Table of Contents

Welcome.................................................................................................................................................. 2
Conference Personnel ............................................................................................................................... 3
Area Coordinators .................................................................................................................................. 3
URC Conference Schedule ...................................................................................................................... 4
Presentation Schedule ............................................................................................................................. 5
Conference Abstracts ............................................................................................................................... 18
  Anthropology ......................................................................................................................................... 18
  Art History ............................................................................................................................................ 23
  Biology ................................................................................................................................................. 24
  Business Administration & Economics ................................................................................................. 34
  Chemistry ............................................................................................................................................ 35
  Communication: Speech & Journalism ................................................................................................. 38
  Earth & Environmental Sciences ........................................................................................................... 42
  Education ............................................................................................................................................. 43
  Foreign Languages ................................................................................................................................. 44
  Gender Studies ..................................................................................................................................... 46
  History ................................................................................................................................................ 47
  International Studies .............................................................................................................................. 51
  Literature ........................................................................................................................................... 52
  Math and Computer Science .................................................................................................................. 60
  Media Studies ...................................................................................................................................... 61
  Performing Arts .................................................................................................................................... 62
  Pharmacy/Health Sciences .................................................................................................................... 64
  Philosophy & Religion ............................................................................................................................. 84
  Physics ................................................................................................................................................ 85
  Political Science .................................................................................................................................. 88
  Psychology ......................................................................................................................................... 89
  Sociology ............................................................................................................................................ 103
  Visual Art Display ................................................................................................................................. 109
  Poster Presentations ............................................................................................................................... 110
Index of Participants ............................................................................................................................... 132
Twenty-Second Annual

Undergraduate Research Conference

Butler University
April 16, 2010

Welcome

Welcome to Butler University and to Indianapolis!

Each year, 700 students from over 30 Midwest colleges and universities gather for the Butler Undergraduate Research Conference. The largest gathering of undergraduate researchers in the Midwest, this 22nd annual meeting offers students from a variety of disciplines the opportunity to present the results of their labors, replicating the format and climate of professional conferences.

Undergraduate research has been identified by the National Survey of Student Engagement as a “high impact” educational practice that promotes critical thinking, learning through practice, and knowledge in depth. It enhances undergraduate liberal learning as well as encouraging advanced study in the major.

I encourage you to take this opportunity to share in the enthusiasm and knowledge of your fellow students at this event. May your own presentations go well, but also support other presenters by attending sessions that pique your interest. Enjoy your experiences today!

Sincerely

Bobby Fong
President, Butler University

It is a genuine pleasure to see so many young researchers on Butler University’s campus for the Twenty Second Annual Undergraduate Research Conference. The presence of this year’s 460 researchers as well as their mentors and friends from schools across the country bodes well for the future of our nation.

We appreciate young scholars who engage the world of ideas and then generously share their work. We know that research requires courage, so we praise your character and achievement.

We appreciate the engagement of faculty sponsors, who have directed these talented young women and men in their research. Faculty sponsors have enriched the lives of these researchers. We thank the faculty for using their talent and positive energy on behalf of these scholars.

We hope your day is intellectually satisfying, socially enhancing, and personally fortifying.

This conference affirms the place of knowledge and truth in human affairs. Today’s gathering should strengthen the bonds of community and extend a promise of more constructive days ahead. Thank you for your attendance and support.

Sincerely,

Robert F. Holm, Ph.D.
Co-Director

Richard J. McGowan, Ph.D.
Co-Director
Conference Personnel

Conference Director
Dr. Richard McGowan

Administrative Assistant
Jamie Survance

Conference Co-Director
Dr. Robert Holm

Special Events Advisor
Lauren Krueger

Area Coordinators

Anthropology
Dr. Elise Edwards

Art History
Dr. Elizabeth Mix

Biology
Dr. Michael Maloney

Business Administration & Economics
Dr. Deborah Skinner

Chemistry
Dr. Geoffrey Hoops

Communication: Speech and Journalism
Dr. William Neher

Earth and Environmental Sciences
Dr. Robert Holm

Education
Dr. Meredith Beilfuss

Exercise Science and Human Performance
Dr. Michael Worrell
Hanover College

Foreign Languages
Drs. Terri Carney and Alex Quintilla

Gender Studies
Dr. Ann Savage

History
Dr. Scott Swanson

International Studies
Dr. Montgomery Broaded

Literature
Dr. Lee Garver

Math and Computer Science
Dr. Rebecca Wahl

Media Studies
Dr. Allison Harthcock

Performing Arts
Dr. James Briscoe

Pharmacy/Health Sciences
Dr. Bruce Hancock

Philosophy & Religion
Dr. Tiberiu Popa

Physics
Dr. Xianming Han

Political Science
Dr. Craig Auchter

Psychology
Dr. Joel Martin

Sociology
Dr. Antonio Menendez

Visual Art
Dr. Gautam Rao
URC Conference Schedule

7:30 a.m.  
Conference Registration and Check-in  
2nd Floor Atherton Union  
Continental Breakfast, Reilly Room, Atherton Union

8:30 a.m.  
Opening Remarks  
Dr. Laura Behling, Associate Provost  
Reilly Room, Atherton Union

9:00 a.m. – 4:00 p.m.  
Conference Sessions

9:30 a.m. – 3:15 p.m.  
Poster Sessions  
Lower Level Concourse, Pharmacy Building

11:00 a.m. – 1:00 p.m.  
Visual Art Display  
Reilly Room, Atherton Union

11:30 a.m. – 1:30 p.m.  
Lunch  
Reilly Room, Atherton Union

12:00 p.m.  
Welcome Address  
Dr. Bobby Fong, President  
Reilly Room, Atherton Union

4:00 p.m.  
Conference Concludes
## Presentation Schedule

### Anthropology

<table>
<thead>
<tr>
<th>Time</th>
<th>Session A Jordan Hall, Room 276</th>
<th>Session D Jordan Hall, Room 276</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>A Glance at Options for the Unemployed with No Health Insurance. Kristyn Campbell.</td>
<td>01:00PM</td>
</tr>
<tr>
<td>09:15AM</td>
<td>Integrating Biomedicine and Alternative Medicine Within A Single Society. Faith Lindsay.</td>
<td>01:15PM</td>
</tr>
<tr>
<td>09:45AM</td>
<td>Gender Roles in American Military Medicine. Terri Lee.</td>
<td>01:45PM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Session B Jordan Hall, Room 242</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>Tail or no Tail in Alouatta Palliata. Nissa Petrowski.</td>
</tr>
<tr>
<td>09:15AM</td>
<td>Homo erectus in Europe: An Exploration of Thermoregulation. Vanessa Wirth.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Session C Jordan Hall, Room 276</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30AM</td>
<td>The Modern Face of Viet Nam: An in-depth cultural study focusing on the education system and reforms. Heather Harvey.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>The City of the Dead: An Unexpected Consequence of Globalization. Stephanie Atkins.</td>
</tr>
<tr>
<td>11:15AM</td>
<td>Importance of the Mother Tongue: The Vitality of Learning Crucial Information in One’s First Language. Alisha Miller.</td>
</tr>
</tbody>
</table>

### Art History

<table>
<thead>
<tr>
<th>Time</th>
<th>Session A Fairbanks Center, Room 146</th>
</tr>
</thead>
<tbody>
<tr>
<td>01:00PM</td>
<td>Incorporating Traditional Lakota Imagery in Contemporary Ledger Drawings: Examining the Works of Evans Flammond, Sr. Samantha Bossman.</td>
</tr>
</tbody>
</table>

### Biology

<table>
<thead>
<tr>
<th>Time</th>
<th>Session A Gallahue Hall, Room 105</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>The Relationship between a Socioeconomic Gradient and Fox Squirrel Nest Density in Indianapolis, IN. Mary Gryzbek.</td>
</tr>
<tr>
<td>09:15AM</td>
<td>Behavioral patterns of Mustelus canis (smooth dogfish shark) in a captive population. Megan Vaupel.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>Assessing the Prevalence of Salamander Malformations in Central and Southern Indiana. Margo Wagner, Rod Williams.</td>
</tr>
<tr>
<td>09:45AM</td>
<td>Microsatellite analysis of two local fox squirrel (Sciurus niger) populations. Sajeena Horvath.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Spatial Difference in Community Composition of Unionids of the Saint Joseph (of the Maumee) at Johnny Appleseed Park. Joseh Baumgartner, Rosemary Mormon.</td>
</tr>
<tr>
<td>Time</td>
<td>Session C Gallahue Hall, Room 106</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>09:00AM</td>
<td>Color genetic and coat of rabbits. Jerome Lamb.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>Affinity of a-Tocopherol for Polyunsaturated Lipids: Differential Scanning Calorimetry on Model Biological Membranes. Chandra Flack.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Novel mitochondrial gene arrangement in Unionicola parkeri: A total evidence approach to molecular phylogeny. Lesley Jackson, Amy Johnson.</td>
</tr>
<tr>
<td>10:30AM</td>
<td>Sequencing the voltage gated sodium ion channel from the copepod, Calanus finmarchicus. Kaitlin Costello.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Session B Gallahue Hall, Room 102</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>Differences in mechanical and anatomical properties of leaf abscission in the life history of Kalanchee pinnatum. Jillian Hodge.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>Effect of Season on Germination in Lab of Plasmodial Slime Mold Spores on Fallen Tree Leaves. Rich Nehring.</td>
</tr>
<tr>
<td>09:45AM</td>
<td>Steroid Use in Male and Female Bodybuilders. Brandiann Warren.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Predictive Power of Various Complications Arising from Type 2 Diabetic Foot Syndrome on Lower Leg Amputation. Sarah Albertson.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Does speed kill: Mechanical and morphological variables associated with window strike birds. Julie Michalski.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>The Rate of Lactate Removal of Endurance Athletes Compared to Sprint Athletes. Justin Guilkey, Dr. Barbara Wahl.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Session D Gallahue Hall, Room 105</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:30PM</td>
<td>Pedestrian foot traffic is a disturbance agent in Karner blue butterflies. Patty Campbell, Mary Gryzbek, Victoria Bennett.</td>
</tr>
<tr>
<td>12:45PM</td>
<td>Effects of habitat remediation by herbicide application in a Vinca minor L. invaded forest in southeastern Indiana (USA). Jessica Peebles.</td>
</tr>
<tr>
<td>01:00PM</td>
<td>Assessing the Effects of Eutrophication on the Prevalence of Parasite Infection in Planorbid Snails within Forested Vs Agricultural Landscapes. Ashely Daniels, Rod Williams.</td>
</tr>
<tr>
<td>01:30PM</td>
<td>Pedestrian traffic as a disturbance agent in the little wood satyr. Mary Gryzbek, Victoria Bennett, Patty Campbell.</td>
</tr>
<tr>
<td>01:45PM</td>
<td>Friend or Foe? A Study of the Effects of The Lapel Publicly Owned Treatment Works on Stony Creek. Thelma Lamaster.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Session E Gallahue Hall, Room 102</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:30PM</td>
<td>The effects of significant changes in saturated fat intake on serum cholesterol levels. Travis Summitt.</td>
</tr>
<tr>
<td>01:00PM</td>
<td>Strength and Power of Lower Extremity Movements as Vertical Leap Predictors in Skilled Jumpers. Brett Kies, William Tereshko, Dr. Barbara Wahl.</td>
</tr>
<tr>
<td>01:15PM</td>
<td>Morphology and Behavior of Olivella semistriata, an Intriguing Tropical Beach Snail. Ariel Cyrus.</td>
</tr>
<tr>
<td>01:30PM</td>
<td>Greatest Plausible Egg Size and the Reconstruction of Dinosaur Life Histories. Danielle Stevenson.</td>
</tr>
<tr>
<td>01:45PM</td>
<td>The effects of edaphic factors on the growth and reproduction of Brassica rapa. Tobias Carter, Katherine Putney.</td>
</tr>
</tbody>
</table>

**Business Administration & Economics**

**Session A Holcomb Building, Room 235**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session A Holcomb Building, Room 235</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00AM</td>
<td>Underwater Supply Chain Security. Brandon Spainhour.</td>
</tr>
<tr>
<td>10:15AM</td>
<td>How brand name and packaging quality affect the consumer choice process. Albert Price.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Coach's Comparable Worth. Blake Caudill.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>Rerum Novarum’s Mediation in a conflicted Industrial Age: Karl Marx, Adam Smith and John Locke examined. Justin Schramm.</td>
</tr>
</tbody>
</table>
## Chemistry

### Session A Gallahue Hall, Room 108

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>Determination of Cytochrome c’s Affinity towards Various Chemically Modified Silica Surfaces via Attenuated Total Reflection Spectroscopy. Briana Richine.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>Docking to the Estrogen Receptor Dimer. David Cooper.</td>
</tr>
</tbody>
</table>

### Session B Gallahue Hall, Room 108

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:45AM</td>
<td>Fatty Acid composition of S. cerevisiae nuclei: A comparative analysis utilizing GC/MS. Alberto Lubrano, Steve Steiner.</td>
</tr>
</tbody>
</table>

### Session C Gallahue Hall, Room 108

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
</table>

## Communication: Speech & Journalism

### Session A Fairbanks Center, Room 246

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>Small Town Leadership: An Assessment of Mayoral Leadership Styles in Third Class Cities. Ryan Waggoner.</td>
</tr>
<tr>
<td>09:15AM</td>
<td>An Examination of Perceptions Associated with Name Origins and Gender. Danielle Miller, Sharon Metzger.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>The Impact of Room Attractiveness on Task Completion. Katie Sroufe, Kaitlyn Breininger.</td>
</tr>
</tbody>
</table>

### Session B Fairbanks Center, Room 246

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00AM</td>
<td>The Uses of Caffeine on a University Campus. Ashley Lamb, Laura Wallace.</td>
</tr>
<tr>
<td>10:15AM</td>
<td>Do Huntington University Students Comply with the University Alcohol Policy. Shay Jones, Megan Murray.</td>
</tr>
<tr>
<td>10:30AM</td>
<td>An Examination of the Relationship Between Time Management Skills and Grade Point Average. Colleen Knox, Brittany Carlson, Brittany Carlson.</td>
</tr>
</tbody>
</table>

### Session C Fairbanks Center, Room 246

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00AM</td>
<td>The &quot;Cinderella&quot; Master Narrative in Jane Austen's novels. Abigail Cerquitella.</td>
</tr>
</tbody>
</table>

Session F Fairbanks Center, Room 246

03:00PM The Stress Of Monotony: Communication Techniques In Dealing With Stress Among Jailers And Inmates In A County Jail. Matt Friedlund.

03:15PM Becoming Spartan Green: The Quest of Michigan State University. Katie Willimarth.

Earth & Environmental Sciences
Session A Jordan Hall, Room 201

01:00PM A Study of Water Quality of Lake Banet in Reference to the Habitat of Freshwater Jellyfish (Crasedacusta sowerbyi). Joel Jaeger.

01:15PM Impacts of the Invasive Species Elaeagnus umbellate on the Pierce Cedar Creek Institute Ecosystem Soil and Water Quality. Kaylene Boroski.

Education
Session A Jordan Hall, Room 183

11:00AM Taking Learning and Thinking to New Levels: The Reggio Inspired Middle School Classroom. Danielle Konigsbacher.

11:15AM Defining Literacy for an Internet Audience. Lydia Nees.

11:30AM Charter Schools vs. Public Schools. Lindsay Levin.

Foreign Languages
Session A Jordan Hall, Room 278

10:00AM Responsabilité parentale : Négligence et répression, une étude d’Orlanda de J. Harpman et de Piège pour Cendrillon de S. Japrisot. Marguerite Carpenter.

10:15AM A Tale of Suppressed Character: The Cases of Mr. Hyde and Orlando. Katie Hammitt.

10:30AM Puentes y peregrinos: Cómo los ríos han afectado el Camino de Santiago. James Michael Smith.

10:45AM Das Athenaeum. Sean Saxe.


11:30AM De izquierda a derecha: Argentina y la dictadura militar. Kirsten Sears.

Gender Studies
Session A Fairbanks Center, Room 146

10:00AM The Pursuit of Perfection: Babies by Design. Ashley LeCount.


10:30AM Sisterhood or Segregation: Gender Division in the Context of Sororities. Christina Lear.
### History

#### Session A Jordan Hall, Room 205

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>“The Fashions or the Follies of the Times”: Imitation, Propaganda, and Innovation in the Early American Theater.</td>
<td>Janelle Jenkins.</td>
</tr>
<tr>
<td>09:15AM</td>
<td>John Locke’s Influence on Jonathan Edwards’ Early Writings, a Defense.</td>
<td>Benjamin Crenshaw.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>The Religious Beliefs of Thomas Paine.</td>
<td>David Pulliam.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Mammon and the Minuteman.</td>
<td>Eric Drongowski.</td>
</tr>
<tr>
<td>10:30AM</td>
<td>Ancient Egyptian Cultural Identity as Seen Through Ancient Egyptian Naval Architecture.</td>
<td>Scott Walker.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>When the Rainbow is a Messenger: Iris, Hekate, and Moon Halos.</td>
<td>Dane Rowles, Tyler Wolford.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>The Creation of the Image of the Scottish Highlander and the Army of the British Empire.</td>
<td>Ian Cross.</td>
</tr>
<tr>
<td>12:00PM</td>
<td>Explaining the US/Syrian Relationship: Why It Declined and How to Improve It.</td>
<td>Chris Chapman.</td>
</tr>
<tr>
<td>01:00PM</td>
<td>African Roots in a Tux: William Grant Still’s Afro-American Symphony.</td>
<td>Samantha Johnson.</td>
</tr>
<tr>
<td>01:30PM</td>
<td>Nietzsche and Modernity.</td>
<td>Kerri Lynne Jones.</td>
</tr>
<tr>
<td>01:45PM</td>
<td>Gendered Political Culture in Progressive Era Indiana.</td>
<td>Lindsay Rump.</td>
</tr>
</tbody>
</table>

#### Session B Jordan Hall, Room 303

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>The Blacker Devil: Race and Hatred in Shakespeare’s Othello.</td>
<td>Christian Sorrell.</td>
</tr>
<tr>
<td>09:15AM</td>
<td>Madness As a Means to Action.</td>
<td>Nikki Hodgson.</td>
</tr>
</tbody>
</table>

#### Session C Jordan Hall, Room 336C

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>Rethinking the Development of Imagism: Walt Whitman's Influence on Ezra Pound.</td>
<td>Danielle Konigsbacher.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>Hugh Selwyn Mauberley &amp; Pound's Ideal Artist.</td>
<td>Lydia Bringerud.</td>
</tr>
</tbody>
</table>

#### Session D Jordan Hall, Room 301

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:45AM</td>
<td>The Divinity of Prufrock’s Comedy? Structural Parallels between Dante’s and Eliot’s Works.</td>
<td>Phillip Call.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>Becoming Irish: Yeats and the Irish War for Independence.</td>
<td>Nikki Hodgson.</td>
</tr>
</tbody>
</table>

#### Session E Jordan Hall, Room 303

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:45AM</td>
<td>Gandhian Inversion in Postcolonial Indian Literature.</td>
<td>Lorna Douglas.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>Tragedy and Magical Realism in One Hundred Years of Solitude.</td>
<td>Kelly Beiswanger.</td>
</tr>
</tbody>
</table>

#### Session F Jordan Hall, Room 336C

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30AM</td>
<td>The Proposed Theme of Writing in Moby Dick.</td>
<td>Amy Jerina.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>The Quest for Significance in Death of a Salesman and All My Sons.</td>
<td>Kristin Dorland.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>“Screaming at the Neck of God”: Mourning in the Novels of Toni Morrison, Briana Williams.</td>
<td>Briana Williams.</td>
</tr>
</tbody>
</table>
11:15AM The Rejection of Men in Their Eyes Were Watching God. Katie Watterson.

Session G Jordan Hall, Room 335A

10:30AM Perspectives on Huckleberry Finn. Joe Wadlington.
10:45AM Perspectives On Huckleberry Finn. Ben Sippola, James Gray.
11:00AM Perspectives on Huckleberry Finn. Laura Little.
11:15AM Perspectives on Huckleberry Finn. Waylon Wright.
11:30AM Perspectives on Huckleberry Finn. Farhad Anwarzai.

Session H Jordan Hall, Room 301

01:00PM Perspectives on Huckleberry Finn. Courtney Alwine.
01:15PM Perspectives on Huckleberry Finn. Ros Lederman.
01:30PM Perspectives on Huckleberry Finn. Ali Weir.
01:45PM Perspectives on Huckleberry Finn. Joanna Parypinski.
02:00PM Perspectives on Huckleberry Finn. Jennifer Redmond.

Session I Jordan Hall, Room 303

01:00PM Misogyny in Distress: Sexism in the American Gothic Convention. Kate Green.

Math and Computer Science

Session A Jordan Hall, Room 207

01:00PM A study of models and parameter effects on the formation of patterns in animal coats. Shane Hogle, Eva Rubin, Whitney Stinnet.
01:15PM Plagiarism in Computer Science classes. Dang Mai.
01:45PM A Genetic Algorithm to Optimize a Connect Four Minimax Player. Thomas DeBell, Brian Morrow.

Media Studies

Session A Fairbanks Center, Room 146

11:00AM The Emotional Effects of Product Placement in Television by Gender. Josh Brothers.
11:30AM Supporting Heteronormativity And Patriarchy In “The Dark Knight”. Richard Young.
11:45AM Western Media Dominance and Cultural Imperialism Abroad. Jessica Kiefer.

Performing Arts

Session A Lilly Hall, Room 133

09:00AM Quartet for the End of Time: The Music for the Book of Revelation. Anna Pulliam.
09:30AM Mussorgsky’s Nationalist Innovations and a New Russian Opera. Katy Merriman.
11:00AM Music as the Soul's Tale: Winterreise. Thomas Leschke.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session A Pharmacy Building, Room 106A/B</th>
<th>Session C Pharmacy Building, Room 156</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30AM</td>
<td>Knowledge, Attitude, and Behavior toward Health Promotion in an Urban Public School Setting. Katie Trione, Appolina Frey, Stephanie Schumacher, Sheel Patel.</td>
<td>Evaluation of a brochure to educate patients ages = 65 on internet sites to be recommended to patients. Kimberly Berger, Stacy Belmont, Brittany Gisi.</td>
</tr>
<tr>
<td>09:45AM</td>
<td>Utilization of Patient Assistance Programs in Free Clinics across Central Indiana. Kate Thomas, Patti Kaster.</td>
<td>Assessment of Pharmacists’ Perceptions, Attitudes and Willingness to Assist the Underserved in Receiving Appropriate Healthcare. Melissa Huber, Kylee Jones.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Allergy Assessment in a Pediatric Population. Lauren Miller, Chad Knoderer.</td>
<td>An Evaluation Of The Effects Of Vancomycin Dosing And Serum. Stephanie Reynolds, Bryce Mitchell.</td>
</tr>
<tr>
<td>11:30AM</td>
<td>Designing and assessing an introduction to pharmacy practice experience (IPPE) institutional rotation. Meghan Nawrocki.</td>
<td>Interest and Perceived Barriers of Non-traditional Pharmacy Residency Programs at Veterans Affairs Medical Centers. Melissa Buck.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Session B Pharmacy Building, Room 150</th>
<th>Session D Pharmacy Building, Room 204</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>The Effectiveness of Web-based Education Modules on Improving Medical Residents’ Knowledge on Pediatric Infectious Disease Topics. Stephanie Roush.</td>
<td>Comparison between three multivitamins and patients’ carotenoid levels as measured by the photometric scanner. Barbara Pohl.</td>
</tr>
<tr>
<td>09:15AM</td>
<td>Use of angiotensin-converting enzyme inhibitors (ACE-Is), angiotensin-receptor blockers (ARBs), and HMG-CoA reductase inhibitors (Statins) in women of childbearing potential. Kathy Newman, Lindsay Horan.</td>
<td>Pharmacists Conducting Discharge Medication Reconciliation to Decrease Hospital Readmission Rates. Valerie Fishbeck, Bre Taylor, Alexander Ansara.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Complications in Neonates Associated with Total Daily Heparin Exposure. Leanne Current, Kate Rawlings.</td>
<td>Evaluation of thiazide diuretics as initial management of hypertension among primary care providers in a veteran affairs (VA) population. Raychelle Oler, Amy Pullen, Pooja Shah, Darin Ramsey.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>Comparative analysis of vancomycin-associated nephrotoxicity in patients before and after implementation of new vancomycin dosing guidelines at Community Health Network. Lauren Marzotto, Amanda Parsons, Jarrett Amsden, Emily Greenlaw, William Malloy.</td>
<td></td>
</tr>
<tr>
<td>11:30AM</td>
<td>Evaluating the duration of post-operative cefuroxime prophylaxis on infectious outcomes in pediatric cardiovascular surgery patients. Andrea Webster, Michelle Berg.</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Session F Pharmacy Building, Room 150</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>01:00PM</td>
<td>Evaluating the efficacy of nutrition and exercise education in Middle School Children, Shelley Klochan, Jessica Beck.</td>
<td></td>
</tr>
<tr>
<td>01:15PM</td>
<td>Retrospective Chart Review &amp; Analysis of Antibiotic Use in Patients with Acute COPD Exacerbations, Joe Bravine, Andrew Rarity.</td>
<td></td>
</tr>
<tr>
<td>01:30PM</td>
<td>Identifying Variables that Influence Butler University Pharmacy Students to Pursue a Residency Program, Kayla Craft, Greg Pachacz.</td>
<td></td>
</tr>
<tr>
<td>01:45PM</td>
<td>Educational program designed to help incorporate healthy nutritional changes, Kathryn Plowman, Megan Wiersma.</td>
<td></td>
</tr>
<tr>
<td>02:15PM</td>
<td>Assessing the Impact of a Community Based Health Screening Event, Melissa Hintmann, Jayme Jedrzejczak, Kristen Wilcox.</td>
<td></td>
</tr>
<tr>
<td>02:30PM</td>
<td>Sweet Success or Lost in Translation? A Comparative of Branded and Private-Labeled Glucometers, Kelly Quinlan, Kristal Williams, Cynthia Ebini, MD.</td>
<td></td>
</tr>
<tr>
<td>02:45PM</td>
<td>Establishment of a medication reconciliation process in an underserved clinic: a pilot project, Laurel Whitlatch.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Session G Pharmacy Building, Room 156</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Philosophy &amp; Religion</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00AM</td>
<td>The Fallacy of Directionality. Glenn Lyvers.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Physics</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>Determination of energy level excitation states of time dependent optogalvanic signals in a discharge plasma, Michael Blosser.</td>
</tr>
<tr>
<td>09:15AM</td>
<td>Calibration of Magnetic Field Probes as a Diagnostic for Laser-Produced Plasma, Lucy Morton, Carmen Constantin, Erik Everson, Derek Schaeffer, Patrick Pribyl.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>Study of intensity pattern of Fresnel diffraction through a circular aperture. Matthew Lawder.</td>
</tr>
<tr>
<td>09:45AM</td>
<td>Modeling the Time-Dependence of Accretion of Mass by a Supersmassive Black Hole from Stellar Evolution, Michael McFall.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Modeling the Dynamics of Galactic Nuclei using the Fokker-Planck Method, Kim Phifer.</td>
</tr>
<tr>
<td>10:30AM</td>
<td>Using Fourier Analysis to Determine the Rotation Period of Asteroids, Andrew Darragh.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Rotational Period of Main Belt Asteroids, Thomas Harp.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>The Effect of Stellar Collisions and Tidal Disruptions on Post-Main-Sequence Stars in the Galactic Nucleus, Brian Geiss, Brian Murphy, Kim Phifer, Michael McFall.</td>
</tr>
<tr>
<td>11:15AM</td>
<td>Reconstruction of Ds Mesons with the STAR Heavy Flavor Tracker. Oumarou Njoya.</td>
</tr>
</tbody>
</table>
Session B Gallahue Hall, Room 348

01:00PM Spectral Analysis of the Biological Samples. Erin Reeves, Renat Letfulin.
01:15PM Molecular dynamics study of nanopore sequencing with MspA protein pore. Hung Yu Ho, Aleksei Aksimentiev.
01:30PM Nanoparticle Optics in Long-Wavelength Radiation. Emily Walker.
01:45PM Modeling Bound States in the Continuum for Two Electrons in a Quantum Dot Pair. Thomas Tuegel.

02:00PM Fabrication of GaAs HIGFETs for Advanced Electron Physics Research. David Zilz, Zach Palmer, Jian Huang, J. L. Reno, L. N. Pfeiffer.
02:15PM Simulation of Spatial Heat Distribution in Bone Tissue due to Heating Caused by Absorption of Short and Ultrashort Laser Pulses. Colin Rice.
02:30PM Study of green upconversion fluorescence in highly doped erbium-doped fibers. Tyler McKean.
02:45PM Creation of Gas Sensors Based on Tin Dioxide Nanobelts. Alvaro Puente, Jorge Villagran.

Political Science

Session A Jordan Hall, Room 203

01:00PM Anti-Americanism in South Korean College Students. Kelly Cyr.

01:45PM Free, Brave, and Oppressed: Systematic Injustice in the United States. Caleb Hamman.

Psychology

Session A Jordan Hall, Room 216

09:00AM "Smile Like You Mean It:" Children's Confidence in True and False Memories. Ashley Dick, Elyse Morgan, Tara Lineweaver.
09:30AM Turn That Frown Upside Down: The Positivity Effect in Older Adults’ Attention and Memory. Natalie Taylor, Michael Hernandez, Tara Lineweaver.
09:45AM The Prevalence of Depression in Elderly Based on Living Situation. Carlee Nelson, Sarah Johnson, Kelly Henkels.
10:15AM “F” Words versus Actions: Parkinson’s Disease Differentially Impairs Action-Based Language Skills. Walter Stamp, Angela Mion, Tara Lineweaver.
10:30AM The Effects of Depression and Selective Inhibition. Judith Asem.
11:00AM Bulimia Rates in China and The United States. Laura Aylward.
11:15AM Diet, Body Weight, Body Fat, and Memory Retrieval Inhibition. Judith Asem.

Session B Jordan Hall, Room 236

09:00AM A predictive model of college student stress. Will Roush, Greg Stimler.
09:15AM Anxiety and altered immune function in college students.

11:00AM Parenting Styles in Relation to Academic Performance and Academic Stress. Kristin Bradley.
11:30AM Analysis of Barriers to Service-Learning with College Students Using a Mixed Methods Approach. Katy McFadden, Holly Morris, Kelly Fogle, Harry Sibert.

Session C Jordan Hall, Room 238

09:00AM Diffusion of Responsibility in Email Responses. Ali Plutschack, Jessica Carr.
09:15AM Modeling in Online Communication. Lindsay Marsh, Eric Sharp.
10:00AM Uncovering Stigmatized Beliefs. David Briley.
10:15AM Believing is Seeing: Positive Memory Beliefs Correspond with Accurate Eyewitness Memory. Eric Massey, Tara Lineweaver, Rachel Jacks.
10:45AM  Memories for sexual encounters: Sexual attitudes, personality, and evidence for personal flashbulb effects. Nicholas Comotto.
11:00AM  Kiss Memory Alters Mood but Not Vice Versa. Elsa Carodenuto, Sarah Pajkos.

Session D Jordan Hall, Room 216

01:00PM  Could you do it? Would you do it? Confronting discrimination may depend on self-efficacy and perpetrator power. Shawn Peters, Laurie Ferrell, Sairah Safdar.
01:30PM  Helping Victims or Hurting Perpetrators? The Effect of Leadership Type on Decisions to Confront Prejudice. Alex Lindsey.
01:45PM  Predicting Commitment to Speak Up Against Racial Prejudice. Lindsey Boes, Tori Rice, Lianne Gann, Rachel Geier, Carrie McGrath, Desiree McCloud, Arek Ryzak, Robert Skiver, Amica Jutla, Rachael Geier, Jamie Watson.
02:00PM  Effects of Advertisements on Perceptions of Women’s Leadership. Michelle Ulhenbroek, Jennifer George.
02:30PM  The Effect of Mortality Salience on Attitudes Toward Gender Roles. Stephanie Goss, Meredith Cotton.
03:00PM  Mate Preferences: How Do I Decide. Brittany Jackson, Molly Stephens.
03:15PM  Hypersexual or Psychopathology? An Examination of What it Means to be Bisexual. Brett Crehan.
03:30PM  Influence of Contact on Grounded Attitudes towards Homosexuality. Rachel Jacks, John Bohannon, Eric Massey.

Session E Jordan Hall, Room 236

01:00PM  Religiosity, sexual attitudes, and sexual participation in college students. Kaleigh Nelson, Ian SerVaas.
01:15PM  The Effects of Short Term Exposure to Sexually Explicit Material on Emotion and Attitudes towards Relationships and Sex. Heather Morgan, Saffron Redwine.
01:30PM  The Effect of Varied Social Situations on Attitudes Toward Diverse Populations Among College Students. Sara Tucker, Hallie Wakeland, Carl Hufford.
02:00PM  Sociobiological Theory and Casual Encounters on Craigslist. Christine McLean.
02:30PM  Religiosity Predicts Physical Health in Young Adults. Katie Watterson, Nicole Ehert, Claire Brownson, Leta Hunt.
02:45PM  The Effect of Priming on Health-Related Choices. Katie Wainwright, Elliot Spengler, Elliot Spengler, Katie Watterson, Nicole Ehert, Katherine Adams.
03:00PM  The contributions of environmental attitudes to the experiences of women with chronic illnesses: A qualitative analysis. Tarah Miller, Stephanie Dille, Brittany Brewer, Courtney Clements, Shannon Morton, Alexis Pawlarczyk, Heather Adams.
03:15PM  Health Behaviors and Self Esteem. Austin Boon.

Session F Jordan Hall, Room 238

01:00PM  A Moment for Movement: What is Dance and Movement Therapy. Amanda Tuohy.
01:15PM  Jumping to Conclusions Bias and Attitudes Towards Body Image and Food. Heather Sperry.
01:30PM  A Qualitative Exploration on the Effects of Martial Arts and the Lives of Individuals. Nicholas Beatty.
01:45PM  Analyzing Religiosity and Sexual Fantasies in Relationship to Depression and Anxiety. Rebecca Haley, Alison Cariello, Dr. George A. Gaither.
02:00PM  Alcoholics Anonymous Affiliation and Faith Development. Alicia Horst, Maggie Hartgraves.
02:30PM  The Effect of Gender on Perception of Individuals in Counseling. Renee Bader.
02:45PM  The Influence of Sex Role Orientation and Counseling Experience on Client Expectations about Counseling. Josh Novak.
03:00PM  Short Term Effects of Animal Assisted Therapy on Emotional Well Being. Alisha Cahue, Joel Martin.
03:15PM  Positive Illusory Bias in College Students. Alisha Cahue, Joel Martin.

Sociology

Session A Jordan Hall, Room 348

09:00AM  Historical Awareness of Child Abuse in our Society. Tatiana Sardy.
09:30AM  Prolific discipline: Developing the restraint and juvenile delinquent attitude scale. Nicholas Comotto.
09:45AM  Illicit Use of Prescription ADD or ADHD Stimulants on a College Campus: Prevalence and Motives. Josipa Nikic.
10:00AM  Inmate Reentry: A Comparison of National Reentry Programs to Louisville, Kentucky’s Reentry Programs. Kelley Medley.
10:15AM  Physical Incarceration, Stigmatization and Prisoner Reentry into Society. TaNisha Bellamy.
10:45AM  The Spillover from the Work to the Home of Police Officers. Laura Young.

14
### Session B Jordan Hall, Room 340

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00AM</td>
<td>Macro and Micro-Level Developments in the Trading Card Industry: 1999- Present.</td>
<td>Eric Fritz.</td>
</tr>
<tr>
<td>09:15AM</td>
<td>Our Economy is in a recession: How are we reacting.</td>
<td>Jacob Efman.</td>
</tr>
<tr>
<td>09:30AM</td>
<td>Attitudes Towards Interracial Relationships.</td>
<td>Shelby Pile.</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Attitudes toward homosexuality influenced by Traditional Gender Role Beliefs.</td>
<td>Corissa Foster.</td>
</tr>
<tr>
<td>10:15AM</td>
<td>Gender Inequity in Catholic High Schools.</td>
<td>Autumn Fisher.</td>
</tr>
<tr>
<td>10:30AM</td>
<td>Latino Bilingual Education: The Teacher's Perspective.</td>
<td>Melissa Alm.</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Who is the New Generation of White Supremacists.</td>
<td>Meredith McCann.</td>
</tr>
<tr>
<td>11:00AM</td>
<td>Are women’s priorities when choosing a mate influenced by menstrual cycling or hormonal birth control.</td>
<td>Jeanie Sozansky.</td>
</tr>
<tr>
<td>11:15AM</td>
<td>If You Are Not With Us, Then You Are Against Us: Factors That Lead Sorority Members to Deactivate or Disaffiliate From Their Greek Organizations.</td>
<td>Meghan Luke.</td>
</tr>
</tbody>
</table>

### Session C Jordan Hall, Room 348

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00AM</td>
<td>The Niger Delta Region: Is Peace Possible.</td>
<td>Matthew Salzman.</td>
</tr>
<tr>
<td>11:30AM</td>
<td>A critique of Female Genital Mutilation and proposed interventions that address cultural relativism.</td>
<td>Amy Lynn.</td>
</tr>
</tbody>
</table>

### Session D Jordan Hall, Room 340

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:45AM</td>
<td>The Effect Age and Race Have On The Level of Body Dissatisfaction Experienced by Men.</td>
<td>Derek Brockus.</td>
</tr>
<tr>
<td>12:00PM</td>
<td>Sororities and the social identities of members.</td>
<td>Sally Miller.</td>
</tr>
<tr>
<td>12:30PM</td>
<td>Familiarity and Body Perceptions of Others in College-Age Students.</td>
<td>Jason Head.</td>
</tr>
</tbody>
</table>

### Session E Jordan Hall, Room 348

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>01:15PM</td>
<td>Middle Class Subjectivities: Disgust for Country Music Listeners.</td>
<td>Marisa Carpinelli.</td>
</tr>
<tr>
<td>01:30PM</td>
<td>Are Popular Body Modifications A Sign Of Trouble.</td>
<td>Kim Baker.</td>
</tr>
<tr>
<td>02:00PM</td>
<td>Young Adults and the Media: Perceptions of Fear of Workplace Violence.</td>
<td>Hilary Funk.</td>
</tr>
<tr>
<td>02:45PM</td>
<td>Conflicting Viewpoints: A Study of Media Influences on Students’ Perception of Crime.</td>
<td>Justin Burks.</td>
</tr>
<tr>
<td>03:00PM</td>
<td>Youth Voter Turnout and Outside Influences.</td>
<td>Felicia Mohr.</td>
</tr>
</tbody>
</table>

### Visual Art Display

**Group A 11:00am - 1:00pm, Atherton Union Reilly Room**

2. Enlace. Laura Kramer.
3. FEAR. Eric Ellis.
5. CP Photography. Claire Petersen.
**Poster Presentations**

**Group A 9:30am - 10:45am, Pharmacy Building Lower Level Concourse**

11. Mental Health Services Usages among Low-Income Women. Lindsie Hammond.
12. Societal Pressures and the Effects on College Age Females. Lauren Vos.
14. Communication between Parents and Children Concerning Sex Education. Emily Johnson.
22. NFAT Expression in the 1st Branchial Arch of the Ts65Dn Mouse Model for Down Syndrome. Brady Harman, Josh Blazek.

**Group B 11:00am - 12:15am, Pharmacy Building Lower Level Concourse**

1. An ATR-FTIR analysis of trans-fat content in gas station unpackaged food products. Cyd Van Orman, Jasmine Dixon, Cameron Weaver, Jose Haro, Patty Campbell.

**Group C 12:30pm - 1:45pm, Pharmacy Building Lower Level Concourse**

2. Relationship between Twitter use and Extroversion in College Students. Harry Sibert.
3. The Relationship Between a Newman Club Member’s Faith, Attitudes and Behaviors. Tim Cleaver.

Fungicide spraying results in the reduction of symbiotic microbes necessary for production of bee bread. Brady Christensen, Jay Yoder, Travis Croxall.

Cave orb weaver Spiders in northern Kentucky cave as a cause of fungal pathogens to cave crickets. Travis Croxall, Jay Yoder, Brady Christensen.

Effect of a common fungicide on growth of pathogenic and beneficial honey bee (Apis mellifera) colony fungi. David Kolakowski, Jay Yoder, Brady Christensen.

Fish Habitat in the Little Kankakee River. McKenzie Kelly.

Affiliation with Targets of Prejudice Affects Evaluations of Racism and Sexism. Laura Spice, Kristen Malone.

Do Role Play Games Increase Anger and Anxiety. Jennifer Petty, Rochelle Healy.

Cold tolerance characteristics based on water balance of hairworms combined with winter population monitoring from an Ohio stream. Daniel Whonsetler, Jay Yoder, Horton Hobbs.


Temporal Changes in Herbivory from the late 1970’s to Present on Selected Patch Reefs of the Androsian (Bahamas) Barrier Reef Complex. Vanessa Herman, Aaron Myers.


Black Uniforms and Aggressive Play in College Athletics. Ashley Bright, Holly Morris.

Growth, larval development, and metamorphosis in Small-mouthed Salamanders (Ambystoma tansum). Nicholas Zellmer.


A new protocol for documenting temporal changes in the effects of large-scale herbivory on barrier reef structures; a case study of Andros Island, Bahamas. Melissa Boyle, Ashley Everhart.

Can you spot the fake? The effects of mood on smile detection. Ryan Abraham, Nathanael Keiser, Alyssa Abbate, Paul Allison.

Using Grounded Theory to Discover the Differences Between Learning Communities and Freestanding Classes. Josalyn Frye, Marcie Coulter-Kern.

Group D 2:00pm - 3:15pm, Pharmacy Building Lower Level Concours

Development of High-Field Pulsed Electromagnet. Cesar Palma, Matthew Scarpelli, Scott Kramer.

Radiation Exposure To A Family Member In The Injection Room During Dose Administration. Catherine Henderson.


Comparison of responses to temperature and soil fertility variation for eight varieties of Bok Choy (Brassica rapa L. ssp. chinensis (L.) Hanelt), Nicholas Troiani.

Effects of trisomy on neural crest derived Meckel’s and hyoid cartilage. Abby Newbauer, Randall Roper, Cherie Billingsley.

Changes in Body Fat Percentage and Anthropometric Measurements as a Result of a Vigorous Exercise Program. Molly Miller, William Tereshko, Dr. Barbara Wahl.


Faraday Rotation in Non-Linear Crystals. Chad Wine, Nathan Young.

Relationship between Salivary IgA and Steroid Hormones in Women throughout the Menstrual Cycle. Emma Raver.


The Impact of Cross Education in non-dominant muscle training. Emily Merrill, Barbara Wahl.

Physiological Profiles of Collegiate Soccer, Lacrosse, and Field Hockey Student-Athletes By Position. Rachel Bossi.


Histological Evaluation of Spermatogenesis within the Testis of the Spiny Lizard, Sceloporus undulates. Georgia Hester, Katherine Venable, Justin Rheubert.

Functional Morphology of Secretion by the Large Wax Glands (Sensilla Sagittiformia) Involved in Tick Defense. Brian Hedges, Jay Yoder, Derrick Heydinger.

Commercially applied antibiotics prove ineffective against honey bee diseases chalkbrood and stonebrood. Derrick Heydinger, Jay Yoder, David Kolakowski, Brian Hedges.


Effectively Exercising Children with Autism Spectrum Disorders. Erin Daugherty, Dr. Bryant Stamford, Dr. Barbara Wahl.


Upper thermal limitations of the sand fiddler crab, Uca pugilator. Sarah Stueber, Megan Heffelfinger, Heidi Wollaeger, Kali Almdale, Matthew Collier, Katherine Winters, Samantha Infield, Chloé Hart, Jay Yoder.

Anatomically Specific Body Fat Loss during a Low Calorie Diet Combined with a Vigorous Exercise Program. Zachary Giddens.
Conference Abstracts

Anthropology

Session A
Jordan Hall, Room 276
Moderator: Dr. Elise Edwards

09:00AM
A Glance at Options for the Unemployed with No Health Insurance. Kristyn Campbell. Butler University, Indianapolis, IN. Sponsor: Maryna Bazylevych

As the economy deteriorates throughout the United States, mental attitudes are in despair and citizens are attempting to seek out new medical opportunities to fill the space of costly health care systems. In the United States, unemployment is at a twenty-five year high and has reached nearly ten percent (U.S. Bureau of Labor Statistics). Among the wide array of benefits provided by an employer, the most detrimental loss upon job termination can be a person’s health care insurance. The price of medical care without insurance is normally unaffordable and forces unemployed Americans to discover alternative healing processes that can restore their health with no injurious debt. Drawing from government statistics and literature based evidence from the unemployed; I will explore the approaches of unemployed American’s partaking in alternative health care remedies found in differing parts of the world. Although little is known about alternative remedies in the United States due to American’s need for licensed physicians and pharmaceutical prescriptions, I will examine the efforts in improving their lives through unconventional methods alongside their approach to other aspects of their lives as well. Emphasizing the diverse effects of medical treatments from worldly medical literature, my research will highlight the positive and negative points of cross-cultural change to reveal alternative health management techniques for the unemployed in the United States.

