR, TEHYA DUCKWORTH, MARILYN HEFLIN, RYAN WOLF

##### **Volkswagen and Global Auto Leadership by 2018: the US Dimension**

FACULTY SPONSOR(S): MICHAEL McDERMOTT, MANAGEMENT

**Abstract:** In 2007 Volkswagen announced its goal to overtake General Motors and Toyota to become the world's largest auto producer by 2018. It revealed too its plans to more than double its sales in the highly competitive US market and sell one million cars in the United States. In 2008 VW increased its commitment to the US market and decided to build a \$1.0bn auto plant in Tennessee and by 2013 was contemplating a plant expansion, but other sites were also in contention. Was VW on track to achieve its ambitious goal for the US market?

#### O-26: JESSICA DAMRON

##### **Using 3-Dimensional Electrical Resistivity to locate unmarked Grave sites.**

FACULTY SPONSOR(S): THOMAS BRACKMAN, PHYSICS & GEOLOGY

**Abstract:** In recent years countless cemeteries throughout the country have fallen into neglect. It was brought to the attention of the Northern Kentucky University Laboratory for Applied Geophysics that a northern Kentucky church has discovered such a cemetery very near their church. The church leaders wished to restore the headstones and mark the grave sites that have been moved over the years by landowners and natural erosional processes. A 3-dimensional Electrical Resistivity array was used to see if locations of the bodies could be determined. Results will be presented at the presentation.

#### O-27: ELLIOTT TUG BRICE

##### **A New Approach to Creating Effective Therapy Games**

FACULTY SPONSOR(S): RACHAEL CLARK, PSYCHOLOGICAL SCIENCE

**Abstract:** This presentation concerns a new way of approaching the design of games intended to produce a therapeutic effect. The use of games in clinical psychology has thus far been less than effective due to bad design. By approaching the problem from a game design point of view, the author suggests can be resolved and offers three guidelines that will help make the process of designing games intended to produce therapeutic results much more effective. The author also states his intent to do extensive further research in this area.

#### O-28: STEPHANIE FELTNER

##### **Breathplay: Practice and Theory**

FACULTY SPONSOR(S): APRIL CALLIS, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

**Abstract:** Breathplay is the practice of controlling or restricting the intake of oxygen by one or more participants in an erotic situation. This paper addresses breathplay throughout the United States and the misunderstandings that come with it, including the notion that breathplay often leads to death. Breathplayers form a sexual subculture that includes shared norms, a lexicon, and specific practices. This paper will first delve into this subculture, illuminating this often misunderstood group. In addition, it will also analyze breathplay through the work of Michel Foucault and his theories on socially normative sex and power.

#### O-29: BRITTANY HIGH

##### **Upholding Purity: Gender Performance Among Pledged & Sworn Virgins**

FACULTY SPONSOR(S): APRIL CALLIS, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

**Abstract:** This research focuses on the practice of Purity Balls in the United States and Sworn Virgins of Albania. During Purity Balls girls pledge their virginity to their fathers, while Sworn Virgins are biological females who take on the role of men. This paper will first examine the complexity of the Purity Ball's ideologies and symbolism. I will analyze them through theories as described in Judith Butler's *Gender Trouble*, specifically focusing on the concepts of sex/gender/sexuality distinction, performativity, cultural intelligibility and the exchange of women. By applying this theoretical model to both subcultures comparisons can be made in practice and ideology.

#### O-30: MAYRA GUZMAN

##### **The New Kids on the Block**

FACULTY SPONSOR(S): JOAN FERRANTE, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

**Abstract:** 2014 marks the first time in U.S. history that the kindergartners and 1st graders in U.S. public schools classified as "white" are outnumbered by students who are considered nonwhite and Hispanic. The Hispanic segment has been given special attention because within its ranks are a high proportion of English Language Learners (ELL Students). Little is known about this population and its need. Insights can be gleaned from a participant observation study in which researcher served as interpreter to students and their families. Some of the biggest challenges identified in this study are language barriers, cultural clashes and misunderstandings.

### O-31: TABITHA TIREY

#### The Perceptions of Death in Pop Culture

FACULTY SPONSOR(S): JAIME MCCAULEY, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY; YASUE KUWAHARA, BUSINESS INFORMATICS

Abstract: The purpose of this research is to better understand perceptions of death within American culture. This topic is explored using content analysis to analyze film representations of death, dying and grief across the life course. Films were chosen to represent each stage of life; youth, teen, adult and elderly. Key analytical points include variations in the representations of death, dying, and grief by age, social class, gender, and the time frame which the film was made. By applying sociological theories and concepts to these pop culture representations, this study illuminates the unique ways that Americans deal with death and dying.

### O-32: JORDAN HENSLEY

#### The Art of Shipping: Fanfiction and the Homoerotic Subtext in Popular Culture.

FACULTY SPONSOR(S): CARYN CONNELLY, WORLD LANGUAGES & LITERATURES

Abstract: There is a broad spectrum of sentiments we have for our favorite characters. Fan-written fiction, known as "fanfiction", or simply "fic" is coming out of the literary closet and bursting into the mainstream masses. But what happens when fans take the story into their own hands? Fans have written millions of their own fictions. The interesting phenomenon is that the vast majority of these stories deal with same-sex male pairings. Mainstream media does not scratch the same-sex-fiction itch, so fans decided to take actions into their own hands.

### O-33: KATHERINE FRANZEN, NICOLE WEST

#### Transcription, Articulation, and Production; Decoding French Phonetics

FACULTY SPONSOR(S): GISELE LORIOT-RAYMER, WORLD LANGUAGES & LITERATURES

Abstract: Mastering French phonetics requires extensive work in identifying speech features such as syllabic division, linking patterns, rhythm, accent, intonation and understanding the precise articulation of vowels, semi-vowels and consonants. In FRE 401 we applied our semester-long practice of French phonetics to a final creative project. We selected Saint-Exupéry's *Le petit prince* and a seventeenth-century fable "Le corbeau et le renard" by La Fontaine, transcribed the pieces into the International Phonetic Alphabet, reflected on specific sounds in the selection, and gave a performance to demonstrate our understanding of the French phonetic system and our oral proficiency.

## POSTER PRESENTATIONS

Abstracts are listed by department of the first faculty sponsor.



### P-1: KOURTNEY DEES, SUZANNE DISHNER, CECILY CLAYTOR

#### Cystic Fibrosis in Pediatrics

FACULTY SPONSOR(S): ANDREA CORNUELLE, ALLIED HEALTH

Abstract: Cystic Fibrosis is a genetic disease in which the exocrine glands produce copious secretions. Production of these secretions create airway obstruction and digestion issues. As the disease progresses, so does the reoccurrence of hospitalizations to treat infections. There is not a cure for Cystic Fibrosis however life expectancy increases with faithful compliance to a therapy regimen. The Respiratory Care Practitioner and Radiographer are essential part of the medical team for treatment and diagnosis of Cystic Fibrosis. This poster was a collaboration between the Respiratory Care and Radiologic Technology Students at NKU.

### P-2: KATIE BRADBURN, HEATHER CITRONE, CHRISTINA COLLINS

#### Left Ventricular Assist Device

FACULTY SPONSOR(S): TOM BAXTER, ALLIED HEALTH

Abstract: This was a group collaboration between Respiratory Care and Radiologic Technology students on Left Ventricular Assist Device. This device is a mechanism used to sustain patients in heart failure until the heart function improves or transplant is possible. It is inserted just below a patient's heart and connected to the left ventricle and aorta. A tube outside the abdomen connects to the control system and battery source. As blood flows through the ventricles and into the device, sensors detect when the pump is full, and releases blood from the device into the aorta, which continues through the circulatory system.

### P-3: EMILY LINDEMAN, NICOLE RASH, PATRICIA ROWLANDS, AMANDA SEBASTIAN

#### Emphysema

FACULTY SPONSOR(S): KAREN LEEK, ALLIED HEALTH

Abstract: This group collaborative project is designed to outline the symptoms, diagnosis, treatment, and prognosis of emphysema from the respiratory and radiological point of views. The project covers the path a patient would travel from

initial symptoms to treatment options available within the medical community. Emphysema is a non-curable disease affecting the lungs of patients. Emphysema makes it difficult to accomplish easy tasks. A simple walk in the park is not always a walk in the park with emphysema. However, patients can be treated and taught how to manage the disease and continue to enjoy the activities in which they participate.

### P-4: SEAN CAMPBELL, BREANN HAYS, MOLLY KROMME, MELINDA STEGMAN, KELSEY TAYLOR, SMITHA INFANTE

#### Assessing the role of CYP1B1 on motor function in mice

FACULTY SPONSOR(S): CHRIS CURRAN, BIOLOGICAL SCIENCES

Abstract: Previous work on our lab found motor deficits in mice lacking CYP1A2, a metabolic enzyme best known for its function in detoxification in the liver, but also expressed in the brain. To extend those studies, we have been testing a closely related strain of knockout mice – *Cyp1b1*(-/-) mice. We generated heterozygous mice by crossing the knockouts with the wild type background strain C57BL6/J mice. The heterozygotes were mated to produce offspring of all three possible genotypes: *Cyp1b1* (+/+), *Cyp1b1* (+/-) and *Cyp1b1* (-/-). We are now conducting a battery of motor function tests on these mice to see if CYP1B1 is essential to normal motor function.

### P-5: CORY DAILEY, SMITHA INFANTE

#### The Handling, Preparation, and Training of Model Organisms for Neuroscience Lab Studies

FACULTY SPONSOR(S): CHRIS CURRAN, BIOLOGICAL SCIENCES

Abstract: As part of the Advanced Neurobiology Lab course (Bio402L), several model organisms were used to demonstrate their contributions to the field of neurobiology. These organisms had to be cared for and trained in order for them to be properly used in experiments. The sea hare *Aplysia* was trained using a method developed by Nobel Prize-winning biologist Eric Kandel in his classical conditioning experiments. The roundworm *C. elegans* was used to test chemotaxis and aversion. Zebrafish and crickets were both used to look at the effects of nicotine on the nervous system. The goal of this project was to show evolutionary trends in nervous system development.

### P-6: SAMANTHA HAMPTON, MELINDA STEGMAN, CHLOE TEMPLE, SMITHA INFANTE

#### Immunohistochemistry on Tyrosine Hydroxylase in Mice Exposed to PCBs During Development

FACULTY SPONSOR(S): CHRIS CURRAN, BIOLOGICAL SCIENCES

Abstract: Polychlorinated biphenyls (PCBs) are neurotoxicants that have been banned for decades, but are still a continuing public health concern. The primary route of human exposure is through contaminated food. Recently, PCBs have been linked with an increased risk of Parkinson's disease. A hallmark of Parkinson's disease is the loss of dopamine-producing neurons in the substantia nigra. Using a mouse model and immunohistochemistry, we are measuring the number of tyrosine hydroxylase-positive cells in the substantia nigra in control mice and mice exposed to PCBs during development. Tyrosine hydroxylase is the enzyme that makes dopamine, so this will be a direct measurement of functioning neurons in each group of mice

### P-7: BREANN HAYS, JAMIE WEIMER, MELINDA STEGMAN, KELSEY TAYLOR, MOLLY KROMME, SMITHA INFANTE

#### Genetic differences in susceptibility to PCB-induced motor dysfunction

FACULTY SPONSOR(S): CHRIS CURRAN, BIOLOGICAL SCIENCES

Abstract: Polychlorinated biphenyls (PCBs) are persistent organic pollutants. Coplanar PCBs activate the aryl hydrocarbon receptor (AHR), leading to greater expression of cytochrome P450 CYP1A2, which sequesters PCBs in the liver. Our previous work in mice revealed genetic differences in susceptibility to PCB-induced neurotoxicity when testing learning and memory. Our current work focuses on motor function. Pregnant dams were treated with PCBs, and motor testing of offspring began at 60 days of age. PCB-treated animals had shorter latencies to fall off the rotarod ( $P < 0.001$ ) and *Cyp1a2* knockouts showed the greatest impairment ( $P < 0.001$ ). In gait analysis, PCB-treated *Ahr*<sup>d</sup>*Cyp1a2*(-/-) mice had longer stride lengths ( $P < 0.01$ ). These results suggest that the greatest effects of developmental PCB exposure are on cerebellar function.

### P-8: LAURA MARQUETTE, MOLLY KROMME

#### Using real-time, quantitative PCR to assess gene expression in the brain following developmental PCB exposure

FACULTY SPONSOR(S): CHRIS CURRAN, BIOLOGICAL SCIENCES

Abstract: Polychlorinated biphenyls (PCBs) are environmental pollutants which cause developmental impairments in those exposed during early brain development. Impairment varies between individuals, suggesting there are genetic differences in risk. Using a mouse model, we identified the aryl hydrocarbon receptor (AHR) and cytochrome P450 1A2 (CYP1A2) genes as factors in genetic susceptibility to PCBs. This project looks to increase our understanding of the pathways involved in PCB neurotoxicity. We will compare gene expression in the cortex and cerebellum using real-time quantitative PCR. Because our mouse model mirrors genetic differences in the human population, our findings may assist in future screening of at-risk individuals.

### P-9: CHLOE TEMPLE, MELINDA STEGMAN, SAMANTHA HAMPTON, SMITHA INFANTE



### **Using Immunohistochemistry to Compare Gene Expression in Mice Exposed to Polychlorinated Biphenyls**

FACULTY SPONSOR(S): CHRIS CURRAN, BIOLOGICAL SCIENCES

Abstract: Polychlorinated biphenyls (PCBs) are neurotoxicants that affect motor skills and cognitive function after developmental exposure. In our previous behavioral testing, we found showed significant differences in Rotarod performance and genetic differences in susceptibility to PCBs. Rotarod performance is used to assess cerebellar function, and previous work indicates that PCBs alter Purkinje cells in the cerebellum. We are using immunohistochemistry to look at protein levels of CYP1A1 and NRI in the cerebellum of control mice and mice exposed to PCBs during development. We are also using cresyl violet stains to quantify the glial cell number and density.

### **P-10: CASSANDRA BRENDEL, CORY DAILEY, DUSTIN GIESLER, SARA HOPPENJANS, BRITTANY JONES, MELISSA MALOTT, BREONNA NINO, ZACHARY POYNTER, ELIZABETH SELLERS, BRIANA SHANDEL, CAROL SWARTS, CHAD WALKER, MADELINE WALKER**

**NKU Students – Explorers of Tropical Ecology in Costa Rica**  
FACULTY SPONSOR(S): RICHARD DURTSCHKE, BIOLOGICAL SCIENCES; DAVID THOMPSON, BIOLOGICAL SCIENCES

Abstract: Alternative Spring Break 2014; eleven NKU biology and one visual arts student ventured deep into the tropical ecosystems of Costa Rica to carry out field studies for Tropical Ecology Laboratory. Testing theoretical concepts of species diversity and distribution in the tropics with hands-on experiences, these students explored five different ecosystems from lowland rainforests on the Osa peninsula to mountainous cloud forests to the largest remaining mangrove forest in Latin America. Their field work investigated 1) forest gap dynamics; 2) stream snail dispersion; and 3) rocky intertidal zonation; 4) arid ant community structure; and 5) comparative bird diversity across these ecosystems.

### **P-11: NATHANIEL HUDSON, MADHURA KULKARNI, JOE NOLAN, PAMELA REICHELDERFER, KACIE KOTNIK**

**NKU Retention: Tracking students using data visualization techniques.**

FACULTY SPONSOR(S): KRISTINE HOPFENSBERGER, BIOLOGICAL SCIENCES; MAUREEN DOYLE, COMPUTER SCIENCE

Abstract: An interdisciplinary and interdivisional team of faculty, staff and students proposes to combine Student Success and Data Science into a big data project focusing on visualization of trends and patterns in retention data. The visualizations will allow for discovery of new insights and development of hypotheses for further study. We will report on the retention data for first-time, full-time freshmen from 2008 through the present and use data visualization techniques to show movement of students through academic programs.

### **P-12: SARAH STRYFFELER, JAMES BROWN**

**Analyzing Water and Soil Nitrate Concentrations from Aquatic Ecosystems in Northern Kentucky**

FACULTY SPONSOR(S): KRISTINE HOPFENSBERGER, BIOLOGICAL SCIENCES

Abstract: We analyzed water and soil samples from different aquatic ecosystems in Northern Kentucky for nitrate concentration, using a Standard Method procedure that required shaking prepackaged reagents mixed with our samples for only five minutes. After many problems with the reagents, we discovered longer and more vigorous shake times (>10 minutes) were needed to obtain the full reaction—resulting in a grossly inefficient method. Therefore, we worked with a mechanical engineer to design a machine specific to our lab needs. This spring, we developed a protocol for using the new machine to successfully analyze our samples for nitrate.

### **P-13: EMILY IGEL**

**Human neurons cultured in Cat's Claw extract show altered expression of viral and toll-like receptors.**

FACULTY SPONSOR(S): JOSEPH MESTER, BIOLOGICAL SCIENCES

Abstract: Cat's Claw tea, extracted from the bark of *Uncaria tomentosa*, is often used in South America as a cure-all for common diseases. To investigate this effect, we treated human neurons with Cat's Claw to test for expression of toll-like receptors and viral receptors. Using real-time PCR, we discovered that neurons cultured in 0.5% Cat's Claw for seven weeks had a decreased expression of toll-like receptors and viral receptors for HIV, dengue fever, West Nile virus, measles, polio, and herpes simplex. This suggests that Cat's Claw could potentially have an anti-viral effect on the human nervous system.

### **P-14: SEAN SHUMATE**

**Effects of Herpes Simplex Virus on Tau Metabolism in Cells of the Central Nervous System**

FACULTY SPONSOR(S): JOSEPH MESTER, BIOLOGICAL SCIENCES

Abstract: Infectious herpes simplex viruses (HSV-1, -2) can disseminate from peripheral nerves to the brain, and may allow HSV-1 and -2 to play a role in Alzheimer's disease. The purpose of this experiment was to examine whether HSV infection affects expression of genes related to tau protein metabolism that would promote Alzheimer's pathology. The effect of HSV on a combined culture of neurons, astrocytes, and microglial cells was analyzed using quantitative real-time PCR. We predict that the expression of phosphate transfer enzyme (JNK-1) will increase and phosphate regulatory enzyme (PP2A) will decrease due to viral infection; indicating potential for tau-related pathogenicity.

### **P-15: NANCY YANEZ**

**Cat's claw treatment of human neurons alters the expression of genes linked to Alzheimer's disease.**

FACULTY SPONSOR(S): JOSEPH MESTER, BIOLOGICAL SCIENCES

Abstract: We tested the effect of the botanical extract Cat's Claw on human neurons to see if treatment was able to alter the expression of genes linked to Alzheimer's disease (AD). As determined by real-time PCR, Cat's Claw treatment decreased the expression levels of the amyloid precursor protein (APP), an APP-cleaving enzyme, and two neuronal growth factor receptors. Expression of another APP-cleaving enzyme was stabilized by botanical treatment. These results support a potentially protective effect of Cat's Claw treatment on neuronal metabolism. Future studies will test the effect of Cat's Claw on the expression of AD-linked genes in human astrocytes.

### **P-16: STEFANIA GUGLIELMI, ALEXUS RICE, STUART OEHRLE, MIRIAM STEINITZ-KANNAN**

**Prevalence of toxic cyanobacteria in residential ponds in Northern Kentucky: investigating patterns, and correlations with environmental parameters**

FACULTY SPONSOR(S): MIRIAM STEINITZ-KANNAN, BIOLOGICAL SCIENCES

Abstract: This study investigates the recent increase of cyanobacteria blooms and their toxin production in the Greater Cincinnati area. Algal samples were collected from several residential ponds from September 2012 - August 2013. Water and environmental parameters were analyzed to determine if there was a correlation between the prevalence of cyanobacteria and toxin production. *Microcystis aeruginosa*, commonly associated with toxin production, was the most prevalent cyanobacteria in the samples. The genera *Aphanizomenon*, *Woronichinia*, *Anabaena*, *Oscillatoria*, and *Planktothrix* were also commonly found. Most of the samples collected tested positive for Microcystins, liver toxins. Other toxins were also identified.

### **P-17: JULIE MOSES, JOSH FROST, MADELINE WALKER, JOSUE GUERREROW, ALEXUS RICE, NATE SHIELDS**

**There's an app for that! Developing mobile technologies to educate and engage citizen scientists for global water quality assessment.**

FACULTY SPONSOR(S): DR. MIRIAM STEINITZ-KANNAN, BIOLOGICAL SCIENCES; DR. RICHARD D. DURTSCHKE BIOLOGICAL SCIENCES

Abstract: Protecting water resources is vital to human populations. Engaging the public in monitoring rivers and streams is widely recognized as the most effective strategy to accomplish this. Several organized Citizen Scientist watershed watch groups regularly participate in monitoring water quality. We are developing a "Water Quality PRO" app, companion website and database that will facilitate credible field data collection by citizen scientists and professionals alike, and engage the public in science, improving scientific literacy. The app is being developed in both English and Spanish to expand the water protection efforts to Spanish-speaking populations in the USA and globally.

### **P-18: ARIANNA CABRALES, NATHAN HOGARTH**

**Investigation of the Relationship between dpb11 and rad9 Mutations and Their Combined Effect on Genome Stability in Yeast**

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: Our project investigates the possible genetic interaction between two *Saccharomyces cerevisiae* genes, RAD9 and DPB11. RAD9 is a cell-cycle checkpoint gene that, when mutated, causes a significant increase in genome instability. DPB11 is a gene that is involved in DNA replication and transmitting signals to the checkpoint "machinery." We hypothesize that dpb11 mutations, when coupled with rad9 mutations, will further increase genome instability. Genetic instability of mutant strains will be tested via two genetic assays: sectoring analysis and fluctuation analysis. Both methods allow us to quantify the instability and statistically compare it to results of the wildtype and rad9-deficient strains.

### **P-19: EON CHILSON, PATRICK POCSATKO, LAUREN HILL**

**Measuring Changes in TOR Activity and the Impact on Genome Stability**

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: Target of Rapamycin (TOR) genes encode a class of highly conserved regulatory proteins which affect cell growth in response to nutrients. Previous research by our group has identified mutations in genes involved in both nutrient availability and TOR pathways as impacting genome instability in the yeast *Saccharomyces cerevisiae*. We hypothesize changes in TOR activity could be responsible for this increase in chromosomal loss events, thus we have conducted genome instability assays as well as qRT-PCR analysis to determine the effects of heterozygous mutations in genes involved in these pathways. Early analysis of such strains revealed increases in chromosomal loss events and qRT-PCR analyses have shown decreased TOR, specifically TORC1, activity similar to that of the wildtype strain under nutrient starved (TORC1 inhibited) conditions. Experiments are underway to assess TOR activity in additional strains containing mutations shown to impact chromosomal loss.

### **P-20: JOHN CRUM, OLIVIA DAVIS**

**Observations into the Role of the MSH4-MSH5 Heterodimer in Yeast Genome Stability**

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: BRCA1 has a homolog in *Saccharomyces cerevisiae* known as RAD9. Previously collected data suggests that heterozygous mutations of msh5 in rad9-deficient strains

cause greater genomic instability than in strains mutated for either gene alone. MSH5 associates with MSH4 to facilitate meiotic homologous recombination in both yeast and humans. msh5-deficient strains in both wild-type and rad9-deficient strains have been or are being created to test genomic instability. Additionally, we are creating strains with heterozygous mutations of msh4 in various backgrounds to determine its effect on genomic instability. Future directions include determining the specificity of any relationships between RAD9 and MSH5 by varying msh5p dosage in strains mutated for cell cycle checkpoint genes other than RAD9.