Keywords: [health care, United States, benefits, unemployment, alternative remedies]

09:15AM
Integrating Biomedicine and Alternative Medicine Within A Single Society. Faith Lindsay. Butler University, Indianapolis, IN. Sponsor: Maryna Bazylevych

Currently, the healthcare system in the United States is being re-evaluated by the public. Significant changes are being discussed by the American state and its citizens. This research paper offers suggestions on how care for patients of different cultural backgrounds could be approached, based on the ethnographic evidence offered by a number of established anthropologists. This research project will examine in what ways Western biomedicine and other ethnomedical systems can productively co-exist and benefit each other and the patients, without offending or going against beliefs. I do this by comparing several ethnographic accounts of inter-cultural encounters in the biomedical setting to see which approach may best suit the United States specifically for treating patients of different cultures. This research paper is based on extensive literature review in anthropological discipline and neighboring social sciences conducted in Fall 2009.

09:30AM

As our globe becomes more and more populated, it seems as though health care delivery is becoming less and less accessible. This has created a global initiative to establish developmental projects in communities in need of and/or with a history of poor public health. This presentation looks to investigate three different styles of approach to initiate health reform projects. The Behrhorst Program in Guatemala, Law 100 in Colombia, and Healthy Cities in Eastern Europe. Each of these programs had a unique approach, either through legislation or outside consulting bodies, to accomplish their goal of more access to health care. This presentation also looks to investigate and compare the effectiveness of the primary health care programs that were established in these impoverished communities to ultimately conclude if there is a more efficient way to implement these health care reforms.

09:45AM
Gender Roles in American Military Medicine. Terri Lee. Butler University, Indianapolis, IN. Sponsor: Maryna Bazylevych

This research project will seek to examine how the role of American military women in the Iraq War compares to the role of American women during World War II. After World War II, women experienced new opportunities, a sense of independence, and experienced their own individuality due to the part they played in the war. The goal of this project is to identify how the role women have played in medical support during wartime has changed. I will employ a cultural anthropological approach in gathering information. There will be a combination of literary reviews and ethnographic interviews with current American women in the armed services.

Keywords: [World War II, Iraq War, women, support, American, military, medicine]
Session B  
**Jordan Hall, Room 242**  
**Moderator: Dr. Anneke DeLuycker**

**09:00AM**
Tail or no Tail in Alouatta Palliata. Nissa Petrowski. Butler University, Indianapolis, IN. Sponsor: Anneke DeLuycker

I studied tail use behavior among howler monkeys (Alouatta palliata) living on Barro Colorado Island in Panama. The average group size of Alouatta palliata that were studied was ten individuals. Alouatta palliata has been seen to use its tail more often than not in locomotion and postural behavior. More specifically, Alouatta palliata has been seen to use its tail more often in quadrupedal postural behavior and locomotive behavior than in non-quadrupedal postural and locomotive behavior. The purpose of this study was to identify the amount of time the tail was used in postural behavior and locomotion compared to no tail being used. I examined tail use in quadrupedal and non-quadrupedal forms, in both postural and locomotion behaviors. I collected instantaneous focal animal samples every 2 minutes. The duration of this study was forty hours and was done over eight days. I found that quadrupedal positions occurred more often than non-quadrupedal positions. The tail was used more often in Alouatta palliata daily activities compared to no tail being used. Postural behavior was the most commonly seen behavior in the daily pattern of Alouatta palliata.

**09:15AM**
Homo erectus in Europe: An Exploration of Thermoregulation. Vanessa Wirth. Ball State University, Muncie, IN. Sponsor: Evelyn Bowers

Originating in Africa, the thermoregulatory systems of Homo erectus would require considerable changes in order to thrive in the temperate climate of southern Europe. Through the exploration of models of physiology and climate methodologies such as Allen and Bergman’s Rules and the Trinkaus Regression Method - accompanied with comparisons of African and European hominid fossil remains from the Pleistocene and an assessment of the thermoregulatory systems of modern populations in comparable climates - a hypothesis on the dietary, metabolic, and thermoregulatory needs necessary for the species’ success can be constructed and explored.

**09:30AM**

In the Democratic Republic of Congo, a mineral selling for several hundred dollars a kilogram indirectly has reduced the lowland gorilla population in Kahuzi-Biega National Park, DRC from approximately 8,000 to less than 1,000 individuals within five years (Woods 2004). Coltan mines destroy gorilla habitats, and profits from coltan fuel militia in Congo and Rwanda (Redmond 2001). A culture is now developing around the mining of coltan, including the acceptance within the local schema of familial abandonment for the sake of pursuing mining. Anthropologists can contribute in two ways through research in these regions. Public anthropologists can offer critical advice for policy-makers, NGOs, and area residents. Second, biological anthropologists focusing on primatology can offer a unique synopsis of the situation from the gorillas’ perspective, providing deeper analysis of the effects of the crisis on the gorillas’ health, behavior, and environment. This essay reviews the coltan crisis in Kahuzi-Biega National Park, DRC, and examines its relevance to public anthropology and globalization study, in both the cultural and biological spectra, as the crisis affects both local human populations and gorilla species viable for study by primatologists.

**09:45AM**

The ape film genre has been analyzed time and again, revealing our deepest insecurities about what it means to be man or woman, masculine or feminine, white or black, primitive or civilized, or ape or human. These categories are defined by exclusion into dichotomies: one can be man, but one cannot simultaneously be woman. When closely examined, within ape films, such as Ernest B. Schoedsack’s “King Kong, Tarzan, and Mighty Peking Man, we can find a “queering” of the purportedly stringent lines between ape and man, masculine and feminine, and primitive and civilized. Utilizing the model of Natasha Giardina’s “primal man” from Queer Eye for the Ape Guy?, I plan to redirect and focus my lens on the “primitive” representation of the feminine gender and its similarities and differences with the “primal man.” Special attention will be paid to Tarzan and a relatively similar feminine counterpart from Mighty Peking Man, Samantha. These two characters are meant to incite a similar intrigue in exploring the nature of man (or woman), the drama of the touch, and voyeurism. The embodiments of stereotypical “modern” masculinity and femininity and their interactions and relationships with representations of the embodiments of prototypical “primitive” masculinity and femininity might give us some insight into the popular perception of a natural root or core of the binary gender system of the time these films were made or question it entirely.

Session C  
**Jordan Hall, Room 276**  
**Moderator: Dr. Maria Brockmann-Rojas**

**10:30AM**
The Modern Face of Viet Nam: An in-depth cultural study focusing on the education system and reforms. Heather Harvey. Ball State University, Muncie, IN. Sponsor: Gerry Waite
In an increasingly globalized world, it is vital that we expose younger generations to the up-and-coming tiger of the world. Viet Nam is a prime example of not only a country, but a culture that deserves such attention. The following study focuses on an in-depth analysis of Viet Nam’s educational system, including reforms before and after the war. Throughout the 2008-2009 academic year, a group of 12 multi-disciplinary Ball State students composed, researched and prepared a learning unit and DVD for 7th grade social studies instructors and students in Indiana. This was accompanied by a three week immersive learning field study in Viet Nam. Throughout this project, I focused on education and it’s impacts on the younger generations of those students living in Viet Nam. Topics include history of the Vietnamese educational system, the teaching of national identity, a student’s typical day-to-day activities, certain obstacles within the education system, parental involvement, uniforms, and the teacher-student relationship.

10:45AM

Malta’s vibrant Mediterranean atmosphere and tropical climate make it an ideal place to vacation and relax. Up until recently, tourism in Malta has contributed a substantial chunk of income with in it’s own economics. As of lately though, education has also brought about a new wave of tourism. Rather than studying in their cold, rainy, or desert home, learning another language while being emersed within a relaxing culture sounds and is more appealing. Through my own studies on this island, through interviews with teachers and students, and through exploring the culture Malta has to offer, studying English as a second language does not seem like a chore, but rather a dynamic experience.

11:00AM
The City of the Dead: An Unexpected Consequence of Globalization. Stephanie Atkins. Ball State University, Muncie, IN. Sponsor: Gerry Waite

An Bang, a city in Vietnam’s Hue province, is home to a unique cemetery. There is no accepted English title, but it has been called the City of the Dead, the City of the Ghosts, and the City of the Gods. It is funded almost entirely by remittances by Vietnamese emigrants, particularly from people currently living in the United States. This paper examines this site as a product of globalization: that of Vietnam’s rich history and of current economic and cultural exchanges. Particular attention is paid to the nature of remittances and the people who send them. The purpose of this paper is to explore a little-known cultural site in the context of the religious beliefs and cultural values that make it possible.

11:15AM
Importance of the Mother Tongue: The Vitality of Learning Crucial Information in One’s First Language. Alisha Miller. Grace College, IN. Sponsor: Paulette Sauders

This paper will attempt to prove that one should always be presented with important information in his or her own first language for the best results for all persons involved. The person receiving the information will clearly understand the information best when it is given in a first language. It will also be culturally specific to his or her situation and understandings. The person sharing the message will benefit as well because he or she can best share the information when the time has been taken to learn the language and culture of the person receiving the information. Without taking this time, the message will come across as a foreign message that is irrelevant to the receiving person. This paper will seek to prove the importance of the mother tongue through connecting it with culture and showing the close relationship between the two.

Session D
Jordan Hall, Room 276
Moderator: Dr. Elise Edwards

01:00PM
Global Craze: An Inquiry into the Cross-Cultural Diagnosis of Mental Disorders. Ryan Danley. Butler University, Indianapolis, IN. Sponsor: Maryna Bazylevych

This research project will examine some of the most prevalent mental diseases in our culture in the United States and compare them with forms of mental illness across different cultures around the globe. The goal of the project is to identify the socially accepted criteria that define mental illness. I seek to answer the following questions: "How is mental illness defined cross-culturally?", "How do the methods of treatment vary across cultures?", "Is it possible for mental illness to be culture-bound?" and "What is the general concept of a mental illness?". The purpose of my project is to investigate the idea of a mental illness and gather information in order to provide insight into how the idea of what mental illness is becomes popularized. Through addressing this issue, I hope to encourage revisiting, and perhaps reevaluating the methods by which we diagnose and treat mental illness.

Keywords [mental illness, diagnoses, definition, treatment methods, cultural differences]
01:15PM
Rape as a Weapon During Civil War. Cam Thompson. Butler University, Indianapolis, IN. Sponsor: Maryna Bazylevych

This is an investigation of the phenomenon of sexual violence in the context of civil war, particularly when political campaigns utilize systematic rape for strategic military purposes. Michele Leiby classifies rape as a “weapon of war,” under conditions such as these. Rape clearly becomes a weapon: an “instrument or device for the use in attack or defense in combat, fighting or war” (Leiby 2009: 449). There is no single agreed upon theory of why rape as a weapon manifests during conflicts. Subsequently, this investigation draws on various literary reviews of wartime rape in Bosnia, Rwanda, Guatemala, Peru, and the Congo to examine and provide a common framework for comparing the four leading theories accounting for the prevalence of wartime rape: the 1) cultural pathology theory 2) strategic rape theory 3) feminist theory and 4) biosocial theory. In doing so, the piece also sheds light on the global health burdens of wartime rape and it offers potential ways to improve international efforts of prevention and relief.

Keywords: [Rape as a weapon of war, cultural pathology theory, strategic rape theory, feminist theory, biosocial theory, global health burden]

01:30PM
The ‘G’ Spot: A Navajo Methamphetamine Crisis. Darrin McBride. Ball State University, Muncie, IN. Sponsor: Gerry Waite

“G” (short for glass) is a term commonly used to refer to methamphetamine on the Navajo nation. The title of this poster/presentation was chosen specifically to draw the attention of an undergraduate audience. The goal of the project is to present a well-rounded, albeit dire, view of how this epidemic is affecting the sovereignty of the Navajo nation. The research focus is on a time period from 2003 to present day and four sections will be addressed. The development of an epidemic (pre 2005) is devoted to the recent explosion of this problem. A response to be proud of (2005-2007) highlights the timely response of government officials to curtail the epidemic. Devils are hard to kill (2007-2009) presents the most recent data concerning this ongoing threat. Speed kills (now and forever) covers the threats to the next generation of Navajo.

01:45PM
Refugee Mental Health and Bioethical Duties. Deema Alshawa. Butler University, Indianapolis, IN. Sponsor: Maryna Bazylevych

Refugee health has been a major area for study, and many studies and research have shown that access to healthcare may be difficult due to cultural and communication barriers. One of the major concerns for refugees is their mental health conditions that arise from displacement and adjusting to a new home. This research will set out to compile findings about mental health of refugees, the causes of their mental conditions, and what needs to be done in order to provide them with healthcare. This will take an anthropological approach to understand culture and language barriers, but it will also take a bioethical approach to understand what needs to be done to give refugees access to the healthcare services they need.

Session E
Jordan Hall, Room 242
Moderator: Dr. Maryna Bazylevych

01:00PM
Celiac Disease and the Formation of Social Relationships in College. Rebecca Groesbeck. Butler University, Indianapolis, IN. Sponsor: Sholeh Shahrokhi

In Fall 2009, I took an Anthropological Methods class with Dr. Shahrokhi. For my final ethnography, I chose to work closely with members of the Celiac community. Celiac Disease prohibits individuals from consuming any food with gluten (wheat and barley). Given the strict dietary rules for those individuals, I wanted to explore the social challenges of being diagnosed with Celiac Disease during college. Formation of social relationships is strongly tied to food, and since Celiacs have an aversion to food, my research focused on the inhibiting effect of the gluten free diet on the development of new relationships.

I interviewed three female college students who had been recently diagnosed with Celiac Disease. The informants had followed the gluten free diet for 4 months, 8 months, and 18 months, which allowed me to see how time on the diet affects the ability to socialize. We met one-on-one to discuss their diagnoses. After the initial meeting, I ate with two informants, observing their interactions with friends and food. Finally, I used the theories of Michael Owen Jones, who argues that food habits project an image, and Aihwa Ong, who suggests that people may disregard rules (or diets, in this case) due to their longing to fit in with others, to draw conclusions.

My study should be included in the Conference because Celiac Disease is now diagnosed frequently in our society and it has a significant impact on students’ ability to form crucial social relationships during college.

01:15PM
Undergraduate Student Health Information Behavior: A Re-Study. Mark Kindler, Ashley Hall, James M. Nyce. Ball State University, Muncie, IN. Sponsor: James M. Nyce

Undergraduate Student Health Information Behavior:
A Re-Study
Stephanie Atkins, Michael Dean, Ashley Hall, Meredith Hammons, Victoria Kiefer, Mark Kindler, Cortney Koerner, Michael Kostelnik, Morgan Lothes, Jennifer May, Darrin McBride, Caleb Mercer, Rebecca Mertz, Ryan Miller, Scott Peterson, Meredith Redden, Rebekah Richardson, Shelly Turner, Benjamin Vandewalle, Steven Wilcox and James M. Nyce

Department of Anthropology
Ball State University

A 2008 study of Ball State University students’ health information behavior found health information searches to be multi-actor, complex in strategy (not linear), rich in resource use and whose endpoints (+50%) did not end with a visit to a physician, clinic or hospital. These findings were out of the norm with how the literature describes these kinds of searches. Typically student health information searches are described as opportunistic, simple (sequential) and naïve in search strategy, endpoints and how information retrieved is assessed.

Using the 2008 protocol and interviewing the same population (Ball State students 18-30), this 2010 restudy confirmed many of the earlier findings. This study will focus on the roles that gender, literacy, health insurance coverage and kin/social relationships play in health information searches. It will also look at how students evaluate the credibility of online and offline health information sources. Further, while the Internet continues to have an important role in these searches, these two studies suggest that researchers should reexamine the assumptions they have made regarding health information seeking behavior.

01:30PM
Different Cultures, Different Experiences: A Comparative Look at Leprosy Stigma in Five Cultural Regions Around the World. Kristen Lohe. Butler University, Indianapolis, IN. Sponsor: Maryna Bazylevych

This research examines the long-term social, psychological, and economic consequences of leprosy, or Hansen’s disease. Leprosy is a chronic bacterial disease that has long been linked to many etiological myths. For hundreds of years, these misconceptions have prompted observers to fear, ridicule, and reject lepers. As a result, leprosy has become one of the most stigmatized diseases in history, yet with proper diagnosis and treatment techniques, the aid of modern medicine, and its low contagion rate, the disease presents relatively little biological cause for concern. Nevertheless, the incessant social stigma has a tremendous impact on those afflicted with leprosy. In this research, I compare the effects of leprosy in five cultural regions of the world: India and Bangladesh, Sri Lanka, Nigeria, Brazil, and the United States. I present ways in which stigma is revealed within the societies of each region, juxtaposing each region with the others to illustrate their similarities and differences. I outline the psychosocial ramifications faced by patients and discuss the roles that disability and rehabilitation play in patients’ futures. Furthermore, I suggest possible explanations as to why the experience of living with leprosy seems to depend upon one’s culture by looking to each region’s fiscal status, social system, political structure, and religious beliefs.

01:45PM
The Epigenetics of Disease and its Social Implications. Ben Vandewalle. Ball State University, Muncie, IN. Sponsor: Evelyn Bowers

Within recent years, scientists have discovered the profound impact of the environment on the expression of an organism’s genetic makeup and its subsequent phenotype, thus showing the “nature-nurture debate” to be more complicated than once thought. This field of inquiry is referred to as epigenetics, which involves “… genetic mechanisms that create phenotypic variation without altering the base-pair nucleotide sequence of the genes. Specifically, we use this term to refer to those mechanisms that cause variation by altering the expression of genes rather than their sequence” (Gilbert and Epel 2009: 12). The discovery of these phenomena have led to the hypothesis of the fetal origins of adult disease hypothesis, which was proposed by D. J. P. Barker and colleagues (Gilbert and Epel 2009: 250). When discussing Barker et. al’s work, Gilbert and Epel state that they found “Undernutrition during the first trimester leads to a relatively high risk of having hypertension and stroke as an adult, while those fetuses experiencing undernutrition during the second trimester had a relatively high risk of developing heart disease and diabetes as adults. Fetuses experiencing undernutrition during the third trimester were prone to blood-clotting defects as adults” (2009: 250). This field of inquiry has gained the interest of researchers in the health sciences, and anthropologists, because of the anthropology’s unique position between the social and life sciences. Here, I focus on the relationship between epigenetic factors and human disease, the role of nutrition as an epigenetic factor, and the potential social implications of the field.

Session F
Jordan Hall, Room 276
Moderator: Dr. Sholeh Shahrorkhi

02:30PM
A Place to Live in the World and a Place in the World. Nicole Nathan. Hanover College, Hanover, IN. Sponsor: David Buchman

When the community breaks down such that the child has to provide their own protection and institutional needs through an all-youth subculture, the effects on the child are often dangerous but can be a better alternative to the provisions of their society; in essence, our conception of children is changed, we must change how we anthropologically consider these individuals and their relation to society. When children and youth can no longer rely on societal and cultural institutions, a new more common outlet is the formation of gangs. These children who were once at-risk from society now become at-risk. What is the process and the catalyst for this transition? These youths become a deviant subculture—one that reframes these necessary institutions and often represents a microcosmic, chaotic version of society as a whole. What is the importance and values of institutions such as family? Most examples of children without this typical guidance are portrayed as rogue and with beast-like tendencies—fictional examples like The Lord of the Flies by William Golding. What is really the case with gangs—how do they now substist and interact with the external world? We can also no longer consider these individuals as children or youth in the modern definition of the term. As
beings that provide their own protection and culture, how must anthropologists now consider children in gangs? How do these members of gangs view themselves? In what way must we now consider these individuals as people and as a philosophy of human nature?

02:45PM
Body Image and How Media and Popular Culture Affect Young Women’s Perceptions of Themselves and Their Desire to Alter Their Appearances. Cara DeHekker. Butler University, Indianapolis, IN. Sponsor: Maryna Bazylevych

Research has demonstrated an increase in women’s desires to attain the “perfect body” by undergoing various cosmetic procedures (Kaw 1993). Previous anthropological ethnographic research has focused on cultural minorities in the United States, their desire to undergo bodily transformations, and how some minorities’ perceptions of themselves differ from the way white women develop body image (Parker, Nichter, Vuckovic et al 1995). I seek to uncover more about what drives young, predominantly white women to seek cosmetic treatment. This research project seeks to determine how cultural and social factors are involved in the creation of body image among students aged 18-22 studying at an academic undergraduate institution in the Midwest. How does what we are exposed to socially, including factors that are prominent in popular media, affect how we perceive ourselves? I use this research project in an attempt to uncover the answers to the following questions: what is an ideal body type/image for women this age? What physical features are most desired? How does the media influence this image? What factors influence an individual’s desire to alter their body in some way, whether minimally or drastically? Are economic factors involved, and if so, in what ways?

Keywords: [body image, cosmetic surgery, popular media, women, economic factors]

03:00PM
The Cost of Parenthood. Reegan Homburg. Butler University, Indianapolis, IN. Sponsor: Maryna Bazylevych

Traditionally parenthood has been conceived as a natural domain: non-commercial, informal labor. With the advent of new reproductive options people around the world have resorted to new ways of achieving true parenthood. Biotechnologies and third parties are often involved in this process, creating ethical and moral questions never before asked. In this research paper, I investigate the extent to which people are willing to go to bring to life and raise a “perfect” child. I ponder the concepts of personhood, humanity, parenthood, as well as the life worth living in broad social context. I utilize extensive literature review in anthropological discipline as well as neighboring social sciences to answer my main research questions: what does it take to be a “good” parent in different parts of the globe in both developed and developing countries? As well as what is our new understanding of normalcy?

03:15PM
Mediating Identities in World of Warcraft. Ross Bercot, Chris Mcburnes. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

Pulling in over 60% of the market of all Massively Multiplayer Online games, World of Warcraft (WoW) has over eleven million active subscriptions. As participants often invest up to six hours each day in this virtual universe, our initial inquiry focused on what makes WoW so alluring. We soon found that participants are often absorbed in a variety of communities that span different spaces of the internet, and the connections of these different spaces actually define what it means to partipate in this game. Our research examines these different areas (internet forums, voice communication channels, the game itself, etc.) in an attempt to understand how participants engage with and in these different spaces. Social interactions in these distinct areas widely vary in terms of form factor, community involvement, and hierarchy/power, and in light of this observation we focus on each of these areas as distinct identities for those involved. We then explore how these connected spaces and identities are mediated. Our methods incorporate participant observation, personal and group interviews, and archival (internet forums) research.

Art History
Session A
Fairbanks Center, Room 146
Moderator: Dr. Elizabeth Mix

01:00PM
Incorporating Traditional Lakota Imagery in Contemporary Ledger Drawings: Examining the Works of Evans Flammond, Sr. Samantha Bossman. Earlham College, Richmond, IN. Sponsor: Julia May

Historically Native American ledger drawing incorporated the fusion of native imagery within western art mediums by taking traditional pictographic forms and transferring them onto discarded ledger paper with pencil and ink. Evans Flammond, Sr., a Sicangu Lakota artist from South Dakota, uses a modern lens of abstraction and simplification of form to bring ledger drawings into the twenty-first century. This paper focuses on his contemporary drawings and their correlation of traditional symbolism within this modern handling of form. Through primary research in the form of interviews with the artist and analyzing the artworks themselves, this paper examines the significance of the continuation and innovation of contemporary artists, such as Flammond, in this format. Moreover, I will reference historical ledger drawings to distinguish Flammond’s work from that of his predecessors. The analysis of Flammond’s drawings will reveal that his modern handling of form through bright colors and abstraction coincides with imagery that represents the traditional beliefs of the Lakota. This correlation of the traditional and
modern allows Evans Flammond’s work to remain significant to his culture while transferring it into current Western aesthetics, offering it to a wider audience, and continuing to express Lakota values through the unique medium of ledger drawings.

01:15PM

Come explore an illusory borderland of visual imagery, in which flat media appear to have actual depth. Instead of being an image of a scene, holograms actually contain and reconstruct the information of the scene, retaining properties like the ability to view from multiple angles, or even to virtually reconstruct the original scene.

This project will be a display of the works produced in the semester long study of holographic physics, chemistry, manufacture and artistry.

Seminar A Ecology
Gallahue Hall, Room 105
Moderator: Dr. Chris Hess

09:00AM
The Relationship between a Socioeconomic Gradient and Fox Squirrel Nest Density in Indianapolis, IN. Mary Gryzbek. Butler University, Indianapolis, IN. Sponsor: Travis Ryan

The study of urban cities as ecosystems is a relatively new field that involves many complex processes that have yet to be fully understood. The role of humans in cities is vital to how the ecosystem works as a whole. When investigating the various human processes, taking an interdisciplinary approach that includes urban ecology as well as the social sciences is necessary in order to better comprehend the various drivers and feedback within the system. In our study, we focused on a socioeconomic gradient within the city of Indianapolis, IN to analyze its relation to the density of fox squirrel nests (Sciurus niger). We used five different streets as transects in two Indianapolis neighborhoods; each transect ran south-north, and each began and ended at the 3800 and 5400 block (approximately 2.85 km), respectively. We estimated the number of trees that were suitable for squirrel nests and the number of squirrel nests per tree for each parcel along one side of each transect. Two observers were present during a majority of these surveys to decrease the likelihood of error in our estimations. Assessments of the real estate value of each parcel were obtained using publicly available data through the city of Indianapolis. The relationship between squirrel nest density and parcel value were analyzed using linear regression. We present hypotheses regarding mechanisms that explain the observed pattern of fox squirrel nest density along the socioeconomic gradient.

09:15AM
Behavioral patterns of Mustelus canis (smooth dogfish shark) in a captive population. Megan Vaupel. Butler University, Indianapolis, IN. Sponsor: Robert Dale

Mustelus canis, or the smooth dogfish shark, is the second most common species of shark inhabiting the coastal waters of the Western Atlantic. However, little is known about the behavior of this species. In an attempt to establish some data on the behaviors of these animals, I observed a captive population of dogfish at the Indianapolis zoo. I quantified the activity level of the dogfish in various areas of the exhibit, as well as some specific behaviors which differ distinctly from the typical swimming activities of the sharks. I analyzed these results in the context of several factors, including time, number of zoo patrons present, and day (feeding vs. non-feeding days). Some of these behaviors were further examined in terms of their duration and location in the exhibit. The results from these observations will provide a set of baseline data on the behavior of the smooth dogfish sharks for use in future research. It may also shed some light on the mechanism driving the behaviors demonstrated by the sharks in captivity.

09:30AM
Assessing the Prevalence of Salamander Malformations in Central and Southern Indiana. Margo Wagner, Rod Williams. Purdue University, West Lafayette, IN. Sponsor: Rod Williams

Amphibians infected with the trematode parasite (Ribeiroia ondatrae) have resulted in high levels of gross abnormalities. Aquatic ecosystems that host (Ribeiroia) often produce malformed salamanders exhibiting extra digits, extra limbs, and malfunctioning limbs. Amphibian deformities have been reported in 43 states with suspicion that increased eutrophication from agricultural runoff (particularly nitrogen and phosphorous) are linked to increases in snail hosts, increases in densities of metacercaria, and ultimately increases in the frequency of malformations. The effects of (Ribeiroia) infections on salamander populations are poorly understood particularly in natural systems. This study investigated agriculturally adjacent systems and amphibian buffered systems to aid in identifying the underlying cause for salamander malformations. Current studies, which focus on the relationship between (Ribeiroia) and amphibian malformations, typically assess frogs and toads while largely ignoring the relationship among Urodèle amphibians. Moreover, estimates of malformations in salamander populations do not exist for the state of Indiana. In the spring of 2009 a total of 1,704 larval Ambystomatid salamanders, from eight naturally occurring systems in central and southern Indiana, were assessed for malformation type, location, and severity. Current malformation rates occur from 0.00% -26.67% among the eight field sites. Preliminary results show ectodactyly, brachydactyly, and limb hypoplasia as the most commonly present forms of malformations. This study will evaluate discrepancy among the infection rates of malformed and normal salamanders. The final results of this study are imperative in identifying the rate of infection and prevalence of malformations in salamanders and reporting the current conditions within the state of Indiana.
The objective of my study was to examine the genetic diversity of two geographically separated populations of Eastern fox squirrels (Sciurus niger) within the Indianapolis metropolitan area. One population was located on Butler University’s campus and the other at Eagle Creek Park, located about ten miles WNW from the Butler campus. DNA was extracted from tail hair samples collected by live trapping squirrels during the summers of 2007, 2008, and 2009. I used microsatellite analysis to examine the DNA. Hair samples from approximately 100 Butler squirrels and 36 Eagle Creek squirrels were analyzed using 5 microsatellite primers. The results from this study will help to establish a baseline of genetic diversity for fox squirrels inhabiting suburban/urban landscapes and they will help to elucidate the effect, if any, of habitat fragmentation due to urbanization on the genetic structure of this species.


In the summer of 2009, a unionid community was surveyed just below the dam at Johnny Appleseed Park on the Saint Joseph River (of the Maumee). This survey showed that the two zones differed considerably. Five species, Quadrula pustulosa, Potamilus alatus, Lasmigona compressa, Leptodea fragilis, Lasmigona costata, were found in both zones. Eight species, Actinonaias ligamentina, Alasmidonta marginata, Elliptio dilatata, Cyclonaias tuberculata, Fusconaia flava, Lampsilis cardium, Lampsilis siliquoida, Pyganodon grandis, were present only in zone B. Trunctilla truncata, was only present in zone D. We attribute these findings to microhabitat differences brought about by distance below the dam.

Turtle Distribution in an Urban Landscape. Eric Jackowiak. Butler University, Indianapolis, IN. Sponsor: Travis Ryan

This study was a survey of aquatic turtle species living in man-made ponds within the urban landscape of Indianapolis, IN. Specifically, the study aimed to determine the effect of habitat isolation and the size of the pond on the turtle populations living therein. The degree of isolation of the ponds were characterized by the distance to possible sources for the populations, such as streams or lakes, and the distance of the ponds from roads which could possibly serve as travel barriers. The prevalence of turtle populations in urban ponds was determined by a visual survey methodology of 62 ponds. In addition, a quantitative community assessment was completed for eight sites to determine variation among inhabited ponds. This assessment included basic demographic data (e.g., size range and sex ratios) and population size estimates. We concluded that the degree of isolation was a significant factor in determining the presence or absence of turtles in a pond and was possibly significant for the population size in inhabited ponds. The size of the pond was a significant factor for population size when considering the perimeter of the pond and possibly significant when considering the area of the pond. Distance to roads did not appear to be significant. Overall, it was determined that man-made habitats were very important in supporting urban turtle populations as 57.57% of surveyed ponds were inhabited. However, there were clear differences in the success of those populations considering the population sizes, species represented, and recruitment.


Lekking is a mating system in which females visit clusters of displaying males in order to choose a mate. Typically, this clustering leads to high variance in reproductive success in which a few males monopolize most of the matings while others do not mate at all. Such reproductive skew has led to the question: Why do males join leks, when their probability of reproductive success is so low? The hotspot hypothesis of lekking suggests that males cluster in areas of high female density and/or traffic, to increase their probability of mating, leading to the formation of leks. At Tiputini Biodiversity Station in eastern Ecuador, we used telemetry and geographic information systems to examine whether the hotspot hypothesis plays a role in male clustering in the White-crowned Manakin. To do this, we secured a radio transmitter to an adult female and conducted telemetry via triangulation to find positions with which to estimate the size of a female home range. We applied this area to the locations of previously captured females (2001-2009) to model the distribution of female density in our study site. Next, to determine if male territories were located in areas of higher female densities than expected by chance, we compared the average female density of observed male territories with 100 sets of randomly generated territories. We found that female density in male territories was not significantly greater than expected by chance. Thus, we gathered no support for the hotspot hypothesis as an explanation for lekking in the White-crowned Manakin.

Activity Patterns of the Crawford Frog (Lithobates areolatus) at Crayfish Burrows in Big Oaks National Wildlife Refuge, Southeastern Indiana. Andrew Hoffman. Hanover College, Hanover, IN. Sponsor: Dr. Daryl Karns

We estimated observable time-activity budgets of Crawford Frogs (Lithobates areolatus) at Big Oaks National Wildlife Refuge in southeastern Indiana. While it has been well documented that this species occupies crayfish burrows outside of its breeding season, their behavioral activity at these burrows is not well understood. We captured adult frogs during the breeding season and surgically implanted temperature sensitive radio-transmitters. After the frogs had established home burrows, we used a time-lapse (4 second interval) infrared video camera to monitor the burrow for 20, 24-hour sessions in July and August, 2009. We watched each video tape and noted the times of various behaviors, such as entering or exiting the burrow and feeding. Based on these observations, we developed an ethogram and time-activity budgets for periods outside of the
burrow. We found that none of the monitored frogs left the area immediately adjacent to the burrow. Preliminary analysis indicates that feeding took place either from the burrow entrance or from the small patch of bare soil just outside the burrow entrance (1 – 5 feedings per day). Frogs spent a substantial (80.2 – 89.9%) amount of time outside of the burrow, including, in some cases, the hottest period of the day. Our study suggests that the frogs we monitored are ambush predators that remain active throughout much of the diurnal-nocturnal cycle. These initial observations raise interesting questions regarding their energy budget and physiological tolerance of thermal and hydric stress.

11:15AM
Phylogeography of Enhydris enhydris (Serpentes: Homalopsidae) in Indochina using mitochondrial DNA. Bethany Carbouneau. Hanover College, Hanover, IN. Sponsor: Dr. Daryl Karns

The biodiversity of Southeast Asia has been greatly affected by plate tectonic events in the Cenozoic and Pleistocene sea level and climatic changes. I studied the phylogeography of Enhydris enhydris, a homalopid rear-fanged water snake, in Indochina. I analyzed mitochondrial DNA sequences of ATPase (827 characters) from locations in Thailand, Vietnam, Cambodia, and Malaysia. I produced phylogenetic trees using parsimony and maximum likelihood analysis. Enhydris enhydris formed a monophyletic clade with respect to the outgroups used. I found two well-supported clades corresponding to geographical regions inside and outside of the Khorat Basin, a prominent geographic feature in NE Thailand. The percent genetic divergence between populations from localities inside the Khorat Basin and outside the basin ranged from 3.6-6.3%. The outside basin populations split into two well supported clades (genetic divergence 4.0-5.0%), a western clade (populations from the Central Plain of Thailand, SE drainage of Thailand, and Andaman coast of Thailand) and a trans-Gulf of Thailand clade (populations from the lower Mekong River in Cambodia and Vietnam, Lake Songkhla in Thailand, and Palau Tioman in Malaysia). The genetic divergence within clades was minimal (0.0-0.02%). The genetic divergence between outgroups and all other localities ranged from 18.5-20.3%. I discuss the probable influence of geographic features in Indochina, including the Khorat Basin, Central Plain, and river systems, and the tectonic history of this region as factors involved in speciation processes in E. enhydris. Based on this analysis, the currently recognized E. enhydris may consist of more than one species.

11:30AM
Edge effects and the impact of Lonicera maackii on the abundance and richness of understory vegetation in a Midwestern deciduous forest. Ann Quirk, Amy Boxell, Malick Keita. Earlham College, Richmond, IN. Sponsor: Brent Smith

Lonicera maackii (Amur honeysuckle) is a widely distributed invasive species in eastern North America. We investigated forest edge effect within and the impact of Lonicera, on the understory vegetation and microenvironment in a Midwestern deciduous forest fragment, also looking at the interaction between the two factors. Additionally, we examined the pattern of Lonicera invasion into local sites where it was removed five years prior, and whether there are edge effects on the invasive species itself. Our results showed a significant edge effect for Lonicera invasion and for understory vegetation in the removal plots but not in ones where Lonicera was allowed to continue to grow. Understory species richness and stem density were significantly greater in removal plots than in non-removal plots. These observations could be explained by Lonicera’s competitive nature. When Lonicera is dense in a site, the understory species composition is no longer affected by an edge gradient but is more likely to be established by random chance and the shade tolerance of the plants. To better understand these effects, we also took measurements of relevant abiotic factors such as light intensity, temperatures, and soils. Only the pattern of light intensity appeared to be significant, showing higher intensities in removal plots as compared to non-removal plots. Additionally, the light intensity was significantly greater at the edge compared to the interior across all four plots. This suggested that light intensity and the edge gradient did play a major role in determining differences in species composition across our study site.

Session B Organismal
Gallahue Hall, Room 102
Moderator: Dr. Jennifer Kowalski

09:00AM
Differences in mechanical and anatomical properties of leaf abscission in the life history of Kalanchoe pinnatum. Jillian Hodge. Butler University, Indianapolis, IN. Sponsor: Shelley Et nier

Kalanchoe pinnatum is able to asexually reproduce with the help of its leaves. In K. pinnatum, embryos are embedded in the notches of a leaf’s margin. Through the process of abscission, when the plant is disturbed, a leaf with embryos falls to the ground and the embryos grow into new plants. Thus, as leaves mature, they face conflicting functional demands to stay on the plant and continue their role in photosynthesis or fall off the plant and asexually reproduce. To examine if there is a point in the leaf’s development where abscission occurs more easily, I examined breaking stress in leaves that varied in age and morphology. I hypothesized as leaves matured, it would take less breaking stress to remove them from the plant and that the leaves’ tissues would reflect these mechanical changes. Results showed that developmental age and leaf morphology influenced breakage as well as the direction of force application.

09:15AM
Analysis of Co-occurring Phenotypes in Infants with Down syndrome with Cardiac Defects. Nicole Shepherd, Randall Roper, Nichole Duvall, Sandra Stone. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Randall Roper

Down syndrome (DS), caused by a trisomy 21, is the most common chromosomal aneuploidy occurring in approximately 1 of 700 live births. Individuals with DS exhibit of craniofacial dysmorphology, cardiac defects, gastrointestinal problems, and cognitive impairment, although these
phenotypes vary in incidence and severity. Common cardiac defects are usually recognized in young infants with DS and include atrial septal anomalies, ventricular septal abnormalities, atrioventricular canal defects, and patent ductus arteriosus. Additional abnormalities may also affect infants with DS, but not be identified until later in life. Since multiple phenotypes are found in these individuals, we hypothesized that children with a severe congenital heart defect may be at increased risk for additional medical issues. To investigate this hypothesis, we performed a retrospective chart review of review of 137 infants with DS between birth and 6 months of age who were referred to the Down Syndrome Program at Riley Hospital for Children from August 2005 to 2008. We analyzed comorbidity in infants with upper airway obstruction (UAO) or a feeding problem with and without a severe congenital heart defect. Our data show that 33% of infants without a cardiac defect have identified UAO while 46% with a severe cardiac defect have identified UAO. Additionally, 50% of infants without a cardiac defect compared to 75% with a severe cardiac defect have a feeding problem. With the knowledge of these comorbid clinical features in DS, healthcare providers may be able to identify potential complications affecting infants with DS earlier in life.

09:30AM
Effect of Season on Germination in Lab of Plasmodial Slime Mold Spores on Fallen Tree Leaves. Rich Nehring. Marian College, Indianapolis, IN. Sponsor: Mike Eoff

The fall 2009 botany class broke up fallen sycamore leaves and placed them into Petri dishes with moisture and oatmeal flakes. Fifty percent of the Petri dishes later displayed plasmodial stages. This will be updated with results from spring trials and suggestions for standardizing germination conditions.

09:45AM
Steroid Use in Male and Female Bodybuilders. Brandiann Warren. Hanover College, Hanover, IN. Sponsor: Dr. Bryant Stamford

Increased numbers of body builders, professional athletes, and non-athletes have begun using anabolic steroids over the past several years, increasing the popularity, yet negative stigma of steroids in the media. This study was designed to explore this subject from the perspective of body builders who have experienced the positive and negative side of anabolic steroids first-hand. Specifically, this study was undertaken to determine if steroids deserve the taboo reputation, or if they can be beneficial when used appropriately.

Methods: Five body builders (2 females/3 males) who use(d) anabolic steroids were interviewed. All participants were experienced in steroid use, with a mean of 10 years on anabolic steroids, and previously participated in state, national, or professional competitions. The interviews consisted of a set of questions regarding participants’ experiences with steroids (pre-steroid exercise, exposure to steroids, physical and psychological effects, dosing, stacking, diet, and post-steroid effects) followed by a survey pertaining to opinions about safety, addictive level, and testing of anabolic steroids.

Results and Discussion: Data collection is ongoing and nearing completion. Initial findings have revealed that while negative physical effects did occur in all participants, subjects did not consider negative effects to outweigh benefits of anabolic steroids. Participants were not aware of psychological issues resulting from steroid use. Overall, to this point in the research process, participants perceive anabolic steroids as beneficial and necessary for success in body building.

10:00AM
Predictive Power of Various Complications Arising from Type 2 Diabetic Foot Syndrome on Lower Leg Amputation. Sarah Albertson. Hanover College, Hanover, IN. Sponsor: Dr. Bryant Stamford

PURPOSE: What predisposes Type II Diabetic patients to lower limb amputation? Factors considered were: age, gender, level of amputation, hemoglobin A1C%, smoking history, osteomyelitis, peripheral arterial disease, and the number of podiatry visits the year preceding amputation. It was hypothesized that less frequent visits would lead to a more proximal, and thus severe, level of amputation.

METHODOLOGY: All guidelines, documents, and training were completed in compliance with oversight provided by the Veterans administration (VA) Research Department. CPRS computer charting software at the VA hospital in Louisville, KY, was reviewed by diagnostic coding to locate 100-200 Type II Diabetic patients who were amputees. No personal identifiers were revealed in the research. The factors extracted were recorded in an excel spreadsheet and analyzed for underlying significant predictors.

RESULTS AND DISCUSSION: Research is in progress. It was hypothesized that Hemoglobin A1C % will be the best predictive factor. Data collected at this point appear to support this hypothesis. Gender differences have not been previously researched in this area, and the researcher hypothesized significant gender variation would occur in data collected. Amputation is commonly the result of an uninformed, non-compliant Type II patient who often is in denial and is unaware of the appropriate preventative steps. It was hypothesized that this likely would be more applicable to males.

10:30AM
Impact of Skin Exposure on Physiological and Thermoregulatory Processes in the Body. Rich Giordano. Hanover College, Hanover, IN. Sponsor: Dr. Bryant Stamford

Impact of Skin Exposure on Physiological and Thermoregulatory Processes in the Body
Richard Giordano, Hanover College, Hanover, Indiana. Sponsors: Dr. Bryant Stamford and Dr. Barbara Wahl

The purpose of this study was to determine the impact of skin exposure on heart rate, body temperature, and sweat production during prolonged moderate exercise in thermal-hostile conditions.
Methods: Four college-aged male subjects were tested under two treatments, one with minimal skin exposure and one with maximal skin exposure. Subjects exercised for 60 minutes on a treadmill walking at 4 mph in an environmental chamber set at 35ºC. Initial levels of humidity were approximately 20%. Heart rate was recorded at 1 minute intervals. Body temperature was recorded at 10 minute intervals. Sweat loss was determined by the difference in the subject’s bodyweight before versus after exercise at the rate of 1lb=1pint.

Results and Discussion: Data collection is ongoing and nearing completion. Initial findings and pilot data have revealed that heart rate, body temperature, and sweat loss were higher when skin exposure was minimal. This suggests the clothing ensemble provided a more intense workload on the heart, suggesting greater skin blood flow which caused an increased heart rate. It also suggests that the clothing ensemble acted as an insulator, making it more difficult for the body to release heat. Lastly, findings suggest that minimal skin exposure promotes more sweating due to the increase in body temperature. Overall, to this point, it would appear that maximizing skin exposure in a thermal-hostile environment greatly reduces physiologic stress, which would, in turn, greatly enhance performance.

10:45AM
Does speed kill? Mechanical and morphological variables associated with window strike birds. Julie Michalski. Butler University, Indianapolis, IN. Sponsor: Shelley Etnier

Over the past two years, 106 birds have fatally struck the windows on Butler University’s campus. With an increase in the construction of buildings across the United States, the number of bird collisions is growing rapidly; the current estimate is 97.6 to 975.6 million birds killed annually in the U.S. because of collisions with windows. Among the birds collected at Butler, a few species were represented in greater numbers than anticipated based on their population estimates. What makes some birds die upon impact in greater rates than others? I hypothesized that flying characteristics, like speed and maneuverability, affect collision rates. To assess these characteristics, I measured weight, wingspan, and wing surface area for the window strike birds and used these variables to calculate aspect ratio and wing loading. Aspect ratio is a descriptor of wing shape and wing loading is a ratio of weight to wing surface area. I looked at patterns among the birds collected at Butler to see if any species fell above or below average for these two variables. I then compared my data to measurements taken on birds from the University of Washington Burke Museum who had died due to causes other than window collisions. Lastly, I performed necropsies on a selection of birds collected at Butler to determine if their cause of death was broken blood vessels around the brain as suggested by previous research.

11:00AM
The Rate of Lactate Removal of Endurance Athletes Compared to Sprint Athletes. Justin Guilkey, Dr. Barbara Wahl. Hanover College, Hanover, IN. Sponsor: Dr. Bryant Stamford

Purpose: The purpose of this study was to determine whether endurance athletes or sprint athletes remove lactate faster during both active and passive cool downs. Design: Four endurance athletes and four sprint athletes were chosen. The subjects completed a predictive VO2max test and actively recovered at 25% of VO2. Each subject exercised to voluntary exhaustion on a cycle ergometer. The first trial was followed by an active cool down and the second was followed by a passive cool down. The trials were administered randomly. Lactate measurements were performed after the exercise and cool down phases. Results: During active cool down the sprint group (0.3816 +/- 0.26 mmol/L/min) had a higher rate of lactate removal than the endurance group (0.2733 +/- 0.30 mmol/L/min), but was statistically insignificant (p>0.05). However, there was an outlier in the distance group; if the outlier was removed the rate of lactate removed in the sprint group is only slightly higher than endurance group. After passive cool down the subjects in the endurance group (0.2433 +/- 0.272 mmol/L/min) had a higher rate of lactate removal than the sprint group (0.0250 +/- 0.233 mmol/L/min), but the results were not statistically significant (p>0.05). Conclusion: There was no statistical difference between the groups in either the active or passive cool down, but the endurance group tended to remove lactate faster during the passive cool down and the sprint group tended to remove lactate faster during the active cool down.

11:15AM
Accuracy of the American College of Sports Medicine Metabolic Equation for Estimating the Oxygen Cost of Walking. James Boone, Dr. Barbara Wahl. Hanover College, Hanover, IN. Sponsor: Dr. Bryant Stamford

The purpose of this study was to determine the accuracy of the ACSM metabolic prediction equation for walking at varying inclines and speeds, and to determine the accuracy of treadmill sensors in predicting caloric expenditure.

Method: (N=7) The experimental session consisted of measuring weight, height and waist circumference. Next, subjects walked at 2.5 mph at 0%, 5%, and 10% grade. This was followed by walking at 3.7 mph at 0%, 5%, and 10% grade. Each grade was performed for 4 minutes continuously in order to achieve a steady state. A 5 minute, very low intensity (2.0 mph), buffer walk was performed between walks at 2.5 mph and 3.7 mph. Energy expenditure was measured using a Parvomedics metabolic measurement system and all tests were conducted on a treadmill.

Results and Discussion: Data revealed the metabolic equation under predicted VO2 for all horizontal speeds and over predicted VO2 for all elevations. For both 5% and 10% at 3.7 mph the equation was nearly correct, while all other predicted values were inaccurate and significantly different (p <0.05) from actual measurements. The treadmill sensor over predicted kcal expenditure, on average, by 1.3 kcal per minute when compared to actual kcal metabolic cart values. At this point in the investigation, it would appear the ACSM walking equation was not reliably accurate at several combinations of speed and elevation. Using data collected during testing, the metabolic equation will be modified to obtain improved accuracy.
Session C Cell/Genetics
Gallahue Hall, Room 106
Moderator: Dr. Nathaniel Hauck

09:00AM
Color genetic and coat of rabbits. Jerome Lamb. Ivy Tech Community College, Indianapolis, IN. Sponsor: Tom Tully

The color coat and the genetic of a rabbit’s wool or fur can be interesting. With the genetic makeup of the rabbit’s color being the A, B, C, D and E genes. With these five genes they make up the major part of the color of the rabbit fur or wool. Though there are other genetic features and factors that also play in to that. These are the genes that give rabbit breeders the most trouble. The wool and or fur are another subject that I will just get into the basic parts and types. You do not think there would be different types of wool and fur but there are and in this presentation I will talk about the color and the coat and how they effect each other.

09:15AM
Development of techniques for studying cell wall composition during root knot nematode infestation in Arabidopisis. Alyssa Burkhardt. Butler University, Indianapolis, IN. Sponsor: Kathy Schmid

Plant-parasitic nematodes are roundworms that feed on the cytoplasm of living cells and cost the agricultural industry billions of dollars each year in crop losses. Meloidogyne incognita, the species studied in this experiment, forms feeding sites called giant cells which form in root knots. The feeding sites established by nematodes are of interest because they are the only method by which nematodes obtain nutrients from the plant to grow and reproduce - thus propagating the infection and causing increased parasitism. These giant cells have thick secondary cell wall ingrowths which increase the surface area for nutrient absorption, but little is known about the chemical composition of the giant cell wall. Through this study, microscopy and immunochemistry techniques were developed to analyze the giant cell wall composition. Infected Arabidopsis root tissue was fixed and embedded in either cryomatrix or resin before being cut with a cryotome or ultramicrotome, respectively. An immunohistochemistry procedure was performed in which a primary antibody was used to bind to pectin, extensin, or arabinogalactan-protein. A secondary antibody conjugated with a fluorescent molecule was used to visualize the location of the primary antibody. Immunofluorescence confocal microscopy and widefield microscopy were used to view the cryosections and resin sections, respectively. The images were analyzed to determine the location of the cell wall components in the giant cell wall and root cell walls in the section. This method was effective for detecting the cell wall components examined in this study and can be applied to future studies.

09:30AM
Affinity of α-Tocopherol for Polyunsaturated Lipids: Differential Scanning Calorimetry on Model Biological Membranes. Chandra Flack. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Stephen Wassall

This project studies the interaction of the membrane antioxidant vitamin E with the phospholipid component of membranes. We hope to determine that the vitamin has a greatest affinity for phospholipids that contain polyunsaturated fatty acids (PUFA) and are most vulnerable to oxidation, and that the affinity of the most potent form (α-tocopherol) is the greatest. Our research involves performing differential scanning calorimetry (DSC experiments) on model membranes of varying fatty acid composition. We then examine the phase behavior with and without the addition of the various forms of vitamin E. By comparing the effects on the chain melting transition, we shall assay affinity of vitamin E for phospholipids of varying degrees of unsaturation, as well as compare the affinities of the four different forms of tocopherol.

09:45AM
Investigating the Relationship Between Vacuolar Proteins and Telomere Length Regulation. Alberto Lubrano, Bethany Carboneau, Danielle Adney, Jennifer Osterhage. Hanover College, Hanover, IN. Sponsor: Jennifer Osterhage

Telomeres, the DNA-protein complexes at the ends of linear chromosomes, are essential for maintaining genomic stability. The semi-conservative model of DNA replication leads to ssDNA segments of telomeric DNA as a result of removal of the RNA primer on the lagging strand; over successive cell division this process would lead to telomere erosion and uncapping. The evolutionarily conserved enzyme telomerase is responsible for elongating telomeres to counteract this loss of telomeric DNA. A genome-wide screen to identify regulators of telomere length in S. cerevisiae identified 173 genes that affect telomere length when mutated. Several of these gene products are involved in vacuolar function, including Atg11, Ape3, Vps32, and Bro1. A previous report has shown that other vacuolar genes involved in telomere length regulation exert their effects through the heterodimeric Ku complex. Ku performs many functions at the telomere, including protecting natural chromosome ends from inappropriate DNA repair and promoting telomere elongation by telomerase through an interaction with its intrinsic RNA component. Based on the aforementioned research, we hypothesized that Atg11, Ape3, Vps32, and Bro1 affect telomere length via the Ku pathway. We are currently conducting an epistasis experiment to test this hypothesis. Models that link vacuolar function and telomere maintenance will also be presented.

10:00AM

Species of the parasitic water mites in the genus Unionicola are currently classified based on morphological differences, however it can be difficult to determine the actual number of species and their relatedness because there exists a high degree of morphological conservation among
these mites. Molecular techniques can be used to resolve this ambiguity. In this study, we report sequence from regions of the Unionicola parkeri mitochondrial genome. Segments of the mitochondrial genome of U. parkeri were amplified using long PCR and sequenced using a primer-walking strategy. Upon annotation, it was found that the mitochondrial genome of this mite contains a gene order unique from other Acari, including U. foili, a closely related species. This indicates that molecular data, such as idiosyncratic markers, will provide useful characters in determining the evolutionary histories of these mites. Sequencing the mitochondrial genome of U. parkeri is one step toward sequencing the mitochondrial genomes of other mites and then resolving their phylogenies.

10:30AM
Sequencing the voltage gated sodium ion channel from the copepod, Calanus finmarchicus. Kaitlin Costello. Denison University, OH. Sponsor: Caroline Wilson

Nerve impulses are caused by sodium ions penetrating nerve cell membranes through special protein pores, known as voltage-gated sodium channels (Nav). The speed of nerve impulse conduction is influenced by both the number and kinetics of Nav, as well as firing frequency constraints. Interestingly, some calanoid copepods have mechanoreceptors in their antennules that fire at extraordinary high frequencies, which may suggest that the kinetics of their Nav differs from other invertebrates. Calanoid copepods are crustacean zooplankton and are key components of ocean foodwebs. In this study, we have begun to characterize copepod Nav by obtaining partial cDNA sequences of the channel. A 480 bp segment of the Calanus finmarchicus Nav was sequenced and bears 86% to the Nav in Culex pipiens, a mosquito species. Further sequencing is expected to reveal nucleotide substitutions that could possibly explain the calanoids’ unusually rapid response to environmental stimuli.

10:45AM
Quantitative PCR Analysis of Aspergillus fumigatus in Air Samples Obtained from Bellarmine University. Katrice Maycock. Bellarmine University, Louisville, KY. Sponsor: Joanne J. Dobbins

Aspergillus fumigatus is a pathogenic fungus that causes a range of diseases collectively known as aspergillosis. The basis of this study stems from the death of two penguins at the Louisville Zoo that died because of a build-up of this fungus in their air sacs. Due to the close proximity of the Zoo to Bellarmine University, there may be immuno-compromised individuals in the area at risk from colonies of A. fumigatus. The primary aim of this study is to determine if there is a prevalence of this air-borne pathogen at Bellarmine University. We began our study by collecting samples of the air-borne molds from three unique locations around campus. Using traditional methodologies for fungal identification the procedure required, on average, two weeks of processing time. It is the goal of this study to optimize an identification procedure that will reduce the processing time. We developed a protocol using polymerase chain reaction (PCR) amplification of unique DNA mold sequences. Also, if PCR is proven to be a quicker method than traditional methods, we needed to determine if it was specific enough to selectively distinguish A. fumigatus from other environmental molds. Primers were constructed using suggested sequences from six different sources. DNA isolated from standard stains of fungi and bacteria were amplified and compared to our air-borne isolates. We hope to show that the results of our comparisons indicate that PCR amplification is a faster and more accurate methodology to identify air-borne mold compared to traditional methods.

11:00AM
Analysis of the inter- vs. intra subunit interaction of the GIRK 1 & GIRK 4 N- and C- cytoplasmic domains. Charles Gutierrez. Purdue University Calumet, IN. Sponsor: Radmila Sarac

In previous studies, it has been identified that GIRK subunit residues are important in association between termini domains and contribution to channel function. Little is understood about the GIRK1 and GIRK 4 subunit interactions and the outcome on channel function. Our research will try to identify the subunit domains that play a role in termini interactions by examining cytoplasmic domains when linked together. But, before we can identify the interactions of subunits, we must first design the linked N and C termini domains of the GIRK intracellular domains by acquiring individual intercellular domains and linking them with a flexible region. Ultimately, we want to achieve the linkage of the GIRK1 NT-CT and the GIRK4 NT-CT to then test how these proteins interact.

11:15AM
Tissue Tension Phenomena in the Pith Parenchyma of Castor Bean Hypocotyls. Stephanie Rosado, Janet Minton. Indiana University/Purdue University at Fort Wayne, Fort Wayne, IN. Sponsor: Winfried Peters

Plant cells develop significant (several car tire equivalents) internal hydrostatic pressure that is counterbalanced by the rigid external cell wall. Since the mechanic properties of the cell walls of the connected tissue layers differ in a typical plant organ, the tissues may exert compressive and tensile forces on each other, resulting in a biomechanic phenomenon known as tissue tension. As a consequence of tissue tension, the inner tissues of growing stems generally are considered to be kept in a state of compression by the peripheral tissues. We found that the innermost tissues of the growing Castor Bean hypocotyl do not seem to follow this standard pattern, and, after isolation from the peripheral tissues, actually destroy themselves due to an unconventional mechanism of tissue tension. We will document the processes involved using movie clips and present our interpretation of the unusual behavior.
Mice have been successfully used to understand the genotype-phenotype relationships observed in Down syndrome (DS). The Ts65Dn mouse model is the most commonly used model of DS and has a triplication of 104 genes orthologous to human chromosome 21 (HSA21). The Ts1Rhr mouse model was developed to test the phenotypic effect of a subset of 33 of these genes, thought to be responsible for many clinical DS features. Research using the Ts1Rhr mouse model has disproved the hypothesis of this Down Syndrome Critical Region, due to findings that adult Ts1Rhr mice display a larger, dysmorphic mandible compared to euploid littersmates, in contrast to the smaller mandible seen in Ts65Dn mice and individuals with DS. Additional studies have shown that three copies of these 33 genes are important in some but not all DS phenotypes; however, discrepancies exist between studies. Our laboratory has shown that craniofacial alterations are evident early in developmental precursors of the Ts65Dn mouse model of DS, including the mandibular precursor or PA1. In Ts1Rhr embryos, the PA1 is either larger or the same size as non-trisomic littersmates, depending on genetic background, in contrast to the smaller PA1 found in Ts65Dn embryos. Ts1Rhr and euploid littermate postnatal growth parameters also differ significantly, contingent upon the genetic make-up of the mating cross. Additionally, we have observed a prenatal loss of euploid pups linked to non-trisomic genes. We conclude that the number of trisomic genes and allelic differences in non-trisomic genes significantly influence phenotypic variability in DS during development.

Session D Ecology
Gallahue Ecology, Room 105
Moderator: Dr. Michael Worrell

12:30PM
Pedestrian foot traffic is a disturbance agent in Karner blue butterflies. Patty Campbell, Mary Gryzbek, Victoria Bennett. Purdue University North Central, Westville, IN. Sponsor: Vanessa Quinn

The negative impact of eco-tourism and outdoor recreational activities on wildlife is a growing concern for site and wildlife managers globally. Numerous case studies demonstrate that recreation disrupts breeding success, survival, and abundance of a diverse array of species. Identifying the mechanisms and implications of anthropogenic disturbance on wildlife populations, particularly those of conservation concern, may therefore be critical to their preservation. The karner blue butterfly (Lycaeidea melissa samuelis) is a federally endangered species and its remaining populations are restricted to small isolated habitat fragments across seven states. Understanding the potential factors threatening its persistence at these sites has been identified as a research priority. One acknowledged factor is the effect of recreational disturbance on the karner blues, although no research to date has been undertaken to examine the effect of recreational disturbance. We conducted a field study to explore the implications of recreation on this butterfly at the Indiana Dunes National Lakeshore. We observed the behavior of karner blue butterflies in the presence and absence of recreationists at the Lakeshore to investigate whether such disturbance influences butterfly behavior. Female flight distances in the presence of a pedestrian are longer than flight distance when no pedestrians are present. However, this was not the case for male butterflies. Our data suggest that potentially ovipositing females are more sensitive to pedestrian traffic than are males. These data will be used to code a spatially-explicit individual-based simulation model (Simulation of Disturbance Activities) to predict management strategies that may minimize disturbance sufficiently to prevent potential negative impacts.

12:45PM
Effects of habitat remediation by herbicide application in a Vinca minor L. invaded forest in southeastern Indiana (USA), Jessica Peebles. Hanover College, Hanover, IN. Sponsor: Darrin Rubino

Invasive species are those that are introduced to an area beyond their native range. These species spread and naturalize while becoming dominant and disruptive to the native community. Vinca minor L. is such a species that is currently invading forests in southern Indiana. The goal of this study was to investigate the effectiveness of herbicide treatment for large-scale forest restoration. I assessed vinca cover, species richness, percent tree species richness, percent woody species richness, and percent native species in treated (spray-to-drip or one-pass) or untreated plots. After one year, there was a significant difference (P<0.05) in vinca coverage between treated (9.3±1.8 %, mean ± SE) and untreated plots (84.4±2.7%). There was a significant difference in species richness and percent tree species richness between plots receiving any treatment (one-pass, 9.6±0.8 species, spray-to-drip, 9.4±0.6 species), plots receiving no treatment (6.1±0.7 species), and uninvaded plots (17.4 ±1.1 species). For tree seedling richness, there was not a significant difference between untreated (25.8±5.7%) and uninvaded plots (32.8±2.2%), nor was there a significant difference among treatment types (spray-to-drip, 55.0±3.2%, one-pass, 55.9±3.3%). There was a significant difference in percent native plants between untreated plots (65.8±5.1%) and one-pass treated plots (83.8±1.9%). UPGMA cluster analysis of species composition showed distinct clustering of treated plots and uninvaded plots. Untreated plots showed no clear clustering pattern. Future studies will include herbicide reaplication to previously treated plots. Findings from this study will be applied to a restoration-scale application for the removal of vinca from local forests.

01:00PM
Assessing the Effects of Eutrophication on the Prevalence of Parasite Infection in Planorbid Snails within Forested Vs Agricultural Landscapes. Ashely Daniels, Rod Williams. Purdue University, West Lafayette, IN. Sponsor: Rod Williams

Recent increases in observed rates of amphibian malformations have been linked to infection of larvae by the trematode (Ribeiroia ondatrae), while aquatic snail hosts (Planorbellinae spp.) are significant predictors of both the presence and abundance of the parasite. This study will assess the
relationship between aquatic nutrient loads, planorbid snail abundance, and parasite (Ribeiroia ondatrae) prevalence among eight naturally occurring wetlands (four adjacent to agriculture and four wetlands buffered by forests) across central and southern Indiana. Water samples were collected weekly from each site from March – June 2009 and analyzed for levels of ammonia, nitrite, nitrate, orthophosphate, and chlorophyll a. In addition, (Planorbella) snails were sampled weekly from each site to estimate population densities and to calculate infection prevalence. At the conclusion of the field season, over 2000 (Planorbella) snails were sampled among the eight sites. The prevalence of snails infected with trematode cercariae varied considerably (0-59%). The results of this study will be crucial to assessing the impacts of anthropogenic affects on (Ribeiroia) densities throughout the state and possible implications for the future survival of amphibian populations.

01:15PM

Coarse woody debris, downed trees and limbs, is recognized as an important part of forested ecosystems. Woody debris is routinely categorized by degree of decay, but little is known about the age of the wood within these categories (Class I, freshly fallen — Class V, highly decayed). Our goal was to determine the residence time of fallen trees and limbs in these categories. Sampling was performed so as to achieve variety in both number of species and number of decay classes studied (American beech, black locust, tulip poplar, ash, red and white oak, and sassafras were sampled). Beech and locust logs were the most abundant species encountered. Beech logs fell into classes I-IV with class I being the most abundant (n=11). Class I contained logs with residence times ranging from 1-3 years (Mean = 1.4 ± 0.7 years since death; ±SD). Class II (n=4) logs had residence times ranging from 1-11 years with a mean residence time of 5.0 ± 3.2 years. Classes III (n=7) and IV (n=7) both had a mean residence time of 10.0 years (Class III ± 4.6; Class IV ± 4.7) with class III having a residence time ranging from 2-15 years and class IV having a range of 4-16 years. Locust logs fell into classes I-III with class III being the most abundant (n=15). Class I contained two samples which both fell in 2008. Class III (n=15) had residence times ranging from 3-38 years with a mean residence time of 21.4 ± 10.1 years.

01:30PM
Pedestrian traffic as a disturbance agent in the little wood satyr. Mary Gryzbek, Victoria Bennett, Patty Campbell. Purdue University North Central, Westville, IN. Sponsor: Vanessa Quinn

The use of walking trails is an important part of the mission of many public outdoor spaces. Numerous case studies demonstrate that recreation disrupts the breeding success, survival, and abundance of a diverse array of vertebrate species. However, the impact of trail use on the breeding behavior of invertebrate species is largely unknown. To better understand the impact of pedestrian traffic on the behavior of butterflies we examined the flight distances of little wood satyr (Megisto cymela) butterflies during the adult’s active period. We compared the flight distance of little wood satyr butterflies at Indiana Dunes National Lakeshore when a pedestrian was using a walking trail to the flight distance of butterflies that were not disturbed by pedestrians. Our results show that the flight distances of little wood satyr butterflies disturbed by pedestrian traffic are similar to the flight distances of butterflies not disturbed by pedestrian traffic. Because these butterflies are not sexually dimorphic we cannot determine if a sex difference in flight distances exists as was shown in karner blue butterflies (Lycaeidea melissa samuelis). Therefore, future work should address this issue.

01:45PM
Friend or Foe? A Study of the Effects of The Lapel Publicly Owned Treatment Works on Stony Creek. Thelma Lamaster. Anderson University, Anderson, IN. Sponsor: Dan Ippolito

Three sites were sampled and evaluated over a period of seven months (August 30, 2009 thru April 3, 2010) to determine the effect of the Lapel wastewater treatment works on Stony Creek in Madison/Hamilton County. The plant has had a history of violations due to equipment failure causing the dumping of raw sewage into Stony Creek. However, in 2001 the entire operation was converted to UV treatment and all bypass overflows were eliminated. The research shows that while there is a significant drop in the Pollution Tolerance Index Rating at the wastewater discharge there is excellent overall recovery downstream.

Session E Organismal
Gallahue Hall, Room 102
Moderator: Dr. Randall Roper

12:30PM
The effects of significant changes in saturated fat intake on serum cholesterol levels. Travis Summitt. Hanover College, Hanover, IN. Sponsor: Dr. Bryant Stamford

The purpose of this case study was to determine the changes in serum cholesterol levels when a relatively healthy diet was replaced by a very unhealthy diet high in saturated fat (SF), followed by a very healthy low saturated fat Vegan diet. Methods: Total cholesterol (TC), HDL and LDL were measured at weekly intervals throughout the entire study. Food intake was analyzed with dietary recall techniques, and total calories and SF intake were recorded daily throughout the study. Initially, baseline values were established for three weeks. Next, a diet high in saturated fat (18-20% of total calories) was imposed for eight weeks. This was followed by a Vegan diet (SF intake at 5% or less of total calories) lasting six weeks. Finally, the original diet was reinstated.
Results and Discussion: The Vegan diet portion of the case study is ongoing and nearing completion. Data collected during the High-SF diet revealed an increase in TC of 35 mg/dL, LDL of 48 mg/dL, and a decrease in HDL of 7 mg/dL. When the High-SF diet ended and the Vegan diet began, over five weeks, TC decreased by 87 mg/dL, LDL by 76 mg/dL, and HDL by 21 mg/dL. Conclusion: Data collection is still ongoing, but the impact of SF on serum cholesterol is substantial, and can exert an effect in a relatively short period of time.

12:45PM
Sexual Dimorphisms in Visceral Organ Mass, Metabolism, and Energetics
in Pre-breeding American Toads (Anaxyrus americanus). Christopher Hayes, Indiana University-Kokomo, Kokomo, IN. Sponsor: Michael Finkler

Sexual dimorphisms in body size are common in many species of anurans, and have often been ascribed to different selective forces that influence reproductive success in males and females. However, little is known about dimorphisms in whole-organism physiology or in internal morphology in anurans. In this study, we investigated potential differences in visceral organ mass, hematology, metabolism, and stored energy content between reproductive male and female American Toads (Anaxyrus americanus) collected en route to breeding areas during the spring. Female toads were both longer and more massive than males. Males demonstrated larger increases in heart mass with body mass than did females. Liver mass did not differ between the sexes once somatic body mass was taken into account. None of the hematological parameters examined (RBC counts, Hct, and Hb) differed between the sexes, but oxygen consumption rates increased with increasing somatic body mass in males but not in females. The caloric content of the carcass (sans the heart, liver, kidneys, and gonads) did not differ between males and females once corrected for carcass mass. The relevance of these observed differences towards increasing reproductive success in each sex will be discussed.

01:00PM

The Vertical leap is an extremely explosive, and sport specific skill which can be a defining factor in athletic performance. Many programs are available to increase vertical leap, but little is known about the most important factors governing a successful vertical leap performance. Methods- Ten male, college aged, experienced basketball players attended an orientation session on vertical leaping technique. Next, vertical leaping performance (best of three attempts) was determined using a Vertec measurement device. On another occasion, subjects underwent strength and power testing using A Lido Isokinetic Dynamometer. Isokinetic testing consisted of strength and power tests at different angles and at 60, 180, and 250 degrees per second. Strength and power were tested for hip extension, knee extension, and plantar flexion. A consistent dynamic warm-up was performed prior to each test. Results and Discussion- Data Collection is currently being finalized. Statistical analysis will be performed at the culmination of data collection. The current data do not appear to support a strong relationship between strength or power readings and vertical leaping performance. Higher strength or power does not appear to promote better vertical leaping performance, suggesting other variables are operating. Or, perhaps it is the coordinated effort of all combined elements that counts, and examining each separately under-estimates their importance.

01:15PM
Morphology and Behavior of Olivella semistriata, an Intriguing Tropical Beach Snail. Ariel Cyrus. Indiana University/Purdue University at Fort Wayne, Fort Wayne, IN. Sponsor: Winfried Peters

Olivella semistriata is a small gastropod living on sandy beaches of tropical Pacific America. Although the animals show a number of unusual types of behavior including at least four types of locomotion (crawling, ‘jumping’, surfing, active swimming), and a unique mode of suspension feeding in the backwash zone of the beaches, information on their biology and possible ecological role either is not available in printed form, or if it is, is difficult to access because papers written in a variety of languages were published in small journals of merely regional importance. We have studied a large population of O. semistriata at Playa Grande, Costa Rica. Using a variety of media including movies taken in the wild, we will discuss the morphological basis of the behavior that lets this little snail master the harsh conditions in the swash zone of tropical beaches.

01:30PM
Greatest Plausible Egg Size and the Reconstruction of Dinosaur Life Histories. Danielle Stevenson. Indiana University/Purdue University at Fort Wayne, Fort Wayne, IN. Sponsor: Winfried Peters

Dinosaurs might well have resembled warm-blooded animals (mammals, birds) more closely than reptiles in terms of their metabolism and, consequently, in their individual growth patterns. Most reconstructions of dinosaur growth curves in the literature are based on relatively small numbers of individuals, and therefore are, statistically speaking, not robust. To further support a given model of dinosaur growth, additional information can be derived from estimates of the greatest plausible egg size. The greatest plausible egg size can be estimated if the approximate body mass of fully mature, reproductive individuals of a dinosaur species are known. Such estimations rest on the known empirical relationships between mature female body mass and egg mass in extant reptiles and the living descendant of dinosaurs – birds. We will discuss examples in which published life history reconstructions are in line with estimated egg sizes as well as cases in which this is not so.
The effects of edaphic factors on the growth and reproduction of Brassica rapa. Tobias Carter, Katherine Putney. Earlham College, Richmond, IN. Sponsor: Brent Smith

In this study we investigate the effects of soil type and nutrient addition on the growth of the mustard Brassica rapa in a greenhouse environment. We used compost, an organic agricultural fertilizer, to explore its relative effects on vegetative growth and reproductive output of B. rapa in four soils: sand, clay, loam, and potting soil. We predicted that compost would yield a significantly higher overall growth in clay and sand, a moderately higher overall growth in loam, and have little effect on overall plant growth in potting soil. Although we found that compost significantly increased some measurements of vegetative growth in all soils, we found that there were no significant interactive effects between soil type and compost addition. However, we found significant differences in both vegetative and reproductive growth across the different soils. The measures of growth exhibited opposite trends. For vegetative growth loam consistently had the highest values, followed by sand, then clay, and potting soil. The opposite trend was found for reproductive output; potting soil had the highest, followed by the other three soil types, which had similar values. Our results illustrate how soil type is the more important determining factor of growth than compost addition, although compost had a positive affect on growth in all soils. Compost did not improve the favorability of one soil over another and thus we can not provide evidence that compost has an immediate differential affect on improving soils of different quality.

Business Administration & Economics
Session A
Holcomb Building, Room 235
Moderator: Dr. Deborah Skinner

10:00AM
Underwater Supply Chain Security. Brandon Spainhour. University of Southern Indiana, Evansville, IN. Sponsor: Dr. Marco A. Lara Gracia

Before 9/11, security at US ports was primarily focused on access control, detection of stolen products, narcotics, and illegal aliens, and protection of personnel, infrastructure, and cargo. Right after the 9/11 terror attacks, all kinds of homeland security initiatives were implemented by the US Government and the US Department of Homeland Security. For instance, the US Customs and Border Protection implemented the Container Security Initiative, the Department of Energy implemented the Megaports security initiative, and the US Coast Guard implemented an underwater port security initiative.

Several of the post 9/11 security initiatives focus on protecting the US above-the-sea-level space. The remarkable progress achieved in homeland security achieved is partially due to the effectiveness of those security initiatives. However, considerable work needs to be done to better protect the US underwater space.

There are about 17 million small vessels in the US. Many of them represent serious threats as they share the same waterways as our cargo vessels. For instance, small boats can be used as launching platforms for short range missiles or can be used to leave an explosive object floating around to hit a cargo vessel. Small boats can also be used by divers who can attach explosive devices to the bottom of cargo vessels.

Our research is focused on: 1) Identifying gaps that need to be filled in to better secure the underwater space of US ports and waterways and 2) Developing tools and methods, at the conceptual level, to improve underwater security at US ports and waterways.

10:15AM
How brand name and packaging quality affect the consumer choice process. Albert Price. Butler University, Indianapolis, IN. Sponsor: Margaret Padgett

Current research tells us that both the brand name and packaging of a product have an effect on the consumer and his or her individual purchasing decision. The following study attempts to further explore and explain how each one affects the other and in which situations, one has a greater influence on the consumer choice process than the other. The research focuses on the comparison of what role brand name and packaging quality play in the consumer choice process. Specifically, the study looked at how the following factors, brand awareness/familiarity, product experience and individual confident/self-esteem of the buyer, influence the choice process in relation to brand image and a product’s packaging.

10:30AM
Caregiver Status and its Effect on Hiring Decisions. Brittney Belchior. Butler University, Indianapolis, IN. Sponsor: Margaret Padgett

Although women have made significant strides toward equality in the workplace, research suggests that mothers continue to be discriminated against. Society assumes that women are the primary caregivers of dependent children, and, as a result, are viewed less favorably in the workplace. The purpose of my research was to determine how parenting status (primary caregiver of children; non-primary caregiver of children; non-parent) affects hiring decisions in the workplace. More specifically, I wanted to see if a father who is the primary caregiver of the children is viewed as negatively as a mother is. It is possible that he may not be discriminated against like a mother is due to his increased status in society resulting from his gender. One hundred twenty one graduate and undergraduate students were provided a packet of information about a fictitious job applicant and then completed a questionnaire assessing their perceptions of the candidate’s competence, commitment to the job and how agentic vs. nurturing he/she was. They also made a hiring recommendation about the candidate. There was some support for my hypothesis that non-parents would be perceived as more competent and as more committed to the job than parents who were non-primary caregivers. However,
results did not support my hypothesis that parents who were non-primary caregivers would be perceived as more competent and as more committed to the job than parents who were primary caregivers.

10:45AM
Coach's Comparable Worth. Blake Caudill. Butler University, Indianapolis, IN. Sponsor: Richard McGowan

Is it fair that a school pays the men’s basketball coach forty percent more than the women’s basketball coach? Regardless of skill, experience, and performance, or sex, naturally the men’s coach generates more for the community and school; thus he/she ought to be paid more. I will first argue for this position by reasoning that production matters more than effort. Secondly, I will explain that in the sports world, production is not determined necessarily by the phrase “the benefit equals the burden,” but rather production is based on the market’s interests. Lastly, I will provide statistical evidence of the market’s interests, which favors male athletics, and why this is true (this may be the only unfair fact about the situation). This will lead to the conclusion that it makes sense the men’s basketball coach is paid more than the women’s coach in Division One colleges.

11:00AM
Rerum Novarum’s Mediation in a conflicted Industrial Age: Karl Marx, Adam Smith and John Locke examined. Justin Schramm. Butler University, Indianapolis, IN. Sponsor: Richard McGowan

The social, economic and moral ideals of Karl Marx, Adam Smith and the seventeenth century English philosopher John Locke competed in Pope Leo XIII’s Rerum Novarum. I argue that Pope Leo gravitated toward a more Lockean center of thought.

Rerum Novarum, written in 1891, was Leo XIII’s attempt to underline the properly reasoned ideals (both Christian and free-thinking alike) of successful governments and businesses. We see, even to this day, a stark difference in beliefs of how a government should be run, be it a conservative, liberal, socialist or libertarian approach. Pope Leo XIII’s centralized approach to governments and his gravitation towards a more morally sound, free market epitomize what I believe U.S. businesses have achieved in the last century.

Chemistry
Session A Physical/Biophysical
Gallahue Hall, Room 108
Moderator: Dr. Todd Hopkins

09:00AM
Determination of Cytochrome c’s Affinity towards Various Chemically Modified Silica Surfaces via Attenuated Total Reflection Spectroscopy. Briana Richine. Butler University, Indianapolis, IN. Sponsor: Geoffrey Hoops

Abstract: Horse heart cytochrome c was studied on the surface of different chemically modified fused silica surfaces via ATR spectroscopy. Multiple concentrations of cytochrome c were investigated under constant solution conditions. The absorbance values obtained were plotted against its concentration and fit to the Langmuir equation. From this, an adsorption constant (Kad) was calculated and compared to literature values to understand cytochrome c’s affinity for different surfaces. The chemical surfaces studied were unmodified bare silica surface, an APTES modified surface, and a polylysine modified silica surface. The unmodified bare silica surface resulted in a Kad value of 5.50 x 10^6 M^-1, which is comparable to previous studies. A Kad value from the APTES and polylysine data could not be obtained with confidence.

09:15AM

Problem:
Pyrrrolidone is used as a model for the hydrogen bonding within a protein’s beta sheet structure. By investigating Pyrrrolidone in a CC34 solution, one can evaluate the bond strength (?Hdimerization) and the extent of the Hydrogen bonding (Kdimer).

Experimental:
The experimental values were obtained using Infrared Spectroscopy. Using four temperatures and twelve varying concentrations, at each temperature we were able to deduce the values of the equilibrium constants and the enthalpies of dimerization.

Calculations:
The calculated hydrogen bonding values were obtained from Gaussian 03. The values for the Pyrrrolidone were initially set in a gas phase and calculated using a 6-31g** basis set. The Hartree-Fock (HF) method was then used to obtain the optimization of the geometry and calculate the frequency. These calculations were then repeated using the HF method for optimization and a MP2 calculation for the frequency method. All of those calculations were once again calculated in solution using the polarized continuum approximation of the solution phase.

Comparison:
All calculated values were compared to experimental values. We compared the collected values of the frequencies for the monomer and dimer N-H stretches, the ratios of the stretch intensities, and the thermodynamic values.
Both the Ape3 and Vps32 mutant vacuolar genes inhibit these cells’ ability to utilize macroautophagy to recycle cellular components. Telomeres, the DNA-protein complexes at the ends of linear chromosomes, are essential for maintaining genomic stability. The semi-conservative model of DNA replication leads to ssDNA segments of telomeric DNA as a result of the removal of the RNA primer on the lagging strand. Over successive cell divisions this process leads to telomere erosion and uncapping. The enzyme telomerase is responsible for elongating telomeres to counteract this loss of telomeric DNA. A genome-wide screen to identify regulators of telomere length in S. cerevisiae identified 173 genes that affect telomere length when mutated. Several of these gene products are involved in vacuolar function, including Ape3, and Vps32. Both the Ape3 and Vps32 mutant vacuolar genes inhibit these cells’ ability to utilize macroautophagy to recycle cellular components. As a result,
Session C Instrumental Development
Gallahue Hall, Room 108
Moderator: Dr. Michael Samide
11:15AM

Acquiring quantitative carbon-13 NMR spectra has long been considered too time consuming for routine work. The fundamental reason for this is that the relaxation delay required for carbon-13 spins to return to equilibrium is often hundreds of seconds for non-protonated sites. We have built a flow-cell NMR probe that incorporates a programmable syringe pump (controlled by the spectrometer) that allows us to move 0.5 mL aliquots of sample into the coil from two 5.0 mL reservoirs. Most of the sample will reside in these reservoirs located away from the center of the magnetic field but still experiencing roughly the same 7 T bulk field strength. This allows the sample to return to equilibrium magnetization between scans (when not in the NMR coil) and hence we can speed up the experiments by moving sample between the various reservoirs between scans. Normally we would have to wait five T1 periods (which could be more than 500 s for non-protonated sites) between experiments to achieve full quantitative carbon-13 spectra. In our probe we only need to wait for the sample to be transferred between the relaxation reservoir and the coil which takes less than 2 s. This results in a scale up in time of up to a factor of 250 for some samples, which means the difference between a 15 minute and a 1-2 day experiment.

11:30AM

Micro Total Analysis Systems (μTAS) have been an object of interest for many years. These devices are still challenging to create and use. Simplifying the fabrication of these devices, by using poly (methyl methacrylate) (PMMA) instead of glass and laser etching instead of wet chemical etching, was a great step towards making them a common analytical tool. Other enhancements for this technique are the use of fiber optics to focus the source and detect the signal more easily. Having the fiber optics interfaced with a broad band source allows the system to scan over many wavelengths or focus on a single wavelength which is useful for detection. We have fabricated a PMMA microfluidic device and interfaced it to a UV/visible absorption spectrometer using fiber optic cables. We employ a Z-shaped channel geometry to increase the path-length so that an absorption measurement is feasible. We present some preliminary data illustrating the applicability and limitations of this detection scheme.

Session D Chemical Analysis of Foods
Gallahue Hall, Room 108
Moderator: Dr. Garrett McGowan
01:00PM
HPLC and Fluorescence Determination of Bisphenol A (BPA) in Various Foodstuffs. Anna Schwartz, Rebekah Gray. Anderson University, Anderson, IN. Sponsor: Chad Wallace

People are exposed to plastics that contain Bisphenol A (BPA) on a daily basis, particularly in foods and beverages. BPA is a principal reactant in the preparation of many polycarbonate plastics and has recently become a topic of controversy because of its potentially harmful side effects. BPA is a weak estrogen and has been implicated to be an endocrine disruptor. In this research, single wavelength HPLC (229 nm) and fluorescence (275 nm excitation, 305 nm emission) were used to determine the concentrations of BPA. Concentrations of 1 to 10 mg/L were reproducibly detected. Various food and beverage containers were analyzed for the amount of BPA that leached into the contents. The water stored in one reusable water bottle contained 7 mg/L BPA.

01:15PM
A Study of Antioxidant Levels in Blackberries and Blueberries via HPLC. Joseph Vormohr. Hanover College, Hanover, IN. Sponsor: Craig Philipp

In this experiment, the concentration of three flavonols: quercetin, myricetin and kaempferol, was determined in fresh and frozen blackberries and blueberries as well as blackberry and blueberry juice concentrate. Separation and quantification were performed via HPLC with a PDA detector. It was found that blackberry concentrate contained 58.0 ppm quercetin and 2.1 ppm kaempferol. The fresh blackberries had 0.3 ppm quercetin and trace amounts of kaempferol, while the frozen blackberries contained 0.4 ppm quercetin and 0.02 ppm kaempferol. Blueberry concentrate had levels of 34.7 ppm quercetin and 0.9 ppm kaempferol. Fresh blueberry contained 0.9 ppm quercetin and 0.02 ppm kaempferol and frozen

37
blueberry had 0.9 ppm quercetin and 0.02 ppm kaempferol. All reported concentrations for the juice concentrate are six times the levels of a single strength drink. All samples contained trace amounts of myricetin.

01:30PM
Are fast food "trans-fat" claims true? An atr-ftir analysis of trans-fat content in fast food french fries. Patty Campbell, Lauren Frank. Purdue University North Central, Westville, IN. Sponsor: Sharron Jenkins

Many U.S. fast food chains now claim that their food items, particularly French fries, have "no trans-fat". The purpose of this study is to assess the accuracy of fast food trans-fat labelling and the validity of "no trans-fat" claims. To accomplish this objective, we determined the % trans-fat in oil extracted from fries obtained from thirteen popular fast food restaurants and compared our findings with the % trans-fat found in each restaurant's literature. Fry samples were purchased at relatively the same time of day for three separate days from select restaurants within Michigan City, Indiana. Rapid attenuated total reflection-Fourier transform infrared (ATR-FTIR) spectroscopy was used to assess the trans-fat content of oil extracted from the samples. On June 13, 2008, seven of the thirteen restaurants sold French fries with trans-fat levels ranging from 12 to 43% of the total extracted fat. In most cases, these values were significantly higher than the amount of trans-fat reported in each restaurant's literature. Our study suggests that trans-fat content in fast food fries may be much higher than what is actually disclosed in a restaurant’s literature. In addition, a restaurant's "no trans-fat" claims may not necessarily hold true for all the individual restaurants within its franchise. Since there is no U.S. federal regulation of trans-fat content in fast foods, it is important that trans-fat claims and trans-fat labelling are accurate and up to date so that consumers are able to make healthy and informed food choices when dining in these establishments.

Session E Synthetic Methodology
Gallahue Hall, Room 108
Moderator: Dr. LuAnne McNulty

02:00PM
Synthesis of Substituted Hydroxycyclopentenones via Titanium Complexes. Jacqueline Pinaire. Butler University, Indianapolis, IN. Sponsor: Anne Wilson

Hydroxycyclopentenones can be synthesized via a one-pot reaction. This involves the introduction of carbon monoxide into a titanacyclobutene intermediate with the addition of various alkyl halides in the presence of samarium diiodide. This project was started by former students of Butler University; however, these students were unable to optimize the reaction. The goal of this project is to modify the general protocol to produce products with a yield of fifty percent or more, fully characterize the resulting hydroxycyclopentenones.

02:15PM

We will present work on developing a microwave-irradiated method of amine formation that uses an aza-Wittig reaction performed with resin bound triphenylphosphine followed by reductive amination. The use of microwave radiation has been known to improve upon the rate as well as overall percent yield of several organic reactions. This method studies the affect of microwave heating on the aza-Wittig and reductive amination reactions carried out in a one-pot Staudinger/aza-Wittig/reductive amimation synthesis. We will discuss the process of developing the method in terms of different solvents — THF, acetone, and toluene — and different carbonyl starting components—benzaldehyde and acetone.

02:30PM
Microwave-assisted Claisen rearrangements. Crystal Hon. Butler University, Indianapolis, IN. Sponsor: Anne Wilson

Microwave heating is a method that greatly increases the efficiency of reactions. The rearrangement was promoted with the use of microwave irradiation in DMF as a solvent. The method was applied to a series of allyl aryl ethers and substituted allyl aryl ethers to produce allyl phenols. The success of product formation has been assessed by the use of standard spectroscopic methods in addition to comparing to known literature references.

Communication: Speech & Journalism

Session A
Fairbanks Center, Room 246
Moderator: Dr. Bill Neher

09:00AM
Small Town Leadership: An Assesment of Mayoral Leadership Styles in Third Class Cities. Ryan Waggoner. Butler University, Indianapolis, IN. Sponsor: Dr. Jamie Comstock
While research in the field of leadership continues to grow, most studies are focused on the leadership styles of prominent national leaders. Few studies have centered on the leadership practices of elected officials in rural, small communities. The goal of this thesis is to close the gap in research. The Multifactor Leadership Questionnaire (MLQ), the most reliable and valid assessment tool in leadership research, was administered to 9 Mayors of third class cities in counties surrounding Marion County. Each Mayor completed the self-assessment. Additionally, the city council members of each city completed an assessment of the mayoral leadership styles. All results were compiled together and each Mayor was categorized into a specific leadership style.

In this research thesis, an extensive literature review on leadership research and theory will be introduced, a background on the validity and reliably of the MLQ will be discussed, and the results of the MLQ assessment will be displayed as well as analyzed.

09:15AM
An Examination of the Relationship Between Time Management Skills and Grade Point Average. Colleen Knox, Brittany Carlson. Huntington University, Huntington, IN. Sponsor: Mike Rowley

It is hypothesized that a positive relationship exists between these two variables. Additional

09:30AM
The Impact of Room Attractiveness on Task Completion. Katie Stroufe, Kaitlyn Breininger. Huntington University, Huntington, IN. Sponsor: Mike Rowley

Though once regarded as an aide for late-night study sessions, caffeine use among undergraduate students has expanded beyond after hours cramming. Thanks to the rising interest in coffee house culture, the ubiquity of soda dispensing machines, and the range of energy drinks on the market, caffeine consumption can now function as recreation, an early morning pick-me-up, a flavorful accompaniment to meals, and a replacement for sleep, among other things. The purpose of this research is to determine which of these is the primary function of caffeine among undergraduate students at Huntington University. Quantitative data will be collected from 150 surveys in which participants will report on the frequency of their caffeine use, the setting in which it most often occurs, the quantity consumed in various settings, and general information about themselves.

10:00AM
The Uses of Caffeine on a University Campus. Ashley Lamb, Laura Wallace. Huntington University, Huntington, IN. Sponsor: Mike Rowley

We believe that there is a larger number of Huntington University students who drink then commonly believed. Although alcohol consumption is a typical behavior for many college students, some universities forbid drinking alcohol on and off campus. We will be conducting an anonymous survey by surveying each dorm and off-campus housing individually. Possible questions will determine gender, athlete or non-athlete, major, and drinking either on campus, off-campus and in off-campus housing. Questions include do students who attend Huntington University comply with the restrictions on alcohol? Are Athletes more or less compliant than non-athletes? How often and in what contexts do infractions occur?