**P-21: TATUM DAVIS, BRANDY ASHCRAFT**  
**Investigating the Mechanism of Genomic Instability Due to Haploinsufficiency in Aromatic Amino Acid Metabolism Genes**

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: To identify novel cancer susceptibility loci, our group previously undertook a screen in the yeast *Saccharomyces cerevisiae* to assess the genome for heterozygous mutations that modify genomic instability. Through assays that measure increased chromosome loss we identified gene mutations functioning at the endpoints of the aromatic amino acid biosynthesis pathways. Assays were also carried out to determine the impact of amino acids depletion in the media, and it appears that select gene mutations display further genome instability when grown in these conditions. We hypothesize nutrient availability changes lead to genome instability through altered TOR pathway regulation, and have begun investigation by measuring loss rates under rapamycin treatment. The results that we have obtained indicate that there is a significant increase in genome instability in the mutant genes from the aromatic amino acid biosynthesis pathway, making these possible modifier genes. Creation and testing of homozygous strains are to determine the impact of full deletion of these select genes.

**P-22: JUSTIN GIBSON, CHELSIE FOSTER**  
**Investigation of Genome Instability Due to Mutations in the SAM1 and SAM2 Genes in *Saccharomyces cerevisiae***

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: The goal of this project is to explore the role of particular mutations in the SAM1 and SAM2 genes in the formation of cells that are genomically unstable, a phenotype often seen in cancer. These genes encode enzymes that catalyze the formation of S-adenosyl methionine (AdoMet) from methionine and ATP. AdoMet is conserved in human cells where changes in its concentration have been implicated in genome instability. In assessing the dosage sensitivity effects of SAM1 and SAM2 concentrations on genome stability, we have observed significant results due to heterozygous mutations of sam1. Further testing has found that full deletions of sam1 do not increase stability, potentially due to a functional redundancy in the SAM1 and SAM2 genes. Preliminary results due to heterozygous mutation of sam2 indicate increases in instability. Combination of sam1 and sam2 heterozygous mutations have resulted in the largest increase in instability observed.

**P-23: COLLIN JOHNSON**  
**Evaluating the Impact of Centromeric Sequence on Chromosome Stability in *Saccharomyces cerevisiae***

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: Centromeres in the budding yeast *Saccharomyces cerevisiae* are designated by 125 base pairs of DNA that is known as a point centromere. A high level of conservation is seen across different chromosomal centromeres, but variation is present. From this data a consensus sequence of the point centromere has been constructed. Centromeric regions of chromosomes are important in chromosome segregation and for proper fidelity. Thus it is of importance to determine if different centromeric sequences are recognized and segregated with different efficiencies. This project seeks to take advantage of the recent increase in genome sequencing projects to build a more complete picture of variation in centromeric sequences. Genome sequence information from *S. cerevisiae* strains isolated from different environments and regions will be compared and these sequences then tested for their impact on chromosome stability.

**P-24: GABRIELLE SEVILLA, FATIMA MOHMOUD, TAYLOR STROHMAIER**

**Impact of mutations in branched-chain amino acid availability genes on genome stability in *Saccharomyces cerevisiae***

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: Cancers are commonly associated with genomic instability. Genomic instability has previously been associated with mutations in a variety of genes. In previous studies by our group, mutations in genes involved in the biosynthesis and transport of branched-chain amino acids were identified to have an impact on genome stability in the yeast *Saccharomyces cerevisiae*. Recently, six heterozygously mutated strains were found to significantly increase genomic instability. We are now investigating how homozygous mutations affect the stability of the genome. With our research we hope to identify the full spectrum of genes within the biosynthetic and transport pathways that result in increased instability and determine their mechanism of action.

**P-25: BALINT ZSIDAI**  
**The effects of full loss of ASN2 on the genome instability of *S. cerevisiae***

FACULTY SPONSOR(S): ERIN STROME, BIOLOGICAL SCIENCES

Abstract: *Saccharomyces cerevisiae* is a practical model organism for investigating the effects of gene mutations on genome instability, which is considered a hallmark of cancer in humans. Previous research has shown that mutations of genes involved in the amino acid biosynthesis pathways in *S. cerevisiae* increase genome instability in heterozygous deletion strains. Consequently, it is likely that homozygous deletions of these genes may be even larger factors in genome instability. ASN2 is a gene shown to have increased chromosome fragment loss and a significant whole chromosome loss rate when heterozygous mutation occurs and thus studies shown here investigate the impact of full loss of this gene.

**P-26: ANDREW NAGEL**  
**Agricultural Herbicides and Trace Metals in Selected Areas of the Kentucky River Watershed**

FACULTY SPONSOR(S): DAVID THOMPSON, BIOLOGICAL SCIENCES; KRISTY HOPFENSBERGER, BIOLOGICAL SCIENCES

Abstract: The environmentalist Wendell Berry has long believed that there is a decrease in native willows along riparian areas of the Kentucky River watershed near his home. The agricultural use of "burndown" herbicides for clearing land is common in this area. Furthermore, Mr. Berry has an interest in trace metal concentrations, and willows accumulate metals from their environment. Collected water samples were tested for the herbicides atrazine and metolachlor, and trace metals. Atrazine was present in 21 of 23 samples, while metolachlor was present in 4 samples. Observed herbicide and trace metal levels were compared to established water quality criteria.

**P-27: ZACHARY HOLTKAMP**  
**Are Carolina chickadee nestlings affected by parasitic bird blowfly larvae?**

FACULTY SPONSOR(S): LINDSEY WALTERS, BIOLOGICAL SCIENCES

Abstract: Our goal was to determine whether parasitic bird blowflies affect the health of Carolina chickadee nestlings. Thirty-eight nest boxes were placed at our field site and we measured the mass, tarsus length, and hemoglobin concentration when the nestlings were 10 days old. After the chicks left the nest, we counted the number of puparia present. We found that the number of bird blowfly puparia in each nest had no relationship with the mean mass, tarsus length, or hemoglobin level of the nestlings. More research needs to be done on hemoglobin levels to obtain a higher sample size.

**P-28: KAITLIN CAHILL, VANESSA FISSE**  
**Measurement of fluoride ions in drinking water and environmental samples at a normal pH level by pulsed chronopotentiometry with ion-selective electrodes.**

FACULTY SPONSOR(S): KEBEDE GEMENE, CHEMISTRY

Abstract: Solid-state fluoride selective electrodes using the LaF<sub>3</sub> crystal, the standard method of fluoride measurement, is expensive and inconvenient to miniaturize. Polymeric membrane potentiometric fluoride ion-selective electrodes based on aluminum tetraphenylporphyrin (Al(III)TPP<sup>+</sup>) were reported recently. The limitation of these sensors is interference from hydroxide ions. This necessitated buffering at a pH of approximately 3. Here we present pulsed chronopotentiometric sensor to measure fluoride ions at a neutral pH. Low hydroxide ion concentrations are depleted at the membrane surface enabling direct detection of fluoride ions in drinking water at the action limit level (0.04-0.11 mM) and a natural pH of ~7.

**P-29: TIMOTHY CHANDLER, JACOB LESTER**  
**Reversible Detection of Polyions with Pulsed Chronopotentiometric Ion-Selective Electrodes**

FACULTY SPONSOR(S): KEBEDE GEMENE, CHEMISTRY

Abstract: The detection of biological polyions such as the anticoagulant heparin and its antidote protamine is of particular interest for biomedical applications. Potentiometric polyion-selective electrodes were reported as simple and inexpensive sensors for these polyions. However, due to the intrinsic irreversible nature of their response, they are limited to single-use (disposable) devices. This is inconvenient for continuous monitoring purposes, such as bedside coagulation monitoring in clinical applications. In this work we show that pulsed chronopotentiometry is a convenient technique for reversible detection of polyions. This will enable to develop reusable sensors for applications such as real-time monitoring of heparin in blood.

**P-30: JEREMY MEYERS, TOM BURNS**  
**Kinetic Selectivity Enhancement of Hydrophilic Anions by Pulsed Chronopotentiometry with Asymmetric Cellulose Triacetate Membrane Electrode.**

FACULTY SPONSOR(S): KEBEDE GEMENE, CHEMISTRY

Abstract: Ion-selective electrodes are well-established, simple and inexpensive devices widely used for the measurement of ions such as chloride, which is important for medical applications. However, there is a lack of selective electrodes for anions. This limits the detection of hydrophilic anions, like chloride, due to interferences by lipophilic anions such as salicylate and thiocyanate. Studies have shown that these interferences can be alleviated by kinetic control using pulsed chronopotentiometry. Cellulose triacetate (CTA)-based asymmetric membranes also have slow response toward lipophilic anions. Our research has shown that CTA-based asymmetric

**P-31: ANDREW SABELHAUS, SIMON SEGAL**  
**Simultaneous detection of potassium in plasma and Red blood cells by pulsed chronopotentiometry**



FACULTY SPONSOR(S): KEBEDE GEMENE, CHEMISTRY

**Abstract:** The purpose of this research is to develop an effective method to measure potassium simultaneously in plasma and RBCs. It is important to know the concentration of potassium in blood because it is directly related to early detection of hypertension, blood pressure problems, and other medical issues. Common methods used today are classical potentiometry and atomic photometry. However atomic photometry can't measure the plasma and RBC's simultaneously. Classical potentiometry is reliable but requires the RBC's to be lysed before testing. Our research presents pulsed chronopotentiometry as an easy method for simultaneous detection of potassium in the plasma and RBCs.

**P-32: AKIA DAWSON, RYAN GAHERTY**  
**Photochemistry and photophysics of progesterone**

FACULTY SPONSOR(S): PATRICK HARE, CHEMISTRY

**Abstract:** Progesterone is a natural hormone which has been found in surface waters at elevated levels, which are detrimental to aquatic life. Photodegradation is a possible means of removing progesterone from the waste stream, but the mechanisms and products of such a process are not known. Progesterone was studied using steady state spectroscopy in several solvents to determine the effects of the molecule's environment on its interactions with light. Photodegradation was also carried out as a function of solvent.

**P-33: BROOKE SIEGEL, RACHAEL WESSNER**  
**A computational and spectroscopic study of fluoxetine**

FACULTY SPONSOR(S): PATRICK HARE, CHEMISTRY

**Abstract:** Fluoxetine, like other drugs, hormones, and personal care products that have been found at elevated concentrations in surface waters, have harmful effects on aquatic wildlife. While studies have been done on fluoxetine's photochemistry as a method of wastewater treatment, its basic photophysics, particularly its fluorescence, are largely unknown. The fluorescence of fluoxetine was therefore studied in a variety of solvents. New fluorescence bands were observed in water that were not observed previously, and are strongly dependent on the solvent polarity and pH. The excited states of the molecule were calculated and are used to explain these observations.

**P-34: TIMOTHY DUNN, ALMA ONATE, JANELLE TUCKER, DONNA DO**  
**Synthesis of CAPE Analogues to Test Bioactivity Regarding Xanthine Oxidase Inhibition**

FACULTY SPONSOR(S): LILI MA, CHEMISTRY

**Abstract:** The results of this summer's research on the synthesis of CAPE and its analogues are presented herein. The reactions were performed utilizing a one-pot ester formation/condensation reaction scheme. The pilot reaction of phenethyl alcohol and benzaldehyde to make the CAPE compound had a yield of 5.37%. The CAPE analogue synthesized from 3-phenyl-1-propanol and 3,4-dihydroxybenzaldehyde was determined to have a yield of 14.6%, which is more than likely due to an increased amount of piperidine and pyridine. Future goals include improving on the scale of the reaction to improve percent yield and expanding on production of CAPE analogues.

**P-35: BENJAMIN HAIM**  
**Synthesis of Histone Deacetylase 2 (HDAC2) inhibitors**  
**FACULTY SPONSOR(S): LILI MA, CHEMISTRY**

**Abstract:** Lung cancer is the leading cancer killer in both men and women in the United States. It is known that the protein histone deacetylase 2 is over-expressed in lung cancer treatment. However, lung cancer has no HDAC inhibitors available on the market. Therefore, it is imperative to discover and develop new molecular entities for the treatment of lung cancer. Santacruzamate, an outstanding naturally occurring inhibitor against HDAC2, is used in this study as the lead compound to develop HDAC2 inhibitors with improved biological activities and pharmacological profiles. The biological assays of the synthesized HDAC2 inhibitors are ongoing.

**P-36: EMILY HOGLE, REBECCA KIDNEY, MATHIEU LE LOC'H, ERICA AMATO**  
**SYNTHESIZING ISOCOUMARIN COMPOUNDS FOR BREAST CANCER RESEARCH**

FACULTY SPONSOR(S): LILI MA, CHEMISTRY; STEFAN PAULA, CHEMISTRY

**Abstract:** One main cause of breast cancer is the overproduction of the hormone estrogen. The main enzyme involved with estrogen production is aromatase. The aromatase inhibitors considered in our group were isoflavanone and isocoumarin compounds. This presentation investigates a domino approach to synthesize isocoumarin aromatase inhibitors. Theoretical predictions of different compounds were used to determine safe chemical structures with good drug scores. Potential active molecules were synthesized through a domino heteroarylation/cyclization reaction using triflate and silyl enol ether. Each synthesis was monitored by NMR spectra and purified with MPLC. The bioactivities of these compounds were determined in Dr. Paula's research group.

**P-37: BARBARA CATA, THERESA RUWE**  
**Application of Nanopipettes For Electrochemical Detection of Thyroid Hormone**

FACULTY SPONSOR(S): CELESTE MORRIS, CHEMISTRY

**Abstract:** Our research focuses on evaluation of electrochemical transport of thyroid

hormone and the thyroid metabolic pathway as it relates to insulin resistance, a known precursor to diabetes. Our research goals include determining thyroid hormone activity with real-time electrochemical analysis and in vivo detection of active thyroid hormone. To this end, we present nanopipette fabrication methods via a laser-based pipette puller and electrochemical characterization via current-voltage curves and ion-transfer voltammetry. In the future, these nanopipettes will be employed to learn more about thyroid hormone transfer and how it relates to ancillary autoimmune diseases.

**P-38: HANNAH HUGHES, BRANDON MUCKER, MATTHEW STARK, RUTH HEMMER**  
**Biophysical Interactions of Poly(butylcyanoacrylate) (PBCA) Nanoparticles with Lipid Models of the Blood Brain Barrier**

FACULTY SPONSOR(S): CELESTE MORRIS, CHEMISTRY; KRISTI HAIK, BIOLOGICAL SCIENCES

**Abstract:** Drug delivery across the Blood Brain Barrier (BBB) is necessary for treatment of brain disorders such as Parkinson's and Lou Gehrig's disease. The mechanism of drug delivery across the BBB is unknown, however, it has been shown that biodegradable nanoparticles such as poly(butylcyanoacrylate) (PBCAs) can cross the BBB and be a vehicle for drug delivery. To investigate nanoparticle transport across the Blood Brain Barrier (BBB) and potential toxicity of nanoparticles, we employ a lipid monolayer which serves as a model of the BBB. The lipid layer is produced by a Langmuir-Blodgett trough which creates a monolayer film of (DPPC) lipids. Using PBCA nanoparticles, and particles treated with cancer treatment drug, doxorubicin (PBCA-dox), we can measure the biophysical interaction between the lipid monolayer and nanoparticles. Here, we compare PBCA nanoparticles with PBCA-dox nanoparticles and their interactions with DPPC lipids with surface pressure-area isotherms and atomic force microscopy.

**P-39: LUCAS EDELEN**  
**Synthesis of novel peptides MZ568 and MZ602**

FACULTY SPONSOR(S): AMBER ONORATO, CHEMISTRY

**Abstract:** Naturally occurring peptides have been found to possess unique biological activity. Due to low yields upon isolation, an effective synthetic route is necessary. The first step in the total synthesis of cyclopeptides MZ602 and MZ568 is to yield the thiazole modified amino acid. The modified amino acid synthesis began with conversion of a carboxylic acid to a thioamide using NMR to confirm the structure. Once the synthesis is completed, Dr. John Carmen (NKU Biological Sciences) will test the molecules for their antifungal activity. Results towards the synthesis of these recently isolated cyclopeptides is presented.

**P-40: EMILY HOFMANN, JONATHAN WEBSTER, TAYLOR KIDD, REID KLINE**

**Xanthine oxidase enzyme inhibition with novel coumarin derivatives; an approach toward reducing cellular oxidative stress.**

FACULTY SPONSOR(S): STEFAN PAULA, CHEMISTRY

**Abstract:** Xanthine oxidase is a key enzyme in the catabolism of purines. The metabolic byproducts of this process include various radical oxygen species which can then induce oxidative stress if allowed to accumulate in tissues. An increase in XO activity is implicated in several diseases including cancer, cardiovascular disease, and arthritis. This study seeks to assess the inhibitory and radical scavenging capabilities among a test set of coumarin analogues. Molecular modeling techniques and several bio-assays were employed to evaluate each compound. Results demonstrate that hydroxyl substituents particularly in the 6, 7, and 4 positions produced the strongest inhibitory effects.

**P-41: REID KLINE**  
**Computational Docking and Evaluation of Chalcone and Caffeic Acid Phenethyl Ester Inhibitors into the Crystal Structure of Xanthine Oxidase**

FACULTY SPONSOR(S): STEFAN PAULA, CHEMISTRY

**Abstract:** Potential inhibitors of the xanthine oxidase (XO) protein were docked computationally into several X-ray crystal structures of the protein. The inhibitors tested included chalcone and caffeic acid phenethyl ester (CAPE) analogues. Docking runs were executed with the program GOLD and the results visualized in the modeling suite MOE. The goal was the rapid and inexpensive evaluation of potential inhibitors using computational methods. Moreover, the docking results helped with the interpretation of experimental results obtained for a selection of about 20 compounds in XO inhibition assays. It was observed that hydroxyl groups were critical for inhibitory potency since they allowed inhibitors to interact with XO by forming multiple hydrogen bonds.

**P-42: ANDRES GASPER**  
**Synthesis of Novel Calixarenes**

FACULTY SPONSOR(S): KEITH RUSSELL, CHEMISTRY

**Abstract:** Calixarenes have found applications in every field from nanotechnology to medicine. Further application will require a deep understanding of these molecules. Calixarenes, synthetically challenging, are being synthesized using oxygen atoms in place of the typical methylene bridges. Because of the common aromatic core of oxacalixarenes prepared by the Katz group and dehydrobenzoannulenes synthesized in our own group, together we are attempting to prepare annulene-appended

oxacalixarenes. Multiple synthetic routes, with subtle differences, are being pursued in the preparation of the precursors to these complex molecules. This poster will present the calixarene targets as well as the current progress toward their synthesis.

#### **P-43: CHAD BENEKER**

##### **Synthesis and Purification of Coronene Complexes for Solar Cell Applications**

FACULTY SPONSOR(S): KEITH WALTERS, CHEMISTRY

Abstract: The goal of our research group is to create a solar cell using conjugated macromolecules such as buckminsterfullerene, or C60. The idea is that the magnitude of the fullerene will accept excess electrons and the conjugation will allow these electrons to flow throughout the entire structure. Furthermore, the addition of a metal, such as ruthenium or rhenium, will act as the electron donor for the solar cell. When this metal is excited by a photon of light, the exhausted electrons will be accepted by the fullerene and will therefore power the solar cell. The downside of using fullerene is that it is insoluble in most organic solvents containing any polarity. The purpose of the presented research is to determine if the use of coronene, instead of fullerene, is a favorable option for the solar cell synthesis due to its solubility in more polar solvents.

#### **P-44: HANNAH HEARN**

##### **NKU Fullerene Research: Initial efforts for solar cell production using fullerene-transition metal systems as sensitizers**

FACULTY SPONSOR(S): KEITH WALTERS, CHEMISTRY

Abstract: Our research group is interested in fullerene-transition metal systems, and our ultimate goal is the inclusion of these in solar cells that will be more efficient than current devices. Our initial work has focused on ligands that link the two components, but initial spectroscopic studies indicate that modifications are needed for efficient electron transfer. Therefore, we are exploring next-generation systems that will improve the transfer. We are also testing all available systems in TiO<sub>2</sub> dye-sensitized solar cells. This poster presents some recent attempts to synthesize these systems and our initial solar cell designs and tests, including performance data.

#### **P-45: JESSICA HORN**

##### **Synthesis of Fullerene Complexes via One Pot Method for Solar Cell Applications**

FACULTY SPONSOR(S): KEITH WALTERS, CHEMISTRY

Abstract: The goal of our research group is to create a solar cell using an organic compound known as fullerene or C60. The goal is to be able to attach a metal, possibly ruthenium or rhenium, as the electron donor which when excited by a photon of light will create the energy for the solar cell. A functionalized fullerene is necessary for this system, and this poster presents a one pot Sonogashira coupling reaction, different than our "traditional" three-step method. The purpose of this research is to find out if this new pathway is more efficient than the traditional method of preparing both functionalized fullerenes and other compounds in the future.

#### **P-46: KAITLYN GROGAN**

##### **Good Vibrations: How the Beach Boys Impacted American Culture**

FACULTY SPONSOR(S): CALLIE CLARE, COMMUNICATION

Abstract: The Beach Boys burst onto the American music scene in the mid-1960s when "beach music" was becoming popular in California. It was a new, fun-loving sound that helped the audience escape into the beautiful harmonies and laid-back messages. The Beach Boys contributed to the zeitgeist of the 1960s by providing American audiences with their easy-going surfer mindset, which was in stark contrast to the tumult of the decade. This poster explains how they have maintained their popularity with the "sunshine pop" sound and how their success relies heavily on the nostalgic escape fans experience while listening or witnessing their performances.

#### **P-47: PATRICK FLYNN ASHLEY, DANIEL CIESLAK**

##### **The Effects of Classroom Connectedness on Satisfaction and Performance in the College Classroom**

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION; STEPHEN JOHNSON, COMMUNICATION

Abstract: Having many friends in class not only makes students feel comfortable but also helps them perform better. A total of 162 NKU students enrolled in public speaking courses were surveyed to investigate the effect of student classroom connectedness on loneliness. The findings show that having many friends in class reduces the feeling of loneliness, which influences class participation, anxiety about public speaking and satisfaction with the course. Each factor demonstrates significant impacts on student performance. The results suggest that it is important for college professors to foster an inclusive environment in the classroom through classroom activities and group discussion.

#### **P-48: PATRICK FLYNN ASHLEY**

##### **Demonstration of Cultural Differences: A Content Analysis of International Airline Mission Statements**

FACULTY SPONSOR(S): AUSTIN LEE, COMMUNICATION

Abstract: Corporate mission statements reflect the norms and values of organizations. Different cultures have different norms and business relationships, and therefore the content of mission statements may vary across cultures. To investigate this cultural difference, we analyzed the mission statements of 80 international airlines from all

over the world. The findings show that airlines in masculine cultures (preference for achievement, assertiveness, and strict gender role) such as Japan, Venezuela, and Ireland were more likely to identify their desired public image than were airlines in feminine cultures (preference for cooperation, modesty, and flexible gender role) such as Sweden, Norway, and Thailand.