10:15AM
An Examination of Perceptions Associated with Name Origins and Gender. Danielle Miller, Sharon Metzger. Huntington University, Huntington, IN. Sponsor: Mike Rowley

The purpose of this research is to examine the perceptions that accompany college students' view of African Americans versus European Americans. All participants will review identical job descriptions and resumes except for the name and sex on the resume. A 2x2 factorial design will be used. Two resumes will have characteristically AA names, one male and one female; the other two resumes will have characteristically EA names, one male and one female. The dependent variables include perceptions of perceived intelligence, responsibility and collegiality.

10:30AM
An Examination of the Relational Impact of Room Attractiveness on Task Completion. Katie Stroufe, Kaitlyn Breininger. Huntington University, Huntington, IN. Sponsor: Mike Rowley

The purpose of this research is to examine the relationship between a student's ability to manage time and his or her GPA. Survey research will be used to determine a student's self-reported competency with time management which will then be compared to his or her GPA. It is hypothesized that a positive relationship exists between these two variables. Additional
research questions include: Is the relationship between time management skills and GPA different for males and females? Is the relationship between time management skills and GPA different for athletes and non-athletes?

Session C
Fairbanks Center, Room 246
Moderator: Dr. Bill Neher

11:00AM
The "Cinderella" Master Narrative in Jane Austen's novels. Abigail Cerquitella. Taylor University, Upland, IN. Sponsor: Jessica Rousselow-Winquist

Jane Austen has been described as one of the “most beloved authors in English literature”. One of the reasons for their continued success, is her beloved characters who stay with the readers long after the last page. The novels always contain, most importantly for us readers, a happy ending. To locate the “happily ever after” endings in the four novels this essay concentrates on, the Narrative paradigm will be used. This essay argues that the “happily ever after”’s in Austen's novels stem from a Cinderella archetype, or master narrative. The common element in an archetypal Cinderella story is the elevation of status by marriage, which constitutes the happy ending. The Cinderella archetype is a “rags to riches” story, which pervades much of culture. It applies to the dreams of being able to legitimately climb the social ladder, from hard work, marriage or simply luck. This element is especially valued within American culture, being part of the quintessential “American Dream”. Many successful works of American literature and film contain this theme as a means of hope and escape for the audience. The hypothesis of this essay is to locate the master narrative, the Cinderella archetype, in four of Austen's novels, Pride and Prejudice, Northanger Abbey, Persuasion and Mansfield Park, and then to explain how the use of this archetype allows these novels to continue resonating with audiences today in various adaptations and forms.

11:15AM
Jacob Zuma: Unorthodox Presidential Rhetoric. Michael Branham. Hanover College, Hanover, IN. Sponsor: Barbara Garvey

This research examines the implications of significant shift in political power within a nation, primarily focused on presidential rhetoric. South Africa has recently undergone such a shift in the office of presidency. Jacob Zuma brings an entirely new alternative set of dynamics and structure of political communication than what the country has recently experienced. This has led to change within the political spectrum in terms of presidential rhetoric. The unorthodox rhetorical methods that he applies far exceed the realm of normality that has existed in South Africa for over the past several decades. The application of universal political communication can be examined through this lens of separating unorthodox from what is considered to be orthodox rhetoric. Zuma provides excellent contextual analysis as to how and why this structure can be applied to universal political communication worldwide.

11:30AM

This study will explore the concept of coaches as lifelong teachers. It will examine the coach and the various features and characteristics that make a coach important to an athlete. It will focus on messages that athletes remember their coaches giving them. Athletes will be asked to fill out a questionnaire soliciting them to recall memorable messages their coaches have given them. Specifically it will inquire as to why and how these messages became memorable as well as asking the context in which the message was delivered. Qualitative survey questionnaire responses will be analyzed using constant comparative methodology. In-depth interviews will also be conducted with athletes in order to ensure clarity of how and why messages become memorable.

Session D
Fairbanks Center, Room 246
Moderator: Dr. Bill Neher

01:00PM
The Right to Life: An Examination of the Relationship between Christian Faith Commitment, Political affiliation and the Death Penalty. Kyle Brohm, Heath Pearson, Corey Palmer. Huntington University, Huntington, IN. Sponsor: Mike Rowley

How influential is a person's commitment to Christian faith and their political affiliation to their stance on the death penalty? The purpose of this research is to examine the relationship between a person's Christian faith commitment, political affiliation and his or her stance on the death penalty. Two hundred college students will serve as participants for this survey research. Measures of Christian faith commitment and political affiliation will be assessed and compared to a person's stance on the death penalty. It is hypothesized that a positive relationship exists between a Christian faith commitment and conservative political affiliations. Additionally, it is hypothesized that a positive relationship exists between a politically conservative affiliation and a pro-death penalty stance.
01:15PM
Hilton v. Hallmark: The case for a federal right of publicity law. Emily Newell. Butler University, Indianapolis, IN. Sponsor: Nancy Whitmore

In August 2009, Paris Hilton filed a lawsuit against Hallmark Cards, Inc., alleging the company had illegally used her image and trademarked phrase, “that’s hot,” on a greeting card. After the trademark charges were dropped, Hilton was given the OK to pursue a misappropriation of identity suit. However, Hilton is not the first celebrity to file such charges. Prominent figures including Johnny Carson, Vanna White, Bette Midler, and Kareem Abdul-Jabar have all brought cases against various companies claiming each had infringed upon the right to their own image and the profit it yields. They have brought cases on the grounds of misappropriation of identity through use of voice, image, name, and even slogan. However, the issue that has arisen time after time is how to rule in such cases, as no federal statute exists to regulate the right of publicity—leaving it up to each state to decide how much protection a celebrity receives, if any at all. Through an exploration of previously decided right of publicity cases, this study has found that even in the same state, right of publicity laws have been applied irregularly and, in some cases, without regard to precedent, leading to the necessity for a federal law which outlines what protection is granted to celebrities and what is not.

01:30PM

The purpose of this study was to examine if reading rate can be increased in young adults by increasing short-term memory (STM). Twenty-one participants (mean age = 20 years) with normal vision and hearing were divided into three experimental groups; an auditory letter span training group (LSA training group), a visual letter span training group (LSV training group), and a control group that received no training. The participants in the training groups were trained with a letter span test presented auditorily or visually for 20 minutes a day over five consecutive days. Each participant’s reading rate and STM was assessed at the beginning and end of the study. Results were mixed; increased reading rate was seen for some but not all groups, and all groups demonstrated increased STM. However, these increases were shown not to be statistically significant. The results obtained in this study have relevance to the language development of children with cochlear implants, as it has been shown that children with cochlear implants demonstrate STM below average compared to age-matched peers (Cleary, Pisoni & Geers, 2001), their memory span and word recognition are related (Pisoni & Cleary, 2003), and they are sometimes language delayed (Archbold et al., 2008). This work was supported by an Undergraduate Student Research Program Grant from the Fairbanks Foundation at Butler University.

Session E
Fairbanks Center, Room 246
Moderator: Dr. Bill Neher

02:00PM
Gendering children through advertising: A content analysis of television commercials on Nickelodeon. Heather Hanford. Butler University, Indianapolis, IN. Sponsor: Margaretha Geertsema

The purpose of this presentation is to take a critical look at television commercials that target children on the cable network, Nickelodeon, and examine whether or not these commercials perpetuate gender roles in American society. Do children-targeted television advertisements on Nickelodeon perpetuate gender stereotypes in regards to: type of product sold, proportion of males to females appearing in ads, settings of ads, types of interactions between characters/with the product in ads, and language used to describe products? Results of a content analysis will be explained with examples, and previous research and implications of findings will be discussed.

02:15PM
Restructuring Feminism in the 21st Century: A rhetorical Analysis of Author Wendy Shalit. Anne Warner. Taylor University, Upland, IN. Sponsor: Jessica Rousselow-Winquist

The purpose of this essay is to analyze the proposed fourth wave of feminism in two books by Wendy Shalit using Fantasy Theme Analysis. In A Return to Modesty and Girls Gone Mild, Shalit attempts to prove to her readers the onset of a fourth wave a feminism. This study seeks to find Shalit’s role in her proposed new movement. Perhaps it is not the women in the stories who are starting a revolution, but Shalit herself.

02:30PM

The advent of the Internet and subsequent emergence of social media and networking sites has created countless new outlets through which information can be gathered and shared among users. Websites like Facebook, Myspace, Wikipedia and YouTube allow for near instantaneous sharing of photos, videos and commentary from user to user. This trend has created new and innovative avenues through which consumers can research potential product purchases and, similarly, through which companies and advertisers can market a product. Essentially, the Internet gives consumers the ability to be an advocate and an advertiser for or against any product. While current research provides a strong definition of what social media is and how it can be used as a benefit, it is lacking a clear theoretical framework through which this consumer behavior can be evaluated. It is important to identify a theory to explain this new phenomenon to better be able to predict what content and messages will be most persuasive and effective with certain audiences.
The concentration of ions in areas affected by the autumn olive was significantly lower around locations with the autumn olive than without. This positive result and consideration of the uncertainty of the statistical analyses’ accuracy due to the limited number of samples suggests that significant differences may be seen in the remaining concentrations if the study were to be continued and more data collected.

Session F
Fairbanks Center, Room 246
Moderator: Dr. Bill Neher

03:00PM
The Stress Of Monotony: Communication Techniques In Dealing With Stress Among Jailers And Inmates In A County Jail. Matt Friedlund. Huntington University, Huntington, IN. Sponsor: Kevin Miller

This paper attempts to investigate the communication techniques used by inmates and jailers in a county jail. According to the literature, jail is a very stressful environment, causing some sort of stress in just about every inmate. Based on the seven given categories of stress, using a combination of Schein’s Cultural Onion approach and the Conflict Management Styles grid, I observed and analyzed the communication techniques used by jailers and inmates in interactions between inmates and jailers and inmates and inmates. The communication patterns that emerged specifically served stress-ridding purposes, more so in inmates, but occasionally from jailers as well.

03:15PM
Becoming Spartan Green: The Quest of Michigan State University. Katie Willmarth. Taylor University, Upland, IN. Sponsor: Jessica Rousselow-Winquist

This paper explores the environmental stewardship campaign taking place on the campus of Michigan State University. The themes, values and motives behind the Be Spartan Green Campaign are analyzed using Walter Fisher’s narrative paradigm. Using the application of the narrative theory, the past story of environmental stewardship on the campus is unearthed and the plot of a new story is presented.

Earth & Environmental Sciences

Session A
Jordan Hall, Room 201
Moderator: Dr. Robert Holm

01:00PM
A Study of Water Quality of Lake Banet in Reference to the Habitat of Freshwater Jellyfish (Craspedacusta sowerbyi). Joel Jaeger. Saint Joseph's College, Rensselaer, IN. Sponsor: Robert Brodman

Craspedacusta sowerbyi is a freshwater jellyfish that originates in China. Several members of this species were introduced to North America through the aquatic plant trade. Since then, they have spread to many lakes and streams across the United States, including Lake Banet on the campus of Saint Joseph's College in northwest Indiana. C. sowerbyi spends most of its life cycle as microscopic polyps, but in some years they produce the medusa, or jellyfish, part of the life cycle. Little is known about the influence of water quality and the presence and behavior of the jellyfish. I tracked the change in water conditions during the jellyfish’s appearance to better understand the influence of water quality on the presence and behavior of C. sowerbyi at Lake Banet. Water quality indicators included pH, temperature, turbidity, nitrate, phosphate, and salinity levels. I compare these data with published data collected from other aquatic environments to characterize the habitat needs of C. sowerbyi.

01:15PM
Impacts of the Invasive Species Elaeagnus umbellate on the Pierce Cedar Creek Institute Ecosystem Soil and Water Quality. Kaylene Boroski. Valparaiso University, Valparaiso, IN. Sponsor: Zuhdi Aljobeh

Autumn olive (Elaeagnus umbellata), a woody shrub native to China and Korea, was planted in the eastern U.S. in the 1830s for its wildlife value and in the 1970’s was used extensively as an erosion control plant along Midwestern highways. A decade later, autumn olive turned problematic, becoming highly invasive. Encroaching upon many nature preserve areas including Pierce Cedar Creek Institute nature preserve, it crowds out native plants and also acts as a nitrogen-fixer, a characteristic that could cause more alterations to the host ecosystem. Given this characteristic it was hypothesized that its rapid spread is due to its self-fertilizing ability. This study focused on the comparison of concentrations of nitrogen species and positive ions in areas affected by versus sans the autumn olive. Soil water samples collected at 10 day intervals were tested for concentrations of total nitrogen, nitrate, ammonia, potassium, calcium, and magnesium; the results were statistically analyzed using 2-sample t-tests. Given this study’s short duration (10 weeks during summer 2009) not enough significant differences in the mean concentrations were found to state that the autumn olive was causing alterations in the soil chemistry, excepting the case of the potassium test. The concentration of potassium was significantly lower around locations with the autumn olive than without. This positive result and consideration of the uncertainty of the statistical analyses’ accuracy due a limited number of samples suggests that significant differences may be seen in the remaining concentrations if the study were to be continued and more data collected.
In concern of energy conservation, it is important to investigate how energy sufficient building envelopes are. Building envelopes are defined as the exterior walls of a building. Energy audits of buildings have been used to help investigate this sufficiency. A calibrated blower door has acted as the main tool in calculating a building’s air changes and cumulative leakage areas. Past research has shown that high air changes within and leakage areas of buildings are two of the most responsible aspects of energy loss through the transfer of heat throughout a structure. Energy sufficiencies of 15 homes owned by Earlham College were evaluated using blower door tests. The main focus of the research after these homes were initially evaluated was making low cost repairs that a common homeowner could make to increase the efficiency of the building envelope, decreasing the heat loss of a home. Simple repairs were made to two houses; the houses were then re-evaluated with a second blower door test. The principle matter of the research then became the impact of the repairs made on these two homes. The amount of impact from these repairs was measured by calculating the differences between the initial and final calculations of the air changes and measurements of the cumulative leakage area of these homes. This showed the energy loss that would be prevented through the transfer of heat inside the houses. Another calculation could then be made to predict the amount of money saved on the heating bills of these two houses.

Environmental activist organizations make significant contributions to the quality of life for residents of Indiana. Every organization offers job training, access to arts and culture, education, and opportunities for democratic participation. As state organizations continue to be a major force in the state’s economy, environmental activist organizations have recently emerged as a new, effective and important type of organization in expressing concerns throughout the state. Perhaps the most unique feature of a local organization is its intimate connection to the communities in which it is located. This project analyzes information gathered about eleven carefully chosen Indiana “environmental activist organizations.” These organizations are all non-profit organizations either classified as non-governmental organizations (NGOs), network/coalition/collective organizations, or community organizations. I examine the extent to which environmental activist organization influence community and policy changes in Indiana. Environmental research within the state of Indiana proves to be more important because it displays a wide range of typical physical characteristics of the Midwestern United States. In order to adequately address the concern for use of developed land in Central Indiana, the communication between environmental policymakers and environmental activists must be analyzed. I found that community is the largest impact on the success of the organization; however, the majority of the community does not understand policies that directly affect their surrounding environment. The organizations are wide spread and tend to be very specific, which may be a barrier in better communication between the organizations.

Education

Session A
Jordan Hall, Room 183
Moderator: Dr. Meredith Beilfuss

11:00AM
Taking Learning and Thinking to New Levels: The Reggio Inspired Middle School Classroom. Danielle Konigsbacher. Butler University, Indianapolis, IN. Sponsor: Meredith Beilfuss

After spending long hours on lesson plans, are your middle school students motivated to learn? This presentation will discuss the principles of the Reggio approach and how Reggio can be used to support the developmental needs of the middle school learner. The research methods and data analysis techniques used in this study are qualitative in nature and include teacher observations and interviews within Reggio inspired schools. These seven principles of the Reggio approach emerged as themes within this research study— (1) A strong understanding of the image of the child; (2) The belief that the child has one-hundred languages or ways of expressing him/herself; (3) The idea that relationships and collaboration among all those involved in the child’s life are very important; (4) Project work is highly valued in the classroom; (5) Documentation of student work is very important and has many functions; (6) Strategic use of the environment and space; (7) The role of the teacher as a research partner and guide. Teacher interviews and observations data support using this approach regarding the developmental and learning needs of the young adolescent, and inspire ideas for how a middle school teacher might be able to adapt their classroom to apply each principle.

11:15AM
Defining Literacy for an Internet Audience. Lydia Nees. Ball State University, Muncie, IN. Sponsor: Brian McNely

Today, anyone with basic reading and writing skills can communicate online. With this change, the internet has become an arena for heated debate concerning literacy, especially technology-enabled writing (e.g. IM, texting, blogs). This projects aims to describe the conflicting attitudes towards the internet’s effects on literacy, as demonstrated by individual contributions online.

I will be looking at a collection of voices online speaking on behalf of literacy issues, such as good grammar and writing. In particular, I will focus on the trend of individuals using the internet as a platform to advocate prescriptive language use, versus those who take a more pragmatic approach to writing. The target audience will be researchers interested in the internet and literacy. Content may also be relevant to telecommunications industries. Also, this project will address the interests of a broader online public invested in writing and the internet.
Ultimamente, me gustaría proporcionar investigación apoyando la idea de que el llamado “text message generation” no ha “ruinado” el idioma inglés de cualquier manera — y en efecto, los prescriptores en línea impiden la literacidad al enfocarse en detalles innecesarios, confundiendo función con estilo, y a veces incluso haciendo falsas afirmaciones sobre el idioma. Mientras que muchos investigadores buscan soluciones a los problemas del internet y la literacidad en términos de pedagogía, me gustaría demostrar que la literacidad es interesante no solo en un contexto de enseñanza-aprendizaje, sino incluso en el contexto de comunicación en un entorno virtual.

11:30AM
Charter Schools vs. Public Schools. Lindsay Levin. Butler University, Indianapolis, IN. Sponsor: Sam Guerrieri

Este estudio realizará la comparación de ocho escuelas charteado en Indiana con ocho escuelas públicas en Indiana, todas las escuelas están situadas a menos de cinco millas de cada otra. El Ayuntamiento de Indianápolis ha sugerido que escuelas charteado (escuelas charteado) son las escuelas que responden al cambio educativo, y las escuelas charteado son menos y otras escuelas. En Indiana, cuatro entidades, el Ayuntamiento de Indianápolis, oficina del Alcalde, Ball State, escuelas charteado y la escuela Lafayette School Board, se permiten apoyar escuelas charteado. Este estudio hipotizará que las escuelas charteado ofrecer una oportunidad educativa mejor que si el/la estudiante estuviera en un escuela pública de su comunidad. En todos los estudios hecho, una mayoría de estudiantes (45%) participado en el almuerzo libre programa. Para determinar si el inglés de las escuelas charteado es responsable y un mejoramiento en la educación, este estudio medirá ISTEP testing y la adecuada progreso anual informe requerido por No Child Left Behind. Este estudio ilustra la responsabilidad y es una métrica el estado para determinar si la escuela ha cumplido con sus responsabilidades. En adición, este estudio comparará el maestro’s salarios y edad, composición racial de los estudiantes, y el número de maestros calificados que ambas partes han sido forzado a contratar. Esto es una pequeña comparación y sólo ocho escuelas charteado y ocho escuelas en el escuela público Indianapolis (IPS), pero se debería proporcionar una imagen de para la efectividad de las escuelas charteado, al menos en Indianápolis.

Foreign Languages
Session A
Jordan Hall, Room 278
Moderator: Dr. Terri Carney

10:00AM
Responsabilité parentale : Négligence et répression, une étude d’Orlanda de J. Harpman et de Piège pour Cendrillon de J. Japrisot. Marguerite Carpenter. Butler University, Indianapolis, IN. Sponsor: Sylvie Vanbaelen

Ma présentation étudie les effets négatifs de l’éducation parentale sur les protagonistes d’Orlanda (de Jacqueline Harpman), et de Piège pour Cendrillon (de Sébastien Japrisot). En examinant le débat quant à l’effet de l’environnement et de l’héritage sur sa personnalité, il est évident que les deux fillettes ont été influencées essentiellement par leur milieu familial. L’égoïsme et l’étouffement de Michelle peuvent être attribués à la négligence de ses parents et l’inhibition d’Aline peut s’expliquer par l’attitude étouffante de sa mère. Sans les conseils de ses parents, Michelle est devenue un pur produit de la société matérialiste et impitoyable dans laquelle elle évolue. N’ayant pas l’opportunité de penser pour elle-même, Aline a sacrifié une partie de sa personnalité pour se conformer aux normes établies par sa mère.

10:15AM
A Tale of Suppressed Character: The Cases of Mr. Hyde and Orlanda. Katie Hammitt. Butler University, Indianapolis, IN. Sponsor: Eloise Sureau

This presentation will seek to apply the concepts of morality presented in Robert Louis Stevenson’s “The Strange Case of Dr. Jekyll and Mr. Hyde” to the discussion and complication of gender roles as presented in “Orlanda”, a 20th century novel by Jacqueline Harpman. Both stories present a main character as an upstanding member of their respective societies whose world is turned upside down by the manifestation of a socially unacceptable side of their personality. The struggles of these characters are complicated by the conflicting urge to perpetuate these counterparts, and both stories end in destruction. By following the commentary of an outside observer of these two cases within the stories, I will analyze what characteristics of these socially unacceptable counterparts make them socially unacceptable in their specific settings. I will also discuss what implications this analysis has for current society in what is deemed appropriate.

10:30AM
Puentes y peregrinos: Cómo los ríos han afectado el Camino de Santiago. James Michael Smith. Hanover College, Hanover, IN. Sponsor: Celia Dollmeyer

El Camino de Santiago es un fenómeno único que ha afectado profundamente la historia y la cultura de España y de todo el continente europeo por más de mil años. Esta peregrinación religiosa al sepulcro de Santiago empezó en el siglo IX después del descubrimiento de sus restos. La peregrinación llegó a ser tan importante que a partir del siglo XII la ciudad de Santiago de Compostela se transformó en uno de los tres lugares más importantes de la cristiandad además de Jerusalén y Roma. El viaje, de más de 750 kilómetros dentro de España, continúa gozando de tanta popularidad que hoy más de 100.000 personas llegan a Santiago de Compostela cada año. Este estudio explora cómo la presencia de numerosos ríos ha afectado la experiencia del peregrino y la historia de la peregrinación. Yo mismo emprendí el Camino para ver cómo los ríos les han afectado a los peregrinos desde una perspectiva moderna además de una medieval. Como obstáculo peligroso y a la vez fuente de vida, los numerosos ríos que se encuentran a lo largo del Camino han influido de manera significativa a los peregrinos y la peregrinación misma.
El escritor argentino, Julio Cortázar, viviendo en el exilio después de sus desacuerdos políticos con el gobierno de Perón, nace en la era de la dictadura militar en 1976. La Junta Militar cometía crímenes de lesa humanidad para eliminar la oposición. El objetivo de este trabajo es examinar dos cuentos cortazarianos que fueron publicados después de 1980 e identificar en ellos esa crítica de Cortazar a las acciones patrocinadas desde el gobierno. Ambos cuentos tienen conexiones sutiles con respecto a la situación que se vive en la Argentina de esta época. El primero, “Pesadillas,” tiene un lenguaje explícito. Los dos cuentos, “Proceso de Reorganización Nacional” y “Recortes de Prensa,” tienen una mezcla de ficción y verdad, y la línea entre las dos no es completamente clara. Hay violencia gráfica, historias reales, y una sensación de impotencia.

Entre los años 1976 y 1983, Argentina pasó por un “Proceso de Reorganización Nacional” bajo una junta militar. En aquella época, existían básicamente dos grupos en conflicto: las fuerzas armadas y las fuerzas izquierdistas. Durante mi visita a Argentina me di cuenta que dicho conflicto generaba puntos de vista muy distantes entre los argentinos. Mientras algunas personas condenaban el accionar de la Junta Militar, otros lo defendían. Un análisis de estas historias es necesario hacerlo para reconocer los puntos de vista de cada grupo en conflicto. Este proyecto va a incorporar y analizar textos publicados desde ambos lados, con el objetivo de hurgar en la verdad, y de tratar de presentar la información como un observador externo.

En muchas de sus novelas, Lucia Etxebarria crea personajes que experimentan la crisis de identidad reflejada en las mujeres españolas. Se enfoca en la identidad de una joven y su identidad sexual como protagonista. Ella implementa la lengua coloquial y muchas referencias a la cultura pop para establecer un nuevo tipo de personaje. Muchos de sus personajes también usan una lengua de supervivencia, que expresa sus esfuerzos para mantener la cordura y la identidad, para crear una imagen de sus dificultades en un mundo cambiante. El aumento de los problemas femeninos en la literatura española contemporánea significa la libertad nueva para las escritoras en un país posfranco. En un ambiente sin la censura y la opresión política puede existir una conversación abierta sobre temas complicados del mundo femenino, incluyendo la búsqueda de la identidad, el desarrollo de la sexualidad, los problemas de relaciones disfuncionales y otras luchas diarias. Lucia Etxebarria está a la vanguardia de este movimiento literario. Sus personajes retratan los problemas emocionales y psicológicos que se encuentran presiones sociales y la soledad. Sus cuentos íntimos expresan las luchas verdaderas de las mujeres contemporáneas y dan una voz a las mujeres que antes eran desconocidas. Al reconocer las invisibles, las extrañas y las que no son como las demás, Etxebarria abre el mundo literario a una nueva época posmoderna que explora la autorrealización de modo que nunca se ha explicado antes de esta revolución.
**12:00PM**
Guernica: Picasso’s Reconciliation of Cubism. Rebecca Groesbeck. Butler University, Indianapolis, IN. Sponsor: Terri Carney

During my study abroad experience in Spain, I was profoundly affected by Picasso’s "Guernica". The strong emotions I experienced led me to question if there was a set message in the painting. Specifically, I argue that Picasso was projecting his personal frustration with the Spanish government’s decision to bomb the town of Gernika to those viewing the painting. "Guernica" is a clear example of art that is committed to a political stance.

However, many critics believe that art is made for art’s sake and that no artist can directly convey a message to his audience. Others say that a piece of art creates a unique experience for each viewer. Is it impossible for a painter to transmit a message when it is clear that he is basing his artwork on a precise political event? Picasso, who was the father of an art form based completely in the abstract, felt so strongly about the bombing that he reconciled to paint “Guernica” in a more realistic style of cubism to make his political message accessible to the general public.

**12:15PM**
"A Review of The Barriers Affecting Hispanic Communities in Accessing Health Care”. Ashlee Cerda. Butler University, Indianapolis, IN. Sponsor: Terri Carney

Access to Healthcare can be defined by the factors that influence the ease with which medical care can be obtained. With the healthcare reform ahead of us, we as a society are becoming more aware of the increased inability to access healthcare amongst the U.S. population. Lately, this issue has obtained more coverage within the media, but the barriers that Hispanics have faced in acquiring good healthcare has been apparent for many years and will continue to be a problem if no solution is created. A review of the barriers: lack of insurance, language barriers, and cultural differences, will be discussed along with ways in which our public and private health care systems can combat these factors. Personal volunteer experience at Alivio Medical Center, a healthcare provider located within the Indianapolis area, will provide a great example of the efforts used to diminish the barriers and improve care for the Hispanic community.

**12:30PM**
Das Gesundheitswesen und TCM in Oesterreich. Elsa Carodenuto. Butler University, Indianapolis, IN. Sponsor: Fred Yaniga


**12:45PM**
L’Obsession de la beauté et la perte de l’humanité dans l’œuvre de Schmitt et Japrisot. Samantha Carman. Butler University, Indianapolis, IN. Sponsor: Sylvie Vanbaelen

Dans Piège pour Cendrillon et Lorsque j’étais une œuvre d’art, Sébastien Japrisot et Eric-Emmanuel Schmitt critiquent l’obsession des apparences de la société moderne et mettent en garde contre les dangers de cette obsession. Poussés par le désir d’être beaux, célèbres, riches et admirés, les personnages principaux de ces deux romans en viennent à des actes extrêmes qui risquent de leur faire perdre leur humanité.

**Gender Studies**

**Session A**

**Fairbanks Center, Room 146**

**Moderator: Dr. Ann Savage**

**10:00AM**

The Pursuit of Perfection: Babies by Design. Ashley LeCount. Butler University, Indianapolis, IN. Sponsor: Kristin Swenson

Humans are increasing their desire and obsession with perfection. This obsession can be seen throughout time: the Spartans, Eugenics Movement, Holocaust and Hitler, forced sterilization legislation, and the normalization of cosmetic surgery. Humans have taken this perfection obsession up a notch, they are now demanding perfection from their progeny. This new obsession is named ‘babies by design’ or ‘designer babies.’ ‘Designer babies’ insinuates that this new phenomenon is a fashion statement for near reproductive means. ‘Babies by design’ gives a better sense of the meaning; that the parents design their child.

This new phenomenon is only possible by the technological advancement in genetics: pre-implantation diagnosis, PGD. PGD is where an embryo, during the blastocyst stage, has a cell removed for genetic analysis. With the constant improvement of technology, scientists are able to
analysis the embryo’s genome for many features. The parents are able to then decide whether this embryo is viable enough to their expectations to be implanted into the uterus. PGD is an expensive procedure that takes many trials that are pain staking and time consuming. Many fear that humans will fall down the ‘slippery slope’ and will have another Eugenics or Nazi movement with this technology. However, due to the time and monetary commitment, humans would rather have sexual intercourse to reproduce than use PGD technology.

10:15AM
Male Power as Love and Female Sexuality as Mortal Danger in Twilight. Kelsey Truman. Butler University, Indianapolis, IN. Sponsor: Betsy Erbaugh

At first glance, it might seem that thirty-six thousand mothers cannot be wrong: Stephenie Meyer’s Twilight series of novels and its premarital-sexless teen romance, they argue, are a refreshing break from the sex-saturated media that assaults us daily. How could the astonishingly popular Twilight series harm readers when its protagonists are so clear about the value of abstinence? Fans and observers adult and adolescent alike often fail to see how the messages put forth by the Twilight franchise constitute a danger to readers by equating female sexuality with mortal peril and male control with love. Media critics have investigated the books for their constractive gender roles and fetishization of virginity and abstinence, but something that has perhaps not been addressed by current scholarship on this emerging cultural phenomenon is the series’ troubling portrayal of female sexuality as a dangerous element that must be controlled by a man for the protection of the woman and for society at large. Although many are quick to dismiss the fantasy novels as trendy and inconsequential, there is a need to examine Twilight’s message with a critical feminist lens in order to begin to understand what lessons some eighty-five million readers, primarily young women, take from the novels about relationships and sexuality.

10:30AM
Sisterhood or Segregation: Gender Division in the Context of Sororities. Christina Lear. Butler University, Indianapolis, IN. Sponsor: Elise Edwards

Sororities originally developed in the 1800s as a unifying force for the first and few women on college campuses. They were a support system to nurture academic achievement and provide female companionship in a climate of sexism. At the same time, they also reinforced certain notions of femininity to temper fears that educated women would abandon gender roles. Since that time, the meaning and functions of sororities have changed and developed greatly along with the role of women in society and especially in higher education. In 2010, arguments are made that sororities empower female leaders, but also that they reinforce stereotypical gender roles and sexist power structures. Drawing on interviews with current sorority women and multidisciplinary research, this paper examines the challenges and benefits of modern sororities in the context of feminism, and examines the larger question of gender segregation as a tool to enhance or harm women’s position in society.

History

Session A
Jordan Hall, Room 205
Moderator: Dr. Scott Swanson

09:00AM
“The Fashions or the Follies of the Times”: Imitation, Propaganda, and Innovation in the Early American Theater. Janelle Jenkins. Taylor University, Upland, IN. Sponsor: Steve Messer

In the tumultuous decades spanning the late colonial period through the early years after the American Revolution, a revolution in performance arts quietly changed the face of American culture. Initially, England’s New World colonists pursued local theater in an effort to gain legitimacy for their society and to join in the larger cultural dialogue. However, while colonists were eager to participate in English culture, they also prided themselves on possessing a distinct non-English heritage and identity, developing an independent, post-colonial mindset. Thus, the theater shifted at the time of the Revolution to become a performance space in which local, politically relevant drama could be produced. This paper traces this colonial progression towards an authentic, representative voice by examining both the content and the popular reception of plays produced in the American colonies, beginning with the earliest importations of popular English drama, moving towards anti-English political antagonism and propaganda, and ending with the earliest products of a creative, self-aware American theater.

09:15AM
John Locke’s Influence on Jonathan Edwards’ Early Writings, a Defense. David Pulliam. Taylor University, Upland, IN. Sponsor: Steve Messer

Jonathan Edwards’ early writings reveal a metaphysical system of idealism, and show evidence of being influenced by John Locke. It is contentious to when Edwards began to study Locke and how much Locke influenced him. This paper seeks to show the degree of Locke’s influence Edwards’ early writings as well as seek to explain when and how Edwards acquired Locke’s works. There is skepticism as to whether Jonathan Edwards was influenced by John Locke. Norman Fiering claims that there has been too much emphasis on Locke’s influence. Other thinkers affected Edwards. Other thinkers affected Edwards, but there is evidence of Locke’s influence in his writings, and it is helpful to look at Edwards in this light.
Edwards’ early philosophical writings “Of Atoms,” “Of Being” and “The Mind” show his early idealism. In “Of Atoms,” Edwards took Locke’s proposal of there being a substance and claimed that it is knowable because what upholds the universe is God. In “Of Being” Edwards’ idealism is fully expressed, everything exists in the mind of God.

In “The Mind,” Edwards is trying to develop a system where the world only exists by perception. He argues that there are innate ideas, contrary to Locke, yet agreeing that all ideas stem from experience.

Edwards wrote these early works just after his undergraduate years, during which he began to read Locke. Edwards’ writings and reading of Locke is much later than what scholars previously thought.

09:30AM
The Religious Beliefs of Thomas Paine. Benjamin Crenshaw. Taylor University, Upland, IN. Sponsor: Steve Messer

In order to understand the significance of Thomas Paine’s political and social writings, which contributed to American independence and republican principles, it is necessary to know his personal and religious beliefs as these molded his worldview. Raised by a Quaker father and Anglican mother, sectarian and orthodox Christianity were the primary religious influences during his early years. However, while in his twenties, Paine was taught Newtonian science which became the overriding influence in shaping his religious beliefs. Despite the influence of his father’s Quakerism, Paine was predominantly a child of the Enlightenment and his religious beliefs were interpreted through natural laws and reason, eventually leading him to Deism. However, determining his exact religious beliefs as they developed is difficult to pinpoint, especially whether he believed in the Bible. By examining his famous 1776 publication, Common Sense, it is possible to conclude that Paine was a theistic Deist who believed in a beneficent Creator who was involved in human affairs. Paine adhered to certain parts of Scripture, especially those that proved his political arguments, but he never made a positive statement of his doctrinal beliefs at this time. It was not until 1793, when Paine penned The Age of Reason, that he revealed his theological convictions in which he unquestionably condemned Christianity and atheism as false beliefs and promoted Deism as the only true religion. The change in his religious tone from 1776 to 1795 can best be understood as a personal reaction to the libertarian failures of the French Revolution.

09:45AM

This paper explores the significance of how colonial response to the Tea Act (1773) provided American colonists with the unity necessary to wage a successful war for independence against Great Britain. Although that response is often confined to the Boston Tea Party, this study suggests that the Bostonians’ actions, while unprecedented, were most significant for motivating other colonists to respond similarly, thereby demonstrating a pervasive colonial resolve. Specifically, this paper examines the contextual parallels between Boston and New York, and how the former port’s determination functioned as a model for New Yorkers in their refusal of the taxable tea. Ultimately, New York’s “tea party” reveals the extent to which they relied on Boston’s example in asserting their rights as British citizens.

This behavior is most greatly appreciated by examining unity’s inconsistent development before the Tea Act and its flourishing throughout the colonies afterward. Therefore, this paper explores the contrasting disputed reactions to the Townshend Act (1767-1770) and united calls for a Continental Congress after Britain’s issuing the Coercive Acts (1774). The Tea Act’s unifying effects, it is argued, explain these vastly different colonial responses. Accordingly, the author suggests that instead of moving from an examination of the Boston Tea Party to studying its most prominent consequences—the battles at Lexington and Concord—one must appreciate the development of unity that made possible success in those battles and the American Revolution in general. That unity is rooted in response to the Tea Act in Boston, New York, and throughout the colonies.

10:00AM
Mammon and the Minuteman. Eric Drongowski. Earlham College, Richmond, IN. Sponsor: Charles Yates

In Britain and the American colonies, during the seventeenth and eighteenth centuries, changes took place that fundamentally altered the way common people understood themselves and their role in the world. These changes occurred more or less simultaneously in different arenas of social functioning. The changes did not share a common origin but they did have common features in the processes of change and the end result. The convergent development of complex systems and the engagement of unit-based thinking in philosophy, labor, commerce and politics created a synthesis of the desires for material gain and transcendent freedom represented in the process of the American Revolution.

The journey undertaken by peasants and their descendants from post-feudal Britain to the post-Revolutionary United States included nightmares of cruelty and neglect of principles as well as the awkward pursuit of freedom and justice. It was a process that led people from a self-reliant, rigid lifestyle of homogeneous, static, personal relationships to a one of anonymous interdependence, diversity and volatility. Market changes stimulated the study and evolution of commerce. A growing awareness of and access to commodity and luxury goods prompted common people to broaden their interaction with the world and to commit their labor to the acquisition of these goods. Simultaneous increase in the distribution of printed material and rapid, divergent evolution of religious belief led to independent, confident expression of ideals. The role of constitutional process, rationalization of human effort and growing influence of the under-represented formed an unprecedented social force with tremendous momentum.

10:30AM
Ancient Egyptian Cultural Identity as Seen Through Ancient Egyptian Naval Architecture. Scott Walker. Wabash College, Crawfordsville, IN. Sponsor: Joseph Day

The Ancient Egyptians were known to be great builders, but not as great shipbuilders or seamen. Most attention is spent on other great Mediterranean powers like the Ancient Greeks and Phoenicians, and the Ancient Egyptians are cast to the wayside. But despite the influence of
these neighboring cultures, Egypt maintained a cultural identity in their shipbuilding practices. Through a few nuances built into their ships, the Ancient Egyptians showed that they not only were great shipbuilders, but also that their culture would not be stamped out by the Greeks and Phoenicians. Following the progression of four distinct nuances through 4,000 years of Egyptian shipbuilding, this paper shows that the Egyptians kept the trademarks of their ancient traditional Nile reed rafts visible in their naval architecture long after they took to the Mediterranean and Red Seas.

10:45AM
When the Rainbow is a Messenger: Iris, Hekate, and Moon Halos. Dane Rowles, Tyler Woldorf. Ball State University, Muncie, IN. Sponsor: Christine Shea

Iris, the personification of rainbows, takes on the role of a messenger in Greek myth. This is especially true on Hekate’s Island, near Delos, where the role of messenger in Iris is stressed greatly. This connection between the notion of the rainbow being a messenger of things yet to come and the island of a moon-associated goddess, points to the possible explanation of the phenomenon of the 33 degree halo around the moon, which precedes precipitation. While rainbows in accordance with the sun occur with the rain, the moon rainbow occurs before it, as if it were a messenger of the rain yet to come.

11:00AM
The Creation of the Image of the Scottish Highlander and the Army of the British Empire. Ian Cross. Earlham College, Richmond, IN. Sponsor: Andrew Sloin

My research project is titled “The Creation of the Image of the Scottish Highlander and the Army of the British Empire.” I have researched the invention of Scottish Highland traditions, such as the kilt, clan tartans and the Scottish Highland bagpipes, and the participation and roles played by Scots within the British Army, in order to raise, and perhaps answer, important questions about the nature of Scottish identity and nationalism. Why, in a period of widespread European nationalism, did Scots, who already had a constructed national identity, become increasingly prominent members of imperial apparatus? How did the image of the Scottish Highland warrior become a recognizable international symbol of the British Empire and its military might at the beginning of the 20th century?

11:15AM
Elizabeth I and France. Melanie Ramsey. Butler University, Indianapolis, IN. Sponsor: Scott Swanson

Queen Elizabeth I ruled for forty-five years and brought peace and stability to England. Despite all of her accomplishments, there were a number of foreign conflicts within her reign that threatened to jeopardize England’s security. One of the most interesting and tenuous conflicts was between England and France. The French had been the historic enemy of the English, and sentiments such as these do not often dissipate quickly. As Queen of England, Elizabeth was very successful at befriending enemies in times of need as well as balancing the overall needs of England with her own personal problems. I will demonstrate Elizabeth’s foresight in working to ally herself with France throughout her reign, as well as the important influence her advisors, including William Cecil, had on shaping English foreign policy towards France. First, I will show the Treaty of Câteau-Cambrésis was a major achievement for Elizabeth and her advisors in securing the legitimacy of her throne from the potential French and Scottish claim. Secondly, Elizabeth’s actions to defend the English northern border from French intervention in 1580 become instrumental in both securing the safety of the English realm as well as peaceful terms with the French. Lastly, I will show how Elizabeth was able to capitalize on the French Wars of Religion and her relationship with the French Duke of Anjou to create an ally of the French against the Spanish in her time of need.

12:00PM
Explaining the US/Syrian Relationship: Why It Declined and How to Improve It. Chris Chapman. Butler University, Indianapolis, IN. Sponsor: Bruce Bigelow

Why is U.S. policy towards Syria so hostile? How can improved U.S./Syrian relations increase the chance of creating a peace in the Middle East? By looking at historical and political aspects of the relationship and policies between the U.S. and Syria, it is possible to see where the two nations ended friendly relations, how to improve them and what it could mean for the Middle East peace process. Looking at the contributing factors of Israel, the Arab-Israeli Conflict, the 1990’s Peace Negotiations and Operation Iraqi Freedom, one can trace events that put the U.S./Syrian relationship in decline.

12:15PM

The imperial power of Britain reached far beyond her own borders in the 19th and 20th centuries. Kenya was one country occupied by Britain during this time. The British believed their mission was to improve "backward" Kenyan society and bring it under a civilization similar to what Britain valued herself. But can colonization really be equated with civilization? The underground Mau Mau movement, born of certain members of the Kikuyu tribe reacting against British rule, sought to overturn the British with violent force. This was proof to many British that the Kenyan people needed to be subdued. However, some British practices in bringing about this civilization were brutal and bloody, and could even be considered barbaric. This paper will explore the colonial rule of Kenya during 1954-1963, pursuing a fuller understanding of the true meaning of civilization from both the British and the Mau Mau perspectives.
**12:30PM**

Historians have traditionally viewed the period from 1801 to approximately 1830 as a period of democratization in American society. The usual argument is that the Second Great Awakening brought greater democracy to Christianity, including the increasing openness to African Americans, particularly among Methodist and Baptist denominations. However, this argument ignores a number of important contributions made by pastors from other denominations. In spite of social pressures against abolitionists at the national, state, and local levels, Hanover College founder and Presbyterian minister John Finley Crowe (1787-1860) maintained a personal commitment to fighting slavery and helping former slaves, demonstrating that racial progressivism was not limited to the evangelical denominations.

**01:00PM**
African Roots in a Tux: William Grant Still’s Afro-American Symphony. Samantha Johnson. Butler University, Indianapolis, IN. Sponsor: James Briscoe

Composers from the Romantic Era and 20th century were highly influenced by politics, personal situations, and society’s values. In William Grant Still’s Afro-American Symphony, the composer’s life experiences and connection with his African roots mold a moving Third Stream piece that captures the essence of African tradition in a European form. Still also held a great respect for the black poet Paul Laurence Dunbar, and after the piece was completed, Still associated four of Dunbar’s poems with each movement of the symphony. By taking a look at Still’s life and personal values, the influences for Afro-American Symphony, and his compositional techniques, the listener will gain a better understanding of the African tradition to which Still felt such a strong connection.

**01:15PM**

Marie-Jeanne Roland de la Platière was born in obscurity but rose to a position of prominence during the French Revolution. Her story tells a tale of a young woman with both an astounding intellectual capacity and a stubborn hold on gender stereotypes of the late 18th century. I will demonstrate that Mme Roland’s life was broken into three distinct stages, each playing a vital role in the shaping of the character of a woman who was to become a leader. The first stage consisting of her early life will focus on her passion for knowledge, her intense religious devotion, the discovery of Rousseau, and her relationship with her parents. Next, Mme’s Roland’s marriage will be discussed, including the unique relationship she had with her husband, Jean-Marie Roland. Finally, the last stage consists of the Revolution, in which Mme Roland cultivated the respect and admiration of many influential national leaders and formed around herself the group of friends and associates known to history as the Girondins. Although she played the role of the submissive wife and quiet woman, Mme Roland was a political force in her own right who worked through her husband and other leaders to shape the fate of the French Revolution.

**01:30PM**
Nietzsche and Modernity. Kerri Lynne Jones. Earlham College, Richmond, IN. Sponsor: Ferit Guven

In "The Three Metamorphoses of the Spirit," Friedrich Nietzsche outlines what he sees as the progression of the human mind through three stages, dubbed the camel, the lion, and the child. In this presentation, I argue that these three stages can be seen to represent the evolution of modernity, from the beginnings of the industrial revolution to the Modernist poetry of Rimbaud and Baudelaire.

**01:45PM**

The Midwestern Woman Philanthropist: A Study of Women’s Philanthropy in Indianapolis 1860–1920 explores the role of the Midwestern female philanthropist, her impact on society while examining various philanthropies in Indianapolis in addition to considering the notion of charity. The paper follows the development of charitable guilds in the Midwest during the latter part of the nineteenth and early twentieth century. It also places the woman philanthropist in the context of a nineteenth century industrial city coping with the effects of the Civil War, the negative effects of industrialization, and an influx of immigrants to Indianapolis. Individual philanthropies are studied with regards to their programming, meetings, structure and benefactors. Today, many of Indianapolis’s philanthropies exist as a result of the work of female philanthropists.

**02:00PM**
Gendered Political Culture in Progressive Era Indiana. Lindsay Rump. Butler University, Indianapolis, IN. Sponsor: Vivian Deno

In Progressive Era Indiana, masculinity and manhood defined separate spheres for men and women. In an era where everything was changing around them (economics, business, transportation, government) men could at least define themselves in reference to women. Political culture (and most specifically mainline party political culture) functioned around this idea of male fraternity, that having the vote were aspects of masculine culture that were not, and would never be, feminine. Women were denied a voice in public arenas and although their support was sometimes sought in third party political debates, they were never allowed a chance to voice their opinions or concerns in the larger political sphere. However, once the fight for women’s suffrage reached Indiana and Hoosier women were catalyzed into action, the discourse changed. Suddenly,
women were fighting against this centuries old idea of fraternity and they were pushing to be included not only in the public sphere, but in the political culture of Indiana.

This paper examines these dynamics of Progressive Era Indiana and will explain how women went from separate spheres to having full voting privileges in Indiana. More importantly however, the paper discusses the importance of Indiana suffrage as the catalyst that brought about change. After women won the vote, they were defying that masculinity and forcing themselves into the public eye, making their issues heard. This paper examines that transitions and emphasizes the importance of Indiana women’s suffrage in bringing about change in the gendered political culture of Indiana.

International Studies
Session A
Jordan Hall, Room 201
Moderator: Jill McKinney

09:00AM
The more developed = The longer we live? Looking at the effects of economic development on health. Yun Li. Hanover College, Hanover, IN. Sponsor: Agust Eiriksson

Economists have done intensive studies regarding the effect of health on economic development. My research, however, focuses on the relationship between these two variables from the other direction and tries to answer the question: how will economic development affect health? I will try to give an answer to this question based on real-world data analyzed by tools of econometrics. Including most countries in the world, this study will shed light on how average life expectancy in different countries is related to various economic development factors. The presentation will include the theoretical background, the statistical model, and the conclusion of my study.

09:15AM
Identity and Conflict in Northern Ireland. Rebekah Briner. Taylor University, Upland, IN. Sponsor: Scott Moeschberger

The present conflict in Northern Ireland can best be understood in terms of identity. An unhealthy social identity contributes to conflict maintenance, catalyzed both by inaccurate collective memory and divisive acts of remembrance. Because identity is dictated by society and groups, an examination of inter-group identities, relationships, and forgiveness is imperative. Finally, a model of reconciliation involving two solutions is offered, approaching the conflict from both a secular and a historically Christian perspective.

09:30AM
Girls Primary Education in Malawi. momo Wilson. Butler University, Indianapolis, IN. Sponsor: William Neher

Girls primary education has been identified as a key contributor to sustainable development in third world nations, specifically in Sub-Saharan Africa. There are many reasons that prevent girls from attending school or completing school, however the value of their education is extremely high as when they grow up they will become key contributors to the socio-economic situation of a nation. As gender inequalities still exist, the empowerment of women with education is one of the key steps in giving them the opportunity to make a difference with their lives. Education gives more to the girls than the knowledge of how to do arithmetic or read. In a nation where the literacy rate is as low as 60%, the ability to read and right is a definite form of empowerment.

I will identify the hurdles that girls must overcome to attend primary education, as well as emphasize why their education is so crucial to the development of a country. Then I will look at various efforts that have been made to improve girls’ access to education, as well as their quality of education. The focus of the project will be on my home country of Malawi, in Sub-Saharan Africa.

09:45AM

There is a growing number of scholars advocating for more attention to be paid to individuals in the empirical study of international relations. For this reason, the relationship between human rights and heads of state in Sub-Saharan Africa was examined. In a pooled cross-sectional time-series analysis of 48 countries from 1995-2004, the author tested a variety of variables related to the individual in power. Both physical integrity rights and subsistence rights were utilized in order to get a more complete picture of the relationship. The models were not conclusive, so it appears that there are more factors involved in human rights than those tested here, reflecting a complicated relationship. The variables often had disparate effects on the two types of rights, and had varying levels of statistical significance. Heads of state have a much stronger impact on physical integrity rights than subsistence rights, showing that leaders do not have much power to impact human development and well-being, whether for good or bad.
Adaptation time of Interlink students. Emily Dippold, Sarah Volkman, Liz Lewitke. Valparaiso University, Valparaiso, IN. Sponsor: Matthew Ringenber

Aim: The purpose of this study is to determine the degree to which Interlink students adapt during their time at Valparaiso University and which factors influence this adaptation.

Hypothesis #1 (null): Social engagement will have no effect on Interlink student adaptation levels.
Hypothesis #2: Interlink students who engage in higher levels of interaction both on and off campus will have a greater degree of adaptation.

International students studying in the United States tend to experience more problems than students in general. They must deal with the differences between their own cultural values, norms, and customs and those of the country they are studying in (Ang & Liamputtong, p. 109). This study will attempt to survey all Interlink students currently enrolled at Valparaiso University, located in Valparaiso, Indiana. The participants of this study will be asked to complete a biweekly questionnaire over a series of six to eight weeks. The questionnaire will serve as a tool for the participants to gauge their activity levels both on and off campus including number of friends made, Union Board as well as other campus events attended as well as the number of day trips made outside of the University. Interlink students who are interested in participating in the study will receive a verbal explanation detailing the purpose of this study as well as the assurance that no identifying information will be used. Participants must be 18 years of age or older and will consent to the study by completing the questionnaires.

**Literature**

**Session A Frankenstein and the Gothic**

**Jordan Hall, Room 301**

**Moderator: Dr. Joseph Colavito**

**09:00AM**

The Aesthetics of the Sublime in Early Gothic Fiction. Emily Mudge. Taylor University, Upland, IN. Sponsor: Beulah Baker

Gothic fiction has undergone many variations since its inception in Horace Walpole’s Castle of Otranto (1764). There are consistent aims, however, which drive the language of works typically labeled ‘Gothic,’ particularly the intention of arousing sublime feelings of terror and horror in the reader. This manipulation of the reader’s passions particularly draws from Edmund Burke’s aesthetic theory, presented in his A Philosophical Enquiry into the Ideas of the Sublime and the Beautiful (1757), in order to create Gothic fiction’s characteristic atmosphere of gloom and foreboding. As the genre developed, the same techniques which Burke considered sublimity-inducing continued to be implemented, from Ann Radcliffe’s Mysteries of Udolpho (1794) and Mary Shelley’s Frankenstein (1818), even spreading to the American Gothic of Edgar Allan Poe’s “The Fall of the House of Usher” (1840). Decaying castles, hidden passages, ancestral secrets, and a threatened maiden, have all become stock features which seem trite today, but when Walpole, and Radcliffe after him, instigated these features of Gothic fiction, they were taking notes out of Burke’s Enquiry in order to successfully evoke sublime terror. Among other causes, Burke attributes power, privation, and vastness, as well as certain sounds, obscurity, and darkness, to be sources of sublime feelings. As the genre developed, authors such as Mary Shelley and Poe nuanced these techniques in a way that further intensified the sublime effect of Gothic fiction.

**09:15AM**


Popular culture, the film industry, and two centuries have transformed Mary Shelley’s Frankenstein from a complex tale about scientific responsibility, domesticity, and forbidden knowledge into the cut-and-dry paradigm for the horrific and monstrous “other”. The image of the monster in general has become synonymous with the image of Victor Frankenstein’s creation (often and erroneously referred to as Frankenstein) in the centuries following the publication of Shelley’s text. In this simplification and deformation of Shelley’s text and its implications, which are necessary for societal mass-consumption and interest, the internal, and therefore truer and more pertinent, deformation of Victor Frankenstein has been lost to the more readily apparent and palpable deformation of his creation. The physically warped and engorged stature of Victor’s creation, however, should not incontestably mark him as the corrupt and monstrous figure of the text, particularly because most of the physical qualities of the creation prevalent today have little or nothing to do with Mary Shelley’s depiction of the experimental being. Following from this, this presentation will explore the ways Shelley depicts Victor himself as more monstrous even than his monster; while his creation may display the physical qualities of a monster, Frankenstein is the quintessence of internal, reckless and egocentric monstrosity as well as being the architect of those physically monstrous traits in another. He creates in his progeny the material manifestation of his inner monstrosity, which drive the language of works typically labeled “Gothic,” inducing continued to be implemented, even spreading to the American Gothic of Edgar Allan Poe’s “The Fall of the House of Usher” (1840). Decaying castles, hidden passages, ancestral secrets, and a threatened maiden, have all become stock features which seem trite today, but when Walpole, and Radcliffe after him, instigated these features of Gothic fiction, they were taking notes out of Burke’s Enquiry in order to successfully evoke sublime terror. Among other causes, Burke attributes power, privation, and vastness, as well as certain sounds, obscurity, and darkness, to be sources of sublime feelings. As the genre developed, authors such as Mary Shelley and Poe nuanced these techniques in a way that further intensified the sublime effect of Gothic fiction.

**09:30AM**


The crazed scientist, the lumbering green ogre, these are caricatures acknowledged to have their base in Mary Shelley’s Frankenstein. What about the killer robot? The super crazy super computer? The creature in Shelley’s tale can be seen as one of the first examples of artificial intelligence in literature. Gifted with a deep intellectualism, the only thing between that creature and the life of a friendly scholar is a complete dearth of human compassion and understanding. Because of his monstrous physical appearance, specifically his haunting eyes (the clichéd windows to the human soul), the creature cannot be thought to be human, or to posses basic emotive capabilities from those he comes across. Like the creature,
many robots and thinking machines in science fiction are spurred into murderous rampages through feelings they were never imagined to be capable of. Much has been made of Victor Frankenstein’s god complex. He is said to have crossed the line when attempting to grant life, consciousness, to something inanimate. The goal of this paper will be to show that it is not an innate flaw in the creator or creation which causes these artificial intelligences to tend toward the psychopathic, but instead an innate flaw in humanity which makes it difficult for us to accept a being so close to ourselves intellectually, while jarringly different physically.

09:45AM

Through a thorough analysis and comparison of Mary Shelley’s Frankenstein and The Twilight Saga by Stephanie Meyer, this paper will attempt to prove that it is due to audience appeal and direct societal influence that a piece of literature is granted the status of being a classic work. An examination of both of the authors’ lives, direct societal influences, literary criticisms, and styles of writing, will show that it was an effort to bring in a crowd with current, cultural issues that was able to gain both women success. Both Shelley and Meyer directly reflect aspects in their writings that were of high cultural importance and discussion at the time the literature was produced. This paper strives to show through these authors that classics in literature are often chosen not for their literary technique or value, but for their appeal and ability to reach the masses and entertain.

Session B Shakespeare: Race, Madness, and Military Honor
Jordan Hall, Room 303
Moderator: Dr. William Walsh

09:00AM
The Blacker Devil: Race and Hatred in Shakespeare’s Othello, the Moor of Venice. Christian Sorrell. Butler University, Indianapolis, IN. Sponsor: William Walsh

An examination of Shakespeare's Othello, The Moor of Venice attempting to discover the racial implications behind Iago’s unusually strong hatred for Othello as well as a discussion of the concept of Othello as the black usurper who, through his power and position, turns white European society on its head.

09:15AM
Madness As a Means to Action. Nikki Hodgson. Butler University, Indianapolis, IN. Sponsor: William Walsh

I plan to explore the use of madness in William Shakespeare’s Hamlet by both Hamlet and Ophelia to discover and express the truth regarding the corruption of Denmark’s court. In so doing, I argue that Hamlet, while at times bordering on true madness, maintains his purpose and is able to act out his revenge against Claudius. Most critics will not argue that Ophelia truly goes mad in the play, however, Hamlet’s madness has remained open to debate. Some critics believe it is the reader’s job to ascertain who has lost their senses and who is merely using it as a means to an end. (See Carol Neely.) Madness, whether true or feigned, appears to be the only way Ophelia and Hamlet are able to express their ideas and feelings regarding the corruption of Denmark after Claudius became king. (See Bennet Simon.) Ophelia’s madness acts as a parody to Hamlet’s madness, which is constantly under suspicion by Claudius and the people of the court. (See Karin Coddon.) Hamlet’s seemingly mad actions can be seen as a series of desperate attempts due to the emotional instabilities surrounding Gertrude, Claudius, and Hamlet Sr. (See Richard Fly.) However, Hamlet’s inability to quickly act out his revenge toward Claudius can be attributed to Hamlet’s being unable to absolutely prove Claudius’ guilt. (See John Burnum.) In support of Hamlet’s never truly becoming mad, Hamlet uses his madness to forward his plan of enacting revenge against Claudius, reacting to events as they occur. (See Luke Wilson.)

09:30AM

Since Shakespeare's tragedies often involve the affairs of state, the actions of the military become a key factor in both the development and disintegration of the characters. For military heroes such as Antony and Othello, the army gives them power, glory, and social status, but it gives these things at the cost of their individuality. Even Hamlet, who is not a direct participant in the army himself, is directly influenced and inspired by military honor and duty. As they fall in love or face opposition to their honor they come into conflict with their duty and they are lead into moral and emotional confusion. The honor code of the military continues to push aside personal identity for a larger cause whereas love demands the realization of self awareness. Because of this, the two forces find themselves in direct opposition and lead to the destruction of identity and therefore fuel the tragedy of the plays.

It is widely known that Ezra Pound was as much a critic as he was a poet. It is Pound’s role as a critic that allowed him to become such a great poet. As he read, translated and critiqued the work of others, Pound developed his own ideals and theories of poetry. To better understand Pound’s development as an Imagist poet, one must explore his relationship to Walt Whitman. Pound’s Imagist ideals were not all that different than Whitman’s ideas of what made perfect poetry. Pound’s Imagist poetry just trims down and makes more concise use of the ideals of musical sound qualities, word choice and description that Whitman already established. Although Pound is considered the founder of Imagism, perhaps Whitman should be given more credit in the formation of this movement.


In Ezra Pound’s poem Hugh Selwyn Mauberley, neither the poet E.P. nor the poet Mauberley are true artists in the mind of Pound because neither challenges the reader’s view of himself or his society. E.P. and Mauberley represent two opposite kinds of poets on an artistic continuum, and Pound suggests the best poets either come from a place in the middle of that continuum or outside of it altogether.

In the first two lines of the poem E.P. writes that he “strove to resuscitate the dead art/ Of poetry” (ll. 1-3). This line is not complimentary and suggests that E.P. is lacking in his efforts to reach his contemporaries through art. In part I of the Mauberley section, his work is described as “lacking the skill/ to forge Achaia” (ll. 258-261). Pound believed true art was not available enough to his contemporaries. In part III of the poem, E.P. says “We have the press for wafer;/ Franchise for circumcision,” suggesting that the public values capitalism more than art (ll. 51-52). However, at the same time in part II, he writes, “The age demanded an image/ Of its accelerated grimace,” which suggests that the public not only wants to see itself in art, it insists upon it (ll. 21-22). Pound is making a statement about what art ought to be and that the artists available to the public in his day (including himself) are inadequate to provide ideal art.


My essay explores T.S. Eliot's article "Tradition and the Individual Talent" and analyzes the article's definition of the creative process as an inherently impersonal process. I seek to show not only how this impossible definition can be disproved in Eliot's own work but also how this idea, while interesting, is not applicable to reality.

The Divinity of Prufrock’s Comedy? Structural Parallels between Dante’s and Eliot’s Works. Phillip Call. Ball State University, Muncie, IN. Sponsor: Donald Gilman

By virtue of the stanza from The Divine Comedy following the title of T.S. Eliot’s “The Love Song of J. Alfred Prufrock,” Eliot seems to be inviting a comparison of his poem with Dante’s. Although this comparison could easily comprise of analyzing the significance of Dante’s quotation in Eliot’s poem, a further step can be taken by considering the genre of the love song as it applies to these two poems as well as the similarities in structural sequence between them. Particularly through the superimposition of Dante’s journey of introduction, hell, purgatory, and heaven on “Prufrock,” a message from Eliot seems to emanate that differs slightly from what previous interpretations have stated. This new interpretation is influenced further through a re-evaluation of the significance of referring to a love song in the title and its resulting implications.
I plan to argue that, while many critics believe Yeats’s perspective on Ireland and Britain remained unchanging over the course of his career, Yeats shifts from an analytical, ‘Anglo’ view toward a more romantic and nationalistic ‘Irish’ viewpoint beginning with the Easter Rising of 1916. While most critics of Yeats’s poetry admit the conflicting nature of his Anglo-Irish nationality, some critics argue that, despite his attempt to act as an Irish nationalist poet, he is consistently viewing events from an Anglo point-of-view. (See Michael North.) Much of Yeats’s poetry appears to have a combination of both ‘Anglo’ and ‘Irish’ viewpoints and some critics believe this does not change throughout his life. (See Frank Kermode, Marjorie Howes and Michael O’Neill.) Other critics take a middle path and state that Yeats’s poetry does indeed transform due to changes in both his personal life as well as the political events in Ireland. (See Richard Ellmann.) A particular event mentioned is the Easter Rising of 1916, which is merely the beginning to the atrocities of the Irish War for Independence. (See Francis Costello.) Yeats is also considered as having a primarily Irish view on events, including the troubles facing Ireland after gaining independence, particularly in “Leda and the Swan.” (See Bernard McKenna.) Through close textual analysis of the poems “September, 1913,” “Easter, 1916,” “Nineteen Hundred and Nineteen,” “Leda and the Swan,” I will reveal how these poems relate to the Irish War for Independence and move toward a more ‘Irish’ sentiment.

Session E Colonial and Postcolonial Literature
Jordan Hall, Room 303
Moderator: Dr. Ania Spyra

10:45AM
Gandhian Inversion in Postcolonial Indian Literature. Lorna Douglas. Hanover College, Hanover, IN. Sponsor: Kay Stokes

During British colonialism, Mohandas Karamchand Gandhi explored some of the many power inequalities in India, beginning with the colonial oppression of Indians and extending to gender and caste inequalities. He recognized that in order for a group of people to be oppressed, the entire culture must create a set of assumptions or myths that legitimize that violence. Gandhi found that by inverting those cultural assumptions about power, the subjected group would cease believing in their powerlessness. In my readings, I found that authors of postcolonial Indian fiction have internalized Gandhian inversion and are weaving it into their stories of oppression, injustice, and overcoming. In three specific works of postcolonial Indian literature—The God of Small Things by Arundhati Roy, A Fine Balance by Rohinton Mistry, and Fire on the Mountain by Anita Desai—the authors depict characters overcoming colonial, gender, and caste inequalities by inverting culturally accepted assumptions about power.

11:00AM
Tragedy and Magical Realism in One Hundred Years of Solitude. Kelly Beiswanger. Grace College, IN. Sponsor: Paulette Sauders

This paper seeks to show the ways that Gabriel García Márquez’s One Hundred Years of Solitude functions as a Latin American tragedy. In a novel “that seems to do everything” (Williams 91), García Márquez employs a writing style known as “magical realism” or “marvelous reality” to account for, in a mythical tone, the history of the town of Macondo. A working definition of this technique will be explored, as well as its origin based in a combination of postmodern and postcolonial concepts. Finally, this paper will demonstrate how themes such as ruin, natural restoration, and solitude act as cyclical patterns within the Buendia family to unify the storyline.
Session F American Literature from Melville to Morrison  
Jordan Hall, Room 336C  
Moderator: Dr. Brynnar Swenson

10:30AM  
The Proposed Theme of Writing in Moby Dick. Amy Jerina. Grace College, IN. Sponsor: Paulette Sauders

This paper will reveal the theme of writing used by Melville to tell the story of Moby Dick. Using three different types of narration; oral, playwriting, and illustration, this combined effort reveals the truth sought by the characters to the reader. Melville speaks to his audience in the characters’ quest for truth throughout the book and in doing so gives the book itself the literary element of writing, which is the focus of this paper.

No other thing survives the adventure, quest or the whale, except for Ishmael (the narrator), the coffin he floats in (carrying inscriptions of truth) and the play within the novel. Because of this symbolism, writing is used to do most of the work in Moby Dick. By the characters’ efforts, and Melville’s use of a variety of literary elements (genres, forms, timing and pace) the story is revealed, and conclusively the truth sought out by the characters. Although the characters do not literally put paper to pen in Moby Dick, writing, as a theme, is shown by elements of narration.

10:45AM  
The Quest for Significance in Death of a Salesman and All My Sons. Kristin Dorland. Grace College, IN. Sponsor: Paulette Sauders

This paper will discuss the concept of the non-significant “other,” taken from feminist and post-colonial criticism, as it applies to the characters of Willy Loman and Joe Keller in Arthur Miller’s Death of a Salesman and All My Sons. While these two men have many similarities, a definite contrast exists in their quests for significance throughout each play. Willy Loman views society as a structure that values the popular and financially successful businessman, while spurning the common man with average job performance. Despite having the support of his wife and children, and being in no way rejected by society, Willy feels that he is the “other.” His suicide is a final attempt to gain significance and recognition in society. Alternatively, Joe Keller’s view of society includes him and his family occupying the significant position, despite the fact that this view is based only on his construct of misguided values. When he is confronted by society, with his own family members pushing him into the insignificant role, Joe ends his life. Ultimately, this paper will outline how the lives of the two characters were motivated entirely by their own quests for significance and how their deaths were the result of their own inescapable insignificance.

11:00AM  
“Screaming at the Neck of God”: Mourning in the Novels of Toni Morrison. Briana Williams. Marygrove College, MI. Sponsor: Donald Levin

The experience of grief is usually depicted as a linear process which ultimately ends in catharsis. Toni Morrison suggests that the processes of grief are not so straightforward for Black Americans. This presentation will examine the novels Sula, Beloved, and Jazz through the lenses of Sigmund Freud and Jacques Derrida to clarify Morrison’s conception of the role of mourning in the African American community. She continuously depicts the lives of Black people who are wracked by grief and haunted by loss. The ravages of slavery prevent those of African descent from successfully moving through the stages of grief. But Morrison also ironically implies that even if African Americans can move through mourning that does not mean they necessarily should. Mourning is a site of remembrance and commemoration in the Black community. Morrison poignantly uses grief to invite her readers into her fictional communities and to share the traumas of the past. For her, mourning is a never ending state that transforms the lives of those who live in it and is a signifying act to her readers.

11:15AM  
The Rejection of Men in Their Eyes Were Watching God. Katie Watterson. Butler University, Indianapolis, IN. Sponsor: Hilene Flanzbaum

Their Eyes Were Watching God has often been interpreted as a young woman's quest to find love and personal fulfillment and self-actualization after experiencing a sexual awakening under a pear tree. The protagonist, Janie, has three separate marriages. Her first two marriages to Logan Killicks and Joe Starks oppress her individuality and free spirit. Although Janie finally experiences love and happiness in her third marriage to Tea Cake, she endures violence from his hand and tolerates much immature and irresponsible behavior. Thus, Zora Neale Hurston illuminates the faults of black men that eventually prove their futility to Janie: Compelled by an urge to exert their authority, they attempt to control Janie in order to portray a compelling representation of their masculinity. Consequently, Janie’s husbands neglect her need for personal development because they are too preoccupied by sexual jealousy and desires for power. Through Janie’s rejection of two failed marriage and her killing of Tea Cake, the only man she ever loves, Hurston conveys that Janie must reject men to realize her complete individuality.

Session G Perspectives on Huckleberry Finn  
Jordan Hall, Room 335A  
Moderator: Dr. Andrew Levy

10:30AM  
Perspectives on Huckleberry Finn. Joe Wadlington. Butler University, Indianapolis, IN. Sponsor: Andy Levy

Sponsor: Paulette Sauders  
Sponsor: Andy Levy  
Sponsor: Donald Levin  
Sponsor: Paulette Sauders  
Sponsor: Andy Levy
This paper is part of a roundtable on Mark Twain's classic but controversial novel, The Adventures of Huckleberry Finn. Topics engage such issues as: contemporary reception of Huckleberry Finn and its uses (and misuses) in popular culture; the role of Huckleberry Finn in the modern American education system; politics and history in the construction of literary controversies; the language of Huckleberry Finn; race, class, gender in Huckleberry Finn; children and Huckleberry Finn; exploring aesthetic value in Huckleberry Finn.

10:45AM
Perspectives On Huckleberry Finn. Ben Sippola, James Gray. Butler University, Indianapolis, IN. Sponsor: Andy Levy

This paper is part of a roundtable on Mark Twain's classic but controversial novel, The Adventures of Huckleberry Finn. Topics engage such issues as: contemporary reception of Huckleberry Finn and its uses (and misuses) in popular culture; the role of Huckleberry Finn in the modern American education system; politics and history in the construction of literary controversies; the language of Huckleberry Finn; race, class, gender in Huckleberry Finn; children and Huckleberry Finn; exploring aesthetic value in Huckleberry Finn.

11:00AM
Perspectives on Huckleberry Finn. Laura Little. Butler University, Indianapolis, IN. Sponsor: Andy Levy

This paper is part of a roundtable on Mark Twain's classic but controversial novel, The Adventures of Huckleberry Finn. Topics engage such issues as: contemporary reception of Huckleberry Finn and its uses (and misuses) in popular culture; the role of Huckleberry Finn in the modern American education system; politics and history in the construction of literary controversies; the language of Huckleberry Finn; race, class, gender in Huckleberry Finn; children and Huckleberry Finn; exploring aesthetic value in Huckleberry Finn.

11:15AM
Perspectives on Huckleberry Finn. Waylon Wright. Butler University, Indianapolis, IN. Sponsor: Andy Levy

This paper is part of a roundtable on Mark Twain's classic but controversial novel, The Adventures of Huckleberry Finn. Topics engage such issues as: contemporary reception of Huckleberry Finn and its uses (and misuses) in popular culture; the role of Huckleberry Finn in the modern American education system; politics and history in the construction of literary controversies; the language of Huckleberry Finn; race, class, gender in Huckleberry Finn; children and Huckleberry Finn; exploring aesthetic value in Huckleberry Finn.

11:30AM
Perspectives on Huckleberry Finn. Farhad Anwarzai. Butler University, Indianapolis, IN. Sponsor: Andy Levy

This paper is part of a roundtable on Mark Twain's classic but controversial novel, The Adventures of Huckleberry Finn. Topics engage such issues as: contemporary reception of Huckleberry Finn and its uses (and misuses) in popular culture; the role of Huckleberry Finn in the modern American education system; politics and history in the construction of literary controversies; the language of Huckleberry Finn; race, class, gender in Huckleberry Finn; children and Huckleberry Finn; exploring aesthetic value in Huckleberry Finn.

Session H Perspectives on Huckleberry Finn
Jordan Hall, Room 301
Moderator: Dr. Andrew Levy

01:00PM
Perspectives on Huckleberry Finn. Courtney Alwine. Butler University, Indianapolis, IN. Sponsor: Andy Levy

This paper is part of a roundtable on Mark Twain's classic but controversial novel, The Adventures of Huckleberry Finn. Topics engage such issues as: contemporary reception of Huckleberry Finn and its uses (and misuses) in popular culture; the role of Huckleberry Finn in the modern American education system; politics and history in the construction of literary controversies; the language of Huckleberry Finn; race, class, gender in Huckleberry Finn; children and Huckleberry Finn; exploring aesthetic value in Huckleberry Finn.

01:15PM
Perspectives on Huckleberry Finn. Ros Lederman. Butler University, Indianapolis, IN. Sponsor: Andy Levy

This paper is part of a roundtable on Mark Twain's classic but controversial novel, The Adventures of Huckleberry Finn. Topics engage such issues as: contemporary reception of Huckleberry Finn and its uses (and misuses) in popular culture; the role of Huckleberry Finn in the modern American education system; politics and history in the construction of literary controversies; the language of Huckleberry Finn; race, class, gender in Huckleberry Finn; children and Huckleberry Finn; exploring aesthetic value in Huckleberry Finn.
This paper is part of a roundtable on Mark Twain’s classic but controversial novel, The Adventures of Huckleberry Finn. Topics engage such issues as: contemporary reception of Huckleberry Finn and its uses (and misuses) in popular culture; the role of Huckleberry Finn in the modern American education system; politics and history in the construction of literary controversies; the language of Huckleberry Finn; race, class, gender in Huckleberry Finn; children and Huckleberry Finn; exploring aesthetic value in Huckleberry Finn.

This paper is part of a roundtable on Mark Twain’s classic but controversial novel, The Adventures of Huckleberry Finn. Topics engage such issues as: contemporary reception of Huckleberry Finn and its uses (and misuses) in popular culture; the role of Huckleberry Finn in the modern American education system; politics and history in the construction of literary controversies; the language of Huckleberry Finn; race, class, gender in Huckleberry Finn; children and Huckleberry Finn; exploring aesthetic value in Huckleberry Finn.

This paper is part of a roundtable on Mark Twain’s classic but controversial novel, The Adventures of Huckleberry Finn. Topics engage such issues as: contemporary reception of Huckleberry Finn and its uses (and misuses) in popular culture; the role of Huckleberry Finn in the modern American education system; politics and history in the construction of literary controversies; the language of Huckleberry Finn; race, class, gender in Huckleberry Finn; children and Huckleberry Finn; exploring aesthetic value in Huckleberry Finn.

The research examines the influence of Progressive-era eugenic thought on Charlotte Perkins Gilman’s writing of her novel Herland. The novel presents a picture of a utopian society whose success is based on the parthenogenetic reproduction of its entirely female population. The citizens’ reproductive rights are heavily regulated by Herland’s authoritative “mothers.” This mirrors the ideals of Progressive-era politics of the time, which were aimed at putting more and more restrictions on reproductive rights of Americans, beginning with marriage rights restrictions and ending with a few states imposing laws that allowed certain “marginal” citizens (criminals, the mentally ill, and the mentally challenged) to be forcibly sterilized. Gilman was a great believer in the power of eugenics to “purify” American genetics, and the essay details some of her own writing which underscores her racist, nativist, and anti-Semitic leanings. Ultimately, the research will suggest that the text is not a “feminist” text, as its racist undertones defeat one of the basic fundamentals of feminism: the right for all people to be treated equally.

In capitalist America, both women and the environment have historically been abused and undervalued. Ecofeminists believe that cultural discourse splits society on gendered terms, privileging masculine ideas and institutions while devaluing the feminine values and qualities as unimportant or lacking rights. Thus, we can see how writers who are frustrated with stereotypically masculine capitalism might suggest underappreciated “feminine” qualities or values as an alternative. In early 20th century literature, both Charlotte Perkins Gilman’s Herland and Willa Cather’s My Antonia demonstrate this philosophy. They argue that in place of masculine capitalist values like competition, we should look to mothers and environmental stewards for their ideals of collective responsibility, generosity, and long-term thinking. This argument is not meant to idolize traditional roles for women, but to valorize the “feminine” as qualities that must be incorporated into the social structure of all
humans. Thus, the principles of ecofeminism provide a reading of both Herland and My Antonia accounting for the glorification of motherhood and nature as a humanist political statement against capitalism.

01:45PM

"The Halfway House of Ill Repute:” Women’s Place in the Literature of Drug Use and Addiction. Kelsey Truman. Butler University, Indianapolis, IN. Sponsor: Jason Goldsmith

In the famous interview “The Rhetoric of Drugs,” French philosopher Jacques Derrida muses on the socially ascribed meaning of drug use and addiction, posing the question, “What do we hold against the drug addict?” When reviewing the generally accepted canon of drug literature, a startling truth emerges: The writing of women is absent. While women have been taking drugs and recording their experiences as long as men have, the social consequences of drug use are far more severe for women than for men. When they do achieve critical or popular success, nearly all of women’s drug narratives can be sorted into several limiting categories fraught with gendered stereotypes: The lesson is that woman-authored drug literature is acceptable only when the female subjects can be understood in terms of limiting constructions of gender-appropriate behavior and punishment. An analysis of women’s drug literature performed with gender, feminist and queer theory reveals the social norms, prescriptive gender roles, and societal fears that demand that women’s drug literature be relegated to one of those categories in order to be consumed. Through this analysis, we may begin to answer the question, “What do we hold against the woman drug addict?”

Session J Robert Garnier's Hippolyte
Jordan Hall, Room 336C
Moderator: Dr. William Watts

01:00PM

Robert Garnier and the Metamorphosis of Neptune's Monster. Crystal Smith. Ball State University, Muncie, IN. Sponsor: Donald Gilman

Neptune's monster is an agent of death in both Euripides' Hippolytus, Garnier's Hippolyte, and Racine's Phedre. Euripides employs the monster to advance action, and Racine borrows this motif to elaborate the imagery of entrapment and death. However, Garnier's use of this image has been overlooked and deserves attention. Through an analysis of this scene, I intend to describe an aspect of Garnier's dramatic representation and poetic style. Besides functioning as the means to avenge Theseus's outrage, to rid Neptune of this obligation to Theseus, and to re-establish justice and tranquility, the monster also reflects a means to construct and elaborate upon Theseus's rage and to render the tragic consequences of pride more vivid.

01:15PM

Robert Garnier's Phaedre and the Prison of Love. Brigit Calder. Ball State University, Muncie, IN. Sponsor: Donald Gilman

The conflict between love and chastity forms the basis of the tragic conflict in Garnier's "Hippolyte". In Eurypides' version of the play, "Hippolytus", he constructs the conflict in such a way that it is clear from the beginning: a declaration by Aphrodite that she will take control of the characters' fates through love, specifically through Phaedre. However, while these two plays address the same myth, Garnier elaborates upon the conflict set out by Eurypides. Instead of the direct interference and direction of the gods leading to the ultimate fates of the characters, he focuses on emotional tensions. Garnier explores the world of psychology, finding the motivations for characters' actions and the rationalizations that each character might make for these actions. Focusing on the character of Phaedre, I intend to demonstrate how Garnier provides new shape to this conflict.

01:30PM

Robert Garnier’s Hippolyte and the Evolution of a Secondary Character. Wesley Scott. Ball State University, Muncie, IN. Sponsor: Donald Gilman

Initially addressed in dramatic form by Euripides, the unreciprocated love between Hippolytus and Phaedra has known many versions. The character of Ênone, Phaedra’s nurse, undergoes a significant evolution through the plays, but Robert Garnier’s Hippolyte provides perhaps the missing link in the development of the role. From the onset, the Nurse’s actions demonstrate her tragic flaw as she attempts to calm Phaedra and to justify her decisions. Garnier, moreover, builds upon the description and actions employed by Euripides and Seneca, the second playwright to produce a version of the tale, by exploring the conflicts and internal motivations of the Nurse. His artistic mastery elevates the dramatic tensions of the tragedy and, at the same time, enhances the importance of this secondary character. In Jean Racine’s Phèdre, this development produces a marked shift of guilt, ending in Ênone’s suicide. In this paper, I will demonstrate how the expansion of the Nurse’s role ultimately redefined not only the interplay of characters but also the underlying framework of this tragic tale.
Session K Literature and Social Discourse from Livy to Lewis
Jordan Hall, Room 335A
Moderator: Dr. Jason Goldsmith

01:00PM

In 195 B.C.E. two Roman politicians publicly debated the Lex Oppia, a law which prohibited ostentatious displays of wealth by women. Cato, arguing in favor of the law, blamed Rome’s acceptance of foreign luxury for the degradation of his society. His opponent, Valerius Tappo, stated that extravagance was not a major threat to Roman society. Though their conversation happened on one day, the debate was the site of a social discourse, which continued in Roman society throughout the next two centuries through literature and legislation, on the opposition of austerity and luxury. With the fall of the Republic, the anti-luxury position in the discourse became a cultural phenomenon that was accepted by many prominent Augustan Era Romans, including the first emperor. During this time, the historian, Livy, created his own version of the original Lex Oppia debate in his work Ab Urbe Condita (From the Founding of the City). In comparing his portrayal of the debate to the actual events of 195 B.C.E., one finds the same discourse taking place in both instances. Livy is using the historical character of Cato to support the beliefs that began with Cato almost two centuries earlier.

01:15PM
Medical Romanticism: An Exploration of Drugs as Emissaries of Romantic Philosophy. Farhad Anwarzai. Butler University, Indianapolis, IN. Sponsor: Jason Goldsmith

In my essay I explore how drugs are redolent of romantic ideology. Romanticism, beginning in Europe in the late eighteenth century, emerges as an artistic and intellectual movement driven by a value for the natural world. Society, to the romantic, represents the artificial confinements of class and art, the mechanization of life, whereas nature embodies truth and freedom. Drugs undermine moral, linguistic, classical, cultural, national and medical conventions in the eyes of numerous drug abolitionists. When I use the term drug, I am implying a substance deemed illicit by abolitionists consisting of legislators and “drug specialists,” or individuals hired by the government to research drugs. Contrary to widespread belief from the nineteenth century to the present, drugs are not necessarily restricted or critiqued because of their effects on the human body. Rather, a war on drugs is the deliberate misrepresentation of a substance propelled by the personal beliefs of individuals in power. In the language of prohibition, a war on drugs symbolizes a reinstatement of socio-ethnic barriers and aristocratic privileges, reenacting Enlightenment ideology. We can better understand drug prohibition through what I call Medical Romanticism, which examines a drug’s role in society through a wider lens, seeking to dismantle the rhetorical and cultural misinformation associated with substances while investigating the possible medical benefits illegal substances may have on the sick. Ultimately, a drug is an artificial or incorrect means of defining an organic substance. Medical Romanticism declassifies drugs, returning them to their “natural” states.

01:30PM
Ghosts and Dynamos: The Nature of Facts and Knowledge in The Turn of the Screw. Spenser Isdahl. Butler University, Indianapolis, IN. Sponsor: Brynnar Swenson

Literary scholars have long argued over the ambiguous nature of Henry James’s The Turn of the Screw, and for good reason; it’s one of the most famously ambivalent texts in English literature. However, perhaps the point of the text is precisely that: to express the ambivalence of the time. After all, the book was published in 1898, a time of great scientific advances and political upheavals. In my paper, I discuss both the nature of facts and knowledge in The Turn of the Screw and other contemporary texts that shed light on James’s masterpiece.

01:45PM
An Examination of Parenting in Till We Have Faces. Ashley Read. Grace College, IN. Sponsor: Paulette Sauders

There are many lenses through which to examine the writings of C.S. Lewis, but this paper will look at what Lewis has to say about parent-child relationships in his novel Till We Have Faces. Utilizing a psychological approach to parenting, this writer will examine the parent-child relationships between the main characters the relationships in order to see the differences between various styles of parenting. In addition, the society’s attitude toward beauty will be examined in order to see the effect it has on the parent-child relationships. Finally, the writer will examine the characters’ views on religion in order to see if this has any effect on the way they treat the children.
Pattern formation on animal coats, which results in dramatic structures such as a zebra's stripes and a leopard's spots, can be described using systems of reaction diffusion equations. A key mechanism that causes the formation of patterns in these models is diffusive instability, sometimes known as chemical morphogenesis. The resulting patterns are known as Turing patterns. There are a variety of reaction diffusion models of this type, based on different reaction kinetics. These models and the associated parameters lead to a fascinating and rich range of patterns. In this work we explore the effect of different kinetics on the nature and details of the patterns. In particular, we study models of the activator-inhibitor and activator-substrate types. We also investigate the sensitivity of the patterns to key parameter values. Our studies are carried out in two-dimensional geometries, using numerical simulations. We use the Matlab software package to carry out the numerical studies. The results and insights gained from this study also have potential uses in describing other natural phenomena, particularly patterns seen in other areas of nature.

01:15PM
Plagiarism in Computer Science classes. Dang Mai. Wittenberg University, Springfield, OH. Sponsor: Steven Bogaerts

Academic dishonesty has been a problem for professors and instructors for a very long time, particularly in computer science courses, as it might be easier to copy a piece of code than to plagiarize a full written text. To make the problem even more severe, it only takes a few minutes to modify the piece of code in such a way that on the surface it does not look anywhere close to the original version. In order to solve this problem, several people have independently written programs to check for plagiarism among a pool of assignments. The goal of this work is to test the accuracy of those programs, especially in basic cases where common plagiarism patterns are used to modify the original code. We will describe those test cases, show the performance of the detection programs on those and make comparative judgments on the detection programs. Finally, by combining the results together, we will recommend a few weighted combinations of programs that are shown to be effective, and how to use them to check for plagiarism. Additionally, we will introduce a small program that serves as a Graphical User Interface (GUI) for effectively using and combining results and displaying reports from a few of the aforementioned programs.

01:30PM

Music may be thought of as a sequence of pitches and chords, each discrete item in the sequence influencing pitches and chords that follow. This interconnectedness is also a key feature of cellular automata, where discrete cells fluctuate between states based on the states of their neighbors, chaotic trajectories, where a particle’s current position is reliant on its previous positions, and reaction/diffusion models, where complex patterns are formed based on the concentrations of interacting morphogens. This project aims to examine these systems as they apply to music—in generating new music and in creating variations upon existing pieces. Previous work has explored the use of strange attractors based on differential equation models to generate chaotic variations on a given musical piece. In this work, we extend some of these ideas by studying different mapping strategies as well as incorporating additional components of the musical piece. We demonstrate how simple changes to the starting conditions and rules of the systems result in drastic changes to the musical output.

01:45PM
A Genetic Algorithm to Optimize a Connect Four Minimax Player. Thomas DeBell, Brian Morrow. Wittenberg University, Springfield, OH. Sponsor: Steven Bogaerts

Connect Four is a classic game played by many people across the world. We have implemented a fully functional Connect Four game with a computer player that uses the minimax algorithm to choose its next move. This algorithm first creates every possible game state that can come from the current state within a given number of moves, and then scores each state using the concept of an n-sequence. An n-sequence is a window of four slots with n matching pieces and (4 - n) blanks. Intuitively, a higher n-sequence should have a greater effect on the score of a state than a lower n-sequence, but the exact relationship is unclear. Therefore, we used a genetic algorithm to determine the scoring weight of each n-sequence. The genetic algorithm sets up a pool of computer players, all with different weights for each n-sequence evaluation, and plays a round robin tournament, recording wins and losses. At the end of each tournament, a select number of players with the most wins move on to the next round and are then randomly mutated and crossed-over to create a new pool of players. Once a select few players continue to win over several iterations of the genetic algorithm, these weights are used to create a strong Connect Four computer player.

Media Studies
Session A Media & Culture
Fairbanks Center, Room 146
Moderator: Dr. Allison Harthcock

11:00AM

This study examines the Product Placement of products in television shows by advertisers. It looks at the relationship between the twenty females and twenty males and sees if the men or women are psychologically affected differently by product placement. The participants watched an episode of Friends, and then were interviewed and given a survey to discuss the verbal and physical reactions seen through empirical
Olivier Messiaen composed the Quartet for the End of Time while he was in a prisoner of war camp during World War II. The quartet refers to the Biblical prophecy of the end times, and Messiaen conveys this idea throughout the work. He carefully uses compositional techniques such as unmatching rhythms and irregular tempos, as well as very fixed tempos with the purpose of conveying the idea of eternity without end. The quartet brings out the conflicts which are given account in the book of Revelation, as well as the glory of Christ and Heaven. He uses the theme of nature which is heard in the birdcalls in the piece to show the harmony of Heaven. The work, although not vocal, embodies Messiaen's clear Christian faith and his views on the end of time.
The tintinnabuli music of Estonian composer, Arvo Pärt is the result of a postmodern synthesis of religious and societal elements culminating in the creation of a new and unique musical style. By examining the work, ‘Seven Magnificat Antiphons’ (1988), I analyzed the effects of these strong external forces on Arvo Pärt’s tintinnabuli composition. Foremost is the influence of Pärt’s deeply spiritual background within the Eastern Orthodox Church. The Orthodox ritual of hesychasm emphasizes the value of inner quietude and the rejection of multiplicity and division within the domain of spiritual concentration. These ideals are directly reflected in the tintinnabuli style through Pärt’s strict harmonic technique and tonally unified voicing.

Also imperative in Pärt’s compositional influences is his personal disillusionment with the Modernist movement and his subsequent transition into the Postmodern. The Postmodern aesthetic is a synthesis between Modernist innovation and historic tradition. This cohesion of ideologies and genres is fundamental to Pärt’s experimentation with the Gregorian chant idiom during the initial creation stages of tintinnabuli and is, therefore, an imperative part of the emotional and technical basis of the style.

In understanding how these major elements in both late-20th century social values and Pärt’s individual life experience have coincided to influence his compositional style, I gained insight to the spiritual and artistic intent of the tintinnabuli style, as well as the cultural and religious forces responsible for this unique musical expression.