#### **P-49: IAN KLUTE**

##### **The musical methodology and success of the 1960s rock band, The Beatles materialized considerably due to the influence of black musicians**

FACULTY SPONSOR(S): ZACHARY WELLS, COMMUNICATION

Abstract: The Zeitgeist of the late 1960s may have been relatively dissimilar from history if Beatlemania had not occurred in the United States and the United Kingdom. The Beatles certainly influenced popular culture and various musicians, but to whom do they owe their inspiration? African American artists including Arthur Alexander, Chuck Berry, and The Isley Brothers contributed to the musical techniques popularized by The Beatles. I will display the findings of research on how the 1960s English rock band was influenced by these Black musicians and others. This independent study demonstrates how specific African American musicians impacted the prosperity of the Fab Four.

#### **P-50: CALVIN MCLAIN, RACHAEL PALMIERI, BRANDON WEVER, MATTHEW STARK, TRENT ROBERTS, KACIE KOTNIK, CHAD JOHNSTON**

##### **STEM Ambassadors at NKU**

FACULTY SPONSOR(S): MAUREEN DOYLE, COMPUTER SCIENCE; BETHANY BOWLING, BIOLOGICAL SCIENCES

Abstract: Student peer leaders improve retention at NKU through peer led learning sessions, community events, and professional development events. Participation in these events increases retention rates in undergraduate STEM majors. STEM Ambassadors are upperclassmen in the various STEM departments who are hired as departmental representatives. Ambassadors organize and plan community events, lead targeted peer learning study sessions, assist in recruitment efforts, attend regular weekly meetings, and attend leadership development sessions. Ambassadors are leaders within the STEM community, and with their efforts in the program help create an environment where students persist and succeed in their STEM programs.

#### **P-51: PAMELA REICHELDERFER**

##### **NKU Student Retention: Using Geographical Analysis to Improve Student Recruitment and Retention at NKU**

FACULTY SPONSOR(S): MAUREEN DOYLE, COMPUTER SCIENCE

Abstract: An interdisciplinary project is being conducted by NKU staff, faculty and students to study the question of how to improve student recruitment and retention at NKU. The project will involve data mining, analysis and visualization of data from several internal and external sources. Dr. Hongmei Wang has performed some preliminary analysis, using Geographical Information Systems (GIS) technology to visualize where potential and current students and alumni reside. My part of the project will be to extend Dr. Wang's analysis to include more comprehensive data and expand the aspects analyzed in coordination with the investigations of other project members.

#### **P-52: ALEX KREBIEHL, TYLER DARBY**

##### **P2P (Peer to Peer) Web Caching for Mobile Devices**

FACULTY SPONSOR(S): WEI HAO, COMPUTER SCIENCE

Abstract: Web caching is a vital tool to improve performance on virtually all desktop systems. However, desktop caching approaches are not as effective on mobile devices due to limitations with storage and memory. We propose a peer to peer web caching system to increase the performance and efficiency of web caching on mobile devices. In our research, we will conduct an experiment to compare the performance differences between peer to peer web caching and standard web caching methods.

#### **P-53: DANIEL MYERS**

##### **Tools for Geographically Constrained Data Scraping**

FACULTY SPONSOR(S): JAMES MCGUFFEE, COMPUTER SCIENCE

Abstract: Recent research suggests there is no consensus on the best way to solve the problem of extracting geographic information from web searches. I present results from a study exploring the application of the Python programming language tool Scrapy. I created a web crawler that utilizes regular expressions to extract relevant data from geographically targeted websites. This work is part of a larger, longer term research project to determine the viability of creating an interactive geographically constrained social services client matching system.

#### **P-54: AUSTIN ROSENBAUM, LAKEN GINN**

##### **A Byte out of Maysville**

FACULTY SPONSOR(S): JAMES MCGUFFEE, COMPUTER SCIENCE

Abstract: Self-reported data collected by Kentucky's Office of Broadband Outreach and Development suggests that the majority of the Commonwealth has access to broadband Internet. I present results from a study testing and mapping the available wireless broadband Internet access in the city of Maysville, KY. Using special networking tools, I mapped available broadband networks throughout Maysville, KY, testing both signal strength and Internet speed. Laken Ginn assisted and was in charge of documenting our discoveries. This project was conducted in conjunction

with Morehead State University with NKU's participation facilitated by the Kentucky Campus Compact.

**P-55: SEBASTIAN LAROSA  
IT in Business Environments**

FACULTY SPONSOR(S): TERESA RILEY, COMPUTER SCIENCE

Abstract: Solving technical problems has never been more relevant than today. Communicating technical processes has become a daily activity in the business environment. Information Technology positions require more skills than ever due to the integration of information technology into the most common areas of life. Employers seek well-rounded staff members who supplement the skills and talents of existing employees to make a more effective team. You need several key skills to be selected for these positions. Through my experience at Center of Applied Informatics and many other technical positions, I will elaborate on my experience and the benefits of soft skills in a technical environment.

**P-56: IRINA VOROBYEVA, DARCI GURIEL, MARY FERGUSON,  
HELINA OLADAPO  
Benefits and Issues of Biometric Technologies. Are Biometrics Worth Using?**

FACULTY SPONSOR(S): TRAIAN MARIUS TRUTA, COMPUTER SCIENCE

Abstract: Biometric technologies have been used for a long time, but each type of biometrics has its own benefits and flaws. In this poster we discuss the current types of biometrics and biometric systems, their benefits and issues. We also present the results of several experiments with such biometric technologies as facial and voice recognition that show how effective they are and if it is worth using them in the everyday life scenarios.

**P-57: SPENCER TAYLOR  
Applying Computer Programming Techniques to Measure Honeysuckle  
Canopy Density**

FACULTY SPONSOR(S): HONGMEI WANG, COMPUTER SCIENCE

Abstract: Honeysuckle is a quick spreading invasive shrub species that is taking over and destroying local wildlife. In response, many state parks have made it their goal to track and get rid of the invasive species. The goal of this study is to provide a quick honeysuckle canopy density measurement method to help keep track of the honeysuckle distribution. We developed a computing algorithm and estimated the honeysuckle canopy density from the honeysuckle canopy photos. Compared with other density measurement methods, this method can save a lot of field measurement work time. In addition, it also provides a more objective density measurement result.

**P-58: SHAWNA MCCOWAN  
Health Needs and Barriers for Rural Appalachians Living with a Serious  
Mental Illness**

FACULTY SPONSOR(S): JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP; CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Individuals diagnosed with a serious mental illness have a life expectancy significantly shorter than non-psychiatrically impaired individuals. Rural Appalachians suffer disproportionately higher rates of mental illness and chronic diseases, as well as limited access to healthcare. This study surveys severely mentally ill individuals in rural Appalachia to assess their health needs and barriers to mental and physical healthcare access. The results of this study will illustrate the needs of this at-risk population, providing exploratory findings to address barriers and improve healthcare access for this population.

**P-59: ASHLEY MISCHELL-METZLER  
The Impact of Therapeutic Group Interventions on Childhood Aggression**

FACULTY SPONSOR(S): JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP; CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Aggression can be a significant problem among children with mental illness. The purpose of the current study is to examine the effectiveness of therapeutic group interventions in reducing aggression and associated behaviors among children currently receiving mental health services. The effects of group interventions will be researched within two mental health treatment programs, namely the Crisis Stabilization Unit and Connections After School Program. Information pertaining to aggression will be recorded before the intervention and at the completion of the 4-week intervention. Findings from this study are expected to indicate that group intervention services significantly reduce aggression from pre to post test.

**P-60: TINA POCOCCO  
Assessing the Preparation of Adoptive Parents Post-Placement**

FACULTY SPONSOR(S): JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP; HOLLY RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: When a family chooses to adopt, the child becomes a permanent legal member of another family. Although most adoptions result in a happy family connection, research has indicated 10-24% of adoptions are ending in disruption (prior to legal finalization) or dissolution (after legal finalization) of the family. This study examines the adoptive parent's perception regarding supportive services offered and their preparedness as a parent. Findings will help identify the needs of the adoptive family in order to help minimize future risk of dissolution and disruption.

**P-61: JOANNA GROME, DANA HARLEY  
Women's Perspectives of Success and Self-Sustainability Using Photovoice**  
FACULTY SPONSOR(S): DANA HARLEY, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: In research focusing on issues of women's empowerment and economic sustainability, women have not been asked to define success or self-sustainability. This study seeks to remedy this situation by exploring the constructs of success and self-sustainability from the viewpoint of research participants through the use of grounded theory and photovoice research methods. In-depth interviews were conducted and photographs representing success and self-sustainability were taken between 21 women. The analysis yields important information about how success and self-sustainability is experienced and perceived in the everyday lives of women.

**P-62: BETH SLATER  
Second Chance Act Policy Analysis**

FACULTY SPONSOR(S): VANESSA HUNN, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The Second Chance Act brought much needed attention to the social problem caused by the release of prisoners; the incarcerated individuals and their families, as well as the community to which they return are all affected by this phenomenon. Statistically, two-thirds of all individuals released from Federal and State prisons are rearrested within three years after they leave the prison system. The reintegration of these individuals with family and society is not an easy transition. I will analyze the Second Chance Act and its impact on the target population based on recent policy outcome studies.

**P-63: CARLY BRINK  
Differences in the Grieving Process in Natural versus Traumatic Death  
Situations**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Grief is a natural response for an individual who has lost a loved one. Grief can be experienced in many ways, and the grieving process may be different depending on the circumstances surrounding the loved one's death. 100 employees of the UC Medical Center will be surveyed in order to assess their perceptions of the grieving characteristics of individuals who have lost a loved one through a traumatic or natural death. This study expects to find different characteristics of grief depending on the circumstances of the death. In turn, this may have implications for the interventions offered by the hospital.

**P-64: SEANA CREECH  
Housing Barriers among Homeless Veterans in Cincinnati, OH**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Homelessness remains a persistent economic, social and health problem within our society. The veteran population is disproportionately affected by homelessness. As a result, the current study will collect survey data from approximately 100 homeless Veterans to examine participants' housing needs. It is expected the results of this study will illustrate what Veterans perceive as their needs and what services they believe will assist with their individual success. Additionally, findings will demonstrate Veteran needs in comparison to services offered. Addressing this question will provide empirical evidence to assist in housing homeless Veterans.

**P-65: TARYN FLEDDERMAN  
Comprehensive case management's impact on stability, mental health, and  
relapse in victims of human trafficking.**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Research states there are over 20 million victims of human trafficking across the globe. Previously there has been only one study to explore social service interventions for human trafficking versus other victim populations. The Salvation Army's Anti-Human Trafficking Program in Cincinnati, Ohio conducts a 26-scale Self-Sufficiency Matrix assessment at intake, every three months, and discharge to quantify client progress. Efficacy results will be presented through secondary analysis of the assessment focusing on the average stability score, mental health scale, and the housing and human relations scale looking at how scores change with increased time in the program.

**P-66: SARAH LAZENBY  
After Care for Homeless Families in Shelter**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Homelessness is a pervasive issue within the United States, with the population growing since the 1980's. Resources currently available for homeless families to assist with housing include emergency shelters, transitional housing facilities, and permanent housing. The current study examines the needs of homeless families once permanent housing is established, and looks at risk factors for returning to homelessness. This study uses primary data collected from 30 current and previous adult clients of the Family Promise of Northern Kentucky. The findings from this study are intended to provide insight into factors that contribute to the permanency of



housing, thereby allowing professionals to offer services that will promote a successful transition into housing.

**P-67: AMY JOY MEYER**  
**Nutritional Acculturation among Hispanic/Latino Immigrants: Is It Helping Or Harming Them?**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: Currently, there are around 53 million individuals from Hispanic/Latino descent in the US. Approximately 40% of Hispanic/Latino immigrants experience poverty, consequently eating a low income diet typical for the United States. This survey of 35-50 Hispanics/Latinos measures the effects that the adoption of the low-income American diet has had on their nutrition, and subsequently, their health. The population being measured is diverse, with no gender or age boundaries, and the results are expected to show a negative impact of the American diet on overall health after acculturation.

**P-68: ALLISON ROBERTSON**  
**Barriers to the Successful Completion of the Campbell County Day Treatment Program**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: The Campbell County Day Treatment Program is an alternative program for students who are having trouble functioning appropriately in high school or middle school. The Day Treatment program assists students in transitioning back into the public school system. The current study will use secondary data from approximately 300 students to examine what factors may act as barriers to the successful completion of the Day Treatment Program. Findings from this study are expected to indicate that there are several barriers to reentering the school system, such as race/ethnicity, socioeconomic status, mental health, and attendance.

**P-69: ARIF SARWAR**  
**Assessing the Client and Family Satisfaction for a Partial Hospitalization Program for Clients with Eating Disorders.**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: Anorexia Nervosa and Bulimia are two types of eating disorders with debilitating effects. Lifetime prevalence rates of Anorexia Nervosa and Bulimia are 0.5% and 1%-3% respectively for females. For males, the rate is approximately one-tenth that of females. The number of people living with an eating disorder has greatly increased. The partial hospitalization program at the Linder Center of Hope is designed for adolescents 12-17 who are suffering from an eating disorder. The current study seeks to assess the client and family satisfaction with this program. This study expects to find that participants are satisfied with the provided services.

**P-70: DASHIA STANTZ**  
**The Impact of Pregnancy on the Completion of Substance Use Treatment among Women Participating in a Women's Residential Addictions Program**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: Substance use among pregnant women has been a fairly stable, but concerning problem over the past decade. Pregnancy serves as a barrier for women in both accessing and completing treatment. One treatment option available to pregnant women is residential treatment. This study seeks to examine the difference between pregnant women and non-pregnant women in terms of length of time required to complete a residential addictions program. Secondary data will be obtained from Transitions Inc., with an expected sample size of 125. The anticipated finding is that pregnant women will take longer to complete the program.

**P-71: JULIA TAYLOR**  
**The Impact & Barriers of a Volunteer Animal Interaction Service for Hospice Care Patients**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: The population of older Americans is steadily rising, and there is an increasing demand for specialized end-of-life care. Hospice provides a palliative approach that strives to meet patients' physical, mental, emotional and spiritual needs. One volunteer service that Hospice provides is animal interaction. The purpose of this study is to examine animal interaction volunteers' perspective on: (1) the impact their services have on the quality of life of hospice patients; and (2) the potential barriers animal interaction volunteers face. Survey data will be collected from approximately 35 VITAS Innovative Hospice Care animal interaction volunteers. Implications for practice will be discussed.

**P-72: STEFANIE THEOBALD**  
**Barriers to Housing for Individuals who are Homeless and Disabled**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: Homelessness is a significant social problem. Individuals with disabilities are at a disproportionately high risk for experiencing homelessness. The primary purpose of this study is to determine what barriers homeless individuals with disabilities face

in obtaining the necessary resources to live. This survey study is intended to identify the needs of this vulnerable population. Data will be collected from approximately 50 participants residing at The Center for Independent Living Options. The results of this study are expected to reveal the most prevalent barriers, thus exposing gaps in the services already being provided in the community.

**P-73: AMY TROSTLE**  
**The Impact of Medicaid Coverage on Greater Cincinnati Behavioral Health Services' Clients**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: Many individuals who are eligible for Medicaid struggle with mental health issues. Mental health benefits are, therefore, critically important. The current study assesses whether the Medicaid program adequately meets its core population's needs. This study will examine data from Greater Cincinnati Behavioral Health Services. Clients' scores will be compiled from: (1) the Daily Living Activities: Mental Health; and (2) the GCB Ohio Consumer Outcomes Survey. In addition, data will be compiled on the number of clients who have Medicaid coverage. This study is expected to show that GCB clients' mental health assessment scores are better if they have Medicaid coverage.

**P-74: COURTNI WRIGHT**  
**Cancer Patients' Perception of their Quality of Life, Social Support, and Activities**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: People diagnosed with cancer have unique experiences. Individuals may experience similar cancer related issues, but not the same. Support groups and programs are often utilized by people affected by cancer. A nonprofit organization called Cancer Support Community (CSC) offers emotional, educational, and social support to individuals diagnosed with any type or stage of cancer. The purpose of this study is to examine CSC clients' perception of their quality of life, social support, and activities. Survey data will be collected from approximately 200 participants. The study expects to find that participation in support groups and programs improves overall quality of life.

**P-75: DORENE TROTTER**  
**Barriers to Accessing Early Intervention Services for Families of Children with Disabilities**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: Families of children with disabilities make up a substantial proportion of the US population. These families can benefit greatly from early intervention services, and yet many are not receiving such services. This study will examine barriers to early intervention services within the Help Me Grow program. Specifically, it will examine perceived barriers to service utilization for families with children who have disabilities and special health care needs. Findings from this study are expected to indicate that there are many barriers to accessing early intervention services, including transportation and lack of information about available services.

**P-76: JANICE DOVEL**  
**The Needs and Barriers of Caregivers for Cancer Patients**

FACULTY SPONSOR(S): CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: Many individuals in the U.S. are caregivers of cancer patients. Caregivers of cancer patients experience a significant amount of distress. This study will examine cancer caregivers in the greater Cincinnati area. Survey data will be collected pertaining to stress level, their needs, and the barriers they face in their caregiver role. In addition, caregivers' usage of online resources and their barriers to accessing these resources will be examined. The results of this study will give insight into what can be done to minimize barriers to utilizing online resources and help cancer caregivers meet their needs and lessen their distress.

**P-77: EVAN BOTHMAN**  
**Does the Domestic Violence Hotline gain Client Services?**

FACULTY SPONSOR(S): HOLLY RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
 Abstract: According to the National Council against Domestic Violence, 1 in 4 women and 1 in 9 men experience or become domestic violence victims every day. This means that on any given day around 1,107 victims can be served, in Kentucky. One way these victims can gain access to resources is through the Domestic Violence Hotline service. Telephone hotlines are a popular method to connect people to resources; however, there is little evidence to suggest that this method is effective. This study will provide the information needed to examine if the resources provided by the hotline are appropriate for the target area and population served. This will be shown, in part, through measuring appointment attendance by clients after phoning the Domestic Violence Hotline to the Women's Crisis Center in Covington, Kentucky.

**P-78: TIFFANY CAMPBELL**  
**The Assessment of Mental Health Needs in Elderly Persons Aged 65 and Older within a Rural Nursing Facility in Fayette County, Ohio.**



**FACULTY SPONSOR(S):** HOLLY RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** Depression and anxiety within the elderly population often goes untreated because many people think that depression is a normal part of aging. Social workers and physicians are often the first line of defense for mental health provision in rural communities. In one rural nursing facility in the Midwest, 79% percent of residents age 65 and over are prescribed anti-anxiety or anti-depressant medication. This study examines total risk factors for mental health issues through secondary data analysis. Findings from this study are anticipated to identify risk factors justifying a more aggressive form of treatment for depression and anxiety not currently offered.

**P-79: ASHLEY DRAPER**

**Preventing Child Abuse and Neglect: The Impact of Nurturing Parenting Programs.**

**FACULTY SPONSOR(S):** HOLLY RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** How do parents feel about discipline and their relationship with their children? This study examines attitudes of parents attending a parenting program that focuses on expanding nurturing skills. Specifically, attendees are given a pre-test and post-test on concepts such as corporal punishment, empathy, parent child role reversal, expectations for children, and restriction of independence. The program is designed to assess and prevent maltreatment through the development of nurturing skills which aim to counteract abusive and neglectful parenting. Findings from this study are expected to indicate that Nurturing Parenting Programs have a positive impact on parental attitudes and behaviors.

**P-80: DANIELLE DURCHHOLZ**

**The Efficacy of Mentoring on the Self-confidence and Social Competence of At-risk Youth**

**FACULTY SPONSOR(S):** HOLLY RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** Over the last 20 years mentoring has become the most popular form of intervention for disadvantaged students. Mentoring pairs a community volunteer with an at-risk youth to improve outcomes. Studies indicate mentoring programs improve academic outcomes, behavior, health/wellness, and strengthen family bonds for at-risk youth. This quasi-experimental study evaluates a mentoring program for its impact on social competence and self-confidence for at-risk youth ages, seven to eleven.

**P-81: DAVID LUTES**

**Mental Health Stabilization in Inpatient Psychiatry: Do Demographics and Psychiatric Diagnosis Make a Difference?**

**FACULTY SPONSOR(S):** HOLLY RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** Approximately 5.8 % of Americans have a serious mental illness. One in 20 adults over the age of 18 has been personally affected by mental illness during their lifetime. While psychiatric disorders affect a wide cross-section of American society, it is believed that certain individual attributes may impact prognosis during hospitalization. This study uses secondary data from a regional inpatient psychiatric setting to assess the influence of patient attributes, such as age, race, gender, income, housing status, and psychiatric diagnosis on mental health stabilization. Findings may suggest directions for future research and alterations in the design of inpatient services.

**P-82: CALLIE REED**

**The Efficacy of Pet Interaction on Improving the Quality-of-Life of Nursing Home Residents**

**FACULTY SPONSOR(S):** HOLLY RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** The population of older adults in the United States is growing, with the increased likelihood that some of these individuals will eventually reside in long-term care settings. Living in institutional settings leads to the loss of personal possessions, loneliness, stress, and a decline in overall functioning. Depressive disorders are high among elders living in an institutional setting, negatively impacting their quality of life. However, pet interaction is thought to be effective in improving perceptions of quality-of-life. This study uses an experimental design to examine the effectiveness of pet interaction on improving the quality-of-life for nursing home residents.

**P-83: RENEE SCHWER**

**The Effectiveness of Pet Interaction on Nursing Home and Hospice Patients**

**FACULTY SPONSOR(S):** HOLLY RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** Pet Interaction in palliative care has been demonstrated to reduce pain, stress and improve quality of life while adding health benefits like lowered blood pressure. Neurochemicals such as endorphins, oxytocin, prolactin, phenylethylamine, and dopamine increase in both humans and dogs. Visiting with pets for 10 weeks, proliferates social connection in nursing home residents aged 35 to 95 years. This study will use an experimental design to examine the effectiveness of pet interaction with patients in nursing home/hospice care, hypothesizing that pet interaction improves perceptions of quality of life.

**P-84: KATE TINCH**

**Improving Outcomes for New Mothers and Their Children: Examining the Effectiveness of a Home Visitation Program**

**FACULTY SPONSOR(S):** HOLLY RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES P. CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** First time mothers who are young, single or low income with little social support can have difficulty raising their child in an optimal environment. Teaching basic parenting skills in the mother's home provides tools that have been found to increase parental-child bonding, improve child health and increase child development outcomes. Data from 1630 mothers in a local program that connects mothers-to-be with a home visitation worker is analyzed to determine the overall program effectiveness for mothers and their children. Findings are expected to show a positive impact on baby's birth weight and gestational age, as well as language development outcomes.

**P-85: CAROLYN WILLIAMS**

**Why Are Men Not Successfully Completing Residential Substance Abuse Treatment? Factors that Contribute to Unsuccessful Discharges**

**FACULTY SPONSOR(S):** HOLLY RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** Substance use disorders affect 22.2 million individuals resulting in cognitive, behavioral, and physiological problems. Concurrently, there is a higher incidence of substance abuse for those involved with criminal justice services. An accurate assessment of risks and needs, employment status, age, race, and length of treatment are factors in successful completion of substance abuse treatment. This study seeks to identify factors that contribute to unsuccessful discharges for men in residential substance abuse treatment. The study expects to find that younger men with lower risk factors and have spent over 90 days in treatment, are more likely to have an unsuccessful discharge.

**P-86: MARY HAIRSTON**

**Does Race and Gender Matter? Is there a Disciplinary Difference?**

**FACULTY SPONSOR(S):** HOLLY RIFFE PH.D, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD PH.D, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** Office Discipline Referrals (ODRs) are written referrals given to students for conduct or disciplinary reasons. These written records are used to understand the most common disciplinary issues at a given school such as truancy or tardiness. Though ODRs are used to track behavior and school climate, it has been discovered that students receiving disciplinary referrals often achieve poorer academic outcomes. Previous findings indicate minorities and males most often receive ODRs. The purpose of this study is to understand differences in ODRs across race, gender, and age. Findings will allow school personnel to design programs targeted to recipients of ODRs.