One direction post-Wagnerian composers took after about 1860 was toward new materials found in folk music. The new music based on national individuality stemmed from the call for new musical material but also from a hyper individualistic trend, a need to feel distinct and from the crowd, among nations. Music from the folk traditions of each nation provided an excellent way to distinguish one’s country from the rest. Modest Mussorgsky lived and worked in the midst of the rise of Russian nationalism and made one of the most significant contributions to the establishment of a uniquely Russian music in his opera Boris Godunov.

The Romantic period was a time in history of intense emotion and feeling. Being a composer at the dawn of this period, Franz Schubert contained the essential elements of the Romantic period in his music, that is, pure, unbridled emotion; this display of intense feeling is especially prevalent in his song cycle Winterreise. Throughout the work, the intense sorrow and the destitute nature of the character is felt through the poetry of Müller, and with the setting of the text to music, Schubert adds an immense personal dimension of emotional depth and feeling. Upon examination of his life, it can be seen that Schubert’s existence was one comprised of despondency and depression, which is punctuated by an early death from the venereal disease syphilis. The destitute condition of Schubert’s psyche is portrayed in his composition of Winterreise. Using the emotive foundation in Müller’s text, Schubert subsequently deepens the intensity of the emotion, and adds personal feeling with his compositional devices. In this sense, Schubert’s use of the Romantic idiom causes the work to become an autobiographical representation of his own sadness and despair.
George Frideric Handel’s (1685-1759) popularity in his own time centered on Italian opera for London audiences, while his fame today results from his establishment of the English oratorio genre. Handel revised Italian oratorio into a new genre in response to competition in opera. Various librettists brought different ideologies to the texts. They also possessed differing levels of talent and dramatic instinct. This study focuses on libretti by cleric Thomas Morell (1703-1784). Religious and political sentiments of the time qualify these texts as evidence of the British self-identification with the biblical Israelites.

Paul Henry Lang has noted that the finest oratorios Handel wrote were far from the most popular in his time; Theodora (1750) was a failure and Jephtha (1752) only moderately successful due to their lesser-known subjects and introspective character (both on Morell librettis). Instead, the so-called “victory oratorios:” Occasional Oratorio (1746), Judas Maccabaeus (1746), Alexander Balus (1748), and Joshua (1748) solidified Handel as the preeminent English composer of his day.

Who, then, was the true Handel: the composer of patriotic and ceremonial legend or of reflective drama? This study explores four Morell-texted oratorios: Judas Maccabaeus, Joshua, Theodora, and Jephtha in relation to each other and within the entire oratorio corpus, asking of each oratorio: 1) Who or what is God? 2) On whose side is God? and 3) What is the outcome for God’s “chosen”? These questions aim at better understanding Handel’s musical choices and how these choices reveal the heart and mind of a genius.

An in-depth analysis of several of Lee Morgan’s recordings over his short career, this paper uses both transcriptions and recordings from nine keystone albums to illustrate his transformation as an influential jazz performer and artist. Over the course of the paper, these recordings are studied chronologically and end with his final album, “Intensity”, which was recorded just days before his tragic death. Lee Morgan was a great jazz trumpeter who lived to be just thirty-three years old, recorded 163 sessions, and whose unfortunate passing interrupted his career at his prime.

Background: Institutional admission can be very costly to patients and the health care system. Finding a way to prevent the risk of patient readmission (recidivism) can reduce costs to the individual patient as well as the institution, and increase the quality of life for those patients. The use of community mental health services can reduce readmission rates; however, there is a lack of definitive research that determines what these services should include to be maximally effective.

Objective: To evaluate recidivism in order to identify modifiable risk factors, particularly medication compliance, which might help reduce readmission rates.

Methods: A retrospective chart review will be used to meet the study objective. Patients included in the study will be those 18 to 65 years of age in the psychiatric pavilion at Community Hospital North with a diagnosis of bipolar disorder and/or schizophrenia with initial admission and readmission dates falling between January 2008 and September 2009. Data collected will include age, sex, marital status, race, Axis I diagnosis, global assessment of functioning score, medications, medication compliance, follow-up plan, number of days between visits and length of each visit. Statistical Package for Social Sciences (SPSS) and Microsoft Excel will be used to analyze data from the study.

Significance: Physical and financial strain is evident in both hospitals and patients. The results obtained in this study may help provide a basis for understanding ways to prevent hospital readmission, therefore, resulting in improved patient outcomes and improved hospital efficiency.

Electrolytes play an important role in many physiologic and metabolic functions. Electrolyte abnormalities occur often in Intensive Care Unit (ICU) patients, and can lead to increased morbidity and mortality if left untreated. Initial empiric therapy is based upon many patient specific factors, such as age, weight, and renal function among others. Based on these factors, patients often require continuous adjustment and monitoring of their electrolyte replacement therapy to reach goal serum concentrations.

The purpose of this study was to retrospectively evaluate the incidence of use of the established ICU electrolyte replacement protocol at Methodist Hospital in Indianapolis, the consistency in which the protocol was followed, as well as the effectiveness of the established protocol. This was a retrospective observational study, with data collected and analyzed from patient charts.
09:30AM
Knowledge, Attitude, and Behavior toward Health Promotion in an Urban Public School Setting. Katie Trione, Appolinia Frey, Stephanie Schumacher, Sheel Patel. Butler University, Indianapolis, IN. Sponsor: Sheel Patel

Background: Health promotion is the science and art of helping people change their lifestyle to move toward a state of optimal health. The general health and well-being of school-age children has become a growing concern, especially due to the increased prevalence of childhood obesity. As a result, school districts are striving to incorporate health promotion activities into the everyday life of all kindergarten-12th grade students.

Objectives: To evaluate students' knowledge, attitude, and behavior towards health promotion in an urban public school setting.

Methods: All sixth grade students enrolled at the Shortridge Magnet School for Law and Public Policy are eligible to participate in this study. Students must have a parent or guardian complete and return an informed consent form prior to completing the survey. An electronic survey will be administered and composed of sections specifically in the areas of nutrition, physical fitness, asthma, non-prescription medications, self-treatment, and tobacco use. Survey results will be evaluated for differences between the students' actual knowledge base and their perception of knowledge. Demographics will follow the survey for statistical purposes. The information collected will be analyzed using SPSS version 16.0.

Significance: This study will provide a foundation for identifying and implementing health promotion programs for the students at Shortridge Magnet School for Law and Public Policy. Based on the results, Butler University College of Pharmacy and Health Sciences is planning to collaborate with the College of Education faculty and teachers to create an educational series for the school's curriculum and/or after school activities.

09:45AM
Utilization of Patient Assistance Programs in Free Clinics across Central Indiana. Kate Thomas, Patti Kaster. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: The health care system in the United States has become a frequent topic of discussion. Not only is it important for those who are uninsured and underinsured to have access to proper health care, but being able to afford the medications that are prescribed is equally as important.

Objective: The objective of our study is to determine how free clinics across central Indiana are utilizing patient assistance programs that are currently available.

Methods: Data will be collected from a survey distributed to free clinics in the greater Indianapolis area. The survey will include demographic information about the patients they serve and how they provide assistance to them for medication costs. It will also include questions regarding the educational background of the individual(s) responsible for using these programs. The outcome measured will be if the clinic is maximizing the benefits of patient assistance programs.

Significance: The ability to afford medication is a major problem for millions of Americans. Some patients may even have medical insurance, but no prescription coverage. Recently, a lot of attention has been focused on preventative medicine, but if patients are unable to afford their medications and are consequently non-compliant, they will end up with complications from easily treated disease states. There are many patient assistance programs in place that should be fully utilized to provide optimal health care.

10:00AM
Allergy Assessment in a Pediatric Population. Lauren Miller, Chad Knoderer. Butler University, Indianapolis, IN. Sponsor: Chad Knoderer

Background: Drug reactions are allergic reactions if they are immunologically mediated. Patients commonly confuse adverse drug reactions with allergic reactions and then mistakenly report these intolerances as allergies. Previous studies have evaluated the validity of recorded allergies. However, none of these studies were done in a pediatric population and they used patient chart information or the clinical judgment of a pharmacist to determine if a reported allergy was valid.

Objective: To determine the incidence of true antibacterial allergies based on a standard assessment tool in children with reported antibacterial allergies.

Methods: The guardians of 100 pediatric patients between the age of 1 month and 18 years, who were currently admitted to Riley Hospital, were interviewed using a standardized assessment tool. Based on the responses to the allergy assessment it was determined if the reaction was a true allergy or an adverse reaction. Statistical analysis included determining the percentage of reported antibacterial allergies that were assessed to be true along with the incidence of true allergy for each drug class.

Significance: A reported allergy has been shown to alter antibiotic therapy in 30% of patients. A charted allergy leads to clinicians prescribing antibiotics that are less effective, more toxic, have a broader spectrum, or are more expensive. Accurate assessment of an allergy allows the clinician to provide optimal therapy for the patient.
10:30AM
The Concomitant Use of Plavix and Three Different Proton Pump Inhibitors. Lindsay Bohlander. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Recent studies have raised concern that a significant clinical interaction may exist between clopidogrel and proton pump inhibitors (PPIs). PPIs have been associated with suppressing the platelet inhibitory effects of clopidogrel resulting in higher platelet aggregation levels. This interaction has resulted in higher incidences of major cardiovascular events including myocardial infarction and target vessel failure. As PPIs are metabolized to varying degrees by CYP2C19, negative cardiovascular outcomes may not be a class effect.

Objective: The objective of this study is to determine if associated cardiovascular complications including readmission of myocardial infarction differs depending on the administration of clopidogrel and three different PPIs (omeprazole, pantoprazole and esomeprazole).

Methods: The effects of three different PPIs being administered with clopidogrel will be compared utilizing data retrieved from a national database. Patient demographic information, past medical history of acute coronary syndrome with or without ST segment elevation, which PPI is being received and clopidogrel administration will be identified. Outcome criteria including cardiovascular complications, readmission for myocardial infarction and gastrointestinal bleed will be collected. Pediatric patients will be excluded. Statistics will be performed using SPSS.

Significance: Outcomes of this study will provide further information regarding the risk versus benefit of patients being on concomitant therapy of clopidogrel and a PPI. Further information regarding if cardiovascular complications differ between the three PPIs, omeprazole, pantoprazole and esomeprazole, will be determine. Any differences identified could benefit healthcare providers in making more informed decisions regarding drug selection in patients with multiple comorbidities.

10:45AM

Background: Tobacco use remains the number one cause of preventable illness and death in the United States and results in significant increases to health care costs. Current United States Public Health Service guidelines on Treating Tobacco Use and Dependence recommend a combination of counseling and medication to increase abstinence rates compared to drug therapy alone.

Objective: To assess the impact of pharmacists and pharmacy students providing tobacco cessation telecounseling in addition to pharmacotherapy in an Indiana Medicaid managed care population.

Methods: Adult tobacco users having filled a prescription for varenicline, bupropion, or nicotine replacement therapy (patches, gum, or lozenges) from February 2009 through December 2009 were prospectively identified from a Medicaid database. During this time frame 179 patients were enrolled in the program. Patients receive telecounseling at 1, 2, 3, 4, 6, and 8 weeks after enrollment. Education topics include pharmacotherapy, negative health consequences of smoking, benefits of tobacco cessation, behavior change techniques, and relapse prevention. Patients who did not receive telecounseling during January 2009 and May 2009 were selected as a control group. The primary outcome is tobacco cessation rates between the active and control groups at 6 months from enrollment. Additional information collected includes patient demographics, nicotine dependence, contact time, withdrawal rate, and changes in cigarette use.

Results: Interim analysis of prospective patients completing 6 calls revealed an abstinence rate of 53% (n=10) with an average counseling duration of 85 + 34 minutes. Further data collection and analysis is ongoing with anticipated completion in March 2010.

11:00AM
Creating and implementing a community health website. Punit Shah, Aaron Lee. Butler University, Indianapolis, IN. Sponsor: Annette McFarland

Background: The economic downturn and worsening unemployment rates has left many people without access to health care. For many, the internet is the main source of health information.

Objectives: To develop a website that would be a reliable, one-stop shop for patients and health care professionals in the state of Indiana that contains the information and tools needed to achieve better health outcomes.

Methods: The need for reliable tools and resources necessary to improve public health in the community was assessed. We researched and gathered information for the content of the website. This includes information on affordable health centers and clinics in Indiana, patient assistance programs, Medicare Part D, and general health information. The information on each of these websites was reviewed for credibility and appropriateness for the audience.

The website was launched at the end of September 2009. A section titled “Comments Survey” allows users to make suggestions on the web site’s usefulness, ease of use, and make content suggestions. Data from Google Analytics® is analyzed weekly. Information gathered includes the number of site visits during that week, average time spent on the website, and the percentage of new visits.

Results: Since the launch of the website, there have been 1251 visits, average time spent per page view is 101 seconds, and an average of 42% were new visits. From the “comments survey”, 91.7% of the responders found the information they needed and reported that it was easy to find.

Conclusion: Overall, survey responders were satisfied with the structure and content of the website.
11:15AM  
Health literacy and dietary education in three local elderly communities. Jamie Parvis, Vanessa Martin, Audrey Deyo. Butler University, Indianapolis, IN. Sponsor: Sarah Nisly

Background: Health literacy is the ability of an individual to understand and accurately act on written, verbal, or orally provided medical information. Research demonstrates that poor health literacy has greater risk for poor health outcomes than all other outcome prognosticators. In addition, a healthy diet promotes cardiovascular health and reduces the risk of diseases associated with aging. Therefore, dietary education is critical in older populations.

Objective: To evaluate the level of health literacy and dietary knowledge in three elderly communities and provide education on both topics with the goal of improving health outcomes.

Methods: Subjects were members of one of three Indianapolis organizations; Elder Friendly Communities, Catholic Charities, or Summer Trace Assisted Living. Survey and educational events were conducted at programs sponsored by the respective organization. At health literacy screenings, participants underwent a six question survey about the nutritional facts panel from an ice cream container. These questions required quantitative understanding of calories, serving size, and the ingredients present in the ice cream. At dietary educational events, participants were given a six question survey to assess their knowledge of dietary recommendations regarding hypertension, cholesterol, and diabetes. After brief educational presentations, an identical post-discussion survey was given to each participant. The results obtained from each of the three groups, including demographic information, will be compared to one another in statistical analysis.

Significance: Our findings should demonstrate the impact of patient demographics on both health literacy and dietary knowledge, as well as assess the utility of providing educational interventions on both topics.

11:30AM  
Designing and assessing an introduction to pharmacy practice experience (IPPE) institutional rotation. Meghan Nawrocki. Butler University, Indianapolis, IN. Sponsor: Trish Devine

Background: The Accreditation Council for Pharmacy Education (ACPE) standards and guidelines state that introductory pharmacy practice experiences (IPPE) must involve actual practice experiences in community and institutional settings. Butler University students are required to complete 300 IPPE hours; however, there are not any required IPPE rotations.

Objective: To determine student preparedness to move the institutional advanced pharmacy practice experiences (APPE) to an IPPE rotation, determine preceptors’ willingness to teach IPPE students, and design an institutional IPPE rotation.

Methods: The data for this project was obtained through surveys that were developed for the Butler University P1-P4 students, 2009 pharmacy graduates, and institutional preceptors. An e-mail was sent with a link to the survey on Survey Monkey. The results were analyzed and reported.

Results: 292 P1 through P3 pharmacy students responded to the survey and 60.3% believed they could successfully complete an APPE institutional rotation prior to their P4 year. Given the opportunity, 70.2% of students would complete an IPPE institutional rotation and 56.8% believed this experience should be completed the summer prior to the P3 year. Upon surveying the current P4 students and recent graduates, 65.1% (n=84) would have felt more comfortable on their institutional rotation if they had previous hospital experience. The institutional rotation preceptors (94.7%) are willing to teach IPPE students.

Conclusion: Current and former pharmacy students agree that experience in hospital pharmacy should be a requirement prior to APPE rotations. Institutional preceptors are willing to teach less experienced students. An IPPE institutional rotation should be developed at Butler University.

Session B  
Pharmacy Building, Room 150  
Moderator: Drs. Bruce Hancock and Alison Walton

09:00AM  
The Effectiveness of Web-based Education Modules on Improving Medical Residents' Knowledge on Pediatric Infectious Disease Topics, Stephanie Roush. Butler University, Indianapolis, IN. Sponsor: Chad Knoderer

Background: Antimicrobial stewardship programs are used in many institutions to prevent the emergence of resistant bacteria, adverse patient outcomes, and increased medical costs. The Pediatric Antimicrobial Stewardship Program Riley Hospital for Children is a multidisciplinary team that works collaboratively to impact clinical practice and prescribing factors through different educational efforts.

Objective: The objective of the study is to evaluate the effectiveness of web-based education modules for improving medical practitioners’ knowledge on topics related to pediatric infectious diseases.

Methods: Medical residents and students completing the pediatric infectious diseases rotation at Riley Hospital for Children will be administered a pre and post-module assessment associated with completion of a web-based education module. Education modules will be available to study participants via Indiana University School of Medicine’s web-based course management system. Web-based modules can be completed at the convenience of the practitioner during the one month rotation. An online survey service will be utilized to administer module assessments. A comparison of the results from the pre- and post-modules assessments will be utilized to determine effectiveness of the education modules. A paired-sample t-test will be used to compare the mean assessment scores across respondents. Descriptive statistics will be used to analyze responses to specific questions.
Significance: These findings will help to determine if using web-based education modules is an effective way to provide education and further satisfaction with the pediatric antimicrobial stewardship program at Riley Hospital. Finding an effective way to improve education and satisfaction with antimicrobial stewardship may potentially influence prescribing habits and thus improve antimicrobial medication usage.

09:15AM
Use of angiotensin-converting enzyme inhibitors (ACE-Is), angiotensin-receptor blockers (ARBs), and HMG-CoA reductase inhibitors (Statins) in women of childbearing potential. Kathy Newman, Lindsay Horan. Butler University, Indianapolis, IN. Sponsor: Alison Walton

Background: ACE-Is, ARBs and Statins cause birth defects and are not recommended for use during pregnancy. These medications have been prescribed to women of childbearing age without discussion of contraceptives or pregnancy risk.
Objective: To evaluate the incidence of ACE-I, ARB, and/or Statin use in women of child-bearing potential and evaluate patient charts for physician documentation of pregnancy risk with prescribed study medications.
Methods: The study was a retrospective, observational chart review. Female patients between the ages of 15 and 45 who were prescribed an ACE-I, ARB, and/or Statin at the St. Vincent Joshua Max Simon Primary Care Center over a two year time period were included. The baseline data collection was collected and analyzed using Pearson Chi-Square or Fishers Exact Test.
Results: A total of 200 patient charts met inclusion criteria and were reviewed for the study. 129 (65%) patients were prescribed ACE inhibitors, 29 (15%) ARBs, and 87 (44%) Statins. Prescribing residents documented discussion of pregnancy risk for 35 (18%) patients prescribed at least one agent. There was a significant difference in documentation of risk by birth control (p=0.035) and age < 40 (26.6%) versus ≥ 41 (2.8%) (p<0.001). Documentation showed that 4 patients were actively trying to conceive when prescribed a study medication.
Conclusion: Study results indicate that resident documentation of pregnancy risk was substandard improvement in prescribing practices is necessary. An educational initiative and pre/post survey was presented to the medical residents following baseline data collection, and quarterly data will be evaluated for any improvements.

09:30AM
Assessing achievement of evidence-based blood pressure goals in an internal medicine residency clinic: a retrospective chart review. Cortney Hindahl, Megan Tolgan, Alison Walton. Butler University, Indianapolis, IN. Sponsor: Alison Walton

Background: Current literature suggests that hypertensive patients managed by PCPs are achieving poor blood pressure (BP) control despite the presence of practice guidelines with specific goals. Recent studies address adherence to JNC-7 guidelines, but none consider adherence to the American Heart Association (AHA) hypertension (HTN) guidelines for the prevention and management of ischemic heart disease.
Objective: To determine the percentage of hypertensive internal medicine (IM) clinic patients achieving an appropriate BP goal for JNC-7 and AHA guidelines.
Methods: Following Institutional Review Board approval, investigators surveyed medical residents on current HTN guidelines. A retrospective, observational, chart review determined achievement of evidence-based BP goals. A computer generated query identified St. Vincent Joshua Max Simon Primary Care Center IM patients with diagnosed essential HTN who received antihypertensive treatment for at least one month. Patients less than 18 years of age, pregnant, secondary HTN, or documented medication noncompliance were excluded. Statistical analysis is planned to determine the percentage of patients achieving BP goals.
Results: Of the eighteen IM residents who participated, the following answered correctly the BP goal for specified disease states: 61% for chronic kidney disease, 44% for Framingham Risk Score >10%, 50% for post-myocardial infarction, and 67% for general coronary artery disease prevention with no co-morbidities. Upcoming completion of statistical analysis should provide conclusive results.
Significance: This study provides a cohesive analysis of achievement of both JNC-7 and AHA HTN goals. Potential exists to improve the care of IM patients as well as demonstrate the need for further education of residents.

09:45AM

Background: Tobacco use remains the number one cause of preventable illness and death in the United States and results in significant increases to health care costs. Current United States Public Health Service guidelines on Treating Tobacco Use and Dependence recommend a combination of counseling and medication to increase abstinence rates compared to drug therapy alone.
Objective: To assess the impact of pharmacists and pharmacy students providing tobacco cessation telecounseling in addition to pharmacotherapy in an Indiana Medicaid managed care population.
Methods: Adult tobacco users having filled a prescription for varenicline, bupropion, or nicotine replacement therapy (patches, gum, or lozenges) from February 2009 through December 2009 were prospectively identified from a Medicaid database. During this time frame 179 patients were enrolled in the program. Patients receive telecounseling at 1, 2, 3, 4, 6, and 8 weeks after enrollment. Education topics include pharmacotherapy, negative health consequences of smoking, benefits of tobacco cessation, behavior change techniques, and relapse prevention. Patients who did not receive telecounseling during January 2009 and May 2009 were selected as a control group. The primary outcome is tobacco cessation rates between the active and control groups at 6 months from enrollment. Additional information collected includes patient demographics, nicotine dependence, contact time, withdrawal rate, and changes in cigarette use.
Results: Interim analysis of prospective patients completing 6 calls revealed an abstinence rate of 53% (n=10) with an average counseling duration of 85 + 34 minutes. Further data collection and analysis is ongoing with anticipated completion in March 2010.
Complications in Neonates Associated with Total Daily Heparin Exposure. Leanne Current, Kate Rawlings. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

**Title:** Complications in neonates associated with total daily heparin exposure.

**Purpose:** Heparin is utilized in parenteral nutrition (PN) and intravenous solutions to maintain line patency in neonates. Adverse effects associated with heparin include bleeding and thrombocytopenia. Previous prospective studies have explored the occurrence of heparin induced adverse effects relative to differing concentrations of heparin being utilized for the prevention of line occlusion. The purpose of this trial was to determine if the occurrence of bleeding and/or thrombocytopenia was associated to the total exposure of heparin in neonates.

**Methods:** This study was a prospective, observational chart review. Neonates admitted to either Riley Children’s Hospital or Methodist Hospital Neonatal Intensive Care Unit receiving heparin in PN and/or intravenous solutions for the prevention of line occlusion were eligible for enrollment in the study. Neonates receiving heparin for therapeutic indications were excluded. Study participants were followed to determine if the incidence of heparin induced adverse effects were increased relative to total heparin exposure. Demographic information such as age, weight, and admission diagnosis was collected. The total amount of heparin received from PN, intravenous solutions and heparin flushes was calculated daily. Documented adverse events included signs of bleeding and/or thrombocytopenia defined as a platelet count less than 100,000/mm3. All statistical analyses will be conducted using Statistical Package for Social Sciences.

**Results:** Pending

**Conclusions:** Pending Results

**10:30 AM**


**Background:** Stroke is the third leading cause of death in the United States. Angiotensin Converting Enzyme Inhibitors (ACE-inhibitors) are effective in stroke treatment; however, it is unknown if this is a class effect or if tissue selectivity affects the outcome.

**Study Objective:** To determine if tissue-selective ACE-inhibitors are more effective in ischemic stroke prevention than non-tissue selective ACE-inhibitors. This could determine preferred ACE-inhibitor therapy for high risk populations for stroke or transient ischemic attack (TIA).

**Methods:** A retrospective cohort design using a deidentified dataset extracted from MarketScan, which includes nationwide private health insurance information. Patients hospitalized for an Acute Myocardial Infarction between January 1, 2004 and December 31, 2006 and filling at least 1 prescription for an ACE inhibitor upon discharge will be included in the study population. The type of ACE-inhibitor will be documented and patients will be categorized based on tissue selectivity; those with percent tissue affinities greater than 10 will be tissue selective, while those less than 10 will be non-tissue-selective. Patients will be followed longitudinally for incidence of hospitalization due to ischemic stroke or TIA. Follow-up of patients ends when study outcomes are achieved, patients are switched from the starting ACE-inhibitor, patients lose health plan eligibility, or the study period ends (Dec 31, 2007). Exclusion criteria include prior history of ischemic stroke, hemorrhagic stroke, TIA, or angioedema.

**Results:** Data collection and analyses in progress.

**Study Significance:** Stroke is a major condition in the United States. ACE-inhibitors are effective in stroke prevention, but it is unknown whether they show a class effect. This study will look into tissue specificity to determine the preferred ACE-inhibitors for stroke prevention.

**10:45 AM**

Development of a Risk Assessment Tool for Early Sepsis (RATES) Scoring Algorithm: A Retrospective Cohort Predictive Modeling Study. Sean Kane. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

**Background:** The criteria for systemic inflammatory response syndrome (SIRS) and sepsis have undergone extreme scrutiny due to their lack of specificity and prognostic value. Early detection is vital to improving patient outcomes in sepsis, but many predictive modeling studies have not been studied general medicine unit patients. A sepsis scoring system for non-ICU patients may be useful in the identification of sepsis.

**Objective:** To develop a risk assessment tool for early sepsis in non-ICU patients based on retrospective analysis of patient data.

**Methods:** This study is a retrospective cohort study. Patients will be included on the basis of billing diagnostic codes from the Indianapolis Veterans Affairs (VA) Medical Center. Patients with severe sepsis will be compared against patients with pneumonia, urinary tract infection, or abdominal infection who did not develop sepsis. Once identified, approximately thirty metrics will be collected and organized into a structured query language database. Each metric will be compared between cohort groups using independent sample t-test analysis. Significant metrics will be analyzed using logistic regression and converted into a scoring system. This scoring system will be contrasted against the SIRS-based criteria for specificity and selectivity in identifying sepsis.
Significance: The ultimate goal of the study is to develop a scoring system to prospectively identify non-ICU patients who are in the early stages of sepsis. The scoring algorithm will use metrics specific to the VA computer system such that an automated computer surveillance program may be developed to electronically identify patients with early sepsis.

**11:00AM**

Comparative analysis of vancomycin-associated nephrotoxicity in patients before and after implementation of new vancomycin dosing guidelines at Community Health Network. Lauren Marzotto, Amanda Parsons, Jarrett Amsden, Emily Greenhaw, William Malloy. Butler University, Indianapolis, IN. Sponsor: Jarrett Amsden

Background: Community Health Network recently changed their hospital-wide vancomycin dosing protocol to parallel recommendations of new vancomycin consensus guidelines. However, recent literature demonstrates potential for increased nephrotoxicity with higher vancomycin trough concentrations and dosages.

Objective: To compare the incidence of vancomycin-induced nephrotoxicity in hospitalized patients before and after implementation of a vancomycin dosing protocol.

Methods: A retrospective comparative cohort study will be conducted at Community Health Network hospitals in order to meet the study objective. Incidence of nephrotoxicity, treatment regimens, length of hospital stay, mortality and other demographic data will be compared. Patients between the ages of 18 and 89 who received vancomycin therapy for at least 48 hours between January 2009 and February 2010 will be included. Patients will be excluded if they had acute renal failure prior to therapy, have a history of cystic fibrosis, or received dialysis, contrast dye in previous week, or concomitant vasopressors. Patients will be divided into pre- and post-guideline cohorts and matched based on gender and age plus or minus 5 years. Data will be analyzed through chi-squared tests of independence and logistic regression models as well as paired sample T-tests and linear regression models. Analyses will be conducted using Statistical Package for Social Sciences version 16.0 (SPSS, Chicago) at 0.05 significance.

Significance: This study will help to shed more light on the conflicting evidence that exists regarding vancomycin associated nephrotoxicity in clinical practice. The results will aid clinicians in making more informed decisions regarding dosing and monitoring of vancomycin in their patients.

**11:15AM**


Purpose:

Our primary objective is to develop an effective tool to aid pharmacists and pharmacy students with Medicare Part D enrollment. Our secondary objective is to identify patients who qualify for additional assistance and assist them with enrollment.

Methods:

Through research and evaluation of previous and current tools available for Medicare Part D enrollment we designed tools to be used by pharmacy students and pharmacists to help aid in the enrollment process. These tools were used by pharmacists and pharmacy student volunteers at three separate Medicare Part D enrollment events. Volunteers were asked to complete a survey which determined the following information: the services provided by students; the percent of patients who qualified for low-income assistance; the number of patients who were previously not enrolled in assistance programs; the percent of students who found the tools useful; and additional comments regarding the tools.

Results:

Volunteers completed 45 surveys to evaluate the efficacy of the tools. Of the surveys collected 8 volunteers reported helping low income patients. All but one volunteer reported the tools to be useful in assisting patients with the Medicare Part D enrollment process.

Conclusion:

Overall, pharmacist and pharmacy student volunteers found the enrollment tools to be helpful in aiding with the Medicare Part D enrollment process.

**11:30AM**

Evaluating the duration of post-operative cefuroxime prophylaxis on infectious outcomes in pediatric cardiovascular surgery patients. Andrea Webster, Michelle Berg. Butler University, Indianapolis, IN. Sponsor: Chad Knoderer

Background. Use of antimicrobials for prevention of surgical site infections after cardiac surgery is standard of care for adults and children. Despite recommendations to continue antibiotic prophylaxis for 24 to 72 hours after cardiac surgery, use of extended post-operative antibiotic prophylaxis in children remains common. Our objective was to evaluate differences in infectious outcomes in children after cardiac surgery who received unlimited post-operative cefuroxime prophylaxis and those who received cefuroxime prophylaxis for a period of only 24 hours after surgery.

Methods. This was a retrospective study of children who had undergone cardiac surgery from February 2006 through January 2007. This time period represented six months prior to and after implementation of a change to a standard 24 hour duration of post-surgical cefuroxime prophylaxis. Patients in each period were categorized into two major infectious outcome groups based on whether or not they required additional treatment courses of antibiotics beyond cefuroxime prophylaxis.
Results. Two hundred and ten children (102 pre-intervention and 108 post-intervention) met inclusion criteria. Additional antibiotics were initiated in 19 (18.6%) and 29 (26.9%) of patients in the pre and post-intervention groups, respectively (p = 0.136), with documented infection (bacteremia, urinary tract infection, endocarditis, sepsis) occurring in 8 (42.1%) and 14 (48.3%) in the pre and post-intervention groups, respectively (p = 0.675).

Conclusions. Limiting the duration of prophylaxis to 24 hours after pediatric cardiac surgery does not appear to increase infectious outcomes or true post-operative infections. Our results underscore the need to develop standard prophylaxis regimens in institutions currently utilizing prolonged prophylaxis after pediatric cardiac surgery.

Session C
Pharmacy Building, Room 156
Moderator: Drs. Alex Ansara and Jason Range

09:00AM
Synthesis and Biological Evaluation of Triazole-based Farnesyl Pyrophosphate Analogues. Daniel Jansen. Butler University, Indianapolis, IN. Sponsor: Medhane Cumbay

Protein farnesylation is a post-translational modification that transfers a 15-carbon isoprenoid to the cysteine of CAAX-box containing proteins, via the enzyme farnesyl transferase (FTase). Following attachment of the isoprenoid, the farnesylated protein then becomes membrane bound where it is involved in many important cell signaling pathways. One farnesylated protein, Ras, is a key oncogenic signaling molecule in approximately 30% of all cancers. Over the past fifteen years, farnesyl transferase inhibitors have been developed to inhibit oncogenic Ras activation. One class of farnesyltransferase inhibitors are farnesyl pyrophosphate (FPP) analogs. The 1,3-dipolar cycloaddition reaction between azides and alkynes is a versatile protocol for the synthesis of 1,2,3-triazoles. Part of an expanding field deemed “click chemistry” for its mild conditions and high yields, triazoles are being incorporated into several areas of drug research. Using “click chemistry”, we constructed FPP analogs containing a triazole mimicking either the first or second isoprenoid of farnesyl pyrophosphate. To construct the triazole-based FPP analogs, we first synthesized an alkyne representing the first two isoprenoids of farnesyl pyrophosphate using a Negishi cross-coupling reaction. We then performed “click chemistry” with either organo-azides or azides generated in-situ from the corresponding halides and sodium azide. A variety of triazole-based FPP analogs were synthesized and tested as both substrates and inhibitors of farnesyltransferase. Details of the syntheses along with biological data will be presented.

09:15AM
Assessment of appropriate and informative health-related internet sites to be recommended to patients. Kimberly Berger, Stacy Belmont, Brittany Gisi. Butler University, Indianapolis, IN. Sponsor: Laurie Pylitt

Background: Health-care providers provide one-on-one counseling of medical information to patients, however time spent is rather limited. Thus, there is a need for practitioners to have high quality websites to refer patients to.

Objective: The objective of this study is to determine which disease states need additional resources for health-care practitioners to use for supplemental patient education, and to determine which sites provide clinically meaningful information.

Methods: The study will be conducted via an online survey targeting actively enrolled, professional phase pharmacy and physician assistant students enrolled at Butler University CPHS. The survey will ask students which top five disease states they would like to have a website in which to reference patients. Websites will be selected accordingly and assessed by a panel of approximately 23 health-care providers. Questions examine the purpose of the site and appearance. Points will be assigned to the responses.

Results: The top five disease states chosen in survey were hypertension, type 2 diabetes, asthma, depression, and anxiety. Various other sites were selected for multiple evaluations. Websites were selected using Google©. Overall, Medline Plus© provided the most information for any disease state (79.8/82). In general, evaluators commented that websites with additional tools useful for patients and websites with a broad variety of detailed information being particularly useful. Websites with a lot of advertising and difficult navigability were less favored.

Conclusions: Many of the websites proved to be appropriate educational tools for patients, but websites with detailed information and from specialty organizations tended to rank highest.

09:30AM
Evaluation of a brochure to educate patients ages = 65 on the safety, tolerability, efficacy and cost-effectiveness of generic medications. Daniel Swank, Niki Garden, Krunal Patel. Butler University, Indianapolis, IN. Sponsor: Priscilla Ryder

Background: Research has shown concerns over efficacy, safety, tolerability, and cost are the biggest predictors of patients’ reluctance to choose generic over brand-name medication. People ages 65 years and older are the greatest consumers of prescription medications, and cost is a major barrier to medication acquisition and adherence. We have designed an educational brochure to address these fears among older patients, thus potentially reducing their overall healthcare costs.

Objective: To evaluate the effectiveness of our brochure in changing patients’ knowledge of and attitudes toward generic medications.

Methods: Volunteer subjects will be randomized to receive 1) our patient education brochure; or 2) a ‘placebo’ general health brochure that doesn’t discuss generic medications. After reading one of these brochures, patients will complete a survey including questions that measure knowledge of and attitudes toward generic medications as well as general demographic information. Answers will be compared between the two groups that receive either the educational or ‘placebo’ brochures using chi-squares and t-tests to assess differences.
Results: We hypothesize that subjects receiving the brochure targeted generic medications will have greater knowledge of and more positive attitude toward generic medications.

Significance: As future healthcare professionals, the health of our patients is our primary concern. If costs are reduced, vulnerable older patients are more likely to adhere to their medication regimens, and thus to maintain or improve their health status. This brochure is an educational tool to help overcome older patients’ reluctance to use lower-cost generics, and thus will help in efforts to contain healthcare costs.

09:45AM
Assessment of Pharmacists' Perceptions, Attitudes and Willingness to Assist the Underserved in Receiving Appropriate Healthcare. Melissa Huber, Kylee Jones. Butler University, Indianapolis, IN. Sponsor: Erin Albert

Background: Pharmacists are the most accessible resource to patients, especially underserved patients. Negative health outcomes are significantly affected by lack of access to healthcare. Thus, it is essential for pharmacists to play an active role in improving patient care. To date, no studies have been conducted in the Indianapolis area evaluating pharmacists’ willingness to assist the underserved in receiving healthcare.

Objective: The objective of this proposed study is to assess attitudes, perceptions, and willingness and whether or not adequate resources are available for pharmacists to assist the underserved population.

Methods: A survey was posted online using SurveyMonkey and was sent via email to community pharmacists employed in the Indianapolis area. The survey contained statements which pharmacists rated their agreement to on a 5-point Likert scale. These statements assessed the attitudes, perceptions, and willingness of pharmacists in regards to assisting the underserved population. Conclusion of the survey collected demographics of the survey respondents.

Results: At the time of abstract submission, 96 participants completed the survey. Data of the survey will be analyzed and presented at the Undergraduate Research Conference.

Significance: With increasing financial costs of healthcare and as financial strains of the economy increase, patients will continue to face more challenges regarding access to affordable healthcare. Utilization of pharmacists’ knowledge could potentially increase the accessibility of healthcare to a number of patients.

10:00AM
An Evaluation Of The Effects Of Vancomycin Dosing And Serum. Stephanie Reynolds, Bryce Mitchell. Butler University, Indianapolis, IN. Sponsor: Kendra Atkinson

Purpose: Vancomycin is a cornerstone in the treatment of several gram positive infections seen in institutions. In light of the recommendations suggested in the newly published vancomycin monitoring guidelines, an evaluation of the dosing of vancomycin at Wishard Memorial Hospital has been conducted to analyze dosing and trough concentrations to determine a relationship between patient outcome measures. The current guidelines determining the AUC/MIC ratio and trough concentrations lack evidence in humans to support the recommended trough level needed to improve patient outcomes.

Methods: This study proposal has been approved by the Institutional Review Board prior to data collection. The data for this study has been collected through retrospective chart review at Wishard Memorial Hospital in Indianapolis, IN. Approximately 50 patients diagnosed with MRSA bacteremia will be evaluated in this fashion. The time period included in the data collection will be from October 1, 2008 to January 1, 2010. A data collection sheet has been used to consolidate pertinent information to the study, and baseline characteristics will be analyzed through descriptive analysis. The primary and secondary outcomes will be analyzed through Chi Square tests and multiple linear regressions. The inclusion for this study are patients > 18 years of age, must have a neutrophil count > 1000/mm3, and must have received vancomycin therapy for greater than 72 hours and a trough level was drawn. They also must be infected with vancomycin-susceptible bacteria.

10:30AM

Objective: The primary objectives of this project are to increase asthma awareness by providing asthma education among school employees; aid in achieving appropriate initial response to asthma exacerbations during school hours and school-related activities; to increase understanding and self-management skills among school-aged children and their guardians; and to aid school-aged children in achieving optimal asthma control.

Methods: This phase will be a single-site, multi-phase program which incorporates the use of surveys, quizzes, instructional presentations, and clinical assessments of peak flow meter and inhaler technique to increase the overall control of asthma among school-aged children.

Students and guardians at Crispus Attucks Medical Magnet School and their guardians will be invited to participate in the study. Participants will attend an evening educational session, which will last approximately 2.5 hours. During the asthma sessions (a) there will be an educational presentation on asthma management, with a focus on self-management and how to effectively control the disease; (b) student/guardian pairs will complete a demographic and asthma history form and pre- and post-workshop quizzes; (c) clinical assessments performed will include a three minute walk test (if release form is signed), and assessment of inhaler and peak flow technique.
Results: Scores from the pre- and post-workshop quizzes will be used along with clinical assessments to determine asthma knowledge. A variety of asthma related parameters, including demographic information, asthma knowledge scores, physical test ratings, inhaler technique, and peak flow measurements will be examined for correlations with missed days of school and number of ER visits.

10:45AM
Assessment of Polypharmacy in the Geriatric Population and its Impact on Admission to an Inpatient Mental Health Facility. Darcy Jacobs, Ashley Eddie, JoAnna Zumbun. Butler University, Indianapolis, IN. Sponsor: Laura Ruekert

Background: Elderly Americans consume 1/3 of all prescription medications each year, yet comprise less than 13% of the population. Polypharmacy is a well-established problem in the elderly population, particularly with respect to psychoactive medications. It is estimated that the prevalence of elderly mentally ill adults in the US will increase to 21.6% by the year 2030. Few studies have been performed in this area, making it unclear whether there is a correlation between multiple prescription medication use and its impact on admission to an inpatient mental health facility.

Objective: To assess the role of polypharmacy on admissions to an inpatient mental health facility in the elderly population.

Methods: A retrospective cohort design was used to meet the study objective. Chart reviews were performed for 100 patients aged 65 and older with an admission within in the last year to an inpatient mental health facility. The primary outcome measured was the number of prescription medications each patient was on upon admission to the facility. Secondary outcomes were: diagnosis upon admission, number of psychoactive medications, and any inappropriate medications. Descriptive frequencies were utilized to analyze the data collected and evaluate the study population with regards primary objectives. Analyses includes values such as: frequencies, percentages, means, medians, and modes. Statistical analysis was conducted with Statistical Package for Social Sciences version 16.0

Significance: The findings of this study will give further insights into prescribing practices in the elderly, and expound upon current knowledge of the potential correlation between polypharmacy and mental health admissions.

11:00AM

Introduction: Retail pharmacy is becoming increasingly competitive, driving pharmacies to differentiate using unconventional methods, such as price and promotion. These two components are part of what is known in marketing as the marketing mix or the 5 P’s. These P’s include price, promotion, product, people, and place. Competing on price is an attempt to be the lowest price competitor in a market. Promotion is the use of coupons and other events to help spread a company’s name. Product differentiation is when a company carries a niche product that cannot be found easily. People is promotion using the best service possible. To compete on place, a company must establish a location where customers want to be or to pick a prime location that will attract business. The recent change in focus of current retailers is moving the pharmacy further away from the traditional model of a small, neighborhood pharmacy, which relied on people, product and place.

Objective: To provide a snapshot of retail pharmacy today, from both the chain and independent pharmacist’s perspective, using the marketing mix as the primary focus.

Methods: A series of interviews were conducted with 20 local pharmacists about the current and past marketing mix in the retail setting, centered on the 5 P’s of marketing. All questions were standardized on a central questionnaire in order to identify both quantitative and qualitative differences between chain pharmacies and independent pharmacies.

Results: Results are still pending.

Conclusion: Waiting on results.

11:15AM
Madison County Pharmacists’ Willingness to Participate in Patient Care Services in the Community Practice Setting. Kim Jenson, Kelly Kampschmidt, Ellyn Lohr. Butler University, Indianapolis, IN. Sponsor: Bruce Hancock

Background: The health status of Madison County is declining as jobs become less available and the rate of uninsured rises. The Rural and Urban Access to Healthcare (RUAH) Pathways program is a project that focuses on health outcomes. The pathways program currently does not utilize pharmacists.

Study objective: To evaluate Madison County community pharmacists’ willingness to provide health screenings and counseling services.

Methods: Surveys were distributed to every retail pharmacy in Madison County. A total of 50 surveys were passed out to 20 pharmacies. Each pharmacy was given one survey with a self-addressed, stamped envelope for each pharmacist. There are three sections to the survey: demographics, community pharmacists’ willingness to participate in health screenings, and barriers to implementing health screenings. The data collected from the survey will be primarily descriptive. Scores from each section will be assessed in order to estimate Madison County pharmacists’ willingness to participate in specific patient services. Independent sample t-tests or one-way ANOVAs will be used for these comparisons. The statistical test will be conducted at the 0.05 level of significance using Statistical Package for Social Sciences version 14.0 (SPSS Inc., Chicago).

Significance: The results from this study could lead to health screenings being offered at community pharmacies in Madison County. Another possible outcome is additional training sessions for pharmacists to ensure that they are prepared to participate in health screenings. This study is...
being conducted in Madison County with the idea that community pharmacists in Madison County will eventually participate in RUAH’s Pathways Project.

11:30AM
Interest and Perceived Barriers of Non-traditional Pharmacy Residency Programs at Veterans Affairs Medical Centers. Melissa Buck. Butler University, Indianapolis, IN. Sponsor: Melanie Kuester, Jeanne VanTyle

Background:
The American Society of Health-Systems Pharmacists (ASHP) and the American College of Clinical Pharmacy (ACCP) have written statements that support the completion of an ASHP-accredited postgraduate-year-one (PGY1) residency as a requirement for new graduates to provide direct patient care. A significant barrier to meeting this requirement is a lack of residency positions. An alternative to the traditional 12-month PGY1 program is the non-traditional residency program which is completed part-time over a 24-36 month period.

Objective:
The purpose of this study is to evaluate the awareness of non-traditional pharmacy residencies, potential barriers, and the interest level that VA pharmacy chiefs have in initiating this kind of program at their facility.

Methods:
Objectives of this study will be achieved as a cross-sectional observational study using a sixteen-item descriptive survey sent to pharmacy chiefs at VA facilities with an established pharmacy residency program. After validation, the survey will be posted online using Survey Monkey for ten business days with a reminder email sent at midpoint.

The survey consists of three sections: 1) facility and staffing demographics; 2) ACCP Vision and ASHP Initiative statements, and 3) interest in and perceived barriers of initiating a non-traditional residency program. Study statistics will be performed using SPSS version 16.0. Descriptive statistical calculations will include percentages, central tendencies, variance, and frequencies. Inferential statistics will also be completed using the chi-square test for categorical data or the T-test or one-way ANOVA for categorical/continuous data. Statistical tests will be conducted at the 0.05 level of significance.

Session D
Pharmacy Building, Room 204
Moderator: Dr. Kevin Tuohy

09:00AM
Comparison between three multivitamins and patients’ carotenoid levels as measured by the biophotonic scanner. Barbara Pohl. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Differences in quality and bioavailability among various vitamin supplements exist especially since vitamin supplements are not regulated as closely as prescription medications. Determining which vitamin supplement has greater bioavailability and absorption is beneficial.

Objective: To evaluate differences in patients’ carotenoid levels after three months of vitamin supplementation.

Methods: This was a pilot study with thirty volunteers between eighteen and fifty years of age who were randomly assigned to take one of three different vitamin supplements for a three month period. They were scanned with a biophotonic scanner prior to starting a vitamin supplement to determine their baseline carotenoid level. They were then scanned every month for the three month study period. Patient demographic information was collected including age, weight and medical history. Patients with gastrointestinal absorption complications were not included. Mean change in carotenoid levels between baseline and each monthly follow-up will be determined. The standard deviation and standard error of the mean for the change in carotenoid levels will be determined and a test for normality will be shown. Since this experiment has three levels of the independent variable and values for the dependent variable occur at three different times, a repeated measures analysis of variance will be conducted using the Statistical Package for Social Sciences.

Significance: The greater the vitamin’s bioavailability and absorption, the more likely the patient is to benefit. Which multivitamin has the better absorption ability is unknown. This study has the potential of showing differences exist in carotenoid bioavailability among vitamins from different manufacturers.

09:15AM
Pharmacists Conducting Discharge Medication Reconciliation to Decrease Hospital Readmission Rates. Valerie Fishbeck, Bre Taylor, Alexander Ansara. Butler University, Indianapolis, IN. Sponsor: Alexander Ansara

Background: Medication errors play a major role in the number of hospital readmissions every year. One in five hospitalizations is complicated by post-discharge adverse events, some leading to preventable readmissions.

Objective: To assess whether medication discharge reconciliation and pharmacist identified clinical interventions can reduce thirty-day hospital readmission rates.
Methods: Adult internal medicine patients discharged from Methodist Hospital were included. Patients being discharged to an external long term care facility were excluded. The medical record and discharge summary of each selected patient was reviewed to assess the opportunity for intervention in the following scenarios: unscheduled warfarin monitoring follow-up appointments, medication noncompliance due to expense, unnecessary medications, failure to reinitiate home medications, incorrect dosing regimens, inappropriate drug selection upon discharge, and drug interactions. The numbers and types of clinical interventions prior to discharge were documented. Thirty-day readmission rates of study patients were compared to the hospital’s overall thirty-day readmission rates, which served as the control group. Readmission rates were determined by Methodist Hospital medical records. Patients were called at five and thirty days following hospital discharge to discuss barriers to medication therapy including non-compliance, unaffordability, and adverse effects. Descriptive statistics were used to describe the frequency of interventions made and barriers to medication therapy. A chi square test was used to compare hospital readmission rates of study population to total hospital readmissions.

Significance: If hospital readmission rates are significantly decreased in the study population, there may be a role for pharmacists to provide medication reconciliation for all patients prior to discharge.

09:30AM
New Designer Fiber Supplement. Stephanie Back, Kevin Tonn, Josh Pike. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Fiber supplementation has a variety of health benefits including improved colonic health and weight reduction however subsequent bloating and gastrointestinal irritability deter its usage. A new fiber supplement designed at reducing the associated adverse effects is in development. Identification of the appropriate consumer market and delivery system is being investigated.

Objective: The objective of this study is to identify the target populations for distribution and the ideal dosage form.

Methods: This is a market research survey targeting adults, 18 years and older. Middle aged women and health enthusiasts are the primary population being surveyed because they are the typical buyer of household, health products. The survey will be distributed via web-based sites. Additionally, a hard copy of the survey will be distributed to retail pharmacies, nutritional/health stores and school facilities. Data being collected include demographic information and product information regarding dosage form, dosage size, price, and side effects. Analysis will be performed to identify the product’s target audiences and best delivery form.

Results: A total of 215 subjects participated in the survey. Females comprised the greatest percentage (85.5%) of the participants with 52% between the ages of 36-55. The top three reasons reported for using the fiber supplement included: weight loss (26.5%), colonic health (22.8%), and constipation (20.5%). The majority of participants preferred fiber bars (29.7%) and sachets (22.8%).

Conclusions: Results of the study indicated that women between the ages of 36 and 55 prefer their fiber supplement in the form of a fiber bar.

09:45AM
Medication reconciliation and the continuum of care: from inpatient to outpatient management. David Hatton, Jordan Goetzke, Emily Papineau. Butler University, Indianapolis, IN. Sponsor: Emily Papineau

Medication reconciliation and the continuum of care: from inpatient to outpatient management

David Hatton, PharmD Candidate, Jordan Goetzke, PharmD Candidate, Emily Papineau, PharmD, BCPS

Background: Medication reconciliation is essential for optimizing patient health care outcomes. The Joint Commission highlights its importance by identifying medication reconciliation as a national patient safety goal.

Objective: The objective of this study was to determine how frequently and appropriately medication reconciliation was performed at the time a patient was discharged from a community hospital.

Methods: A retrospective chart review of electronic medical records was conducted to determine the quality of medication reconciliation. The outpatient medication list following hospital discharge was compared to the list provided within the hospital discharge summary. The lists were compared to determine if any discrepancies existed and if those discrepancies were reconciled by the family medicine physician. The unresolved discrepancies were evaluated as to the nature of the discrepancy and the likelihood that it would result in harm to the patient.

Results: The results will be presented at the Undergraduate Research Conference.

Conclusion: Results will reveal if current medication reconciliation processes are optimal.

10:00AM
Evaluation of thiazide diuretics as initial management of hypertension among primary care providers in a veteran affairs (VA) population. Raychelle Oler, Amy Pullen, Pooja Shah, Darin Ramsey. Butler University, Indianapolis, IN. Sponsor: Darin Ramsey

Objective: To evaluate the prescribing of thiazide diuretics as initial therapy for hypertension and assess whether a thiazide diuretic was required to lower blood pressure at any point during therapy. This study will also evaluate if other blood pressure lowering agents were used due to a compelling indication according to the JNC-7 guidelines.
Methods: A computer-generated list of patients who were diagnosed with hypertension using from January 1, 2004 through December 31, 2008 at the R.L. Roudebush VA Medical Center (VAMC) were obtained from the electronic medical record system. From the list, 300 patients were randomly selected for inclusion in this retrospective chart review. Data collection will focus on initial anti-hypertensive agent prescribed and its effect on blood pressure. Patient demographics, co-morbid disease states, type of primary care provider, blood pressure at time of diagnosis, initial anti-hypertensive prescribed, reduction in BP at follow-up, time between first and second visit, second anti-hypertensive prescribed, lab values at each visit, and whether the patient ultimately received a thiazide diuretic will be collected using the Computerized Patient Record System. Study population will include any veteran who received an initial diagnosis of hypertension from a VA primary care provider between January 1, 2004 and December 31, 2008. Exclusion criteria for this study include: patients with a diagnosis of heart failure or myocardial infarction at the time of hypertension diagnosis, patients who were not diagnosed in the VAMC primary care clinics, and patients who did not receive follow-up care for hypertension management at the VAMC.

Session E
Pharmacy Building, Room 103
Moderator: Dr. Carrie Maffeo

01:00PM
Does location matter? Examining the differences in prescribing practices based on rural and nonrural location. Rachel Shepard. Butler University, Indianapolis, IN. Sponsor: Iftekhar Kalsekar

Background: Few studies have been published examining disease state management and prescribing practices in rural versus nonrural areas.

Study Objectives: The objective of this study is to determine if there is a difference in the rate and type of prescribing errors based on rural-urban location.

Methods: The study will consist of retrospective chart reviews of admissions to long-term care facilities serviced by Skilled Care Pharmacy, which are located in Ohio, Indiana, and Kentucky. In order to examine prescribing practices, data will be collected regarding the number of interventions made by pharmacists in order to safely and accurately fill all medications on each admission. Each admission will be then classified as rural or nonrural based on the patient’s geographic location prior to admission, and data from admissions will be compared based on this classification. The data collected will include total number of prescribing errors and will also be sub-analyzed based on type of medication error (such as drug-drug interaction, drug allergy, incorrect dose, route, or frequency). Descriptive statistics will be run for each category (rural and nonrural) and compared. Depending on distribution of data, an independent sample t-test and one-way ANOVA or a MannWhitney U test and a Kruskal-Wallis test will be run on the data that is collected. Significance for statistical analysis will be defined as p=0.05 (two-sided). Statistical Package for Social Sciences version 17.0 (SPSS Inc., Chicago) will be used for all statistical analysis.

Significance: The study results will explore the differences in prescribing patterns and medication errors in rural and urban settings. The frequency and type of medication errors may assist in tailoring interventions based on rural and urban practice settings.

01:15PM
Evaluation of vitamin D levels in a veteran population. Chris Bills, Kyle Wilson, Ryan Feichter, Christopher Degenkolb. Butler University, Indianapolis, IN. Sponsor: Christopher Degenkolb

Background: In recent years vitamin D deficiency has been targeted as an important modifiable risk factor in the development of osteomalacia and osteoporosis. Vitamin D deficiency may also be a risk factor for developing cancer, cardiovascular problems, and cognitive decline. Understanding that vitamin D may play a role in these disease states has caused a 30% increase in awareness of vitamin D deficiency. Guidelines do not exist, but current literature consistently agrees on what classifies an individual as vitamin D deficient and adequate measures needed to aid in treatment or prevention.

Objective: To determine if patients identified as vitamin D deficient receive follow up and/or supplementation as well as determine if increases in prevalence of chronic disease states exists due to deficiency.

Methods: Retrospective chart review that will include patients from the R.L. Roudebush VA Medical Center with documented vitamin D levels from 2006-2008. Vitamin D level will be used to classify a patient as deficient or normal. Deficient patients will be assessed to determine if they received treatment, monitoring, and follow up consistent with current suggestions to determine appropriateness. Chronic disease states will be recorded to assess the association between vitamin D deficiency and those disease states. Analysis with independent sample t-tests and chi-square will determine significance.

Significance: This study will help inform healthcare providers and patients about the current practices associated with identifying, treating, and monitoring vitamin D deficiency in hope of increasing awareness.

01:30PM
Affordable drug options: A look at what Colleges and Schools of Pharmacy are Teaching. Elise Mehringer, Jenna Burgess, Carriann Richey. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Introduction: Current economic struggles influence the ability of patients to afford healthcare. There is limited literature showing what pharmacy schools are doing to prepare students to help these patients.
Objective: The primary objective of this project was to gain a better understanding of how other schools of pharmacy are incorporating information into their curriculum for students. The secondary objective was to identify ways to incorporate the information into the curriculum at Butler.

Methods/Procedures: Surveys were distributed via Survey Monkey through several AACP listservs in October 2009. Questions were focused on determining what was taught by each instructor with regard to cost and affordability of medications. Instructional methodology and specific content was also solicited.

Results: A total of 158 faculty from 78 pharmacy schools responded to the survey. Seventy one respondents coordinate therapeutics/clinical coursework, 43 coordinate SAS coursework, 30 oversee APPE/IPPE rotations, 8 coordinate DL, 6 are a curriculum chair. Sixty-eight respondents are faculty at private schools. Fifty nine percent of respondents indicated that students are not effectively taught the role of a pharmacist in managing financial and economical situations. When asked if their curriculum teaches students how to refer patients in need of social services, the majority of respondents, 45% and 48% respectively, indicated they were unsure. Thirty five respondents provided specific examples of teaching methods.

Conclusion: Preliminary results suggest that this could be an area of growth for programs across the country. The presentation will review methodologies used by other schools that may be incorporated at Butler.

01:45PM
Hyperphosphatemia in children receiving liposomal amphotericin B. Michelle Ricci, Chad Knoderer, Holly Knoderer. Butler University, Indianapolis, IN. Sponsor: Chad Knoderer

Hyperphosphatemia in children receiving liposomal amphotericin B

Background: Three formulations of amphotericin B products are widely used: deoxycholate, lipid complex (Abelcet®) and liposomal (Ambisome®). There are reports of hyperphosphatemia in recipients of liposomal amphotericin, but the incidence is unknown.

Objective: To determine whether an increase in serum phosphorus concentrations occurs in pediatric patients during or after treatment with liposomal amphotericin B.

Methods: We reviewed the medical records for 159 patients at Riley Hospital for Children who received an amphotericin product between November 2006 and December 2008. Doses of amphotericin, serum phosphorus, calcium, blood urea nitrogen, and creatinine concentrations were recorded daily during the ten days following initiation and discontinuation of amphotericin. Administration of phosphorus supplements, phosphate binders, or parenteral nutrition was noted. The incidence of hyperphosphatemia, defined as level greater than the age-adjusted upper limit of normal, was compared among the amphotericin groups.

Results: Our final analysis included 117 children; of which 64 (55%) were oncology patients. Deoxycholate, lipid complex, and liposomal amphotericin were used in 24 (20.5%), 37 (31.6%), and 56 (47.9%) of all patients, respectively. Hyperphosphatemia developed in 32 (27%) patients; of which 21 (33%) were oncology patients and 11 (21%) were non-oncology patients (p = 0.145). Similar to within all recipients, among oncology patients, 18 (45%) liposomal recipients demonstrated hyperphosphatemia compared to 3 (13%) of those receiving lipid complex (p = 0.007). Parenteral nutrition, renal function, and serum calcium did not affect the incidence of hyperphosphatemia.

Conclusion: Nearly 45% of children receiving liposomal amphotericin developed hyperphosphatemia. Further investigation into this phenomenon is warranted.

02:15PM
Effectiveness of initial monotherapy with mood-stabilizing agents or second-generation antipsychotics in patients with bipolar I disorder: a retrospective claims database review. Jordan McMullan, Kristine Swank. Butler University, Indianapolis, IN. Sponsor: Iftekhar Kalsekar

Background: Although a number of agents are FDA-indicated for the treatment of bipolar disorder, the American Psychiatric Association (APA) guidelines do not specify a first line option for initial treatment of these patients.

Objective: To examine the association between type of monotherapy initiated in newly diagnosed patients with bipolar I disorder and the incidence of early treatment failure.

Methods: A deidentified dataset extracted from MarketScan, which includes nationwide private health insurance information, will be utilized. Patients 18 to 65 years of age with a new diagnosis of bipolar I disorder and initiating therapy with either 1) lithium, 2) an anticonvulsant with mood stabilizing properties (valproate or carbamazepine), or 3) an atypical antipsychotic indicated for treatment of acute bipolar mania (olanzapine, quetiapine, ziprasidone, risperidone, and aripiprazole) will be included in the study cohort. The primary outcome will be time to treatment failure - defined as either psychiatric hospitalization for bipolar I related diagnoses, conversion to alternate therapy, or discontinuation of therapy. The secondary outcome will be time to augmentation of therapy with another study drug. The association between the type of initial monotherapy and the primary and secondary outcomes will be explored using a Cox-proportional Hazards model. All the statistical analysis will be conducted using SPSS (version 17.0). The study has been approved by the Institutional Review Board (IRB) at Butler University.

Significance: If a lower incidence of treatment failure can be shown to be associated with a particular drug class utilized for initial monotherapy in bipolar I disorder, it may provide rationale for a preferred first-line treatment option.
Characterizing the Use of Argatroban and Lepirudin in Children

Emma K. Thone, PharmD Candidate; Kathleen A. Doan, PharmD; Chad A. Knoderer, PharmD

Background: Heparin induced thrombocytopenia (HIT) is an antibody-mediated adverse reaction to unfractionated or low-molecular weight heparin. Heparin induced thrombocytopenia is suspected in patients who have received recent heparin therapy and experience a 50% or more decrease in platelet value from baseline and/or venous or arterial thrombus. Diagnosis is confirmed by testing for the presence of heparin-induced antibodies. Direct thrombin inhibitors are recommended for anticoagulation in patients with HIT. While dosing guidelines for argatroban and lepirudin are established for adult patients, the use the two agents in pediatrics are not well established.

Objective: To characterize the use of direct thrombin inhibitors in pediatric patients based on appropriate dosing and toxicity.

Methods: This was a retrospective chart review of pediatric patients (<18 years old) who received argatroban or lepirudin between July 2003 and December 2008. The primary outcome measured was the effective dose of each drug in children, resolution of thrombosis and thrombocytopenia, incidence of adverse events, and death. Clinical data collected to evaluate appropriateness of use included: indication for therapy, presence of heparin-induced antibodies, and presence of thrombosis or thrombocytopenia. Days to thrombocytopenia resolution, INR, aPTT, and platelet count were also collected. Major bleeding events, thrombotic events, and death were recorded.

Significance: This study will add to the limited pediatric argatroban and lepirudin data and help to further characterize safe and effective pediatric dosing.

Determination of Insulin Resistance (HOMA-IR) in College-aged Men and Women.

Katharine Funke. University of Southern Indiana, Evansville, IN. Sponsor: Mari Hopper

Insulin resistance (IR) is a condition in which the cells of the body become resistant to the effects of insulin, that is, the normal response to a given amount of insulin is reduced. Type II diabetes mellitus is a progressive disease in which rising insulin levels fail to control blood sugar. During the college years, individuals experience drastic changes in lifestyle that put them at greater risk for the development of insulin resistance and a pre-diabetic condition. This study establishes a baseline measure of insulin resistance during the first month of college for twenty-two freshmen students of traditional college age (eleven men and eleven women). Following a twelve hour fast, venous blood samples were acquired, serum was separated and stored at -80 °C, and later analyzed for glucose (YSI Model 2300 Stat Plus) and insulin (Ultra Sensitive Human Insulin Radioimmunoassay Kit - Linco). Insulin resistance was quantified using the homeostatic model: HOMA-IR = [insulin (microunits per milliliter) x glucose (millimoles per liter)]/22.5. The mean insulin resistance value for men was 3.15 ± 0.40 with a range from 1.34 to 5.29. The mean insulin resistance value for women was 3.63 ± 0.36 with a range from 1.22 to 5.05. Although no significant difference was found between IR values of men and women, these data represent a limited sample size that will be expanded in future studies. Additionally, changes in IR will be tracked as these students progress through college.

Butler University, Indianapolis, IN, Sponsor: Chad Knoderer

Characterizing the Use of Argatroban and Lepirudin in Children. Emma Thone. Butler University, Indianapolis, IN. Sponsor: Chad Knoderer

Evaluation of nutrition and exercise education in middle school children. Shelley Klochan, Jessica Beck. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

Background: Childhood obesity is becoming increasingly prevalent in the United States due to a lack of healthy dietary habits, increased consumption of unhealthy foods and beverages, and a sedentary lifestyle. Assessing children’s knowledge of proper nutrition and exercise habits and providing adequate education on a healthier lifestyle is fundamental in combating childhood obesity and its associated morbidities.

Objective: The objective of this study is to develop a nutritional program that educates middle school children on the importance of appropriate food intake, good nutritional habits and the benefits of making healthy lifestyle changes.

Methods: Middle school-aged children enrolled in an afterschool program sponsored by the YMCA currently lack a nutritional educational component. A questionnaire that assesses the children’s knowledge of nutrition will be administered to identify areas of nutritional knowledge deficiencies. Based on the information from the questionnaire, a 12-week interactive nutrition program will be designed. Topics in which the children showed an inadequate level of understanding or wish to gain more knowledge in will be incorporated into the program. The nutrition program will be implemented at one YMCA location and then refined, based on a post-test questionnaire. Afterwards, the program will be taught to other YMCA employees to be introduced to different YMCA institutions, which will help further educate other kids.

Significance: Successfully educating this population of children on the benefits of a healthy diet and an active lifestyle will potentially be beneficial to their health and overall well-being throughout their lives. Developing standardized lesson plans that adequately educate children about healthy lifestyle habits will also potentially provide the same benefits for other middle school-aged children that participate in such educational sessions.
01:15PM
Retrospective Chart Review & Analysis of Antibiotic Use in Patients with Acute COPD Exacerbations. Joe Bravine, Andrew Rarity. Butler University, Indianapolis, IN. Sponsor: Kevin Tuohy

Background: Chronic obstructive pulmonary disease (COPD) occurs when the lungs are damaged, limiting airflow due to two respiratory illnesses, chronic bronchitis and emphysema. Acute COPD exacerbations are associated with significant morbidity, mortality, and health-care burden. COPD exacerbations are frequently treated as respiratory infections with antibiotic therapy, however only one-half are caused by bacterial infections. There are limited studies evaluating the appropriateness of antibiotics in these circumstances despite criteria being published regarding the use of antibiotics in COPD exacerbations.

Objective: To evaluate the necessity and appropriateness of prescribing antibiotics in acute COPD exacerbations.

Methods: A retrospective chart review was done on eighty randomly selected patients admitted to Methodist Hospital between January 1, 2008 and December 31, 2008 with a primary diagnosis of COPD exacerbation. The patient ages range from 18 to 89 years of age. The patients are assessed using a data collection sheet that measures demographics, past medical and social history, COPD medications, and clinical presentation. Descriptive statistics will be performed to determine baseline characteristics. Additionally, Chi-square tests and independent t-tests will be conducted to analyze the data with a 0.05 level of significance. The statistical analyses will be conducted using SPSS version 16.0.

Significance: The goal of the study is to evaluate the prescribing of antibiotics to determine the COPD exacerbations, health care costs, and microbial resistance.

Results: Pending

01:30PM
Identifying Variables that Influence Butler University Pharmacy Students to Pursue a Residency Program. Kayla Graft, Greg Pachacz. Butler University, Indianapolis, IN. Sponsor: Chris Degenkolb

Background: Post-graduate training for pharmacists is growing more essential, specifically in areas related to patient care. Recent literature has shown the biggest factors in students pursuing post-graduate training were to gain knowledge, experience, and a desire for specialized training. Our study will look to see what factors influenced or deterred Butler University pharmacy graduates to pursue a residency program.

Objectives: To explore variables throughout a pharmacy student’s career at Butler University that influenced his or her decision of whether or not to pursue post-graduate training in the form of a pharmacy residency program.

Methods: This cross-sectional study will use an online survey tool to evaluate students’ decision to pursue a residency, motivating factors leading to their first career, and rotations completed during the graduate’s academic career at Butler University. Participants were acquired from alumni emails in the Butler University College of Pharmacy database of graduates from 2005 to 2009. The survey responses will remain anonymous throughout the study period.

Results: To be presented at the Undergraduate Research Conference.

Study Significance: No recent research has been conducted that assess the variables that influence pharmacy students at Butler University to pursue residency programs. This study will provide an assessment of how effective the promotion of post-graduate training is at Butler University. Our faculty will get better insight in identifying ways to improve promotion of post-graduate training, but also finding barriers to post-graduate training and methods to help overcome them. Other universities with pharmacy schools may also find this as a useful tool.

01:45PM
Educational program designed to help incorporate healthy nutritional changes. Kathryn Plowman, Megan Wiersma. Butler University, Indianapolis, IN. Sponsor: Jane Gervasio

With obesity reaching epidemic levels, it is imperative to raise awareness about how eating healthy and proper exercise can have a positive impact on one’s quality of life. Pharmacists, as the “most accessible healthcare provider” have an excellent opportunity to educate the public about how to make healthy lifestyle choices. We propose that educating individuals about how to implement better eating habits, ways to incorporate more physical activity into one’s day and taking personal responsibility for one’s own well being will help achieve healthier lifestyle behavior.

We plan to conduct an educational program helping people make healthier choices. Working with Fit City Indianapolis, we will visit various grocery stores in the Indianapolis area encouraging customers to make healthy food purchases. Folders with healthy recipes, an instructional sheet about how to read food labels, and tips for healthy living will be distributed to store patrons. We will also offer to measure BMI and body fat percentage. Serving as educators in this capacity, customers will be made aware that we as pharmacists are able to address nutritional concerns and healthy lifestyle choices.

We hope our program will help customers gain a better understanding of how to incorporate healthy lifestyle choices into their lives. Additionally, this program will introduce customers to another service which pharmacists may provide.

Education directed at implementation of healthy choices and lifestyle changes can have a profound and lasting impact on the quality of one’s life.
02:15PM  
Assessing the Impact of a Community Based Health Screening Event. Melissa Hintmann, Jayme Jedrzejczak, Kristen Wilcox. Butler University, Indianapolis, IN. Sponsor: Cathy Ramey, Carrie Maffeo

Background:
Health screenings are a common means to assess a patient’s health. Although they may be more cost effective than visiting a doctor, people question their benefit. Past studies vary (47-71%) in the percentage of patients adherent to recommendations provided in health screenings.

Objectives:
To determine the rate of patient medical follow-up and acceptance of health education recommendations after a health screening and to assess the educational impact of student volunteers that provided the screenings.

Methods:
A free community health screening was offered in October 2009 by pharmacy students and overseen by pharmacists. The following screenings were provided: complete fasting lipid panel, fasting blood glucose, body mass index, blood pressure assessment, peripheral ultrasound, and visual acuity. Participants received results at the event through point-of-care testing and education counseling regarding strategies to improve their health. Participants with abnormal results (determined by national guidelines) were advised to follow-up with a physician for further evaluation. A participant phone survey was performed starting two months after the event identifying the percent of participants that followed through with the recommendations and the rate of participant acceptance of health education provided during counseling. Students who participated in conducting these health screenings completed an anonymous pre- and post-survey to assess knowledge and skills gained by participating in the event.

Significance:
A patient follow-up survey determined the impact of the recommendations received at the health screening and the student survey assessed knowledge and skills gained through the clinical pharmacy experience.

02:30PM
Sweet Success or Lost in Translation? A Comparative of Branded and Private-Labeled Glucometers. Kelly Quinlan, Kristal Williams, Cynthia Ebini, MD. Butler University, Indianapolis, IN. Sponsor: Kristal Williams

Background: Self-monitoring of blood glucose is an important tool in the management of diabetes mellitus. While several glucose meters are available, there is a lack of studies comparing the accuracy of these meters, particularly a comparison between branded and private-label meters.

Study Objective: To determine if two private-label meters, CVS Glucose Monitor featuring the TrueTrack Smart System® and ReliOn® Ultima (WalMart), are as accurate as the hypothesized two best meters, the Ascensia Contour® and the FreeStyle Flash®. Secondly, to determine whether or not a clinically significant (>3%) variation exists among four FDA – approved meters.

Methods: Adult patients of the IU•Methodist Family Practice Center who are undergoing venipuncture are identified and invited to participate in the study. Within minutes of venipuncture, the investigator will obtain up to four finger stick blood samples from consenting participants. Capillary glucose concentrations will be obtained from each of the study meters for comparison between meters and to the laboratory reference measurement to determine accuracy.

Results: A total of 73 patients participated in this study. The mean percent difference between each meter and the venous stick is as follows: Contour 5.8%, ReliOn 8.6%, TrueTrack 2.0%, and Freestyle Flash 8.0%. The difference between each possible pair of meters, determined by paired t-tests, is statistically significant (p<0.05), except for the difference between the ReliOn and Freestyle Flash, which is not significant (p=0.571).

Conclusion: Neither of the two private-labeled meters are significantly less accurate than the branded meters. The TrueTrack is the most accurate of the four meters.

02:45PM
Establishment of a medication reconciliation process in an underserved clinic: a pilot project. Laurel Whitlatch. Butler University, Indianapolis, IN. Sponsor: Carriann Richey

Background: Medication reconciliation (med rec) is a vital part of healthcare encounters reducing medication errors and improving patient compliance and comprehension. Although this process is more commonly emphasized in hospitals, it is sorely needed in the outpatient setting as well. Utilization of outpatient med rec can provide continuity of care among providers in different practice settings.

Objective: To develop and implement a workflow process including the establishment of medication reconciliation in order to improve the quality of patient care at KCCC, an outpatient clinic for under- and uninsured patients in suburban Indiana.

Methods: A literature review was conducted to develop this pilot project along with suggestions from clinic staff. Further streamlining of the process to make it more realistic for implementation was based on feedback from clinic staff including nurses, physicians, pharmacists, pharmacy students and office assistants.

Results: Tools were developed to support the new workflow process and to accomplish med rec while improving documentation. The new workflow was tailored to fit the clinic’s needs and positions pharmacists to be resources for physicians as well as advocates and educators for patients.

Significance/Conclusions: This pilot improves patient care by improving patient education regarding therapy and reducing medication errors. An accurate, up-to-date medication record as part of the patient chart provides communication between providers to help coordinate and maximize patient care across the health-care team. This pilot project will also add to the literature regarding med rec use in outpatient clinics.
Session G  
Pharmacy Building, Room 156  
Moderator: Dr. Chad Knoderer

01:00PM
The Development of a Cost-Effective, Evidence-Based Drug Formulary in an Underserved Community Care Center. Lyndsey Antosik, Kaylan McKain. Butler University, Indianapolis, IN. Sponsor: Amy Peak

Introduction: The number of uninsured is rising and more people are seeking medical care at free or low cost clinics, such as the Kingsway Community Care Center (KCCC). The KCCC provides primary care services to the uninsured through volunteer healthcare professionals. Given that the clinic patients are uninsured, and the providers often are not experts in primary care, having an evidence-based, cost-effective medication formulary would improve continuity and quality of care, compliance, and outcomes. We also believe that utilizing an appropriate formulary, instead of medication samples, will also decrease medication errors.

Objective: To develop an evidence-based and cost-effective medication formulary for the most common medical conditions treated at the KCCC.

Methods/Procedures: Formularies from other charity care clinics throughout the state were obtained and reviewed. Clinical practice guidelines (CPGs) for the most common disease states treated at KCCC were identified and reviewed. Low-cost drug lists from central Indiana pharmacies were compiled, and manufacturer-based patient assistance programs were evaluated. The formulary developed was based on CPGs, efficacy, safety, and cost considerations.

Results: This initial formulary has been developed for the conditions most commonly seen at KCCC. The formulary includes treatments for endocrine, central nervous system, gastrointestinal, cardiovascular, infectious, and respiratory conditions and consists of approximately 80 drugs.

Conclusion: When implemented, this evidence-based, cost-effective formulary will assist practitioners and likely improve patient outcomes at the KCCC.

01:15PM
Assessment of Antiretroviral Treatment Adherence Among a Walgreens Patient Population. Miranda Pennington, Matt Mishler. Butler University, Indianapolis, IN. Sponsor: Noelle Redmond

Background: Human immunodeficiency virus (HIV) is associated with significant morbidity and mortality. However, patients managed with appropriate antiretroviral therapy may avoid complications and opportunistic infections. Understanding reasons for decreased adherence is necessary to improve compliance and outcomes. A study of Indianapolis HIV positive patients is necessary in order to understand local adherence issues.

Objective: This study will assess adherence among a patient population currently prescribed anti-retroviral medications for treatment of HIV.

Methods: The study objective will be met using a cross sectional survey of HIV positive patients receiving anti-retroviral medication from a Walgreens Pharmacy in Indianapolis, Indiana. Patients will be identified from a Walgreens Specialty Pharmacy database. The survey and cover letter will be mailed to patients. To maintain confidentiality and de-identification, patients are asked to mail the survey back with no return address. The survey will be adapted from Machtinger and Bansberg’s ‘Adherence to HIV Antiretroviral Therapy’ survey. Part One includes a visual scale to list prescribed antiretroviral medications and mark an ‘X’ in the corresponding box correlating to the percentage adherent as prescribed. Part Two is adapted from The Acquired Immunodeficiency Syndrome Clinical Trials Group Adherence Questionnaire listing possible reasons for missed doses. The data collected will be predominantly descriptive. Statistical analyses will use Statistical Package for Social Sciences version 14.0 (SPSS Inc., Chicago).

Results: Data collection is presently ongoing.

Significance: The data created from this study will identify specific barriers to adherence and may further efforts to enhance adherence and improve patient outcomes related to HIV.

01:30PM
Evaluation of Inpatient Pharmacy Services in the Family Practice Residency Program at Community Health Network. Sarah Tilbury, Jessica Lampe. Butler University, Indianapolis, IN. Sponsor: Tracy Sprunger

Background: For 15 years, a Butler University faculty member has been the inpatient clinical pharmacist at Community East Hospital. Some services currently provided include therapeutic drug monitoring, adverse drug reaction reporting, pharmacokinetic monitoring, patient education, dosing adjustments, and medication histories. Physician education is also provided to help improve their patient care.

Objective: To evaluate the usefulness of inpatient pharmacy services according to the family practice physicians at Community East Hospital.

Methods: A paper survey was developed and administered anonymously to the physicians at their didactic lecture conference in January 2010. Question types included both Likert scale and open ended questions. Frequency of response was analyzed to determine the average opinion of the physicians.

Results: Twenty-five physicians completed the survey. The majority reported asking the clinical pharmacist multiple types of questions two to three times per week (44-60%). Clinical pharmacy services were deemed beneficial to both physician education and clinical practice by nearly all surveyed (94-98%) Top activities deemed beneficial to education were antibiotic recommendations (60%), medication reconciliation concerns (60%), and drug information questions (52%). Top activities deemed beneficial to patient care were medication histories (80%), antibiotic selection (64%), and patient education (64%). Participants also agreed pharmacy students were beneficial to both their practice and patient care.
Conclusion: Overall, the clinical pharmacy services provided to the family practice residents have been evaluated as being beneficial to physician education and patient care. Some physicians want more clinical pharmacist involvement, and further evaluation is needed to determine what more the pharmacist can do.

01:45PM
Effectiveness of initial monotherapy with mood-stabilizing agents or second-generation antipsychotics in patients with bipolar I disorder: a retrospective claims database review. Jeffrey Starkey, Richard Lugar. Butler University, Indianapolis, IN. Sponsor: Iftekhar Kalsekar

Background: Although a number of agents are FDA-indicated for the treatment of bipolar disorder, the American Psychiatric Association (APA) guidelines do not specify a first line option for initial treatment of these patients.
Objective: To examine the association between type of monotherapy initiated in newly diagnosed patients with bipolar I disorder and the incidence of early treatment failure.
Methods: A deidentified dataset extracted from MarketScan, which includes nationwide private health insurance information, will be utilized. Patients 18 to 65 years of age with a new diagnosis of bipolar I disorder and initiating therapy with either 1) lithium, 2) an anticonvulsant with mood stabilizing properties (valproate or carbamazepine), or 3) an atypical antipsychotic indicated for treatment of acute bipolar mania (olanzapine, quetiapine, ziprasidone, risperidone, and aripiprazole) will be included in the study cohort. The primary outcome will be time to treatment failure - defined as either psychiatric hospitalization for bipolar I related diagnoses, conversion to alternate therapy, or discontinuation of therapy. The secondary outcome will be time to augmentation of therapy with another study drug. The association between the type of initial monotherapy and the primary and secondary outcomes will be explored using a Cox-proportional Hazards model. All the statistical analysis will be conducted using SPSS (version 17.0). The study has been approved by the Institutional Review Board (IRB) at Butler University.
Significance: If a lower incidence of treatment failure can be shown to be associated with a particular drug class utilized for initial monotherapy in bipolar I disorder, it may provide rationale for a preferred first-line treatment option.

02:15PM
Butler University’s Introductory Pharmacy Practice Experience Program. Sheetal Mistry, Ryan Guidroz, Laura Keith. Butler University, Indianapolis, IN. Sponsor: Trish Devine

Background: The Accreditation Council for Pharmacy Education requires students in colleges of pharmacy to complete an Introduction to Pharmacy Practice Experience (IPPE) program consisting of at least 300 hours. This requirement was first implemented at Butler with the 2009 Doctor of Pharmacy graduating class. There has been no evaluation or assessment of Butler’s IPPE data.
Objective: The primary objective and goals are to assess and improve Butler’s IPPE program, develop an IPPE manual for student and preceptor use, and to eventually develop a community IPPE rotation. The secondary objective is to assess if Butler's IPPE program is preparing students for Advanced Pharmacy Practice Experience (APPE) rotations.
Methods: Butler’s IPPE program was assessed by reviewing 300-hour affidavit forms from the graduating classes of 2009-2011. These forms are completed by all PharmD students (beginning with 2009 graduating class). They include the total number of, and type of settings in which, IPPE hours were obtained, and experiences in which the student participated. The secondary objective was evaluated by e-mailing survey links to Butler preceptors and to students in the graduating classes of 2009-2014.
Data were analyzed using the Chi-squared Test of Independence and the Statistical Package for Social Sciences (SPSS).
Significance: This study should identify potential shortcomings in Butler’s IPPE program and lead to improvement in both IPPE and APPE curricula. It should give Butler students and preceptors better insight into the meaning and intent of IPPE requirements, and will likely initiate development of an IPPE community practice experience for future students.

02:30PM
Patient Satisfaction Following Education in the Outpatient Chemotherapy Setting. Anne Ormerod. Butler University, Indianapolis, IN. Sponsor: Christopher Fausel

Background: Following a diagnosis of cancer, patients are overwhelmed with the process of undergoing chemotherapy. Previous studies have shown that programs to help orient patients to their infusion center allows them to be more comfortable with their experience. The IU Simon Cancer Center (IUSCC) is a newly renovated outpatient chemotherapy center which currently does not offer an orientation program. A patient education program and satisfaction survey would allow the center to better prepare patients for their chemotherapy.
Objective: Assessment in improvement in patient distress levels following education on the chemotherapy process in the IUSCC infusion center and patient satisfaction.
Methods: All cancer patients receiving their first three treatments at the IUSCC will be enrolled in this prospective study. Patients enrolled in the first half of the study will receive a patient satisfaction survey only. Patients will receive an educational brochure describing the infusion center and the satisfaction survey in the second half. Patients will receive the brochure when arriving to IUSCC. Surveys will be distributed at the cancer center by the infusion nurses and completed during treatment. The survey will include demographic information about the patients and the Distress Thermometer to compare potential changes between the two groups.
Study Significance: The IUSCC will implement a consistent orientation program which will provide support to its patients and improved satisfaction from the results of this study.
Background: Pharmacists are not included in the Health Professional Shortage Area (HPSA) designation. The first part of this continuation project indicated that pharmacists in HPSAs believed they were capable of contributing to community health needs, but needed additional resources.

Objective: The primary objective of this continuation study is to further identify if and how Butler University’s College of Pharmacy and Health Sciences can provide support to pharmacists in their efforts to be more involved in community health.

Methods: The participants were included if they participated last year and were also in a county that completed the ISDH Public Health Quality Improvement Assessment. This narrowed the study to 33 pharmacists in eight counties.

Results: Twenty of the thirty-three pharmacists (60.6%) participated in the study. Seven pharmacists responded that they could participate in community health by providing health screenings and six indicated they could provide disease state management. When asked about barriers, ten respondents said they needed more time and nine responded with needing more staff members. When asked how Butler University could help pharmacists, ten pharmacists answered with providing students and three answered with offering resources and information.

Discussion: The majority of the pharmacists stated they would benefit from having Butler University pharmacy students. Conclusion: Butler pharmacy students can serve a role in supporting pharmacists who are eager to improve the health of their community by initiating more programs. Butler is planning to pilot additional APPE rotations in select pharmacies that are in HPSAs during the 2010-11 academic year.

Session H
Pharmacy Building, Room 204
Moderator: Dr. Dane Shultz

01:00PM
Evaluation of campus-based pharmacies affiliated with accredited schools of pharmacy in the United States. Deanna Lichtenstein, Jessica Belt. Butler University, Indianapolis, IN. Sponsor: Jason Range

Background: Butler University College of Pharmacy and Heath Sciences is interested in exploring the possibility of re-establishing a pharmacy on or near campus to serve the Butler University community. To this end, COPHS is interested in identifying those pharmacy schools in the United States that have affiliated campus-based pharmacies and finding out more about their programs. Presently, there is a lack of literature addressing these schools of pharmacy and their respective campus-based pharmacies.

Study Objective: To identify campus-based pharmacies affiliated with accredited schools of pharmacy in the United States and determine the attributes of those schools. Factors in establishing the pharmacies and limitations of such programs will be explored.

Methods: Accredited schools of pharmacy in the United States offering campus-based pharmacies were identified through internet searches and follow-up contacts. An in-depth analysis of each of the schools of pharmacy and their respective professional degree programs was performed to evaluate prevailing themes and unique attributes. Purdue University, Belmont University and University of Charleston have been selected to participate in an IRB-approved telephone interview. Representatives from those schools were contacted and have agreed to participate. While a representative has been contacted, the participation status of the fourth selected school is currently pending. The data collected from these interviews along with in-depth analysis of the schools’ programs will serve to help in the determination as to whether Butler University College of Pharmacy and Health Sciences should re-establish a campus-based pharmacy.

Significance: The goal of the study is to help assist in the decision-making process as to whether to Butler University should re-establish a campus-based pharmacy.

01:15PM
P-gp functional studies to evaluate the effect of cyclosporine emulsion formulations on the reversal of resistance in the multidrug resistant cancer cell line MES-SA-Dx5. Katie Cich. Butler University, Indianapolis, IN. Sponsor: Nandita Das

A major hurdle in cancer chemotherapy is multi drug resistance (MDR), where tumor cells can develop resistance to a variety of anticancer drugs which differ in their chemical structure and mechanism of action. A leading cause of MDR is the over-expression of trans-membrane proteins that act as “efflux pumps,” which prevent the anticancer drugs from reaching their site of action. Certain drugs such as cyclosporine can suppress these efflux pumps, but the mechanism is still unknown and usually they are effective in reversing MDR only in high doses. Toxicity issues associated with high dose cyclosporine have prevented it from becoming a clinical success against MDR. This research project is based on designing emulsion formulations, with the rationale that both oil-soluble and water soluble molecules can be incorporated in the biphasic systems. Specifically, we have found emulsified cyclosporine (oil-soluble) to be effective against MDR cell lines at concentrations much lower than the clinical applications to date; thus arises the potential of lower doses and consequently reduced toxicity of cyclosporine in vivo. This project focuses on answering the question whether the observed reversal of MDR is due exclusively to cyclosporine, or the additive/synergistic activity of associated formulation related components of the emulsion. Cellular uptake studies with Rhodamine 123, a fluorescent dye which acts as an efflux pump substrate, have been performed to investigate this question. The overall goal is to identify the concentrations of emulsion components that overcome MDR effectively and at safe concentrations.
The Butler University Community Outreach Pharmacy (BUCOP), in conjunction with the Indiana University Student Outreach Clinic (IUSOC), helped to resolve a challenge for a local poverty stricken Indianapolis community by providing a resource for free health care. Within the near Eastside Indianapolis community, 50% of the population lives at or below poverty level. For this particular community, access to affordable health care posed a major problem.

In the spring of 2009, the BUCOP was created by a group of fifth-year pharmacy students wanting to decrease health disparities and inequalities within the local community. These students were able to gain the support of the Indiana Board of Pharmacy while engaging students and faculty from Butler University College of Pharmacy and Health Sciences. On August 1st, 2009, the BUCOP opened as a free, student-run pharmacy which provides medications and counseling to underserved patients.

Since that time, Butler University PharmD students have been able to provide free medications, non-drug therapies, and counseling to the underserved of Indianapolis. While growth and development continues within the BUCOP, this project hopes to prove that student-led, public health initiatives can successfully impact both patients' and students' lives. The BUCOP hopes to serve as an opportunity for pharmacy students to become involved in their community and provide a template for other future developing student-run pharmacies.
through the essays collected in An Emergent Manifesto of Hope, a compilation of theological statements by the emergent church’s foremost thinkers. The theologians of the Great Awakening argued about the outward evidence of salvation, and the leaders of the emergent church also have tackled the issues surrounding conversion during this time of theological evolution.

Physics

Session A
Gallahue Hall, Room 348
Moderator: Dr. Xianming Han

09:00AM
Determination of energy level excitation states of time dependent optogalvanic signals in a discharge plasma. Michael Blosser. Butler University, Indianapolis, IN. Sponsor: Xianming Han

When tuning of a laser between two excited energy levels of the atoms in a discharge plasma, the discharge current will temporarily be disturbed. This disturbance or change in current is the optogalvanic effect (OGE). The fundamental goal of this project is to determine the exponential rates in the time-dependent OGE signals. These rates are related to the collision rates for the atoms in the plasma. The OGE data will be experimentally recorded, fitted, and analyzed to extract the exponential rates related to the energy levels of the atom in gas in the discharge lamp.

09:15AM
Calibration of Magnetic Field Probes as a Diagnostic for Laser-Produced Plasma. Lucas Morton, Carmen Constantin, Erik Everson, Derek Schaeffer, Patrick Pribyl. Carson-Newman College, TN. Sponsor: Christoph Niemann

This report focuses on work done by the author through the 2009 NSF-REU Program in Physics at UCLA to improve the construction and calibration of magnetic field probes for measuring fast plasma phenomena, such as that produced by laser ablation of a solid target. Small, high-frequency inductive magnetic field probes were constructed and calibrated using a network analyzer and oscilloscopes. Interference, common for such magnetic probes, was observed during calibration. In this case, it was traced to a lack of impedance matching between the signal cables. Methods for reducing this interference were formulated and tested. A prototype analog integrator was built and tested in hopes of removing discrete integration error from the collection of magnetic field data. Finally, a simple laser-plasma experiment was conducted using the probes. This experiment revealed that the probes could make meaningful measurements in a real laboratory setting. The sources of error in the data were examined, and the plasma magnetic field measurements were compared to prior works and found to agree.