**P-87: DEBRA HINES**

**Aging and Exercise: The luxury of staying fit as seniors**

**FACULTY SPONSOR(S):** HOLLY RIFFE PH.D, MSW, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES P. CANFIELD PH.D, MSW, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** Older adults are the fastest growing portion of the U.S. population. With the increased older population and longer life expectancy, the chance of diseases for the elderly will rise. The purpose of this study is to find out perceptions of how exercise impacts the health of the elderly and discern differences of these perceptions among high and low income seniors. Findings from this study will be used to design programs for seniors that enhance perceptions of physical activity while decreasing barriers. Differences between low or high income seniors will suggest the need for further research to tailor effective programs.

**P-88: MARTHA SCHMIDT**

**Services for Latino Families and Students: The Perceptions of School District Employees**

**FACULTY SPONSOR(S):** HOLLY A. RIFFE, COUNSELING, SOCIAL WORK AND LEADERSHIP; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** The lack of services for Latino students and their families in Northern Kentucky is staggering. The lack of communication between all of school personnel isolates the child and his/her family from needed and, often available services. The purpose of this study is to gain knowledge of the types of services that are lacking that will enable better communication between all stakeholders. Not surprisingly, the results indicated, there are several gaps in services for Latino students and families.

**P-89: ERIKA SHARKEY, HAYLEY WRIGHT**

**Self Care Practices: Who's Taking Care of the school counselor?**

**FACULTY SPONSOR(S):** JENNIFER SHARP, COUNSELING, SOCIAL WORK AND LEADERSHIP  
**Abstract:** Self-care is vital to a professional school counselor's effectiveness; however, school counselors often struggle to make time for ourselves. Due to our generosity and compassion for others, we often neglect self-care, which is essential for sustaining personal and professional well-being. This poster presentation will identify barriers to self-care as well as the benefits of proactively addressing well-being. Recommendations from professional literature and concrete strategies for implementing self-care will be provided.

**P-90: JEREMY BILBY**

**Health Care Outcomes for People with a Mental Health Diagnosis who Receive Services from a Large Community Mental Health Agency**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Health care in the U.S. is a topic that has received increased national attention. It is well documented that adults with a severe mental health diagnosis die up to 25 years earlier than the general population. This study examines the health care practices of adults with a severe mental health diagnosis who are receiving services at a mental health treatment center over the course one year. This study is expected to find that participants receiving services will result in greater health care practices and outcomes.

**P-91: PATRICK BRANDES**

**Feasibility of Housing First in Cincinnati**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Housing First is a program model that provides stable housing for chronically homeless persons who typically have both substance abuse and mental health diagnosis (dual diagnosis). Although there is current literature indicating the effectiveness of such programs in reducing civic burden (public health services and criminal justice interaction) more research is needed in the area of the number of arrests for those participating in the program. The purpose of this study is the feasibility of Housing First in Cincinnati Ohio. This study expects to find a significant reduction in arrests once participants are housed.

**P-92: ERICA BROWN**

**Therapeutic Foster Care**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The purpose of this study is to explore the perceptions of case managers working within a foster care agency setting and to seek to understand the challenges associated with the case manager's interaction with foster parents. Data will be collected from an online survey that will be administered to case managers of Child Focus Incorporated. The results of the study are expected to show that therapeutic foster care is effective within the agency.

**P-93: KELLY CARTER**

**Effectiveness of the Elderly Service Program in Butler County Ohio at keeping older adults living independently in their homes for longer periods of time**

FACULTY SPONSOR(S): JESSICA TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Our communities are rapidly changing, as the population is getting older and the proportion of older persons is projected to continue to grow. As the population grows older they begin to experience declines in their physical and mental health. This survey study of 48-120 older adults who are in a non-medical home-based program (ESP) is intended to examine participant's satisfaction of services offered. The results of this study are to evaluate the Butler County Elderly Service Program and its effectiveness in the eyes of the clients.

**P-94: SARAH CHURCH**

**Moral Reconciliation Therapy Client Satisfaction**

FACULTY SPONSOR(S): PROF. JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Moral Reconciliation Therapy (MRT) is an effective cognitive behavioral treatment to rehabilitate various types of offenders. Furthermore, consumer satisfaction with mental health treatment has been determined to be a critical component in service delivery. However, there is scant evidence pertaining to satisfaction of the participants involved with MRT. The purpose of this study is to examine MRT participants regarding their perceptions of MRT service delivery. This study expects treatment participants to have high levels of satisfaction. Results from this study are expected to assist the Southern District of Ohio U.S. Probation in improving service quality.

**P-95: FELICISA DANGERFIELD**

**The Appalachian Culture: Well-Being in the United States**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Generational and cultural influences are significant factors when studying individuals of the Appalachian culture in the United States. Through an analysis of literature the well-being of Appalachian members will be examined and how well members access different services such as mental health, employability skills, and outlook towards their education. The literature will provide an overview and address any insufficiencies on how members of the Appalachian culture access services to improve their overall quality of life.

**P-96: DANIELLE DRAKE**

**Psychiatric Patients in the Emergency Department: Voluntary vs. Involuntary Admissions & Mental Health Diagnoses**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The purpose of this study is to explore the impact of voluntary vs. involuntary psychiatric patients in the ER on prevalence rates of admissions, as well as differences in mental health diagnoses for psychiatric patients that come through the ER for treatment. Factors such as age, race and gender are explored to obtain an understanding of the influence of such admissions. It may be possible to identify contributing factors underlying admissions such as early identification and treatment of a population most at risk for admissions, which can help guide further research on mitigating efforts to help those most at risk.

**P-97: LINDSEY GESSENDORF**

**Parent Satisfaction with Autism Services**

FACULTY SPONSOR(S): JESSICA TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Autism is a significant problem in the United States, and the rate at which children are diagnosed with an autism spectrum disorder continues to increase with each passing decade. Although there is no current cure for autism, there are effective treatment options. Beyond the Label is a home based agency that provides evidence-based behavior therapy. This study will utilize survey data to determine the level of satisfaction that parents experience with the services received by their children.

**P-98: SARAH HARMON**

**Student Satisfaction with Reach and Teach and their Mentors**

FACULTY SPONSOR(S): DR. JESSICA TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: School-Based Mentoring Programs (SBMPs) are a significant influence in the lives of students who are without an adult role model. The number of youth who could benefit from having a caring adult mentor has been estimated to range from between 5 million and 15 million young children. This study will involve the Reach and Teach Program in Northern Kentucky. It focuses on two aspects of SBMPs: the happiness of the students with the SBMP program, and the relationships of those students with their mentors. The combination of this data will provide the information needed to assess program effectiveness.

**P-99: HANNAH HARTIG**

**Assertiveness: The Impact of Parent-Adolescent Relationships on Social Competence**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Our culture lacks clear criteria for how adolescents are to enter adulthood. As a result, adolescents often struggle to develop the emotional and social maturity required to successfully navigate adulthood. Drawing from attachment and social learning theory, the influence of the parent-child relationship on the adolescent's social competence is examined. Social competence is the ability to express one's needs and understand others' needs. This survey of 25-50 high school students will evaluate the adolescents' parental relationships, level of assertiveness, and use of school counseling services. Results are expected to highlight the need for the development of social competence.

**P-100: KATELYN HENDERSON, PATTY COOK**

**Evaluating the Effectiveness of Multidisciplinary Teams in Kentucky that Oversee Cases of Child Abuse**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Child advocacy centers serve hundreds of thousands of children annually in the US and tens of thousands in Kentucky. To aid children and families effectively, the Kentucky Multidisciplinary Commission provides a model for state MDTs and provides data driven guidance. This study's purpose is to aid the commission by documenting observations of current members, evaluating current effectiveness of MDTs in child abuse cases, and determining the supports/modifications to be used in the future. By analyzing the results of 400 distributed quantitative surveys, this study will provide data on how to improve MDTs and aid the KMCCSA in meeting their mandate.

**P-101: JENNIFER KLEIER-HAMILTON**

**Integrated Dual Diagnosis Treatment Effectiveness and Outcomes**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Drug abuse is a problem that affects close to 1.4 million young adults each year. For many youth experiencing substance abuse problems, it is estimated that 50% of these individuals struggling with a substance abuse problem also have a mental health diagnosis. This study aims to examine integrated dual diagnosis treatment (IDDT) and its effectiveness in decreasing drug use. Additionally, this study seeks to examine if IDDT aids in increasing school attendance and aids in increasing gainful employment. The study expects to find that IDDT increases school and/or work attendance and also decreases drug and alcohol use over time.

**P-102: JOSH KLOSTERMAN**

**Making History: The Impact of Medical Summary Reports on Disability Outcomes for Homeless Individuals**

FACULTY SPONSOR(S): JESSICA TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP



**Abstract:** Many homeless individuals are in dire need of income, and are also poorly equipped to successfully navigate the disability application process. The daily routines of homeless individuals are often focused on meeting immediate needs, and therefore neglect what are perceived as less-pressing health concerns. For this reason, the required medical histories and proofs are often incomplete, or non-existent, within the population. Practitioners' work with homeless individuals must be equipped with innovative and efficacious tools, and one such tool may be the medical summary report. This study will examine the direct impact of medical summaries on determination outcomes.

**P-103: RACHEL KNUDSEN**

**Evaluation of the NKU LEAP Program: Support for Student Parents in Higher Education**

FACULTY SPONSOR(S): JESSICA TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** The LEAP (Learning Experience and Parenting) program at Northern Kentucky University helps support student parents who are enrolled in the Kentucky Temporary Assistance Program. This study will focus on secondary research involving the existing files of 350-375 past and current participants. The data collection will focus on the following information as related to participants: number of semesters enrolled in LEAP, number of semesters enrolled at NKU, standing at the University, academic standing, and reasoning for leaving the LEAP Program. The goal of the research is to show the importance of programs similar to LEAP program in higher education settings.

**P-104: STEPHANIE KRAWEC**

**Student Perceptions of Team-Based Learning**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP; CAROLINE MACKE, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** Team-based learning (TBL) is an alternative learning style that has been used successfully in several disciplines. TBL allows students to work together in small groups to learn the material as opposed to a traditional lecture-style class setting. The goal of TBL is to allow the students to apply knowledge rather than recite the information. Despite the increased use of TBL in academia, there is scant research regarding students' perceptions of TBL. This study contributes to the literature by exploring the perceptions of students utilizing TBL at a college university. This study expects to find that students view TBL positively.

**P-105: ALLEY MILLER**

**Impact of Mayerson Courses on the Philanthropic Attitude of Students**

FACULTY SPONSOR(S): JESSICA TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** The needs of the Greater Cincinnati community are relentlessly changing, and part of Northern Kentucky University's mission is to ensure students and graduates keep pace. NKU's Mayerson enhanced courses are designed with a philanthropic component that may help engage students in both the course and the community. Changing attitudes about public resources and limitations could create a lasting impact in the community through increased volunteerism, knowledge, advocacy, and passion. This study will examine students' outlook on the course and philanthropy through the use of a pre and post-test survey. The survey will include approximately fifty students.

**P-106: SARAH MURDOCK**

**The Effects of Gender and Support Groups on the Quality of Life for Cancer Caregivers**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** A cancer diagnosis and treatment journey can have detrimental effects on the quality of life of a patient's primary caregiver. This study will examine the effects of gender and support group participation on the quality of life for cancer caregivers using members of the Cancer Support Community. The expected findings in this study are that caregivers who participate in cancer support groups will have a better quality of life than those who do not and that men who participate in the support groups will have a better quality of life than the females who also participate.

**P-107: LEAH SCHUMACHER**

**Why Veterans are Choosing Community Mental Health over the VA**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** The wars in Iraq and Afghanistan have brought national attention to the significant mental health issues which plague veterans returning from combat. Although the number of veterans with mental health challenges is high, those seeking mental health treatment through the Veteran's Administration (VA) are low. The purpose of this study is to examine barriers that may exist which keep veterans from utilizing the VA for their mental health needs. The results of this study expect to find that transportation, stigma, and trust contribute to veterans choosing community mental health over the VA.

**P-108: ANDREA SHAW**

**How Effective are Multidisciplinary Teams to the Investigators of Child Sexual Abuse?**

FACULTY SPONSOR(S): JESSICA TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** Children's Advocacy Centers (CACs) are increasingly utilized as a means of increasing cooperation during child abuse investigations. This multidisciplinary approach allows for a more collaborative and coordinated response to allegations of child abuse. Encouraging joint investigations between social services and police results in fewer traumas to children due to a decrease in the number of separate required interviews. CACs are designed to help get the child through the investigative process and into treatment to provide support and prevent re-victimization. This research examines whether a multidisciplinary team approach to investigations of child sexual abuse is effective to the members of the multidisciplinary team.

**P-109: LORI SULLIVAN**

**Homeless and Runaway Youth Shelter Recidivism Related to Receiving Aftercare Services.**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** The recidivism rate for youth under the age of 18 years returning to the Lighthouse Youth Services (LYS) Crisis Center is approximately 20%. Many of the returning youth are in need of aftercare services to address issues of family conflict, neglect, abuse, alcohol or drug abuse, mental illness, sexual, psychological and/or physical abuse. The purpose of this study is to evaluate the relationship of service collaboration provided by the LYS Crisis Center and Home Based Services programs to runaway and homeless youth. Findings from this study are expected to indicate some youth are not receiving aftercare services even after multiple shelter stays.

**P-110: TAWNY TURNER**

**The Impact of Interdisciplinary Training on Leadership in Neurodevelopmental and related Disabilities Trainees at Cincinnati Children's Hospital Medical Center**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** The idea of interdisciplinary teamwork in developmental disabilities is a component of health care delivery that is underutilized. The prevalence rates of developmental disabilities among children illustrate this major concern. The need for appropriate interdisciplinary training is apparent, depicting the lack of formal preparation professionals currently receive. To address this need, there are nationwide interdisciplinary training programs available to future professionals. The purpose of this study is to examine the impact on the trainees of one such program. Findings of this study are expected to indicate positive preparation of the trainees.

**P-111: DEVAN YATES**

**Best Practices for Eating Disorder Treatment**

FACULTY SPONSOR(S): JAMES TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** The purpose of this presentation is to explore the best practices for treating the eating disordered population. Literature of previous effective treatment will be analyzed and discussed for future practices. The utilization of consumer satisfaction in mental health services will also be examined for future considerations. This presentation will present a proposed future research project at the Lindner Center of Hope. Additionally, the importance of patient satisfaction in correlation to effective treatment practices will be discussed as method for agencies serving clients with eating disorders.

**P-112: NICOLETTE GRANVILLE**

**Effectiveness of Single-Sex Parenting Classes for Men**

FACULTY SPONSOR(S): KATHLEEN THOMPSON, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** Child abuse and neglect continues to be a significant problem in the United States today, despite decades of research into education and prevention. The Nurturing Parenting Programs curriculum is evidenced based and has been adapted for many family structures. The purpose of this study is to investigate whether the single-sex Nurturing Fathers program is more effective for men than the co-educational parenting curriculum. Data will be collected using a standardized instrument, the AAPI2, developed to measure the constructs the programs are designed to teach.

**P-113: LINDA HUGHES**

**How Effective is the Men Trauma Recovery Empowerment Model (M-TREM) Compared to Other Models in the Rate of Privilege Level Increase for Mental Illness Participants in a State Psychiatric Hospital**

FACULTY SPONSOR(S): KATHLEEN THOMPSON, COUNSELING, SOCIAL WORK AND LEADERSHIP; JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

**Abstract:** Approximately 61 million Americans (1-4) suffer from mental illness within a given year. In a psychiatric state hospital setting, patients earn privilege level increases toward discharge by participation in model programs. These programs help assist patients in making positive choices and displaying positive behaviors. M-TREM is a specific gender model for men who have survived trauma and affected by severe mental disorders and/or substance abuse problems. M-TREM helps to build skills among patients through using interventions trauma recovery. The study's purpose

is to compare M-TREM to other models in examination of effectiveness of mental illness obtaining privilege level increases.

#### **P-114: MICHELLE HULSMANN**

**Social Work Role When Discharging Patients with a Traumatic Brain Injury**  
FACULTY SPONSOR(S): KATHLEEN THOMPSON, COUNSELING, SOCIAL WORK AND LEADERSHIP; JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: In the hospital setting, a social worker's role is instrumental in the discharge of a patient when the patient requires services in order to leave the hospital environment. The discharge options for patients who have sustained a traumatic brain injury include: home with no services, home with home health, Skilled Nursing Facility, Rehabilitation Center, LTAC, and/or Hospice care. The sample will consist of an analysis of approximately 25-40 files from 2012-2013. Ultimately, the findings of this study will identify the level of care a patient will typically discharge with after experiencing a traumatic brain injury.

#### **P-115: SYDNEY JONES**

##### **ADHD Support Group**

FACULTY SPONSOR(S): KATHLEEN THOMPSON, COUNSELING, SOCIAL WORK AND LEADERSHIP; JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Attention Deficit Hyperactivity Disorder (ADHD) is a neurobiological disorder that affects the brain. Students with ADHD frequently struggle in the academic areas including reading, writing, and mathematics. ADHD is characterized by inattention, hyperactivity, and impulsivity. This study examines whether academic support groups help six students. Three of the participants are medically diagnosed with ADHD, and the other three participants exhibit strong attributes of ADHD. The goal of the academic support group is to help participants to stay on task and better their academic performance in one second grade classroom at Lawrenceburg Primary School.

#### **P-116: KRISTIE KELLY**

##### **Best Practices in Supporting the Well-being of Children with Emotional and Behavioral Disorders**

FACULTY SPONSOR(S): KATHLEEN THOMPSON, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: The need for children's mental health services is increasing as the population of children with emotional and behavioral disorders (EBD) grows. Approximately 14.5% of children aged 4-17 years have parents who've talked with a health care provider or school staff about the child's emotional or behavioral difficulties (National Dissemination Center for Children with Disabilities, 2010). Studies have shown both positive and negative outcomes for children who receive services for their mental health needs. This literature review will examine best practices within the mental health field for children affected by EBD.

#### **P-117: KATHERINE KOPP**

##### **Effects of Sexual Pressure in High School Females**

FACULTY SPONSOR(S): KATHLEEN THOMPSON, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Research provides evidence that the younger the age when initiating sexual intercourse, that there is a significant increase of negative effects that may impact the individual. The purpose of this study is to determine if there is a relationship between low academic grades and sexual pressure experienced by high school females. In order to examine these constructs, a focus group will be created consisting of 8-10 female participants, ages 14-18, examining the effects of sexual pressure on high school females.

#### **P-118: TAMALYN PETERS**

##### **End-of-Life Care**

FACULTY SPONSOR(S): DR. KATHLEEN THOMPSON, COUNSELING, SOCIAL WORK AND LEADERSHIP; DR. JESSICA TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: It is often challenging to recognize and make end-of-life decisions, when someone you love is within palliative care. In an effort to obtain more detailed information regarding end-of-life care, 110-15 participants will complete a qualitative survey during a grief support group that is affiliated with Immaculate Heart of Mary. This study seeks to deepen the understanding of a social worker's best practice during an individual's end-of-life stage. The term "best practice" refers to assessing the needs, services, resources, and opportunities of individuals and their families to ensure quality during end-of-life care. The findings from this study will strengthen end-of-life care provided by social workers. III

#### **P-119: CHRISTIE SCHRODER**

##### **Can School Based Prevention Programs Benefit at Risk Youth to Decrease Victimization?**

FACULTY SPONSOR(S): KATHLEEN THOMPSON, COUNSELING, SOCIAL WORK AND LEADERSHIP; JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: On average, a child abuse report is made every ten seconds in the US, configuring to 3.3 million reports annually. Child abuse can be defined through categories of neglect, sexual, emotional, and physical abuse. The Kids on the Block

program is a school based prevention program that increases a child's awareness of how to recognize, report, and resist child abuse in Northern Kentucky. The purpose of this study is to examine the effectiveness of this program. This study expects to find that this program benefits at risk youth by decreasing victimization.

#### **P-120: STEPHANIE SKAVDAHL**

##### **Bullying: Are Today's Policies Working?**

FACULTY SPONSOR(S): KATHLEEN THOMPSON, COUNSELING, SOCIAL WORK AND LEADERSHIP; JESSICA AVERITT TAYLOR, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Bullying is an increasingly important issue in the United States, especially given the increase in school violence. This research will discuss many facets of bullying including historical aspects, societal changes that have shifted bullying into a social issue, characteristics of children who are victimized, characteristics of bullies, types of bullying occurring, and prevention efforts and their effectiveness. The research will be conducted through secondary data analysis involving review of journals, previous research studies, and their methods of data collection. The primary goal of this research study is to answer the questions of why bullying is a problem in today's culture and are today's policies working.

#### **P-121: NATHAN ROGERS, TYLER SPAETH, DANIEL WALTERS, ANTHONY STEFFEN, NICK BERTKE, JAYSON LOTZ, KAREN ELY SAE Mini Baja**

FACULTY SPONSOR(S): MORTEZA SADAT, ENGINEERING TECHNOLOGY

Abstract: The Society of Automotive Engineers is a professional organization for students interested in the mechanical engineering and technology field. This project is to simulate real-world engineering and related challenges. Students involved are tasked to design, build, test, promote and race the vehicle according to the competition rules. The vehicle must withstand severe rough terrain during the competition. Norse Baja team members are responsible for generating financial support for their project. This project presents the 2014 car design and the results from the 2013 car.

#### **P-122: COLLIN ECKERLE**

##### **Edgar Allan Poe and the History of Premature Burial**

FACULTY SPONSOR(S): ROBERT RHODE, ENGLISH

Abstract: The concept and fear of premature burial are ideas that are seen throughout much of Poe's work. At the height of his popularity, the fear of being buried alive was secured in the mind of many people. The presentation explores a brief look at different areas that involve premature burial including scientific aspects, cultural and historical aspects, and aspects that directly involve the work of Edgar Allan Poe.

#### **P-123: TONJA REYNOLDS**

##### **The Pervasiveness of the Perverse in Poe's Tales**

FACULTY SPONSOR(S): ROBERT RHODE, ENGLISH

Abstract: I completed a PowerPoint presentation on the pervasiveness of the spirit of the Perverse in Edgar Allan Poe's stories for Dr. Rhode's Poe class this semester (ENG 565). The presentation includes a brief look at the history of phrenology, an explanation of what the perverse is from the point of view of the narrator of "The Imp of the Perverse", and the appearance of the perverse in "The Black Cat".

#### **P-124: EMILY SWISHER**

##### **Unmasking the Red Death: An Analysis of Poe's Use of Symbolism in The Masque of the Red Death**

FACULTY SPONSOR(S): ROBERT RHODE, ENGLISH

Abstract: I completed a PowerPoint presentation on the pervasiveness of the spirit of the Perverse in Edgar Allan Poe's stories for Dr. Rhode's Poe class this semester (ENG 565). The presentation includes a brief look at the history of phrenology, an explanation of what the perverse is from the point of view of the narrator of "The Imp of the Perverse", and the appearance of the perverse in "The Black Cat".

#### **P-125: NDEYE KA, ABDOULAYE DIAWARA**

##### **The Independence of Senegal**

**faculty sponsor(s): Michael Washington, History & Geography**

Abstract: As colonial subjects to France the people of Senegal gained their independence in 1960. One of the results of independence was the right of the Senegalese people to travel abroad. This included the right to leave Senegal and declare citizenship in other countries including the United States. After two generations many expatriates lost the memory of Senegalese history and culture, but it is important for others to know this history because it personifies the hardships of gaining independence. The purpose of the poster presentation is to highlight the history of Senegalese Independence as a reminder of the rich history of this remarkable country.

#### **P-126: JESSICA KOPENA**

##### **Female Rappers of the 1990's**

FACULTY SPONSOR(S): YASUE KUWAHARA, HISTORY & GEOGRAPHY

Abstract: Rap is a genre of music that has been heavily dominated by men. Through their lyrics, however, female rappers of the 1990s asserted their authority by letting the men know that they meant business and they were their own person. These female rappers wanted to be seen as being able to stand up for themselves. The research focuses on the different ways that female rappers were seen in mass media as well as



the analysis of lyrics. Female rappers to be examined include MC Lyte, Lady of Rage, Mia X, and Lil' Kim.

**P-127: LIZA VANCE**  
**Investigations into Changing Economic and Social Patterns at Thomas Jefferson's Monticello**

FACULTY SPONSOR(S): KATHLEEN QUINN, HISTORY & GEOGRAPHY

Abstract: The historical significance of Monticello goes beyond that of a mere presidential residence. The landscape, too, reveals economic and social connections between plantation owners and their enslaved African Americans. In 2013, the Monticello-University of Virginia Archaeological Field School participants excavated areas of the plantation that shed light on the transition from hoe-based tobacco to plow-cultivated wheat production in the late 1700s. Questions considered were: what impact did this economic diversification have on the landscape and on the kinship networks and living arrangements of the slaves? This poster showcases Site 8, one of the areas excavated to answer these questions.

**P-128: ANNA WALTER**  
**From Field to Lab: Reconstructing History at Fort James, Virginia**

FACULTY SPONSOR(S): KATHLEEN QUINN, HISTORY & GEOGRAPHY

Abstract: For the past twenty years, the Jamestown Rediscovery Archaeological Project has studied the remains of the original fort built on Jamestown Island (Virginia) in 1607. During the six-week field school in 2013, the objective was to locate a continuation of the fort's palisade trench. Along the way, the project unearthed artifacts from the colonial period and later, including a fully articulated horse skeleton. This poster will: (a) trace the journey of several diagnostic artifacts from excavation to preservation and lab analysis; and (b) offer a look into the creation of a digital artifact helping to reconstruct the history of the fort.

**P-129: JONATHAN BACH**  
**The History of Rice and Its Impact on the World**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: Rice is a staple food throughout the world; it is so simple, yet so complex with a plethora of varieties ranging across the spectrum in color, with different textures and tastes. While rice is currently grown in a variety of environments on every continent except for Antarctica, it is believed to have originated in Asia. Rice is unique as it has moved across the globe with the migration of people and played a distinctive role in world history. This research studied the impact that rice has made on history, globalization, and the development of human beings.

**P-130: MOLLY BLACKBURN**  
**Tofu and Other Soy Foods in Asia and the West**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: Soybeans have been a staple of East and Southeast Asian diets ever since they were first domesticated 3000 years ago. Tofu (dou fu) is made from curdling soybean milk, a 2000-year-old process. However, it was only in the last century when the United States and other Western nations started mass producing soy products, and it was even more recently that tofu has become popular within certain populations outside Asia. The rise in the popularity of tofu in the West is evidence of not only the significance of technology in food production, but also the globalization of modern cuisine.

**P-131: ALAN CHILDS**  
**Saffron**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: During the ancient times, saffron had many uses around the world, however, some of these uses have been forgotten throughout the history. Newly formed interest in natural dietary functions brought attention toward historical uses of saffron. Understanding these different uses of saffron in the past can help find the best uses at present. This poster examines the different uses of saffron throughout the history and its prevalence in human endeavors.

**P-132: JESSIE DECANN**  
**Irish Dishes**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: This poster is about the different Irish dishes through the years. Also how they are different in each region.

**P-133: ZACHARY HOLTkamp**  
**Spaghetti: What a "Classically Italian" Dish Tells Us about History and Ourselves**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: Many consider spaghetti to be the quintessential Italian dish. It is true that pasta has existed in Italy since Roman times. However, when dissecting the recipe of a typical spaghetti dish, it is apparent that this food has many more global roots. Foreign ingredients, such as tomatoes, highlight interactions between various cultures throughout time. In addition, the origins of these ingredients teach much about the ingenuity and lifestyle of the human kind. The purpose of this project is to examine human history through the creation of spaghetti.

**P-134: MELISSA JACKSON**  
**The Journey of Cocoa through Time and Space**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: Originating in South America, cocoa was a delicacy in many early civilizations. First used as a bitter drink for the ancient empires and for special occasions such as marriage, cocoa now plays a huge role in the modern world. Cocoa is used in many ways including fertilizer, health/beauty products, much foodstuff, and especially in the candy realm. As far as chocolate goes, there is a whole day dedicated to giving it as a gift. As cocoa advanced through time it is now used in many ways and has influenced the history of food world-wide.

**P-135: JAMES MCMANUS**  
**Discourses in Depravity: The Contested Imagery of the Ottoman Empire in the 19th Century.**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: This project focuses on the competing representations of the Ottoman Empire and the resulting dialogue during the course of the 19th century between the Ottoman Empire and Western Europe. By looking at travel writing, literature, photographs, and scholarly literature on the Ottoman Empire it becomes possible to identify discourse on the subjects of sexuality and modernity during the 19th century. As a result, it can be seen how the representation of the Ottoman Empire was fought for by Europe and the Ottoman Empire, to try and define it as sexually deviant and backwards, or socially acceptable and modernizing.

**P-136: MEGAN MENIX**  
**The True Morels**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: The edible fungi of the *Morchella* genus, commonly known as morels, have long been a part of human history. Found commonly in spring months of many countries throughout the world, they consist of a hollow stalk and upper cap. Their fruit bodies vary, ranging from 10 – 15 cm high. The caps are often conical and have a "honey-comb" appearance. These fungi can be confused with inedible varieties of similar appearance, however, due to their hollow structure, they can be easily distinguished from such varieties. Morels have been sought after by humans for their culinary delicacies, medicinal qualities, and dietary value.

**P-137: STEFANIE NELSON-GUFFEY**  
**Oh là là, The History and Alluring Story Told by French Chocolate Truffles!**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: The world began a love affair with Chocolate Truffles during the 1920s. Auguste Escoffier, a French chef, made a simple mistake while working with chocolate and cream. However, neither coco nor milk originates from France. This poster presents the history of each of the ingredients that make up the French Chocolate Truffle, how the French Chocolate Truffle has transformed over the years, and changes in the prices for high-end chocolates in the past few years due in part to Chinese and Indian demand.

**P-138: WESLEY PARSONS**  
**Goetta: A Taste of Cincinnati's History**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: German-American breakfast sausage, or goetta, is a staple food for the greater Cincinnati area. Settlers who emigrated from northwestern Germany in the 19th century introduced goetta to Cincinnati. This dish of pork or veal mixed with pin-head oats and spices was originally thought to have been peasant food. Goetta has since become a delectable treat and a yearly festival is held in its honor. Goetta is a key component in knowing and understanding Cincinnati's heritage, and also serves as an example of how food and tradition move around the world.

**P-139: NICOLAAS PESNICHAK**  
**Maatjes: Wat maak je me nou**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: Maatjes, or Soused herring, can come in numerous varieties depending on the country. The German Loggermaatjes have a higher salt content and a stronger taste than their Dutch counterparts do with the Swedish variety the strongest in the spiced category. The Dutch eat Maatjes as a snack, eaten with raw diced onions or plain. Germany and Sweden do not normally eat their herring as a snack. Northern Germany eats a dish called Matjesbrötchen (herring with sliced onions on a roll), while Sweden eats their Matjessill with boiled potatoes, sour cream, chives and crisp bread.

**P-140: HANNAH SHIRKEY**  
**Music and Meals: The Way Our Culture Influences Our Food Choice**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: Do music and other cultural influences help dictate what it is we eat? If they do how do they do so? What kind of things within our cultures influence what we eat? This project answers these questions and more by looking into different cultures, their food preferences, and deciding factors within those cultures that determines the food they choose to prepare and eat.

**P-141: JEREMY TRESTER**  
**Universal Protein: Soybeans & Their Worldwide Cultivation**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: From its legendary origins in East Asia nearly 8,000 years ago, soybeans have grown to become one of the world's most-cultivated crops. With 250 million tons

produced annually, this modest legume occupies a unique niche in international agriculture as both a food and source of multiuse protein. This project investigates how/why this crop has grown from its simple Chinese origins to become a major worldwide force, and the changes this has caused in the global diet.

**P-142: TYLER VATTER**  
**Herb Tart and the Italian Renaissance**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: This project examines the herb tart and its relation to the Italian Renaissance. The ingredients contained within the dish illustrate the regions that the Italian peninsula was in constant contact with throughout the fourteenth and fifteenth centuries. The project also demonstrates the importance of cuisine when examining history.

**P-143: ALEX WEIGLEIN**  
**Crust and Crumb: A History of Bread**

FACULTY SPONSOR(S): JONATHAN REYNOLDS, HISTORY & GEOGRAPHY

Abstract: Following the dawn of civilization, bread became the quintessential human food. Its humble beginnings led to the development of one of the most important foods on the planet. This research chronicles the history of bread, from its early forms all the way to the mass-produced loaves found on store shelves today. Modern home baking is also taken into account, with special consideration for the online bread making community. Ultimately this research demonstrates that bread is an example of how, over time, humans can take an essential activity and turn it into a hobby.

**P-144: JESSICA WALKER**  
**The Huge Rate of Abortions within the African American Community**

FACULTY SPONSOR(S): MICHAEL WASHINGTON, HISTORY & GEOGRAPHY

Abstract: According to BlackDignity.Org, twice as many African Americans have died from abortions than have died from AIDS, accidents, violent crimes, cancer, and heart disease combined. Research has shown that although African-American women make up only thirteen percent of the total population, they represent thirty-five percent of the abortions performed, thus making the African American baby "endangered." The purpose of this poster is to expose to the public the huge rate of abortions within the African-American community.

**P-145: KELSEY ZWICK**  
**Status of Female Collegiate Athletic Teams coached by Females: An Analysis Since Title IX Legislation**

FACULTY SPONSOR(S): ALAR LIPPING, KINESIOLOGY & HEALTH

Abstract: The purpose of this study is to provide a historical analysis of the percentage of female coaches who coach female teams in Division I athletics. This study focused on the trend since Title IX legislation which was first implemented in July of 1972. Prior to Title IX more than 90 percent of female teams were coached by females. By 2002, the percentage had declined to 44 percent. In addition to the Atlantic Sun Conference, four randomly selected conferences in Division I were evaluated. Each conference was analyzed based on male and female sport offerings and the attendant gender of coaches. A final percentage differential of male and female coaches was calculated.

**P-146: SAMANTHA BRAY**  
**The impact of social media and music on elliptical exercise intensity**

FACULTY SPONSOR(S): GABRIEL SANDERS, KINESIOLOGY & HEALTH

Abstract: Background. Mobile technology can positively or negatively alter exercise intensity. However, research has yet to investigate the impact of social media on elliptical exercise intensity. Methods. Sixteen students participated in three, 20-minute elliptical exercise conditions: no cell phone/music, Facebook, or music. Participants then used their cell phone for the Facebook and music conditions. Elliptical exercise was set using the quick start function and resistance was not altered. Participants were blinded from all exercise intensity variables (distance, total strides) during each condition and then asked to indicate their preference of exercise condition. Results and conclusions will be presented at the 2014 Celebration.

**P-147: KELSEY ZWICK**  
**The effect of Facebook on cardiovascular responses**

FACULTY SPONSOR(S): GABRIEL SANDERS, KINESIOLOGY & HEALTH

Abstract: Background: currently, no research has experimentally assessed the impact of social media and its effect on heart rate and blood pressure. Methods: twenty participants completed a social media survey and underwent two, 20-minute conditions (rest, Facebook). Participant's heart rate and blood pressure were measured at three different time points for each condition. After completing the two conditions, participant's percent body fat was measured using an ultrasound body composition analyzer (Bodimeter Pro) and were asked to indicate which technological device they would prefer to use when accessing social media. Results and conclusions will be presented at the 2014 Celebration.

**P-148: CHRIS BAYNE, MATT SCOTT**  
**The Effect of Energy Drinks on Endurance Based Activity**

FACULTY SPONSOR(S): RACHELE VOGELPOHL, KINESIOLOGY & HEALTH

Abstract: The consumption of energy drinks is common in athletics. It is unknown if drinking energy drinks can have an impact on the performance of athletes. The

purpose of this study was to research the effects of an energy drink when consumed by non-active males from the ages of 18-25 and to see if consumption of an energy drink can affect the outcome of prolonged activity when exercising. This research measured the participant's ability to lift 60% of their maximum repetition, multiple times without the consumption of caffeine or energy drinks as a base test. The participants then returned on a later date and consumed an energy drink and were tested again to compare the results.

**P-149: EMILY FECK, KARI LANG**  
**The Kinematics and Kinetics of a Front Handspring with and without Wrist Extension Braces**

FACULTY SPONSOR(S): RACHELE VOGELPOHL, KINESIOLOGY & HEALTH

Abstract: Gymnastics involves many skills that require athletes to carry their full bodyweight on their upper extremity while the wrist is placed in a forced extension position. As a prophylactic measure, many gymnasts wear stiff wrist braces that prevent excessive wrist extension. Research suggests that prophylactic braces may have a negative effect on sport performance including a possible decrease in overall power production. The purpose of this study was to assess whether wrist extension braces provided a significant decrease in wrist extension and whether or not wrist extension braces decrease the overall power output of a female gymnast.

**P-150: ANDI MACKE, KELSI WOOD**  
**The Effect of Therapeutic Elastic Tape on Pain in a 40 Yard Sprint**

FACULTY SPONSOR(S): RACHELE VOGELPOHL, KINESIOLOGY & HEALTH

Abstract: Delayed Onset Muscle Soreness (DOMS) occurs from small tears in the muscle due to muscle contraction. The worst symptoms of DOMS occur after 24-48 hours and can last up to 7 days. Research indicates that DOMS results in decreased muscle force production, which can negatively affect sport performance. Therapeutic elastic tape is a commonly used product, that when applied to the injured area, is thought to help reduce pain and muscle soreness. The purpose of this study was to identify the effects of therapeutic elastic tape on a 40-yard sprint time in physically active males suffering from DOMS.

**P-151: ABBY POTTS, MEAGAN DUNN, THOMAS BROSSART, BRITTANY BLANTON**  
**The Effects of Ankle Bracing on Lower Extremity Landing Biomechanics**

FACULTY SPONSOR(S): RACHELE VOGELPOHL, KINESIOLOGY & HEALTH

Abstract: Ankle braces are commonly used in athletics to provide extra support for the ankle joint to prevent injury. The extra support supplied by the ankle brace results in decreased range of motion of the ankle. Range of motion in the ankle is vital for dispersing forces applied to the lower extremity during activity. The purpose of this study was to examine the effects of ankle bracing on kinetics and kinematics of the ankle, knee and hip during a jump landing task in physically active college females.

**P-152: CLINTON ROSS, SHANE SULLIVAN, DONTAZ SMITH, JAKE GILES**  
**The Effect of High Tempo Music and no Music on a Timed One Mile Run**

FACULTY SPONSOR(S): RACHELE VOGELPOHL, KINESIOLOGY & HEALTH

Abstract: Many people commonly listen to music during physical activity and exercise. It is thought that music has a mental and physical effect on the body (Kargeorghis 2008, Schwartz, Fernhall, and Plowman 1990). Recent research supports that individuals are likely to use high tempo music when performing higher intensity exercises (Kargeorghis et al). The purpose of this study was to examine the effects of high tempo music and no music on rate of perceived exertion, heart rate and times during a one mile run in active male college students.

**P-153: COREY WALLER**  
**This guy will never pay for Netflix again! Jealous?**

FACULTY SPONSOR(S): DAVID RASKA, MARKETING, ECONOMICS & SPORTS BUSINESS

Abstract: The present marketing project focuses on devising a cross-cultural approach to engage American and Irish Millennials in washing their laundry in cold water in order to assist Procter & Gamble to achieve its 2020 sustainability goals. Through secondary data research, the author identified an opportunity to draw Millennials' interest in desired behaviors through an in-store message "This guy will never pay for Netflix again! Jealous?" By translating monetary benefits into relative terms, the author argues that Millennials will become interested in desired behaviors and subsequently begin their journey in forming their new, more sustainable washing laundry habits.

**P-154: KEVON REIS, SEAN MCDANIEL, LINDSAY GRAYSON, KIRK WALLACE**  
**Characterizing the Motion of Cosmic Rays Through Turbulent Magnetic Fields**

FACULTY SPONSOR(S): LISA HOLDEN, MATHEMATICS & STATISTICS

Abstract: The purpose of our project is to investigate how cosmic rays propagate through the turbulent magnetic field found in the interstellar medium. We model the turbulent magnetic field as a sum of randomly directed transverse magnetic fluctuations superimposed over a static magnetic field and consider both isotropic and anisotropic fields. We then integrate the equations of motion numerically to determine how a given charged particle moves through these fields. Repeating this

process for hundreds of randomly launched particles, we construct distributions of displacements and characterize these distributions in terms of their diffusion coefficients in order to obtain to scaling laws.

**P-155: NOLAN BOONE**  
**Sums of Squares**

FACULTY SPONSOR(S): BETHANY NOBLITT, MATHEMATICS & STATISTICS  
Abstract: Can the number 89 be written as the sum of two squares? Yes,  $89 = 25 + 64$ . But could it be written as the sum of four squares? If so, how do I determine the squares? What about 341? Can it be written as the sum of two or four squares? The question of which numbers can be written as the sum of two squares (and four squares) has connections to certain interesting number systems such as the quaternions. In this investigation, I explored the sums of squares question and discovered interesting results and connections that can be made to other number systems.

**P-156: CHARLES HECKMAN**  
**An Investigation of Cyclic Numbers**

FACULTY SPONSOR(S): BETHANY NOBLITT, MATHEMATICS & STATISTICS  
Abstract: Abstract: What is so special about the number 142,857? It's cyclic! If you multiply 142,857 by 1, 2, 3, 4, 5, or 6, the product is a permutation of the digits in the number 142857. For example,  $142,857 \times 3 = 428,571$ . A cyclic number is an integer in which cyclic permutations of the digits are successive multiples of the number. In this project, I investigated cyclic numbers, their properties, forms and construction. I also investigated some of the "how?", "why?" and "what if?" questions surrounding cyclic numbers. This investigation led to interesting results that relate to the mathematics behind cyclic numbers.

**P-157: CRAIG HEARD**  
**Consistency of Response to Student Behavioral Violations**

FACULTY SPONSOR(S): JOE NOLAN, MATHEMATICS & STATISTICS; JAMES CANFIELD, COUNSELING, SOCIAL WORK AND LEADERSHIP  
Abstract: Management of student behavior is an important task for administrators at high schools around the country. This study examines the behavioral resolutions reported in a regional school district, focusing on potential differences related to gender, year in school and race/ethnicity. The study summarizes observed misbehaviors and resolutions and analyzes the relationships between the two. Furthermore it examines the severity of resolutions as related to students and the number of previous referrals. In addition, it examines the effectiveness of an intervention designed to improve consistency of resolution.

**P-158: KACIE KOTNIK, KRISTI HAIK, MAUREEN DOYLE, NATHANIEL HUDSON, PAMELA REICHELDERFER**  
**NKU Retention: Using Markov Modeling to Examine Transitions Among Departments and Colleges**

FACULTY SPONSOR(S): JOSEPH NOLAN, MATHEMATICS & STATISTICS; MADHURA KULKARNI, CINSAM  
Abstract: Trend analysis of student data allows faculty and administration to make informed and strategic decisions regarding our school's future. This collaborative project applies statistical methods to explore inter-college and inter-departmental movement patterns for students during their time at NKU. Non-homogeneous Markov processes model current patterns observed in semester-to-semester student movement among different colleges and departments.

**P-159: ELIZABETH WILLIAMS, RACHAEL GASSER, TYLER WOOD, JACOB DONNERMEYER, KATELYN TESLA, MICHAEL VOET**  
**Project EMBRACE: Exploring Musical Boundaries, Relationships, and Artistry in Composition and the Environment**

FACULTY SPONSOR(S): AMY GILLINGHAM, MUSIC  
Abstract: Cultivating young, holistic musicians requires fostering both technique and ingenuity. The NKU String Project engaged in a composition project wherein undergraduates taught children the art of composition through an environmental lens. Students were guided to write and perform original works of music inspired by nature and interdisciplinary music-environment concepts. The findings and success are apparent through the end result of original compositions, the demonstrated playability of the pieces, and their adherence to syntactical norms of western musical language. A performance and demonstration was presented at the American String Teacher's Association National Conference in Louisville.

**P-160: JORITALEN GOLEMBIEWSKI**  
**Developing a Trusting Relationship with Drug-Addicted Mothers through Therapeutic Communication**

FACULTY SPONSOR(S): MARGARET LYNN TAYLOR, NURSING; KRIS PFENDT, RN, MSN NURSING  
Abstract: Studies have shown there is mutual mistrust between drug-addicted mothers and healthcare workers, preventing the mothers from seeking prenatal care. This Change Project defined the educational needs of registered nurses at The Family Birth Place (St. Elizabeth Healthcare, Edgewood, KY) regarding drug-addicted mothers. The project identified current perceptions of drug-addicts, reviewed facts regarding drug addiction, and educated the nurses on therapeutic communication strategies. The education improved the nurses' confidence in interacting with drug-addicted patients. Confidence paired with communication strategies will allow the nurses to

develop trusting relationships with patients, which will lead to better health outcomes for mothers and babies.

**P-161: MUSSAB ALGHAMDI, ABDULKHALIQ ALZAHIRANI**  
**Development of a Smart Leveling System for Residential Buildings**

FACULTY SPONSOR(S): SEYED ALLAMEH, PHYSICS & GEOLOGY  
Abstract: Using Microelectromechanical Systems (MEMS) sensors, a smart leveling system has been developed to help re-level houses that have been damaged by earthquakes or by weak foundation. It comprises actuators to raise beams and sensors to measure the degree of inclination. A microprocessor monitors the inclination angles of the beams and actuates the actuators at the appropriate rate.

**P-162: ABDULRAHMAN ALSHAMMARI, ABDULRAHMAN SHANAWAZ, HAIF ALQAHTANI, RAKAN ALAHMADI**  
**Development of a Smart Autonomous Lawnmower for Household Applications**

FACULTY SPONSOR(S): SEYED ALLAMEH, PHYSICS & GEOLOGY; MORTEZA SADAT HOSSIEY, PHYSICS & GEOLOGY  
Abstract: Automated vacuum cleaner robots have been around for some time now; however, no similar device is available on the market for mowing lawns. This study is focused on the development of a smart autonomous lawn mower that can cut grass in a fenced yard. The smart lawn mower moves in a route that follows the contours of the fence in a spiral path that ends at the center of the lawn. This is achieved by automating a riding lawn mower using appropriate actuators. The vehicle is then equipped with proximity sensors that provide position data used to maintain the path.

**P-163: REEVES ELIZABETH, BISCHOFF ZACKERY, ELLA BECKMAN**  
**Growth of Mixed Diatoms in a Household Biodiesel System**

FACULTY SPONSOR(S): SEYED ALLAMEH, PHYSICS & GEOLOGY; MIRIAM STEINITZ-KANNAN, BIOLOGICAL SCIENCES  
Abstract: A new Biofuel Production System has been developed. It utilizes wastewater to grow algae in nutrition-rich environment. Addition of a natural mix of diatoms added to the growth media is followed by a time-regulated harvest and crush of diatoms. Extraction and separation of lipid from liquid, and its conversion into biodiesel ensues. The separated liquid, rich in silica and nutrition, is then returned to the growth media tank where it is recycled. Growth culture is aerated to enrich its  $\text{CO}_2$  content and the growth chamber is illuminated to receive light, both of which are essential for growth of algae.

**P-164: HASSAN KHUSHEIM**  
**Effect of Environmental Factors on the Mechanical Behavior of Al foam struts**

FACULTY SPONSOR(S): SEYED ALLAMEH, PHYSICS & GEOLOGY  
Abstract: Recent development of a hybrid microtesting system equipped with a linear stage combined with a piezo actuator allows dual scale displacement control of small load frames. Utilizing the multiscale capability of this unique system, the mechanical properties of aluminum foam struts have been investigated. The effects of environmental factors on the mechanical behavior of the strut microsamples have been investigated at different temperature and moisture levels. The preliminary results of the tests are presented and the implications on the use of such foams in load bearing applications are elucidated.

**P-165: SARAH LOTT, SARAH JONES, NATHANIEL SHIELDS**  
**Using Electrical Resistivity to Locate Unknown Sections of Mammoth Cave**

FACULTY SPONSOR(S): THOMAS BRACKMAN, PHYSICS & GEOLOGY  
Abstract: Electrical Resistivity is a non-invasive, subsurface surveying method that has never been used before on Mammoth Cave National Park. Two Electrical Resistivity arrays were conducted and found roughly 300 feet of nonnegotiable passageway, with possibly 1200 feet more to be discovered. The purpose of this research is to use a noninvasive geophysical method to locate unknown sections of The River Styx at Mammoth Cave. The goal is to add to the overall geographic model of Mammoth Cave to determine connections to other cave passages, preserving a fragile world heritage site for future generations.

**P-166: JARED TOPIE, CATHERINE SOSSO, RACHEL DELANY, SCOTT WILSON**

**Optimum Array Selection Using Earth Imager 2-D Survey Planner**  
FACULTY SPONSOR(S): THOMAS BRACKMAN, PHYSICS & GEOLOGY  
Abstract: The recent sinkhole collapse at the Corvette Museum in Bowling Green, KY has shed light on a problem facing any building located in an active karst region. Electrical Resistance Tomography has been proven to be a perfect tool to detect hidden sinkholes. We propose to select the most optimum array type to detect a sinkhole. Four survey arrays will be modeled; Wenner, Schlumberger, Dipole-Dipole, and Dipole-Dipole Inverse Schlumberger. A comparison of each subsurface model will be carried out and the optimum array selected. This optimum array can then be implemented in the field for sinkhole detection.

**P-167: TYLER CLARK**  
**Quasi-normal modes of a spin 0 particle around a black hole with massive gravity**

FACULTY SPONSOR(S): SHARMAMTHIE FERNANDO, PHYSICS & GEOLOGY



**Abstract:** In this project, we have studied the quasi-normal mode frequencies (QNM) of a black hole with massive gravity due to scalar perturbations. The QNM frequencies are computed by varying the mass  $M$ , the massive gravity index  $l$ , and the spherical harmonic index  $l$ . Studies are also included on massive scalar field modes. Comparisons are done with the QNM frequencies of the black hole with massless gravity which is the Schwarzschild black hole.

#### **P-168: JESSICA KERBY**

##### **Exploration of the Effective Area of CREST Instrument**

FACULTY SPONSOR(S): SCOTT NUTTER, PHYSICS & GEOLOGY

**Abstract:** The Cosmic Ray Electron Synchrotron Telescope, CREST, is a balloon-borne experiment that detects high-energy cosmic rays comprised of electrons with energies greater than 2 TeV. These electrons are difficult to detect directly, so CREST instead detects the synchrotron photons generated by these electrons in the Earth's magnetic field. This method of indirect detection causes the effective area of the instrument to appear larger than its actual area. With GPS data of the flight path of the balloon, this quantity is explored as a function of energy, altitude, and location through Monte Carlo simulations.

#### **P-169: CHRISTOPHER WALES**

##### **The Myth of Political Polarization**

FACULTY SPONSOR(S): MICHAEL BARANOWSKI, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

**Abstract:** Americans are getting weary of the increasing polarization that is seemingly tainting both our government and society. Political polarization seems to be the "hot-button" issue of the early part of the 21st century and is almost universally deemed as a negative aspect of our democracy. Yet, studies seem to consistently show that the American public has not grown radically polarized over the course of the past half-century. Using various polls conducted since the 1970s, this report sets out to prove that the recent "polarization scare" is actually a polarization myth.

#### **P-170: JACOB EDMONDS**

##### **The Political Battles of Higher Education Funding: A study of all 50 states.**

FACULTY SPONSOR(S): SHAUNA REILLY, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

**Abstract:** Politics and Higher Education often conflict. This paper examines the processes and factors that influence Higher Education funding at the state level. The data will draw on a cross sectional time series design and will evaluate the budget crisis and economics of all 50 states.

#### **P-171: KATLYN FARRIS**

##### **Female Supreme Court Justices**

FACULTY SPONSOR(S): SHAUNA REILLY, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

**Abstract:** Female judges have been significant inside the courtroom due to their ability to see judicial cases from a different perspective than traditional male judges. A greater placement of women in judicial positions has influenced the rulings and decisions made. This research will attempt to examine the differences of female judges in relation to the role of gender in the courts, looking specifically at female judges' confirmations, rulings, and decisions. I seek to discover if the socialization of female judges plays a key role in their decision-making abilities through the process of individual interviews. The installment of female judges in past research has shown that women have a key role in liberalizing the courts.

#### **P-172: KRISTIAN FAUSZ**

##### **Modern Popular Culture Calls for Social and Political Revolution**

FACULTY SPONSOR(S): SHAUNA REILLY, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

**Abstract:** Class stratification is a common theme in popular culture throughout history. The content of a society's popular culture fluctuates with the change of social and political situations within that society. By analyzing material produced between 2000 and 2014, I have identified a recent trend in popular culture that appears to suggest that popular culture is actually calling for political activism and revolution from United States citizens.

#### **P-173: JENNIFER KORTH**

##### **Gender Stereotypes Influencing Popular Culture**

FACULTY SPONSOR(S): SHAUNA REILLY, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

**Abstract:** Gender stereotypes are highly visible in our society. As a result, popular culture is greatly influenced by gender stereotypes. Movies, TV shows, music, and advertisements provide positive and negative images of men and women. Included in this presentation are artifacts demonstrating how popular culture is affected by these positive and negative images.

#### **P-174: THOMAS MILEWSKI**

##### **Precarious and Pernicious: The Case of Egyptian Democracy**

FACULTY SPONSOR(S): SHAUNA REILLY, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

**Abstract:** The research of this paper details an examination of the history of the political electoral system in Egypt as it has evolved, specifically noting the radical

changes taking place following the Arab Spring. The retrospective and prospective analysis will ultimately posit explanations for the trends of democratization in Egypt. Factors such as religion and regional instability are also considered in this research as the future of the country's political system is examined.

#### **P-175: CHRISTOPHER WALES**

##### **Freedom of Expression in the Russian Federation**

FACULTY SPONSOR(S): RYAN SALZMAN, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

**Abstract:** Recently, the Putin Administration has been condemned by the West for its numerous human rights violations. Still, one would be hard-pressed to try to prove that the Russian Federation has regressed on political and social rights to a level comparable to its days as the Soviet Union. Using data from Freedom House, this report will attempt to answer the question of whether or not Russia's recent record on the level of freedom of expression its citizens enjoy is more compatible with that of a democratic or authoritarian government.

#### **P-176: LAUREN GABBARD**

##### **Fair Trade and Sustainable Development**

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

**Abstract:** The Undergraduate Research Assistant will present an informational poster about fair trade in preparation for the development of a new course on Fair Trade and Sustainable Development. The poster will include information about fair trade, why it's important, and environmental and human concerns.

#### **P-177: KENDRA HEIN**

##### **How local MNCs and NGOs are linked globally.**

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

**Abstract:** In this project I examine how the local community is globally connected in order to help provide future International Studies majors more information on what companies provide internships, co-ops, and possible career opportunities.

#### **P-178: JUSTIN WYNNE**

##### **Decriminalization-What It Means To You**

FACULTY SPONSOR(S): KIMBERLY WEIR, POLITICAL SCIENCE, CRIMINAL JUSTICE & ORGANIZATIONAL LEADERSHIP

**Abstract:** This project designs a simple educational website on the topic of decriminalization of narcotics. This extends well beyond an advocacy of marijuana legalization, as it examines the effects that illicit drug trafficking and use has on international governance, domestic state sovereignty, and the individual. The website is designed to tailor research gathered through scholarly articles, health and narcotics publications, in order to connect potential viewers of the website with areas of they are most concerned with, whether it was the successes and failures of domestic legalization of narcotics, to the health effects that narcotics pose to individuals.

#### **P-179: ADAM FRITZ, CHASE TERRY**

##### **Effects of early risperidone use on the density of dopamine receptors in adult rats**

FACULTY SPONSOR(S): MARK BARDGETT, PSYCHOLOGICAL SCIENCE

**Abstract:** Risperidone is an antipsychotic drug used for psychiatric disorders in children. Pharmacologically, risperidone blocks brain dopamine receptors, and chronic antipsychotic administration during adulthood elevates dopamine receptor density. This study used rats to determine if long-term risperidone use during development increased the density of D2-type dopamine receptors later in adulthood. Rats were administered vehicle, risperidone 1.0 mg/kg, or risperidone 3.0 mg/kg daily from postnatal day 14 to 42. Early-life risperidone administration did not significantly change D2 receptor density during adulthood. Unlike adult brains, developing brains may be less prone to compensatory increases in dopamine receptors induced by chronic antipsychotic drug administration.

#### **P-180: CHASE TERRY, ADAM FRITZ**

##### **The effects of amphetamine and food restriction on rat's reward choice**

FACULTY SPONSOR(S): MARK BARDGETT, PSYCHOLOGICAL SCIENCE

**Abstract:** This study determined if the neurotransmitter, dopamine, affected preference for a large versus small reward. Adult male rats were trained to choose between two levers that provided either one or three food pellets. Prior to experimental trials, rats received an injection of saline or D-amphetamine, a drug that stimulates dopamine release. Amphetamine did not affect lever choice. In a second study, we found that allowing rats to eat before each trial decreased lever pressing but amphetamine still did not alter large reward preference. Elevating brain dopamine levels does not alter preference for large rewards regardless of motivational state.

#### **P-181: ELIZABETH FOOTE**

##### **Vocational Identity Status in Psychology and Nursing Majors**

FACULTY SPONSOR(S): ROBIN BARTLETT, PSYCHOLOGICAL SCIENCE; JIM THOMAS, PSYCHOLOGICAL SCIENCE

**Abstract:** Individuals' vocational identities fall into one of four "statuses" based on their commitment to a vocation and their degree of self and career exploration: (1) Achievement-high commitment, high exploration; (2) Moratorium-low commitment,



high exploration; (3) Foreclosure- high commitment, low exploration; and (4) Diffusion- low commitment, low exploration. Nursing (n = 48) and psychology (n = 38) majors completed the Career Exploration and Decidedness Inventory-Revised (CEDI-R). More nursing majors were in Achievement ( $p < .001$ ) and Foreclosure ( $p < .10$ ), and more psychology majors were in Moratorium ( $p < .001$ ). Nursing majors also were more confident in their career decisions.

#### **P-182: STEFANIE KOZLOWSKI**

##### **Clickers in the Classroom: Further Support for the Testing Effect**

FACULTY SPONSOR(S): ROBIN BARTLETT, PSYCHOLOGICAL SCIENCE; JAMES THOMAS, PSYCHOLOGICAL SCIENCE

Abstract: Previous studies have found that being tested over material enhances later retention more than additional study of the material—generally referred to as the Testing Effect. In the present study, multiple-choice questions, to which students responded via “clickers,” were embedded in class lectures and counterbalanced across three conditions: (1) Student-Answered, (2) Professor-Answered, and (3) Omitted. Students predicted that they would retain more information from items in both conditions 1 and 2 vs. condition 3. However, as predicted by the Testing Effect, actual retention was only significantly better in condition 1.

#### **P-183: CLARE TURNER-COLLINS**

##### **Does Anthropomorphism of Dogs Affect Pain Perception?**

FACULTY SPONSOR(S): KIM BREITENBECHER, PSYCHOLOGICAL SCIENCE

Abstract: This study will examine the effect of anthropomorphism of dogs on the efficacy of animal-assisted therapy in increasing pain tolerance. Participants will undergo a cold pressor task to measure baseline differences in pain perception. They will then be primed to view a therapy dog anthropomorphically or non-anthropomorphically, and will undergo a second cold pressor test while interacting with the dog. It is hypothesized that subjects in the experimental condition will feel more attached to the dog. Additionally, they will demonstrate higher pain tolerance and report lower levels of pain intensity and unpleasantness than participants in the control group.

#### **P-184: KAYLA VIRE, JESSICA SHARKEY, ALEX MORGAN, NIKKI SOFRANKO**

##### **How Do People Respond to Green Exercise? The Role of Individual Differences**

FACULTY SPONSOR(S): KIMBERLY BREITENBECHER, PSYCHOLOGICAL SCIENCE; KATHLEEN FUEGEN, PSYCHOLOGICAL SCIENCE

Abstract: This project is part of a larger investigation examining the effects of green exercise. NKU students were randomly assigned to one of four experimental conditions: (1) 15 minutes of outside exercise, (2) 15 minutes of inside exercise, (3) 15 minutes outside rest, or (4) 15 minutes of inside rest. In this poster, we examine the relationship between individual differences (e.g., exercise habits and attitudes toward nature) and participants' responses to the experimental manipulation.

#### **P-185: NICOLE SOFRANKO, ALEXANDRA MORGAN, JESSICA SHARKEY, KAYLA VIRE**

##### **How Do People Respond to Green Exercise? The Role of Environmental Factors**

FACULTY SPONSOR(S): KATHLEEN FUEGEN, PSYCHOLOGICAL SCIENCE; KIMBERLY BREITENBECHER, PSYCHOLOGICAL SCIENCE

Abstract: This project is part of a larger investigation examining the effects of green exercise. NKU students were randomly assigned to one of four experimental conditions: (1) 15 minutes of outside exercise, (2) 15 minutes of inside exercise, (3) 15 minutes of outside rest, or (4) 15 minutes of inside rest. In this poster, we examine the relationship between environmental factors (e.g., outdoor temperature and cloud cover) and participants' responses to the experimental manipulation.

#### **P-186: CAITLIN FERRIS**

##### **Predicting Course Success from Dispositions and Specific Behaviors: A Short-Term Longitudinal Study**

FACULTY SPONSOR(S): PERILOU GODDARD, PSYCHOLOGICAL SCIENCE

Abstract: Students' ability to succeed in college is influenced by dispositional factors that may not be easily changed, such as conscientiousness. However, behaviors such as attending study sessions, completing learning objectives, or actively participating in class should also predict their success in college classes and may be more readily modified. We examined dispositions and specific course-related behaviors among 112 students enrolled in an Introduction to Psychology class six times during the semester. We are investigating the relationship between these variables and course grades, with the ultimate goal of developing specific strategies to help future students.

#### **P-187: SARA SHARPE**

##### **Evaluating Tobacco-Free NKU: Effects on Students' Attitudes and Smoking Behaviors**

FACULTY SPONSOR(S): PERILOU GODDARD, PSYCHOLOGICAL SCIENCE; KIMBERLY BREITENBECHER, PSYCHOLOGICAL SCIENCE

Abstract: Northern Kentucky University became a tobacco-free campus in January 2014. This longitudinal study of 564 NKU undergraduate students is designed to identify possible changes in students' attitudes toward the campus policy across two semesters and to determine whether the campus policy is associated with changes in

students' own smoking behaviors. Data collection occurred in early December 2013 and is planned for February, March, and April 2014. Results from the first two waves of data collection will be presented.

#### **P-188: HEATHER HERTZENBERG**

##### **Facebook and Alcohol Consumption in College Students**

FACULTY SPONSOR(S): CECILE MARCZINSKI, PSYCHOLOGICAL SCIENCE

Abstract: The purpose of this study was to examine Facebook as a means to identify problem drinking. Undergraduate students (n = 73) were recruited for this laboratory study. Students logged into Facebook and answered questions about their activity. Questions queried the frequency of postings related to alcohol use. Participants were then given the Alcohol Use Disorders Identification Test (AUDIT) and the Personal Drinking Habits Questionnaire, which assess for drinking problems. The results indicated that Facebook postings pertaining to alcohol use predicted AUDIT scores. Therefore, Facebook has the potential to identify students who are at risk for developing drinking problems.

#### **P-189: SARAH MALONEY**

##### **Effects of Alcohol and Energy Drinks on Balance and a Simulated Driving Task**

FACULTY SPONSOR(S): CECILE MARCZINSKI, PSYCHOLOGICAL SCIENCE

Abstract: Energy drinks are becoming an increasingly popular mixer for alcoholic beverages. This study examined the effects of alcohol mixed with energy drinks on a balance and simulated driving task. The results indicated that participants under the alcohol conditions had impaired overall postural stability. Participants under the alcohol conditions had impaired sensory integration of balance with eyes open as compared to the energy drink conditions. Results also revealed a strong trend for participants to have slower reaction times during the driving simulation under the alcohol conditions. When alcohol was mixed with the energy drink, participants reported less fatigue and subjective impairment.

#### **P-190: RENE MEISTER, CECILE MARCZINSKI**

##### **Effects of Age of First Use of Alcohol and Age of First Intoxication on Impulsivity and Behavioral Control in Young College Students**

FACULTY SPONSOR(S): CECILE MARCZINSKI, PSYCHOLOGICAL SCIENCE

Abstract: This study assessed if age of onset of drinking and age of first intoxication can be used to determine the developmental and cognitive risks associated with binge drinking. Participants (N = 113) between the ages of 18 and 20 completed questionnaires that assessed drinking habits and impulsivity and performed a computerized go/no-go task that assessed behavioral control. Results indicated that participants who reported an earlier age of onset and an earlier age of first intoxication did not exhibit greater cognitive impairments on the behavioral control task, but results did indicate that age of first intoxication predicted AUDIT scores.

#### **P-191: DESIA TALBOTT**

##### **The Effects of Alcohol and Energy Drinks on Simulated Driving**

FACULTY SPONSOR(S): CECILE MARCZINSKI, PSYCHOLOGICAL SCIENCE

Abstract: When compared to alcohol alone, the consumption of alcohol mixed with energy drinks (AmED) leads to decreased perceived intoxication, enhanced stimulation and enhanced desire to drink more alcohol (Marczinski et al., 2011, 2012, 2013). This study examines the acute effects of alcohol and energy drink, alone and in combination, on simulated driving, police standardized field sobriety testing, and perceived intoxication. On each of the dose sessions, participants consume the beverage and complete all objective and subjective measures when blood alcohol is peaking. It is anticipated AmED will reduce perceived intoxication while not changing objective impairment when compared to alcohol alone.

#### **P-192: RACHAEL FRIGO, JANICE BARNARD, DANIEL BUNGENSTOCK, MATTHEW MCGUIRE**

##### **What Happens at Work Stays at Work: The Development and Validation of a Workplace Integrity Scale**

FACULTY SPONSOR(S): PHILIP MOBERG, PSYCHOLOGICAL SCIENCE

Abstract: This study describes the development and preliminary validation of a measure designed to assess work-related integrity among individuals. Exploratory factor analysis of an 80-item scale indicated two dimensions of work-place integrity. Validity evidence from relations with measures of typical work behaviors, organizational citizenship behaviors, and personality traits.

#### **P-193: SYLWIA GUTOWSKA**

##### **How Leaders Motivate: Development and Validation of a Leadership Motivation Scale**

FACULTY SPONSOR(S): PHILIP MOBERG, PSYCHOLOGICAL SCIENCE

Abstract: The present study describes the second phase of development and validation of a scale intended to assess differences in the ways that transactional versus transformational leaders motivate followers along the dimensions of arousal, direction, persistence, intensity of effort, and strategy choice. Participants include employed undergraduate students attending an urban, Midwestern university. Evidence of criterion validity is assessed with measures of job satisfaction, work engagement, organizational citizenship behaviors, organizational commitment, job involvement and job effort.

**P-194: CORI HENDERSON, ERIN BICKNELL, SYLWIA GUTOWSKA, ANGELA SARVER**

**Development and Validation of a Cognitive Resource Depletion Measure**  
FACULTY SPONSOR(S): PHILIP MOBERG, PSYCHOLOGICAL SCIENCE

Abstract: The purpose of this study is to develop a scale to enable organizations and researchers to identify the extent, nature, and occurrence of cognitive resource depletion experienced by workers. An exploratory factor analysis produced a 4-factor solution. The study has been extended in the current semester for further analysis.

**P-195: JEANNE SPAULDING, ZAKIYA MCNEAL, ANDREW PIRRUCCELLO**

**Organizational Commitment: A New Perspective**

FACULTY SPONSOR(S): PHILIP MOBERG, PSYCHOLOGICAL SCIENCE

Abstract: Research has shown the affective commitment component to be of utmost importance because it is thought to be the leading contributor to the initiation of the organizational commitment process. Affective commitment plays a fundamental role in employee behavior and workplace attitudes. The present study challenges the precedent set forth by Meyer and Allen's (1997) commitment scale by providing analytic evidence to support the hypothesis that the Meyer and Allen (1997) scale is outdated and does not fully encompass the scope of the individual as a constituent of the organization.

**P-196: ABBY LONNEMANN, JULIE STEINKE**  
**Moderating Effects on the Stress-Resilience Relationship**

FACULTY SPONSOR(S): JULIE STEINKE, PSYCHOLOGICAL SCIENCE

Abstract: The stress – resilience relationship is potentially affected by individual characteristics (e.g., optimism) and contextual factors (i.e., experience with stressful settings). Previous research examining resilient outcomes does not predict why some individuals respond better to stress than others. Understanding influences on this relationship could explain individual responses to stress. College students completed surveys to measure their perceptions of each variable. We examine correlations between study variables and apply multiple regression and simple slopes analyses to determine moderators of the stress-resilience relationship. Our results could enhance understanding of resilience and frame a proactive approach to determining characteristics and contexts that influence resilience.

**P-197: CAITLIN HARRAH**

**Female objectification in pop and country music**

FACULTY SPONSOR(S): BARBARA ARRIGHI, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: Numerous studies have examined the objectification of women in pop and rap music videos, while ignoring the treatment of women in other genres. Prior research suggests that female objectification in pop music videos occurs. The present study compares the treatment of females in male music videos for both pop and country music genres. Three categories: clothing, actions by female, and actions by males toward females are analyzed. The hypothesis that females in male artist country music videos are less likely to be objectified than females in male artist pop music videos is supported.

**P-198: CORY CLARK, LAURANCE GERLACH, ROBBIE TIEMAN, LEIGHANN GOINS, DUSTIN COURTNEY, TED HAYS, ASHLEY POE**  
**Ethical dilemma: Does a foreign terrorist, such as the Boston Marathon bomber, deserve a "dignified" burial in the U.S.?**

FACULTY SPONSOR(S): YAW FRIMPONG-MANSO, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: Tamerlan Tsarnaev, popularly known as the "Boston Bomber," was killed in April 2013 after gunfire with the police. There was a problem finding a respectable burial place for him. His body was held for about three weeks in a funeral home waiting for burial, as protesters kept vigil outside the building. Tamerlan was a Muslim, so cremation was not an option. A Virginia cemetery offered to accept his body, but the residents of the town rejected the idea. In the fall, 2013, philosophy students in the NKU ethics bowl team debated this ethical dilemma with students from other universities.

**P-199: COLIN BINDAS**

**A Distributional Analysis of Obsidian Artifacts from the Maya Lowlands**

FACULTY SPONSOR(S): ZACHARY HRUBY, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: Obsidian blades were of great importance to the Ancient Maya cultures of Central America because of their use as cutting and scraping tools. Without the use of metal, they crafted and traded blades for millennia, sometimes over hundreds of miles and from at least ten different geological sources. Obsidian therefore is of great use in reconstructing Maya economies, from the rise of their civilization to post-European contact. Collected data on thousands of pieces of obsidian, from three different countries, were analyzed to provide a picture of which Maya cities were economically dominant from century to century.

**P-200: GINA YOON, BRITTNEY BAILEY, COLIN BINDAS, JAMIE CARROLL, BRITTANY HIGH, KADEN PENDLETON-DERAMUS, ALLISON PERRIN, CARI POLLY, RUBY WRIGHT**

**Obstacles to Completing an Undergraduate Degree at Northern Kentucky University**

FACULTY SPONSOR(S): DOUGLAS HUME, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: This poster presents the results of undergraduate research on types of obstacles students face on their path to graduation at Northern Kentucky University (NKU). This research was conducted in collaboration with the FEED Quality and Completion Initiative at NKU. We conducted ethnographic interviews with over two hundred undergraduate students, eliciting propositional statements of barriers to graduation. The shared statements were then used to create a questionnaire, which was given to several hundred undergraduate students to discover how the cultural model of obstacles to completing an undergraduate degree was shared at NKU.

**P-201: STEPHANIE ZACH, NICHOLAS THAXTON, GABRIELLA LOCKE, ADELLE BRICKING**

**Sugar Cane Farming Community Ethnography in Northern Belize: You'd Better Belize-it!**

FACULTY SPONSOR(S): DOUGLAS HUME, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: This poster presents the results of undergraduate research on types of obstacles students face on their path to graduation at Northern Kentucky University (NKU). This research was conducted in collaboration with the FEED Quality and Completion Initiative at NKU. We conducted ethnographic interviews with over two hundred undergraduate students, eliciting propositional statements of barriers to graduation. The shared statements were then used to create a questionnaire, which was given to several hundred undergraduate students to discover how the cultural model of obstacles to completing an undergraduate degree was shared at NKU.

**P-202: IAN TAKAOKA**

**An Exploration of Ancient Fijian Ceramics**

FACULTY SPONSOR(S): SHARYN JONES, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: Data is presented on the analysis of ceramics from the archaeological site of Nukubalavu, located on the southern part of Vanua Levu, Fiji. Over 17,000 pottery sherds were removed from the excavations of this site, form and style of a sample of diagnostic material were studied. The pottery represents specific culture historical phases in Fijian prehistory, including that of the original settlers. The assemblage examines co-occurrence and transition between stylistic phases. This is important to the ongoing debate over whether these transitions were self-driven or caused by later colonization, which is critical to understanding the origins of modern Fijian peoples.

**P-203: STORMY DELEHANTY**

**Failing Care Services and the Impact on Baby Boomer's**

FACULTY SPONSOR(S): BONI LI, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: According to statistics more than 40% of American senior citizens will experience a nursing home in their lifetime. The quality of the services has become important. Currently, Kentucky has 283 institutional facilities managed by state, local organizations, or private ownerships. Due to staffing shortages, job burnout and overload, these facilities have had an increase in complaints, dissatisfactions, and deficiencies received from residents and their families. This research will focus on the current issues, new guidelines and training courses in order to improve the quality of services and compensate with the increase in the elderly baby boomer in the near future.

**P-204: STORMY DELEHANTY**

**The impacts of Alzheimer's disease on women, families, and care givers**

FACULTY SPONSOR(S): BONI LI, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: Currently, 5 million elderly Americans are living with Alzheimer's disease, which requires intensive care, especially from families. The data shows that more women have been diagnosed than men. This trend coincides with the fact that women outlive men. The unequal distribution of the disease has brought a challenge regarding the care offered by the elderly spouse or their children. Traditionally, females are more likely to be the caregivers. This research analyzes the impacts of gender roles and identities on the family caring roles. This study also discusses the necessity of relevant social support to the Alzheimer's patients and their families.

**P-205: LUKE FREEMAN**

**Becoming an Environmentalist: Identity Formation and Participation in Volunteer Water Quality Monitoring Programs**

FACULTY SPONSOR(S): JAMIE MCCAULEY, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

Abstract: This study analyzes interviews with 19 members of volunteer water quality monitoring organizations in the Greater Cincinnati / Northern Kentucky area. According to social-psychological theories of symbolic interaction and social movement participation, identity formation is a key motivating factor for taking action in environmental and other movements. The comprehension of symbols related to the environment and the extent to which these interpretations lead to action depends on individual experience, social context, and identity development. Data indicate that those who volunteer 1) attach strong symbolic value to the environment, and 2) identify as a person who protects the environment.



**P-206: ADELLE BRICKING, ANDREA WEST****Pictish Alba: Culture and Literacy**

FACULTY SPONSOR(S): MICHAEL SIMONTON, SOCIOLOGY, ANTHROPOLOGY &amp; PHILOSOPHY

Abstract: This poster presents research on Pictish culture, history, and written language from an anthropological perspective. The presentation will include information on whom the Picts were and where, as well as an overview of Pictish culture as described by modern authors. Emphasis will be given to the topic of Pictish literacy via information gathered from selected readings and email correspondence with experts and primary researchers on the Picts. Cutting edge breaking research is used to determine whether or not items long considered to be examples of Pictish art actually were a form of literacy, that is, a written language.

**P-207: JAMES CLARK, DEREK RAMOS, AARON JACOBSON**  
**Prehistoric Ecology among the Maori, Sakhalin, and northern Chinese peoples**

FACULTY SPONSOR(S): JUDY VOELKER, SOCIOLOGY, ANTHROPOLOGY &amp; PHILOSOPHY

Abstract: This project examines prehistoric ecological practices in three separate regions: New Zealand, the Russian far East and Sakhalin Islands, and the Yangtze River Valley. Various similarities and differences between the regions and peoples who inhabit these areas in prehistory are discussed. The focus is primarily on each culture's interaction with their environment. Findings are synthesized and a brief discussion of implications for the present day are provided.

**P-208: JACQUE MILLER, JACK LOWE, SARAH ROTTENBERGER**  
**Resource Management in Prehistoric Native American Groups**

FACULTY SPONSOR(S): JUDY VOELKER, SOCIOLOGY, ANTHROPOLOGY &amp; PHILOSOPHY

Abstract: Archaeology has provided substantial evidence of specific land management practices used by Native Americans prior to initial European arrival. Some initial European settlers have perceived the land as pristine land but many Native American cultures implemented techniques for sustainable ecology. This poster presents specific methods of resource management by Native Americans in prehistory and also provides examples of a spiritual worldview toward local environments.

**P-209: SCOTT ROBINSON, WHITNEY BALL, ZACH HOFFMANN**  
**Examining Anthropogenic and Ecological Change in the Archaeological Record of Early Civilizations**

FACULTY SPONSOR(S): JUDY VOELKER, SOCIOLOGY, ANTHROPOLOGY &amp; PHILOSOPHY

Abstract: Early civilizations were able to grow because of the availability of water in their local environments. With such affluence, they were able to establish a broad agricultural base resulting in a population growth. As population increased, resources were stripped from the land often changing the local ecology. These changes had negative impacts on such civilizations as the Maya of the Yucatan, the Hohokam of the American Southwest, and the Harappa of the Indus Valley. Such impacts depleted resources and altered the environments causing these early civilizations to collapse. This poster examines anthropogenic change and ecological impacts on early civilizations.

**P-210: WHITNEY BALL, ANDREA WEST**  
**Examining Lithics from Prehistoric Central Thailand**

FACULTY SPONSOR(S): JUDY VOELKER, SOCIOLOGY, ANTHROPOLOGY &amp; PHILOSOPHY

Abstract: This project examines lithic materials including scrapers, flakes, stone tool fragments, and debitage from lithic production among other stone artifacts. These objects are from archaeological sites including Non Pa Wai, Nil Kahm Heng, and Non Mak La from the Khao Wong Prachan Valley in Central Thailand and excavated as a part of the Thailand Archaeometallurgy Project (TAP). TAP has focused on origins of mining and metallurgy in prehistoric Southeast Asia. This poster represents preliminary results including variability within the assemblage as well as the special distribution of the artifacts studied. ||

**P-211: KELSEY MILLER, SHANE WAGNER**  
**Bringing History Alive: Interactive Learning and Local History in Today's Classrooms**

FACULTY SPONSOR(S): DENISE DALLMER, TEACHER EDUCATION

Abstract: Tell me and I forget. Teach me and I remember. Involve me and I learn - Benjamin Franklin. Based on a collection of local research concerning the Underground Railroad, the Social Studies Secondary Education Teacher Candidates invite you to join and experience how they are bringing history alive in classrooms throughout Northern Kentucky high schools! Teacher Candidates have recently published lesson plans that are aimed to connect to students' lives through local history, address core content standards, and engage students by utilizing interactive techniques and local research which results in the enhancement of today's classroom environment and the development of critical thinking skills. Published lesson plans and resources can be found on, [www.undergroundrailroadresources.org](http://www.undergroundrailroadresources.org).

**P-212: BROOK COSGROVE**  
**Effects a Contingency Contract has on a Target Behavior**

FACULTY SPONSOR(S): STEPHEN WALKER, TEACHER EDUCATION

Abstract: This behavior change project analyzed the effects a contingency contract on a target behavior. The intervention was implemented with an 18-year-old high school student. The target behaviors included excessive talking, socializing, and drawing rather than participating in the assigned class activities. After determining the function of the student's behavior, a behavior improvement contract was designed. The contract outlined the expected behavior, the rewards for reaching the goal, and penalties if the goal was not met. The data collected during intervention revealed that inappropriate behavior was significantly reduced and more appropriate behaviors increased as the result of the behavior contract.

**P-213: BRIDGET LAAKE**  
**Using Contingency Contracting to Improve Interpersonal Communication Skills**

FACULTY SPONSOR(S): STEPHEN WALKER, TEACHER EDUCATION

Abstract: This behavior change project was implemented with a female high school senior with Other Health Impairments and utilized contingency management to gain instructional control. The plan capitalized on the effects of positive reinforcement to create desirable trends in changing the way the student communicated and responded to adults. Over the course of the intervention, the student's behavior was observed, analyzed, and monitored and revealed the student's desire for positive attention from adults. This reinforcement was then employed in a behavioral contract, which directly correlated to the student's personal life, which ultimately was the foundation for positive behavior change.

**P-214: LWAM EYASSU**  
**100 Voices/Dimtsi**

FACULTY SPONSOR(S): MARTY MEERSMAN, VISUAL ARTS

Abstract: 100 Voices/Dimtsi's focus is to build a two-way street of inspiration between African youth and others around the globe through artistic expression. During the summer of 2013, NKU student, Lwam Eyassu, traveled to her parent's homeland of Eritrea (East Africa) where she worked with local youth by providing disposable cameras and art supplies. With these cameras, Eritrean youth captured their surroundings from their own perspectives, giving viewers a genuine view of what their daily lives consists of. The beautiful photographic works of the Eritrean youth have been exhibited twice and are on their way to making it around the world.

**P-215: HEATHER OWENS**  
**Vida Cotidiana v. Everyday Life: A Study in the Effects of Studying Abroad on Students and Their Cultural Perceptions**

FACULTY SPONSOR(S): KAJSA LARSON, WORLD LANGUAGES &amp; LITERATURES

Abstract: This poster explores the effects that studying abroad has on students' routines and cultural perceptions. During July 2013, thirty undergraduate students participated in the KIIS Spain II study abroad program. They participated in three surveys that measured their daily habits, struggles during the trip, and their changes upon returning to the United States. Through these surveys and academic research, I discovered that studying abroad alters students' lifestyles in a positive way while also giving them an enhanced global perspective.

**P-216: MEGGIE KINGSLEY**  
**Group Structure For Young Adult Males With Duchenne Muscular Dystrophy**

FACULTY SPONSOR(S): KATHLEEN THOMPSON, COUNSELING, SOCIAL WORK AND LEADERSHIP

Abstract: Duchenne Muscular Dystrophy (DMD) is a fatal, genetically complex disease diagnosed during early childhood. These individuals experience a variety of medical, behavioral, intellectual, and psychosocial struggles. Through the study of current literature, it appears that relatively little has been explored in regard to the psychosocial needs of individuals affected by DMD. This qualitative questionnaire study includes 10-20 male, young adult (18+ years) participants with DMD. The goal of this research is to obtain an understanding of the barriers, interests, and past/present group experiences of this population, in order to create a group structure that is conducive to their lifestyle.

**HONORS PRESENTATIONS****WEDNESDAY, APRIL 23 & THURSDAY, APRIL 24****OTTO BUDIG AUDITORIUM****9AM TO 4PM****H 0-1: ALEXANDREA BARBER**  
**Factors that Determine GED and Home Schoolers Persistence in Postsecondary Education**

FACULTY SPONSOR(S): JEFF SMITH, PSYCHOLOGICAL SCIENCE

There is significant need to understand: (1) what factors help guide GED recipients and home schooled students through college to graduation; and (2) in what ways GED



recipients differ from home schooled students and high school graduates. Currently, there is no substantial data on GED recipients to suggest that they are less capable than other students in obtaining a four-year degree or higher. It is possible that GED recipients, home schoolers, and high schoolers vary significantly in personality, intelligence, and persistence. This study will examine those differences; the results may have implications for higher educational programs for these groups.

## H O-2: AMBER CHILDERS

### EXPLORING NEW DISCOVERY: CODING THE CAVERNS

FACULTY SPONSOR(S): RENEE HUMAN, COMMUNICATION

Mammoth Cave National Park contains a secret little known to most visitors to the park. New Discovery cave, a branch of Mammoth Cave, reveals little by its name alone. Using caving experiences inside New Discovery, my knowledge of HTML5, and artistic skills, I will bring this discovery and its origins to life in an interactive, online story format.

## H O-3: ABBY CUNNINGHAM

### Student Engagement in the Flipped Classroom

FACULTY SPONSOR(S): THEODORE HODGSON, MATHEMATICS & STATISTICS

This research study measures student engagement within a flipped classroom compared to a non-flipped classroom. A flipped classroom operates differently from a traditional classroom approach. Students in a flipped classroom watch videos presenting the concepts of the lecture at home for homework, which then frees up class time to engage students in different types of problems and activities. In this study, we observed three algebra classrooms at the high school and middle school levels in the Northern Kentucky area. The proposed hypothesis is that students are more engaged in the flipped classroom versus the non-flipped classroom.

## H O-4: BRANDI CUNNINGHAM

### Pawsanias

FACULTY SPONSOR(S): STEVEN WATKINS, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

For this project, I wrote and illustrated a children's book based on my study abroad trip to Greece last summer. In this story, an American cat named Hector goes on vacation with his family to Athens, Greece. Here he meets the hotel cat, Pawsanias, who gives him a tour of the city. Together they travel to see many different sites throughout Athens all while returning to the hotel before dark.

## H O-5: Hannah Dixon

### The Relationship Between Video Game Addiction and the Big Five Personality Traits

FACULTY SPONSOR(S): JEFFREY SMITH, PSYCHOLOGICAL SCIENCE

Since the early 2000s, the legitimacy of video game addiction has been a debated topic among clinicians and researchers. Though this proposed addiction is not currently a diagnosable condition, its proponents cite recent literature that draws similarities between video game addiction and disordered gambling. The present research uses these similarities to further investigate the credibility of video game addiction by examining its relationship to the "Big Five" personality traits (neuroticism, openness, agreeableness, extraversion, and conscientiousness) in a sample of college students. A secondary purpose of this research is to determine which video game genre could be considered the most addictive.

## H O-6: ASHLEY DUGGER

### Troubled Days

FACULTY SPONSOR(S): SARA DRABIK, COMMUNICATION

The documentary *Troubled Days* takes an in-depth look at the music industry by profiling the local band Seabird. Seabird has had national success with songs featured on ABC's "Grey's Anatomy" and "Pushing Daisies." In 2010, their song "Don't You Know You're Beautiful" was a #1 hit on Christian radio, yet the band is still struggling to become a household name. In this documentary, Seabird serves as an example of artists across the country who are trying to make a career doing what they love.

## H O-7: KATELYN GABBARD

### Family Secrets Among Adult Children of Alcoholics

FACULTY SPONSOR(S): ANDREA LAMBERT-SOUTH, COMMUNICATION

"Secrets involve information purposefully hidden or concealed by one or more family members" (Galvin, Bylund, & Brommel, 2012, p. 87). Everyone has secrets, but to what extent do people reveal and conceal them? Imber-Black (1998) has proposed categories of family secrets: sweet, essential, dangerous, and toxic, the last of which Galvin et al. (2012) describe as being poisonous to family relationships. Alcoholism is one of these secrets. This study will analyze how people perceive the family secret of having an alcoholic parent and seek to uncover the process people go through when deciding to reveal or conceal this toxic secret.

## H O-8: MAYRA GUZMAN

### The New Kids on the Block

FACULTY SPONSOR(S): JOAN FERRANTE, SOCIOLOGY, ANTHROPOLOGY & PHILOSOPHY

The year 2014 marks the first time in U.S. history that kindergartners and first graders classified as "white" in U.S. public schools are outnumbered by students who are considered non-white and Hispanic. The Hispanic segment has been given special attention because within its ranks are a high proportion of English Language Learners (ELL students). Little is known about this population and its needs. Insights can

be gleaned from a participant observation study in which this researcher served as interpreter to students and their families. Some of the biggest challenges identified in this study are language barriers, cultural clashes, and misunderstandings.

## H O-9: DANIELLE HOFELE

### Feminist Media and its Impact on Current College Students

FACULTY SPONSOR(S): JOHN ALBERTI, ENGLISH

We, as humans, participate in media every day, and it seems that no one group participates more than my peers, the "millennials." How does the content of the media we participate in, specifically feminist media, affect us? After surveying 100 of my NKU peers, I have attempted to draw a link between feminist television shows and the attitudes of those millennials who view them. Using several current popular shows to frame the goals of media, this paper discusses whether or not feminist media is successful with today's college-aged students.

## H O-10: LANIE KOLKMEYER

### Family Conflict

FACULTY SPONSOR(S): STEPHEN YUNGBLUTH, COMMUNICATION

This research study analyzes how an individual manages conflict with a parent versus conflict with a sibling. Do we perceive conflict in a different way with different family members? Does our conflict resolution style vary based on which family member we are engaged in conflict with? This study will shed light on these research questions and others relating to family conflict.

## H O-11: JESSICA KERBY

### 360° Panoramic Experience

FACULTY SPONSOR(S): NICK BONNER, VISUAL ARTS

A photographic study beyond the conventional method of panoramic display, this work is intended to create an immersive effect that results in an experience as near as possible to being in the photograph. This is achieved through a panoramic photo that fits together end to end for a seamless transition. This photograph is then displayed on semi-translucent paper within an installation piece that hangs from the ceiling and is lit from within. From the outside this piece appears to be but a cylinder, but from inside the viewer can turn and spin around as if standing in Santorini, Greece.

## H O-12: KATHRYN NEGARD

### Fastened

FACULTY SPONSOR(S): KELLY MOFFETT, ENGLISH

I am going to read from *Fastened*, my poetry collection that I composed over a year-long capstone course. In this collection, I explore the cultural assumptions of what it means to be a woman and how I fit into those assumptions. Additionally, I will discuss what I have learned about the composition of poetry and how I have been influenced by other women's poetry. I will talk specifically about poetry techniques such as compression and line break. I will also discuss women poets from my reading list, such as Jane Hirshfield and Sylvia Plath.

## H O-13: HEATHER OWENS

### Vida Cotidiana v. Everyday Life: A Study in the Effects of Studying Abroad on Students and their Cultural Perceptions

FACULTY SPONSOR(S): KAJSA LARSON, WORLD LANGUAGES & LITERATURES

This presentation explores the effects that studying abroad has on student routines and cultural perceptions. During July 2013, thirty undergraduate students participated in the Kentucky Institute for International Studies (KIIS) Spain II study abroad program. While abroad, students responded to three surveys that measured their daily habits, struggles during the trip, and changes upon returning to the United States. Through these surveys and academic research, I discovered that studying abroad alters student lifestyles in a positive way while also giving students an enhanced global perspective.

## H O-14: JORDAN PADGETT

### Phantoms

FACULTY SPONSOR(S): KELLY MOFFETT, ENGLISH

*Phantoms* is a collection of poems that I have been compiling over the past year. *Phantoms* touches on a number of themes, including relationships, nature, growth, and trust. As I have been working to complete *Phantoms*, I have focused on making the familiar unfamiliar and giving ordinary ideas or memories a somewhat disconnected, haunting edge. I have learned not only to listen to the way each word works with others to form a whole, but to create each line so that it can stand on its own.

## H O-15: TRENT ROBERTS

### Comparative study of airborne culturable bacteria and fungi in lakes with and without cyanobacterial blooms

FACULTY SPONSOR(S): MIRIAM KANNAN, BIOLOGICAL SCIENCES

Reports of increased respiratory illnesses and allergies are commonly associated with the presence of harmful algal blooms (HABs) in the area. A new method was developed to study if there is a relationship between HABs and other algal blooms and the presence of airborne fungi and bacteria. A remote control boat was used to drag two styrofoam boards with plates containing various selective media to culture bacteria aerosolized from the water. Lakes with and without HABs or other blooms were sampled. We report here on the diversity, quantity, and composition of the airborne microbial flora collected in this comparative study.

**H O-16: AMANDA SMITH****The Death Penalty: A Survey of the Attitudes of NKU Students**

FACULTY SPONSOR(S): MELISSA MOON, POLITICAL SCIENCE, CRIMINAL JUSTICE &amp; ORGANIZATIONAL LEADERSHIP

For my capstone, I have created a survey on the death penalty that will be given to all criminal justice classes at NKU. This survey will examine the different views on the death penalty among Northern's student population. The survey will collect information on student demographics and educational background (including student majors, minors, year in school, etc.) in order to determine if there are significant differences in attitudes towards the death penalty among students of various ages, races, and educational experiences.

**H O-17: MATTHEW STARK****Development of a Biochemistry Laboratory Experiment for Undergraduate Students to Learn Biochemical Techniques in Molecular Biology**

FACULTY SPONSOR(S): STEFAN PAULA, CHEMISTRY

Chemistry laboratory classes expose students to real world applications of topics learned in lectures. Lab experiments are designed to follow the lecture, explore a topic more deeply, and teach students valuable techniques used regularly in industry, medicine, and research. This project will develop a new laboratory experiment to expose students to a biochemical technique not previously practiced. Data gathered from observation and student surveys will be used to assess how well students performed the experiment, whether the lab could be completed within the allotted time, what parts of the experiment were most interesting to students, and what students learned.

**H O-18: BOBBIE LEE STUBBEMAN****The Effects of Early-life Risperidone on Locomotor Responses to Amphetamine during Adulthood**

FACULTY SPONSOR(S): MARK BARDGETT, PSYCHOLOGICAL SCIENCE

This study used rats to determine if chronic risperidone administration during development enhanced locomotor responses to amphetamine during adulthood. Rats received one of four doses of risperidone (vehicle, 0.3, 1.0, 3.0 mg/kg) from PND 14 through 42. Beginning at PND 75, locomotor activity was recorded for 27 hours once a week for four weeks after each rat received a dose of amphetamine (saline, 0.3, 1.0, 3.0 mg/kg). While locomotor activity was increased in rats administered risperidone early in life or after amphetamine administration, there was not enhancement of amphetamine's activity-elevating effect in the former group.

**H O-19: DESIA TALBOTT****The Effects of Alcohol and Energy Drinks on Simulated Driving**

FACULTY SPONSOR(S): CECILE MARCZINSKI, PSYCHOLOGICAL SCIENCE

When compared to alcohol alone, the consumption of alcohol mixed with energy drinks (AmED) leads to decreased perceived intoxication, enhanced stimulation, and enhanced desire to drink more alcohol (Marczinski et al., 2011, 2012, 2013). This study examines the acute effects of alcohol and energy drinks, alone and in combination, on simulated driving, police-standardized field sobriety testing, and perceived intoxication. On each of the dose sessions, participants consume the beverage and complete all objective and subjective measures when blood alcohol is peaking. It is anticipated AmED will reduce perceived intoxication while not changing objective impairment when compared to alcohol alone.

## MASTER OF ARTS: TEACHER AS LEADER POSTER PRESENTATIONS

THURSDAY, MAY 1 AT 4:30PM  
STUDENT UNION 109

**MATL P-1: THOMAS W. ARNOLD****Examining the Effects of Reducing Homework Length on Student Completion and Performance**

FACULTY SPONSOR(S): DAVID CHILDS, TEACHER EDUCATION

Abstract: This study was conducted in 10th and 12th grade Algebra 2 classes and examined the effects of reducing the length of standard homework assignments by one half. The impact of the shorter assignments on student homework completion rates and student learning will be discussed.

**MATL P-2: LAURA BROOKS****How Reading Incentives and Reward Programs Impact Reading Confidence in Kindergarten Through Second Grade Students**

FACULTY SPONSOR(S): DAVID CHILDS, TEACHER EDUCATION

Abstract: This study examined the possibility of a relationship between reading incentives or reward programs and a student's reading confidence. This action research took place in an urban school with kindergarten through second grade students. The findings of this action research project will be shared with the school faculty in order to explore the possibility of implementing more reward programs.

**MATL P-3: HONG CHEN****What are the Most Effective Transition Techniques that Promote a Smoother, Quicker and Safer Movement of Students in the Classroom?**

FACULTY SPONSOR(S): DAVID CHILDS, TEACHER EDUCATION

Abstract: This study explored classroom management strategies intended to increase time-on-task by reducing the amount of time spent in transitioning between classroom activities.

**MATL P-4: JILL CLAYPOLE****The Relationship Between Multiplication Fact Fluency and Math Confidence**

FACULTY SPONSOR(S): DAVID CHILDS, TEACHER EDUCATION

Abstract: This study was conducted in a fourth-grade classroom to see if there is a connection between memorizing multiplication facts and confidence or positive attitude toward mathematics.

**MATL P-5: TABITHA GAINES****Does Ability Grouping Allow for More Student Academic Growth?**

FACULTY SPONSOR(S): DAVID CHILDS, TEACHER EDUCATION

Abstract: This study considered whether students were likely to have greater academic gains when they are taught in small groups of students with similar abilities, as compared with when they are taught in mixed-ability groups.

**MATL P-6: ANDREA HENRY****Getting Moving in Physical Education Class: How to Maximize the Students' Physical Activity During Physical Education Class**

FACULTY SPONSOR(S): DAVID CHILDS, TEACHER EDUCATION

Abstract: This study explored different approaches to engaging all students during physical education class time, to maximize the amount of movement experienced by each student.

**MATL P-7: TERI MARTI****How Stereotypes Affect Students Who Are Identified as Receiving Special Education Services**

FACULTY SPONSOR(S): DAVID CHILDS, TEACHER EDUCATION

Abstract: This study analyzed the impact of an intervention on the social stigma, attitudes and behaviors of non-disabled middle school students toward students with disabilities, using surveys and interviews of 6th grade students.

**MATL P-8: LAURA MARTIN****Keeping Primary Students on Task**

FACULTY SPONSOR(S): DAVID CHILDS, TEACHER EDUCATION

Abstract: Keeping the students on task at all times is important in any classroom. This research implemented and compared two methods: self monitoring and the color wheel system to determine which method led to fewer off task behaviors in a primary-aged classroom.

**MATL P-9: RYAN BOOTH****Various Rewards that Motivate Secondary Aged Students to Complete a Daily Workout Plan in Physical Education**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

Abstract: My project was to find out what could motivate students to be more involved in the games and activities that we do in physical education class. My conclusion is that when students are presented with a reinforcement then their level of participation increases.

**MATL P-10: MARGARET BOYTE-ZERHUSEN****Effects of Flexible Grouping on Standardized Test Scores for Students with Disabilities**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

Abstract: This study examined how the use of flexible instructional grouping could impact standardized testing performance for students with special needs. The findings of this action research project will be shared with special education staff members and the implications of improving student testing performance will be discussed.

**MATL P-11: AUBREY CAHILL****Outbursts: Students With Autism**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

Abstract: What strategies can be used for oppositional behaviors in students with autism spectrum disorders? There are many successful strategies for teachers to use in working with children on the autism spectrum. My research will assist in finding ones that work best for an autistic student that also exhibits oppositional behaviors.

**MATL P-12: AMY DODD****What is the Relationship Between Motor Activities and On Task Behavior?**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

Abstract: This action research project was conducted in a third grade, below level reading classroom and examined the relationship between motor activities and student attention. The findings of this action research will be used to determine if providing motor activities helps students with attention to task.

**MATL P-13: MELISSA GODDARD****Do Effective Teachers Have Effective Classroom Management?**



FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

**Abstract:** This action research project was conducted to examine classroom management procedures of 19 elementary school teachers to determine the relationship between effective teachers and effective classroom management. The findings of this action research project and a discussion of the implications will be discussed.

**MATL P-14: LAUREN GOSNEY**  
**Effective Classroom Management Strategies for Decreasing Student Disruptive Behaviors**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

**Abstract:** This study examined the effectiveness of several different classroom management strategies which were used to decrease student disruptive behaviors. During this study, four classroom management strategies were implemented over a period of four weeks in an eighth grade science classroom. The findings from this action research project will be presented and discussed with participants, colleagues, and those taking NKU's EDG 692 course.

**MATL P-15: HANNAH GUNCKLE**  
**Ability Grouping in Elementary School**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

**Abstract:** This action research project was conducted in a 4th grade math and reading intervention classroom. It examined the relationship between ability grouping students and their success in math and reading. Progress was monitored weekly by a computer generated assessment. The results and a discussion of the findings will be shared with the participants.

**MATL P-16: JILL HURTT**  
**Effects of the Implementation of Response to Intervention on Reading Ability in First Graders**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

**Abstract:** This study investigated the effects of Response to Intervention on the increased reading ability of first graders at Florence Elementary School. To determine the effects of RTI on reading ability, data was analyzed from the STAR Early Literacy Test from January 2014 through April of 2014. The data will be further analyzed to see if RTI is reflecting a positive or negative impact on the number of students who are a part of the reading RTI program. If the first grade students' reading abilities are increased, then Florence Elementary's RTI program is effective in the areas of reading and language arts.

**MATL P-17: BETH KAHMANN**  
**In What Way Do Reading Scores Change When Cognitive Brain Exercises Are Utilized in a First Grade Setting?**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

**Abstract:** This study examined the relationship between brain exercises and reading scores in a first grade setting. The findings and implications of this action research project will be shared with participants.

**MATL P-18: CHRISTEN E. KELLY**  
**Self-Assessment of Speaking Tasks and their Value in an Elementary World Language Classroom**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

**Abstract:** This study examined the value of an interpersonal speaking self-assessment technique in a fourth and fifth grade Spanish language learning classroom. The project attempted to determine whether can-do rating checklists are a valid and useful method for measuring progress and providing adequate feedback to a large quantity of students and parents with limited and infrequent amounts of class time. The results and a discussion of the implications of these findings will be shared with participants.

**MATL P-19: SARAH KLEYMEYER**  
**The Impact of Service Learning on Students Participating in a Highly Structured Behavior Education Program**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

**Abstract:** With the intent to increase student growth through service learning opportunities, the research question was "Can I provide students with a meaningful service learning experience that will provide them an opportunity to give back to their community and will this increase their positive minutes of interaction in the classroom, grades, and positive attitude about school and their education?"

**MATL P-20: JESSICA MILLER**  
**The Impact of Direct-Instruction and Inquiry-Based Learning on Mathematical Achievement**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

**Abstract:** This study was conducted in a third-grade classroom, and examined students' performance in mathematics through direct-teacher instruction and inquiry-based learning. The results of weekly progress checks will be analyzed to determine which teaching method students learn best through, direct-teacher instruction or inquiry-based learning.

**MATL P-21: ALLYSON MURRAY**  
**Differentiating instruction to learning style preferences and its impact on academic achievement**

FACULTY SPONSOR(S): SHELLI WILSON, TEACHER EDUCATION

**Abstract:** This study investigated the effectiveness of teaching students using a traditional method versus teaching students by matching instruction to their learning style preferences. The study determined if addressing learning style preference increases students' ability to learn and their level of engagement.





## LIVE STUDENT PERFORMANCES:

### ARTISTS, ENTERTAINERS, MUSICIANS, AND PERFORMERS



#### ARABIAN NIGHTS

##### BY REPRISE/BOOK CONNECTION

Rhys Boatwright  
Andy Burns  
Ellie Chancellor  
Christopher Darnell  
Emily Fry  
Carissa Ganderberger  
Taylor Greatbatch  
Abby Liebowitz  
Jack Manion  
Terrance McCraney  
Cynthia Mercado  
Ashley Piller  
Adam Razavi  
Jennifer Rhodenhiser  
Meredith Russell  
Andrea Squires  
Kyle Taylor  
Robbie Tieman

*Brian Robertson, director*

##### BROADWAY CHORUS TROUPE

Andrew Blake  
Andrew Burns

Melissa Cathcart  
Ellie Chancellor  
Callie Finley  
Gabriel Kirk  
Kathryn Klens  
Trey Paris  
Gretchen Priddy  
Amanda Steier  
Caitlyn Thiel  
Joseph Trentman  
Megan Urz

*Dr. Damon Stevens, director*

##### BRASS CHOIR

Joseph Ball  
Kenneth Barth  
Brittany Camden  
Jeffrey Courter  
Cameron Everage  
Joshua Ramos  
Miguel Timerding  
Dorothy Van Huss

*David Dunevant, director*

##### CHAMBER CHOIR

Andrew Ankenbauer

Shaina Bahler  
Brittany Berry  
Timothy Buddell  
Justin Cordero  
Tyler Griffith  
Angelina Giuliano  
Shani Hamilton  
Kyle Heinrich  
Kaelin Hildreth  
Calvin Horner  
Kaitlyn Kelley  
Dakota Koch  
Brooke Miller  
Marissa Miller  
Thomas New  
Keith Riegel  
Zachary Robinson  
Wesley Schafer  
Avery Schmitt  
Taylor Staples  
Warren Wilburn

*Randy Pennington, director*

##### CONCERT BAND

Wyoma Barber  
Brianna Bryer  
Joseph Case  
Morgan Durrett  
Rachael Gasser  
Nicholas Hach  
Aaron Helms  
Rebecca Hotard  
Nicholas Miller  
Zachary Neal  
Taylor Penny  
Sage Ritchie-Hempstead  
Abigail Schultz  
Ricky Williams  
Jaylin Wilson  
Matthew Zirtzman

*Raquel Rodriguez, conductor*

##### DANCE TROUPE

Lauren Crawford  
Abby DeWald  
Sarah DeWald  
Sarah Emmons  
Jessica Foote  
Kairee Franzen  
Courtney Helterbride  
Tyler Griffith  
Kayla Pecchioni  
Tiffany Rusch  
Kyle Segar  
Brian Spencer  
Joey Squeri  
Abbie Stone  
Molly Watson  
Andrew Wiemann

*Heather Britt, director*

##### DAV WALL PROJECT

Anthony Savicki

##### JAZZ COMBO 1

Benjamin Bratton  
Monte Lykins  
Matthew McCoy  
Andrew Pearson

*William Hogg, director*

##### JAZZ COMBO 2

Benjamin Bratton  
Chelsea Gabbard  
Matthew Louis  
Monte Lykins  
Andrew Pearson

*Phil Bukhead, director*

##### JAZZ COMBO 3

Matthew Averdick  
Wyoma Barber

Brianne Bryer  
Joseph Case  
Morgan Durrett  
Rachael Gasser  
Nicholas Hach  
Aaron Helms  
Rebecca Hotard  
Nicholas Miller  
Zachary Neal  
Taylor Penny  
Sage Ritchie-Hempstead  
Abigail Schultz  
Ricky Williams  
Jaylin Wilson  
Matthew Zirtzman  
Nicholas Hach  
James Ricks  
Ian Stokes  
Seth Thomas

*John Zappa, director*

##### JAZZ ENSEMBLE

Matthew Averdick  
Patrick Bolender  
Ian Caldwell  
Jeremy Caddell  
Trevor Caddell  
Jeffrey Courter  
Nicholas Hach  
Heather Hale  
Isabelle Jones  
Frederick Krieger  
Andrew Pearson  
Christopher Sendelbach  
Eric Snyder  
Miguel Timerding  
Nicholas Triantos  
Michael Voet  
Ricky Williams

*William Hogg, director*



#### **NORTHERN CHORALE**

Emaline Allen  
Sydney Allen  
Kimberly Bishop  
Elizabeth Cabrera  
Natalie Clarke  
Katherine Hazelwood  
Kaelin Hildreth  
Calvin Horner  
Matthew Kahmann  
Aaron McAlpine  
Brooke Miller  
Marissa Miller  
Scott Miller  
Anuel Nevels  
Thomas New  
Lisa Newell  
Holly Peek  
Natalie Russell  
Yvonne Smith  
Amber Steffen  
Rebecca Talley  
Warren Wilburn

*Katie Barton, director*

#### **PERCUSSION ENSEMBLE**

Matthew Averdick  
Joseph Bedel  
Brian Butler  
Morgan Folz  
Rachael Gasser  
Perilou Goddard  
Christopher Gratsch  
Aaron Hoover  
Emily Igel  
Michael McMahon  
Zachary Neal  
Taylor Penny  
Daniel Powers  
Taylor Ross  
Kevin Snyder  
Jaylin Wilson  
Evan Wuestefeld

*Scott Lang, director*

#### **PHILHARMONIC ORCHESTRA**

Chad Broderick  
Michael Bruce  
Kevin Conley  
Jacob Donnermeyer  
Cameron Everage  
Ari Fitter  
Christopher Gratsch  
Nicole Gullion  
Connor Karrick  
Frederick Krieger  
Elaina Lehto  
Katharine Lusher  
Joshua Mason  
Chris Meeks  
Christine Menchen  
Jeremy Plott  
Anna Smith  
Sean Todd  
Dorothy Van Huss  
Michael Voet  
Tyler Wood  
Elizabeth Williams

*Frank Restesan, conductor*

#### **R&B COMBO**

Ryan Boldery  
James Clem  
Heather Hale  
Vanessa Larkins  
Jordan Loyd  
Samantha Prewitt  
James Ricks  
Eric Snyder

*Kevin Zugelter, director*

#### **STEEL DRUM GROUP**

Matthew Averdick  
Joseph Bedel  
Brian Butler  
Morgan Folz  
Rachael Gasser  
Perilou Goddard  
Christopher Gratsch  
Aaron Hoover  
Emily Igel  
Michael McMahon  
Zachary Neal  
Taylor Penny  
Daniel Powers  
Taylor Ross  
Kevin Snyder  
Jaylin Wilson  
Evan Wuestefeld

*Stan Ginn, director*

#### **STORYTELLERS**

Jozie Banas  
Alysia Bauer  
Melissa Bullock  
Rebecca Campbell  
Nicole Childers  
Jason Garner  
Candice Gott  
Laken Ginn  
Peter Huffman  
Greg Jones

Katherine Ledermeier  
Clay Mahagan  
Andrew Ornelas  
Joe Schutzman  
Lauren Thornsberry  
Stephen Wheeler

*Kristin Hornsby, director*

#### **STUDENT COMPUTER MUSIC**

Natalie Clarke  
Sarah Crail  
Kelsey Cummings  
Lina Giuliano  
Matt Hofmeister  
Elaina Lehto  
Chris Meeks  
Matt McCoy  
Natalie Schrand  
Kevin Snyder  
Warren Wilburn  
Amberly Winfrey  
Ria Yerdon

*Thomas Jordan, director*

#### **SYMPHONIC WINDS**

Joseph Ball  
Kenneth Barth  
Brianne Bryer  
Ian Caldwell  
Brittany Camden  
Jeffrey Courter  
Cameron Everage  
Ari Fitter  
Steven Funke  
Rachael Gasser  
Stephen Goerler  
Christopher Gratsch  
Vincent Hisle  
Isabelle Jones  
Frederick Krieger  
Christine Menchen  
Morgan Minor  
Brandon Prew

Ryan Ott  
Joshua Ramos  
Zackary Strong  
Ian Stokes

*Brant Karrick, conductor*

#### **VOCAL JAZZ ROSTER**

Andrew Ankenbauer  
Brittany Berry  
Timothy Buddell  
Chelsea Gabbard  
Shani Hamilton  
Kyle Heinrich  
Kaitlyn Kelley  
Wesley Schafer  
Taylor Staples  
Warren Wilburn

*Randy Pennington, director*

#### **WOMEN'S ENSEMBLE**

Emaline Allen  
Sydney Allen  
Alisha Barfield  
Kimberly Bishop  
Kristen Butler  
Brittany Camden  
Katherine Gandenberger  
Katherine Hahnel  
Rachel Hampton  
Katherine Hazelwood  
Emily Kappes  
Marissa Miller  
Lisa Newell  
Jessica Schummer  
Hannah Shirkey  
Yvonne Smith  
Eden Smock  
Abigail Swinford  
Casey Tiemeier  
Alison Thompson  
Megan Ulrich  
Dorothy Van Huss

*Katie Barton, director*





## STUDENT PARTICIPANTS

STUDENT NAME	ABSTRACT #	Childers, Amber	H O-2
Abdullah, Alia	O-14	Childs, Alan	P-131
Alahmadi, Rakan	P-162	Chilson, Eon	P-19
Alghamdi, Mussab	P-161	Church, Sarah	P-94
Alqahtani, Haif	P-162	Cieslak, Daniel	P-47
Alshammari, Abdulrahman	P-162	Citrone, Heather	P-2
Alzahrani, Abdulkhalik	P-161	Clark, Tyler	P-167
Amato, Erica	O-9, P-36	Clark, Cory	P-198
Andress, Timothy	A-5	Clark, James	P-207
Angel, Aaron	I-1	Claypole, Jill	MALT P-4
Arnold, Thomas	MALT P-1	Claytor, Cecily	P-1
Asad, Mosef	I-2	Clifford, Brook	I-2
Ashcraft, Brandy	P-21	Collins, Christina	P-2
Ashley, Patrick Flynn	P-47, P-48	Collins, Briana	A-4
Bach, Jonathan	P-129	Cook, Patty	P-100
Bailey, Brittney	P-200	Cosgrove, Brook	P-212
Ball, Whitney	P-209, P-210	Courtney, Dustin	P-198
Barber, Alexandra	H O-1	Cracchiolo, Richard	I-2
Barker, Martin	O-7	Creech, Seana	P-64
Barnard, Janice	P-192	Crum, John	P-20
Barnes, Stacey	A-2	Cunningham, Abby	H O-3
Bayne, Chris	P-148	Cunningham, Brandi	H O-4
Beckman, Ella	P-163	Curtis, Nancy	I-2
Bedel, Brigitte	A-1	Dailey, Cory	P-5, P-10
Beers, Kevin	O-10	Damron, Jessica	O-26
Belperio, Mary	O-20	Dangerfield, Felicia	P-95
Beneker, Chad	P-43	Darby, Tyler	P-52
Bertke, Nick	P-121	Davis, Olivia	P-20
Bicknell, Erin	P-194	Davis, Tatum	P-21
Bilby, Jeremy	P-90	Dawson, Akia	P-32
Bindas, Colin	P-199, P-200	Decann, Jessie	P-132
Bischoff, Zackery	P-163	Dees, Kourtney	P-1
Blackburn, Molly	P-130	Delany, Rachel	P-166
Blanton, Brittany	P-151	Delehanty, Stormy	P-203, P-204
Boone, Nolan	P-155	Diawara, Abdoulaye	P-125
Booth, Ryan	MALT P-9	Dishner, Suzanne	P-1
Bothman, Evan	P-77	Dixon, Hannah	H O-5
Boyt-Zerhusen, Margaret	MALT P-10	Do, Donna	P-34
Bradburn, Katie	P-2	Do, Thuy	O-9
Brandes, Patrick	P-91	Dodd, Amy	MALT P-12
Bray, Samantha	P-146	Donnermeyer, Jacob	P-159
Breeden, Molly	A-4	Donohoue, Colleen	A-4
Brendel, Cassandra	P-10	Dovel, Janice	P-76
Brice, Elliott Tug	O-27	Doyle, Maureen	P-158
Bricking, Adelle	P-201, P-206	Drake, Danielle	P-96
Brink, Carly	P-63	Draper, Ashley	P-79
Brooks, Laura	MALT P-2	Duckworth, Tehya	O-25
Brossart, Thomas	P-151	Dugger, Ashley	H O-6
Brossart, Ryan	O-24	Dunn, Timothy	O-9, P-34
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Burke, Brian	A-4	Edmonds, Jacob	P-170
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Cabrales, Arianna	P-18	Eriksen, Michelle	A-1
Cahill, Kaitlin	P-28	Escudero, Jesus	O-19
Cahill, Aubrey	MALT P-11	Ewing, Zachary	O-11
Cameron, Brian	O-24	Eyassu, Lwam	A-4, P-214
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Campbell, Tiffany	P-78	Farris, Katlyn	P-171
Carr, Sean	O-25	Fausz, Kristian	P-172
Carroll, Jamie	P-200	Feck, Emily	P-149
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		Funk, Tyler	I-3
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		Gaines, Tabitha	MALT P-5
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		Gessendorf, Lindsey	P-97
		Ghere, Daniel	O-8
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		Giles, Jake	P-152
		Ginn, Laken	P-54
		Goddard, Melissa	MALT P-13
		Goins, Leighann	P-198
		Golembiewski, Joritalen	P-160
		Gosney, Lauren	MALT P-14
		Granville, Nicolette	P-112
		Grayson, Lindsay	P-154
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		Gunckle, Hannah	MALT P-15
		Guriel, Darci	P-56
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		Haim, Benjamin	P-35
		Hairston, Mary	P-86
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		Henderson, Cori	P-194
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