09:30AM
Study of intensity pattern of Fresnel diffraction through a circular aperture. Matthew Lawder. Butler University, Indianapolis, IN. Sponsor: Xianming Han

Results will be shown from an experiment studying the effects of Fresnel diffraction on the intensity of light areas away from the center point. The study tested the effect of aperture size, distance of aperture to viewing screen and wavelength of light on the intensity patterns. The presentation will focus on how the intensity patterns changed as different variables were tested.

09:45AM
Modeling the Time-Dependence of Accretion of Mass by a Supermassive Black Hole from Stellar Evolution. Michael McFall. Butler University, Indianapolis, IN. Sponsor: Brian Murphy

I investigated the effects of stellar mass loss, stellar winds, and supernovae on the growth of the supermassive black hole at the center of the Milky Way. The amount of matter that the supermassive black hole can accrete is likely to be highly variable with time. For example in the early history of the galactic nucleus supernovae from massive stars were prevalent. Those supernovae would produce high velocity interstellar winds (mass being ejected by stars) that would likely blow most interstellar gas out of the nucleus. Late in the history of the galactic nucleus more mild stellar winds coming from normal stars would likely allow more mass to be accreted by the supermassive black hole. The Fokker-Planck method was used to model the evolution of the nucleus including time-dependent stellar winds. I modified the old code to compare the ejection velocity of the stellar mass to the escape velocity to determine if the mass falls in to the black hole or if it is ejected from the nucleus.

10:00AM
Modeling the Dynamics of Galactic Nuclei using the Fokker-Planck Method. Kim Phifer. Butler University, Indianapolis, IN. Sponsor: Brian Murphy

We use the Fokker-Planck method in order to produce computer models of a galactic nucleus with a massive central black hole and surrounding cluster of stars as a function of time. The relationship between the stellar cluster and the supermassive black hole is key in understanding the dynamics of galactic nuclei because mass loss by the stars fuels the growth of the black hole. Initially, all of the models contain a small seed black hole surrounded by an unevolved stellar cluster. The initial seed black hole is then fed mass from the surrounding stellar population due to
tidal disruptions of stars, stellar collisions, and stellar evolution. Specifically, we model the Milky Way Galactic Nucleus due to the superiority of the observational data. Our best fitting model closely matches observational data sets of the present-day mass distribution and central black hole mass of about 4 million solar masses in the Galactic Center. From this model we are able to determine the initial conditions of the Milky Way Galactic Nucleus and conclude that tidal disruptions and stellar evolution are the primary growth mechanisms of the black hole.

10:30AM
Using Fourier Analysis to Determine the Rotation Period of Asteroids. Andrew Darragh. Butler University, Indianapolis, IN. Sponsor: Brian Murphy

Using the SARA 0.9-meter telescope located at Kitt Peak and Holcomb Observatory’s 0.97-meter telescope at Butler University we imaged a number of asteroids for 15 nights from March through June of 2009. Using differential photometry to find variations in the reflected light we were able to determine the period of these asteroids. The program MPO Canopus combined data from several different nights for each asteroid. Then using Fourier analysis found the best fit light curve and the rotation period of each asteroid to within several seconds.

10:45AM
Rotational Period of Main Belt Asteroids. Thomas Harp. Butler University, Indianapolis, IN. Sponsor: Brian Murphy

Asteroids are the leftover building blocks of the planets from the early solar system. Because most asteroids are non-spherical the amount of light reflected from them varies due to their rotation. Using both the 0.97 meter telescope at Holcomb Observatory and 0.9 meter SARA telescope at Kitt Peak we determined the rotation periods of six dim asteroids by taking a series of V and R color images over several nights. The data was analyzed using Fourier analysis to produce a light curve and a precise rotation period for each asteroid. The rotation periods of the asteroids we observed varied from 2.67 to 13.31 hours and their V-R colors were near 0.40.

11:00AM
The Effect of Stellar Collisions and Tidal Disruptions on Post-Main-Sequence Stars in the Galactic Nucleus. Brian Geiss, Brian Murphy, Kim Phifer, Michael McFall. Butler University, Indianapolis, IN. Sponsor: Brian Murphy

Recent observations have found that the innermost regions of our Galactic Nucleus appear to be depleted of red giant stars. Using dynamically evolving Fokker-Planck models of the Milky Way Galactic Nucleus we investigate the cause of this depletion. We follow in detail the stellar population surrounding the central super massive black hole. Of particular interest was the effect of stellar collisions and tidal disruptions by the central massive black hole on post-main-sequence stars such as giants as they expand in size. The stellar population has initial masses from 0.1 to 40 solar masses. As the model nucleus evolves dynamically, the stars are allowed to evolve, changing their radii and mass. A fraction of the mass lost via stellar evolution along with mass lost due to stellar collisions and tidal disruptions is assumed to be fed into the central black hole, allowing it to grow with the remainder of the mass ejected from the system. By closely modeling tidal disruptions and stellar collisions of the expanded giant stars, we have found that there is a significant depletion of these giant stars in the innermost regions of the nucleus. At 0.01 parsec the giants are depleted by a factor of 10 relative to similar mass main sequence stars. At larger radii the depletion is less, becoming nonexistent beyond 0.1 parsec. The models also that tidal disruptions have a much larger effect on the depletion of giant stars than stellar collisions in this region.

11:15AM
Reconstruction of Ds Mesons with the STAR Heavy Flavor Tracker. Oumarou Njouy. Michigan State University, MI. Sponsor: Gang Wang

The quark-gluon matter produced in RHIC (Relativistic Heavy Ion Collider) collisions has high s-quark content. This suggests a high probability of Ds meson formation comparable to D0 (D±) during the collision. We reconstructed Ds mesons using simulation data; these encompass about ten thousand events. We also investigated the significance of the reconstructed signal as well as the efficiency of the method. We studied two different decay channels (Ds ? k+k+->p, Ds ? f++p), each at displaced vertices, as a function of transverse momentum. We ran GEANT simulations to calculate the significance of the reconstructed signal for up to 500 million events. We found that for the 3-body decay, the significance remains relatively low even with 500 million events, while the 2-body decay yields rather good results starting 50 million events and above. These results show that observing Ds mesons through the k+k+ channel in a real experiment using HFT is less preferred than the f++ channel.

Session B
Gallahue Hall, Room 348
Moderator: Dr. Gonzalo Ordonez

01:00PM
Spectral Analysis of the Biological Samples. Erin Reeves, Renat Letfullin. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Renat Letfullin

Absorption spectra were examined with air reference for three diluted biological mediums: orange juice, milk, and cancerous blood by using spectrophotometer Evolution 300. The scanning range was from 190 to 1100 nm with 1.0 nm step. The results indicate similarities between the spectra at near-infrared wavelengths ?=700-1000 nm which are attributed to the water used to reduce sample concentrations. The results also
indicate a common maximum and minimum between the three media at ultra-violet wavelengths $\lambda < 400$ nm, which are not present in the water spectrum, suggesting that the samples share several other elements in common. Mie Theory approximations were used to determine the causes of these similarities. The model suggests that the common maximum and minimum are related to traces of calcium and iron, respectively, which can be found in all three media.

**01:15PM**

Molecular dynamics study of nanopore sequencing with MspA protein pore. Hung Yu Ho, Aleksei Aksimentiev. University of Illinois - Urbana-Champaign, IL. Sponsor: Aleksei Aksimentiev

Nanopore sequencing is a new approach to high-speed and inexpensive DNA sequencing which could have a revolutionary impact on biological and medical sciences. In a typical nanopore setup, a voltage is applied to electrophoretically drive a single-stranded DNA through a nanopore embedded in a membrane. In principle, the identities of the nucleotides can be determined by measuring the ionic current blockage when the nucleotides pass through the pore. The protein pore MspA of Mycobacterium smegmatis is found to be ideally suitable for nanopore sequencing because of its pore geometry and stability against environmental stresses. Previous experimental studies have shown that mutated MspA pores are capable of detecting and characterizing single molecules of single-stranded DNA. However, the molecular mechanism of DNA transport and current modulation has to be understood in order to achieve single-nucleotide resolution. We used molecular dynamics simulation as a computational microscope to examine the molecular mechanism of DNA translocation through a nanopore. Here we present the progress of the project.

**01:30PM**


The human body is semi-transparent to long-wavelength light, but certain nanoparticles are not. This presentation will describe a computer simulation of the excitation of different nanoparticles with long-wavelength light in order to heat and kill cancerous cells without damaging healthy tissue. We will show a model for the absorption coefficient of a nanomaterial based upon its complex index of refraction and particle size and apply this to a simulation for exciting these particles optically.

**01:45PM**

Modeling Bound States in the Continuum for Two Electrons in a Quantum Dot Pair. Thomas Tuegel. Butler University, Indianapolis, IN. Sponsor: Gonzalo Ordonez

The bound eigenstates of an electron inside a pair of quantum dots embedded on an infinite quantum wire are examined using the method of particular solutions. The eigenstates of a two-electron system in the same structure are examined perturbatively using wavefunction expansions for the one-electron eigenstates. The stability of the two-electron eigenstates is evaluated and compared with other theoretical results.

**02:00PM**

Fabrication of GaAs HIGFETs for Advanced Electron Physics Research. David Zilz, Zach Palmer, Jian Huang, J. L. Reno, L. N. Pfeiffer. Taylor University, Upland, IN. Sponsor: Jian Huang

Electron-electron interaction in two-dimensional and lower dimensional electron systems is a topic of particular interest in current condensed matter physics research. Modern theory predicts that a sufficiently low charge carrier density can lead to a phase transition manifested through Wigner Crystallization of the electrons. Experimentally, important aspects of strong electron-electron interaction effects are difficult to reach due to the dominance of disorder in real systems at low carrier concentrations. A promising new device that may help to solve this problem is a type of undoped GaAs heterojunction-insulated-gate field-effect-transistor (HIGFET) in which the charges are only capacitively induced through a metal gate. The fabrication of such devices is extremely challenging due to the severe gate leakage problem which renders the devices inoperable.

Four n-channel HIGFET designs are discussed and evaluated based on feasibility, ease of fabrication, and applicability to future transport study. These methods consist of a mixture of established and novel techniques. Two methods utilize heavily doped GaAs layers as gates, while the other two use metal gates over completely undoped crystal structures. Of the latter two designs, one is an innovative method devised wherein a metal gate is deposited directly above the heterojunction structure, whereas in the other method the metal gate is insulated from the semiconductor structure below by a silicon nitride dielectric layer.

This work is supported by a SRTP mini-grant from Taylor University and by DOE through the Center for Integrated Nanotechnologies (CINT) which provided the facilities for semiconductor growth, fabrication, and low-temperature characterization.

**02:15PM**


Hard biological tissues, like teeth and bone, are composed of both organic and mineral components. Modeling the absorption of laser light and subsequent heat distribution is thus complicated by the inhomogeneity of the media. The use of short and ultrashort laser pulses has been well studied in metals and other homogeneous solids. Its behavior in those materials shows increased precision and reduced thermal diffusion into the surrounding material – two criteria that are very important for those seeking to use lasers effectively in dentistry or hard tissue surgery. This paper
performs thermal simulations for short and ultrashort laser pulses to understand just how differently the inhomogeneous material behaves given high energy densities for pulses in the nanosecond to femtosecond timescales. A comparative analysis of the results is then discussed to highlight what combination of these variables are able to reproduce in bone the desired effects seen in homogeneous media.

02:30PM

Erbium doped fibers are extensively used as gain medium for optical amplifiers and lasers operating in the optical communication spectral window in the IR. Erbium atoms in the fiber are excited with diode lasers at wavelengths of 980 nm and 1480 nm providing high gain in the band between 1530-1580 nm. However, upconversion processes in which two pump photons are absorbed generating a photon at shorter wavelengths (green and blue) are also possible. This study plans to investigate the upconversion fluorescence efficiency (pump power dependence of the fluorescence) in highly doped erbium doped fibers for a wide range of pump excitations in both continuous-wave (CW) and pulsed regimes. The first stage of this work comprises the characterization of the green/blue fluorescence spectrum under the excitation of a CW diode pump laser at a wavelength of 980nm. The analysis of the fluorescence efficiency in the green/blue under this particular excitation aims to quantify limitations to the gain of optical amplifiers at high pump powers. In a second phase of this project we will also study the upconversion fluorescence efficiency under short pulse excitations using a femtosecond tunable Ti:Sapphire laser. The characterization in this second stage will include excitations at wavelengths of 800 nm and 980 nm.

02:45PM
Creation of Gas Sensors Based on Tin Dioxide Nanobelts. Alvaro Puente, Jorge Villagran. Earlham College, Richmond, IN. Sponsor: John Howell

In this work we have been able to fabricate and characterize nanobelts of tin dioxide. These are long two-dimensional structures of single crystalline compounds that have a rectangular cross section and uniform chemical composition. With thicknesses on the order of a few nanometers, width of tens of nanometers, and lengths ranging up to millimeters, nanobelts are characterized for having an enormous surface-area-to-volume ratio and this causes a great sensitivity to the removal or introduction of “charge carriers”. Thus these crystalline structures have exhibited great potential with regards to gas sensing devices. Depending on the dopant present, either p or n type, the conductivity response to the presence of certain gases varied drastically. Using lab view, we developed computer control electronics to aid in the growth of the samples and to measure the electrical resistance and temperature of these samples. Also, a chamber was assembled in which it was possible to control temperature, pressure, gas input, and amperage levels to perform the characterization of nanobelt-based gas sensors.

Political Science
Session A Contending Perspectives on U.S. Power and Policies in the Eyes of Korean College Students, Negotiating the Kyoto Protocol, Taxes in Eastern Europe, and Oppression in the United States
Jordan Hall, Room 203
Moderator: Dr. Craig Auchter

01:00PM
Anti-Americanism in South Korean College Students. Kelly Cyr. University of Evansville, Evansville, IN. Sponsor: Young-Choul Kim

In the last decade, negative attitudes towards the United States have been increasing all around the world. The same is true even in South Korea, which has been considered a strong ally of the United States and a very pro-American country since the Korean War. While much of the South Korean population still holds very positive attitudes towards the United States, the younger generation, especially college students, has recently been expressing very critical opinions of America. Recent demonstrations against the pro-American South Korean government and against United States’ foreign and economic policies have shown the South Korean college students are not pro-American, like the generation before them. What has caused this shift? To gain a better understanding of the complex nature of South Korean college students’ opinions of the United States, a research team from the University of Evansville conducted empirical survey research in South Korea in the summer of 2009. Included in the survey were questions asking the students’ opinions on the U.S. policy towards North Korea, the U.S. military in Korea, U.S. trade policies, and the role of the United States as a global power. These will be compared with differences in the backgrounds and characteristics of South Korean college students to try to determine what causes anti-Americanism in South Korea.

01:15PM
International Negotiations and the Kyoto Protocol. Juli Digate. Ball State University, Muncie, IN. Sponsor: Francine Friedman

The Kyoto Protocol is the most expansive, influential climate change treaty in the history of mankind. In response to rising CO2 emissions and concerns about global warming, representatives from over 180 countries and several NGOs gathered in Kyoto, Japan in December 1997 to draft a cooperative agreement on how to manage our environment. The two-week convention was rife with negotiations, as each participant had varied yet deeply vested interest in the proceedings. Currently, 188 countries have ratified the treaty, with the United States being the only country abstaining.
In this presentation, I will first explore the global environmental situation that led up to the Climate Convention in Kyoto, including the perspectives of a few select nations going into the convention. I will analyze several of the dispute resolutions and particular negotiations that took place among the convention participants, as well as go in depth on what resolutions were put in the final treaty. Lastly, I will detail why or why not the treaty was a successful example of international negotiations, including a discussion on the international atmosphere after the treaty was put into place, especially as it concerns the upcoming convention in Copenhagen.

01:30PM

State tax codes are perhaps the most important aspect to a government’s functioning. Tax evasion is a large problem for any nation, which in turn makes tax compliance policy an essential policing function of the state. Compliance policy serves as a way to ensure that with each unique tax system all those under the jurisdiction are treated equally. However, does a type of tax system, flat or progressive, determine how an economy functions and how society progresses? Also do perceptions of each theory determine their effectiveness? In the formerly Communist Eastern European Nations, there has been a recent revolution of switching to flat tax policies, a phenomenon which has been distinctly regional. The data, which spans over 20 years and 16 nations, were viewed and showed a distinct increase in economic variables that there are improvements with flat tax policy rather than with progressive tax policy. When relating to social factors, the selected variables did not show significant differences between the two types of tax systems.

01:45PM

What is oppression? And are there oppressions in the United States today?

Typically, the first question is not given much attention, even in discussions that are concerned with oppression. The second question apparently has a sort of self-evident answer, at least if polling data is any indication. It seems there can be no oppression in the United States, a proposition seemingly true by definition. And after all, what kind of person would suggest such a thing?

In this presentation, I will take up the part of the blasphemer. First, I will argue for what I think oppression is. Then, I will hold that the United States is today home to oppressive conditions.

In defining oppression, the discussion will be conceptual, involving political theory and philosophy. Conversely, indicting conditions in the United States as oppressive will be an empirical affair. The case study I’ve chosen to present is one of comparative politics, one involving an analysis of the class systems of the United States and of other wealthy states.

My work draws from a paper authored last year with the assistance of Dr. Terri Jett, Chair of the Department of Political Science at Butler University. Many thanks to her, as well as to the Butler Summer Institute for making student scholarship of this kind possible.

Psychology
Session A Developmental
Jordan Hall, Room 216
Moderator: Dr. Bob Padgett

09:00AM
"Smile Like You Mean It:” Children's Confidence in True and False Memories. Ashley Dick, Elyse Morgan, Tara Lineweaver. Butler University, Indianapolis, IN. Sponsor: Tara Lineweaver

Past research demonstrates that people of all ages are prone to false memory (Roediger & McDermott, 1995; Strange et al., 2007) and that the type of false memory errors changes with age (Dewhurst & Robinson, 2004; Holliday & Weekes, 2006). Younger children tend to make more phonological errors, whereas older children and adults are more prone to semantic errors. Our study examined shifts in children’s confidence together with shifts in false memory error. Sixty-seven children, ages 5-12, divided into three age groups, heard lists of semantically-related words. Children freely recalled the words and provided a confidence rating. Next, they completed a yes/no recognition task that included targets, as well as semantic, phonological, and unrelated distracters. They again rated their confidence in their responses. Results demonstrated that participants recalled a higher percentage of targets than any other word type, with younger children recalling a higher percentage of unrelated words than older children. Age did not affect confidence ratings for recall. On the recognition test, participants endorsed a higher percentage of targets than any type of distracter. Younger children correctly endorsed fewer targets and made more phonological errors than older children. Children expressed more confidence in their correct than incorrect answers to targets, but this was not true for distractors. Age, again, did not impact children’s confidence in their recognition. Results support those of past studies that have documented developmental shifts in the types of false memory errors that children commit. Interestingly, shifts in confidence did not parallel shifts in error types.
Past studies demonstrate that non-autistic children recall emotional information better than non-emotional information and that autistic children show worse memory overall than children without autism. No research to date has examined emotioanality effects on memory in autistic children. Twenty children with autism and twenty children without heard stories that contained both emotional and non-emotional components. One story included explicit verbal labels for each emotion in the storyline, and the other included none. After hearing each story, the children first recalled story details and then completed a recognition task. We expected that control participants would better remember emotional components of the stories and that this effect would be greater in females than in males. We did not expect to find emotionality effects in autistic participants’ memory. However, we did anticipate that emotional labels would positively impact children’s memory. A series of analyses of variance examined how group, emotionality, label, and gender affected scores on the recall and recognition tasks. Children with autism freely recalled less information than children without autism. On the recognition task, female participants recognized information from the story with emotional labels better than the non-labeled story, but this effect was reversed for male participants. Planned comparisons revealed that children without autism recalled emotional components better than non-emotional components, but children with autism showed no emotionality effect. For both groups, female participants were aided and male participants were hindered by labels. Perhaps the emotional labels distracted these children rather than reducing their cognitive processing requirements as expected.

The socioemotional selectivity theory argues that, as adults age, they begin focusing on the more meaningful aspects of life, encouraging positive experiences and avoiding negative experiences (Mather & Carstensen, 2003). Research provides evidence that this shift in focus has an effect on cognitive processing, such that older adults remember positive experiences better than negative experiences, whereas younger adults remember all types of emotional information better than non-emotional information (Carstensen, Fung, & Charles, 2003). Some researchers have suggested that this trend might be due to older adults believing that negative information is less important and therefore not encoding the negative information as extensively as younger adults (Charles, Mather & Carstensen, 2003). However, past research has not definitively addressed whether attentional mechanisms or encoding processes are primarily responsible for the positivity effect. To address this issue, I created an N-back working memory task involving images of adults making happy, sad, or neutral facial expressions. In the first condition, participants focused on the person depicted in the photo, in the second condition, participants focused on the expressed emotion, and in the third, participants focused on both the person and the emotion. This was followed by a delayed recognition task where participants had to identify the adults they had seen during the N-Back and indicate whether the image was an exact match to one they saw previously. To date, 27 young adults have participated in the study. Data collection is ongoing with a goal of including 25 young and 25 older adults.

Depression in the elderly increases as they move from independent living into a care facility. Depression in the elderly tends to be increased as illnesses develop or worsen and independence becomes more limited. In turn, this increases the risk for suicide. The purpose of this project is to focus on the elderly population (65 and older) in association with their living situation and their level of depression. In order to do so, a survey will be conducted involving individuals living at home, in nursing, assisted living, and retirement homes. The survey will consist of demographics, current place of residency, and questions from standard depression screenings. The hypothesis of this survey is to determine whether a correlation between living conditions and depression levels exists. There is reason to believe contributing factors to depression levels would be loss of independence, deficit of purpose, lack of communication with loved ones, aversive change in mobility, and depletion of physical health.

The depression and suicide rates among the elderly are disproportionately high for their population. Depression is going unnoticed in the elderly because many people discredit it as regular life stressors. People need to be more vigilant and aware of depression among the elderly and aware of the symptoms.
Relational aggression is the manipulation of or damage to peer relationships or social standing as a means of bullying. Relational aggression research has primarily focused on its effects, finding it to be positively correlated with withdrawn behavior, victimization, and rejection (Tan, 2009). When examining relational aggression and other forms of bullying in students, one third of participants reported experiencing panic, nervousness, impaired concentration, and recurring memories of bullying incidences (Sharp, 1995). Others (e.g., Gastic, 2008) found negative effects on school performance and disciplinary issues. Interventions to reduce this behavior are less common in research, with successful interventions even rarer. In the present study, the researcher hoped to reduce relational aggression in a middle school population, utilizing a drama-based intervention designed to increase empathy for relational aggression victims. The researcher’s hypothesis was that, following the performance, students would then engage in fewer relationally aggressive behaviors. Drama-based interventions focused on increasing empathy have been successful in previous research (Ostrov, et al., 2009). One class from the sixth, seventh, and eighth grades from a small mid-western town participated in the intervention; control groups from each grade were also assessed. The Young Adult Social Behavior Scale was used to measure relational aggression. Fewer relationally aggressive behaviors in students presented with the intervention would suggest healthier relationships among these students, better strategies for expressing displeasure within relationships, as well as preventing negative effects associated with relational aggression. This may suggest drama-based intervention with emphasis on increasing empathy as a future tool to reduce relational aggression.

10:45AM
Parental Involvement as a Predictor of School Success: Examining the Mediating Role of Achievement Goals. Katherine Read. Hanover College, Hanover, IN. Sponsor: John Krantz

It has been argued that when parents are involved in their children’s academic lives, children tend to perform better academically than when their parents are not involved. However, it is possible that more than just parental involvement plays a role in a child’s academics. Achievement goals, such as mastery and performance goals, also influence success in academics. This study was designed to examine whether the type of achievement goals mediate the relationship between types of parental involvement and children’s academic success. Fourth-grade students completed a survey on perceived parental involvement and a survey on achievement goals. Children’s report card grades were obtained from their teachers and averaged across all subjects. Expected results include: a positive relationship between parental support and school success, but a negative correlation between parental monitoring and school success; a positive relationship between supportive parental involvement and mastery goal orientation, as well as a positive relationship between parental monitoring and performance-avoidance goal orientation; a positive relationship between mastery goal orientation and higher success, as well as a negative relationship between performance-avoidance goal orientation and higher success; and a decline in the strength of relationships between parental support and monitoring and academic success when analyses control for goal orientation.

11:00AM

The purpose of this study is to determine the effect of parenting styles on college students’ academic performance and academic stress. Volunteer undergraduate students will be drawn from three psychology classes at a medium, private Midwestern university. They will complete a short 4-item demographic questionnaire, an adapted version of the Parental Authority Questionnaire (Buri, 1991), and an adapted version of the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983). It is hypothesized that (1) students who were reared by authoritative or authoritarian parenting will have a higher GPA, and (2) students who were reared by authoritarian parenting will have higher stress in academic settings. Results will be analyzed and implications discussed.

11:15AM

Service learning has become increasingly popular on college campuses due to its potential to enhance student learning. Service learning links classroom learning to the community while providing a basis for students to apply psychological concepts to real-life settings. The present study examines the relationship between the application of concepts through a service learning experience and the retention of the concepts as measured by a short assessment given at a later date.

Participants included students enrolled in two Introduction to Psychology courses at a small, private, Midwestern college. As a requirement of the course, students had to complete a weekly service learning experience. Participants in the study were randomly assigned to two groups, which served as control groups for each other. For each of the two weeks of the study, the groups received concepts to apply to their service learning experience in a reflection paper. Group A was asked to apply concepts 1–3, while Group B applied concepts 4–6 to the service learning experience. Toward the end of each of the two weeks, both groups were given a short test covering all six concepts for the week. The tests were then scored and analyzed to determine whether applying concepts through service learning aids in retention. Results and implications for service learning projects as part of a college curriculum will be discussed.
A number of studies have highlighted the benefits of integrating service learning into college courses. Students often make both academic and personal gains as a result of service learning. However, some students approach service learning with hesitation. The goal of this study was to identify the main factors that students identify as barriers to service learning. A mixed methods approach was used. First, the researchers conducted semi-structured interviews with students at a small Midwestern college who had participated in service learning in the past. A complete list of barriers was compiled, and another group of students was asked to rate on a Likert scale the degree of challenge presented by each one. Finally, a list of the most challenging barriers was developed and presented to Introduction to Psychology students who were participating in service learning. Students rated these barriers and also answered questions about their general attitudes toward service learning. Through this process, the major barriers that students perceive as obstacles to service learning were identified. Implications for classes that incorporate service learning are discussed.

**Session B Biopsych, Wellness and Engineering**

**Jordan Hall, Room 236**

**Moderator: Dr. Bob Dale**

**09:00AM**


College students have many potential stressors, and time management (TM) may alleviate negative stress effects. The study fit a predictive stress model using TM factors, time spent in activities, sex, age, and class. Partitioning the sample of 99 students, lower women's stress was predicted by high perceived time control, high preference for organization and fewer activities' hours (R=.349, p=.039). Women had higher clinical anxiety, higher preference for organization, and spent more time in activities compared with men.

**09:15AM**

Anxiety and altered immune function in college students. Casey Browder. Wittenberg University, Springfield, OH. Sponsor: Dr. Josephine F. Wilson

Previous research has examined the influence of stress on altered immune responses (Gruzelier, Smith, Nagy, & Henderson, 2001; Arranz, Guayerbas, De la Fuente, 2007). The aim of the present study was to investigate the relationship between anxiety and immune function of college students. Anxiety levels for 92 students were determined by the Beck Anxiety Inventory, and immune function by a general health survey. Participants were then grouped as anxious or non-anxious according to their BAI score, those that were anxious having a BAI score of 16 or greater. Anxious students were found to have significantly higher frequencies of the following health measures: campus health center visits, allergies, digestive distress, earache, eye infections, food poisoning, rashes, and fever. As predicted, many of these measures reflect reduced lymphocyte and phagocyte activity.

**09:30AM**

Anxiety Levels in Emergency Responders. Randy Schlegel. Saint Joseph's College, Rensselaer, IN. Sponsor: Chau-Ming Wong

Few studies have been done on how EMTs cope with traumatic events and their anxiety in dealing with their jobs. Seventeen EMTs from a small rural EMS agency and 23 undergraduate students from a small Midwestern liberal arts college were given surveys including an adapted Coping Response Inventory, scenarios involving varying levels of stress, and the Spielberger State-Trait Anxiety Inventory. Independent samples T test on the CRI showed no significant difference between the two groups while independent samples T test on the Trait Anxiety survey showed EMTs had significantly lower anxiety than the students. Two-way mixed design ANOVA on both of the State anxiety surveys showed that EMTs had significantly lower anxiety and had a decrease in anxiety between the scenarios. These suggest that there is a personality specific to emergency responders that make them different from the general population. This could be further support by using this same test on people in the general population instead of a small college sample.

**09:45AM**

Are Attitudes Toward Sleep Related to Sleep Habits and Quality. Evan Brown, Stephen Hopkins, Alexis Chambers, Christopher Thomas. Ball State University, Muncie, IN. Sponsor: Michael Tagler

Research has documented the negative effects of inadequate sleep. However very little research has investigated attitudes toward sleep and how they impact sleep habits. Poor sleep routines are likely to have negative social, cognitive, and health effects. However, very little research has been conducted to examine the relationships between college students’ attitudes toward sleep and sleep habits. College students (N = 529) completed online measures including the Beck Depression Inventory, Epworth Sleepiness Scale, Pittsburgh Sleep Quality Index, Dysfunctional Beliefs and Attitudes about Sleep Scale, Zimbardo Time Perspective Inventory, NEO-Five Factor Inventory, and the Short Form-8 Health Survey. Correlational results of this study will be presented. Discussion will include implications, future research, and the need for effective design of interventions to improve sleep habits.
10:00AM

Diet, Body Weight, Body Fat, and Memory Retrieval Inhibition. Judith Asem. Purdue University, West Lafayette, IN. Sponsor: Terry Davidson, James Nairne

Physical health and appearance are some of the most outward representations of cultural differences. American and Chinese cultures embed different eating behaviors, which therefore affect physical well-being and body size. Based on the observation that there are fewer overweight individuals in China than in the United States, I examined eating behaviors in both cultures by surveying 200 college students in Ohio and 228 Fudan University students in Shanghai, China. All subjects ranged from 18-22 years in age and were administered the BULIT-R, a 36-question survey that inquires about eating patterns and related emotions. I hypothesized that bulimia would be more prevalent in China than in America. My results reflect that bulimia plays an important role in weight regulation, especially in Chinese students.

10:15AM

“F” Words versus Actions: Parkinson’s Disease Differentially Impairs Action-Based Language Skills. Walter Stamp, Angela Mion, Tara Lineweaver. Butler University, Indianapolis, IN. Sponsor: Tara Lineweaver

This study investigated patterns of impairment on various language tasks in patients with Parkinson’s disease (PD). Because PD primarily impacts anterior cortical regions, these patients traditionally perform well on standard language tests (Signorini & Volpato, 2006). However, some studies have suggested that language tests that focus on actions versus objects may be more sensitive to the brain dysfunction associated with PD (Cottelli et al, 2007; Signorini & Volpato, 2006). The current study was designed to systematically investigate language abilities in PD patients across several traditional and action-focused language measures. Twenty non-demented PD patients and 17 non-Parkinson’s controls completed six language tasks evaluating lexical, semantic, and action fluency; object and action naming; and verb generation. Patients and controls were matched in age, years of education and Dementia Rating Scale score, but not gender. We expected that patients with PD would be more impaired on action language tasks than on more semantic or lexical language measures relative to controls. Consistent with our hypothesis, PD patients correctly named fewer actions than controls, but performed equivalently to controls when naming objects. In further support, PD patients performed worse on verb generation than controls, although this effect only neared statistical significance. Contrary to our hypothesis, PD patients performed worse than controls on semantic but equaled controls in lexical and action fluency. These results indicate that action language tests may be more sensitive to the anterior brain dysfunction associated with Parkinson’s disease than traditional language tests, although this effect was not universal across our language measures.

10:45AM


The purpose of this study is to investigate the relationship between spiritual-well being and life values. On the Dimensional Structure of Personality, Ideological Beliefs, Social Attitudes, and Personal Values, by Gernot von Collani and Mandy Grumm, suggests that spirituality plays a part in personality and the role of values in everyday life. Participants for this study will be drawn from two introductory classes at a small Midwestern, Christian-affiliated university. The participants will complete an adapted 50-item version of the Schwartz’s Value Survey, developed by Schwartz, 1992, and adapted by Maio et al, 2009, and a 20-item Spiritual-Well Being Inventory developed by Paloutzian and Ellison, 1982. It is predicted that spiritual-well being will positively correlate with two values: Conservation and Self-Transcendence. Data will be analyzed using Pearson’s product moment correlations.

11:00AM

Bulimia Rates in China and The United States. Laura Aylward. Wittenberg University, Springfield, OH. Sponsor: Dr. Josephine F. Wilson

Bulimia is a进食障碍 that involves binge eating followed by purging. It is characterized by a cycle of binging and purging. The prevalence of bulimia is higher in Western cultures than in Eastern cultures. The purpose of this study is to investigate the prevalence of bulimia in China and the United States. The study will be conducted by administering a questionnaire that assesses the prevalence of bulimia in the Chinese and American populations. The questionnaire will be distributed to college students in both countries. The results of the study will be analyzed using statistical methods. The study will provide insights into the prevalence of bulimia in China and the United States and will help to understand the cultural differences in the prevalence of bulimia.

11:15AM

Press). Also, rats that consume a high-fat diet for 90 days or more show increased permeability of the blood-brain barrier in the region of the brain barrier in the region of the

Previous experiments with rats have shown that consumption of a high-fat diet is associated with cognitive deficits (Davidson et al, 2007). Specifically, rats are less able to inhibit the memory of reward in a learning task compared to rats fed a normal diet (Davidson & Kanoski, in press). Also, rats that consume a high-fat diet for 90 days or more show increased permeability of the blood-brain barrier in the region of the brain barrier in the region of the brain.
hippocampus, a brain structure that is implicated in inhibitory memory (Kanoski, Zhang, Zheng, & Davidson, 2009). Thus, it appears that a high-fat diet affects memory—specifically, inhibitory memory in rats. Recent findings also indicate that mid-life obesity in humans is associated with cognitive impairments later in life (Gustafson, 2008). The present experiment investigates the link between diet, obesity, and inhibitory memory in college students. This study discusses the correlation between memory retrieval inhibition—suppressing retrieval of some items in order to better recall other items—and dietary factors such as body fat percentage, body mass index (BMI), central adiposity, and diet.

11:30AM
Designing Optimal Keyboards to Minimize Entry Errors. Elizabette Johnson, Gregory Francis. Purdue University, West Lafayette, IN. Sponsor: Gregory Francis

People with locked-in syndrome are only able to communicate by eye blinks or other binary types of responses. Such people are able to communicate with a method of typing where the person selects a desired character when a cycling cursor passes over it. This method of typing is very slow and previous work has suggested that optimizing the layout of keyboard characters could significantly increase typing speed by matching the most frequently used characters to be those that are most quickly reached by the cursor. In this study we explored whether similar advantages to character layout would influence character selection accuracy. In an empirical study with college students, subjects were asked to enter a single character by pressing a key when the cursor was over the target character. For a given subject, the cursor moved at one of three cursor speeds (fast: 0.20s, medium: 0.35s, slow: 0.50s) and moved across an 8-key x 8-key keyboard by first highlighting a row (from top to bottom) and then highlight each column (left to right) within a selected row. Thus, each character on the keyboard could be selected with two selections. Results indicate that errors were most frequent for the first row of the keyboard and for the first column of each row. Integrating the distribution of errors into the design of the optimal keyboard allows us to create a keyboard that minimizes the time needed to type a given text and minimizes the probability of errors.

Session C Social and Cognitive
Jordan Hall, Room 238
Moderator: Dr. Mandy Gingerich-Hege

09:00AM
Diffusion of Responsibility in Email Responses. Ali Plutschack, Jessica Carr. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Tim Steenbergh

Knowing the diffusion of responsibility occurs even through technology-mediated communication, how will situational variations, researched in real life, hold up in this virtual world? Will “bystanders” base their decisions to help upon their perception of other’s expertise, and will the demand level of the help request influence their decisions to help? To test this, researchers emailed four groups of nursing students a nursing-related question. Two of the four groups received a simple, yes/no question, while the other two groups were posed an open-ended question requiring more effort. For both questions, one of the two groups received the email with the names of three well-known nursing professors appearing in the carbon copy line. Researchers did not find a significant difference in response rates when an expert was present versus when no expert was present. However, significantly more students from the simple request group responded than did students from the demanding request group.

09:15AM
Modeling in Online Communication. Lindsay Marsh, Eric Sharp. Hanover College, Hanover, IN. Sponsor: Bill Altermatt

This study was designed to examine the effects of an online conversation partner’s grammar on participants’ grammar usage. Participants (N = 22, 59.1% female) had a conversation via online chat with a confederate who used either a high or low level of formality of grammar, and then switched to a new conversation partner of the opposite level of formality. The participants’ responses were then graded using a grammar rubric. Participants retained the level of formality from the initial grammar condition throughout the entire experiment (p = .02). This finding provides evidence for ‘first impression modeling,’ or the retention of initial modeling effects, even when subsequent models are introduced.

09:30AM
Does Viewing Performing Arts Affect Emotion. Jerald Jascoviak, redrick taylor, Shawntee Hunter. Valparaiso University, Valparaiso, IN. Sponsor: Matthew Ringenberg

The purpose of this study is to explore if similar to the media arts, does viewing performing arts affect one’s emotional level. While there are many studies on how the media arts affect someone either in a positive or negative way, studies related to the performing arts are extremely lacking. Since no present studies were found, art therapy was utilized as an alternative way to determine how being exposed to art affects one’s emotional level. Studies have shown that if one is in a positive mood and exposed to or participate in art with a positive stimulus then it will increase emotional level. It stands to reason that one’s emotional level would be oppositely affected when exposed to or participating in art with a negative stimulus. To test the hypothesis, a survey tool was implemented to a sample of 178 people who viewed the theatrical production The Pillowman, by Martin McDonagh at the Chicago Street Theatre in Valparaiso, Indiana. A brief abstract from McDonagh’s script summarizes “The Pillowman centers on a writer in an unnamed totalitarian state who is being interrogated about the gruesome content of his short stories and
their similarities to a series of child murders.” A likert scale test was implemented both before and after viewing the play to see how audience members’ emotional levels changed as a result of being exposed to its dark, negative stimulus.

09:45AM
A Study of the Relationships of Individuals between Verbal Discrimination and Positive Association with Vulnerable Populations. Kelsie Tieman, Jessica McCallum, Valparaiso University, Valparaiso, IN. Sponsor: Matthew Ringenberg

The purpose of this study was to explore the relationship between the personal association with vulnerable populations and verbal discrimination within a university setting. This research was attempting to study if knowing a person of a vulnerable population with positive association is associated with lower amount of teasing that occurs for that specific population. The research question was: Is there an inverse relationship between verbal discrimination and positive association with vulnerable populations? This research has implications in discovering a source of verbal discrimination and a possible means of decreasing such acts. Approximately two hundred college students were surveyed at Valparaiso University in Valparaiso, Indiana. The survey has inquired about association with listed vulnerable populations and verbal discrimination as well as general demographic features such as age, race, gender, and parental income.

For the purpose of this survey, verbal discrimination means names that are commonly used to refer to a group of people in a negative way. A few examples include saying, “That’s so gay!” or “Your throw like a girl.” Association is defined as any social contact or relationship that has been formed, taking into consideration the duration of time that the relationship has existed. A vulnerable population is defined as those individuals or groups who have a greater probability of being harmed by specific social, environmental, or health problems. For the purpose of this survey, the associations with populations included those that are listed: women, homosexuals, and mentally handicapped.

10:00AM
Uncovering Stigmatized Beliefs. David Briley. Butler University, Indianapolis, IN. Sponsor: Kathryn Morris

Uncovering Stigmatized Beliefs was designed to understand how people relate to beliefs that they hold when they are exposed to an imagined social interaction in which that belief is expressed. Participants in the study wrote about a conventional or an unconventional belief that they held, were asked how central they felt that belief was to their perception themselves, and then asked to imagine someone reading what they had written and reacting in a supportive or an unsupportive way. Finally, participants completed a questionnaire about the imagined interaction, and their anticipated affective response to the interaction. A total of 90 students participated in the study, and the results and their implications will be discussed.

10:30AM
Believing is Seeing: Positive Memory Beliefs Correspond with Accurate Eyewitness Memory. Eric Massey, Tara Lineweaver, Rachel Jacks. Butler University, Indianapolis, IN. Sponsor: Tara Lineweaver

Past research demonstrates weak relationships between eyewitness memory accuracy and eyewitness confidence. We examined whether memory self-efficacy has an impact on confidence or influences susceptibility to misinformation in an eyewitness memory situation. 77 individuals watched a video of a murder. Participants in the control condition then read a short narrative conveying the general storyline, whereas participants in the misinformation condition read the same narrative but with the inclusion of nine points of false information. All participants then took a memory test and completed a memory self-efficacy (MSE) questionnaire. Participants were divided into high MSE and low MSE groups. Consistent with expectations, participants in the misinformation condition demonstrated a significant misinformation effect relative to those in the control condition. In addition, participants lower in MSE were more susceptible to the misleading information than those higher in MSE. We next examined participants’ confidence in their correct and incorrect answers on the memory test. Overall, participants were more confident in their correct than incorrect responses. The two MSE groups were equally confident in their correct answers, but participants high in MSE were much more confident than those low in MSE in their incorrect answers. These findings suggest that higher MSE may protect individuals from endorsing misinformation in eyewitness memory situations. However, when they do endorse misinformation, they may profess more confidence than those with lower MSE. These results have implications for courtrooms because false eyewitness testimony given in a confident manner is more likely to be believed even though it is wrong.

10:45AM
Memories for sexual encounters: Sexual attitudes, personality, and evidence for personal flashbulb effects. Nicholas Comotto. Butler University, Indianapolis, IN. Sponsor: John Bohannon

The purpose of this study was to examine recollections of first and most recent sexual experiences as personal flashbulb memories (FBM). Sexual attitudes, personality, and gender were also analyzed for their role in behavior and memory. Participants were gathered from Butler University psychology classes. The surveys were completed in a controlled setting. In accordance with previous literature and the current hypothesis, results were similar to more common FBM’s such as 9/11. Most notably, memories of first and most recent sex were equally vivid, F(2,73) = .697, NS, while first sexual experiences occurred significantly earlier than their most recent, F(2,74) = 96.6, p < .0001. Also, higher arousal led to more memory features, F(2,70) = 6.77, p < .005. Furthermore, delay effects reflected normal FBM forgetting curves, with most details being lost within the first few days or weeks following the event, F(2, 65) = 6.11, p < .004. Concerning personality, higher levels of conscientiousness were found in participants that did not report sexual experiences, F (3, 44) = 2.77, p = .01. When analyzing sexual attitudes, high levels of permissiveness were correlated with having sexual experiences, F (3, 44) = 5.689, p < .01. Moreover, higher levels of instrumentality were correlated with no sexual experiences, F (3, 44) = 3.691, p < .05. Finally, when assessing gender, males were found to report more memory features, F (1, 35) = 8.141, p < .01. Further analyses should confirm other hypotheses, which predict personality and sexual attitude influences on memory as well.
11:00AM
Kiss Memory Alters Mood but Not Vice Versa. Elsa Carodenuto, Sarah Pajkos. Butler University, Indianapolis, IN. Sponsor: John Bohannon

78 undergraduate college students gave their recollection of their best and worst kisses while being emotionally manipulated, to investigate the idea of elaboration on mood-congruent memories when mood-dependent variables are combined with a memory. Participants completed a two section protocol which derived of a free recall narrative and a set of probe questions regarding their kiss experience. The arousal survey (Erich, 1995) the were used, showed only manipulation in arousal through music and not in valence. Furthermore, the arousal of the participants were manipulated longer for the best kiss memory then the worst kiss memory, showing that when one is placed into a sad mood, one will try and remember happy events to alter their mood into a more positive incongruent mood. In the free recall narrative, memory was more vivid and elaborated for the best kisses compared to worst kisses, $F(1,72)=6.04, p < .007$. Therefore, for best kisses the arousal induced at the accuracy of the kiss impacted the memory more then the arousal induction at recall. Showing that the memory was not hampered or improvised during this experiment and the elaboration did not change regardless of the mood.

11:15AM

Flashbulb memories are the vivid recollection of details surrounding one’s discovery of a sudden traumatic event (Brown and Kulik, 1977). Recall of discovery details are enhanced as a result of hearing surprising news from an individual whereas hearing the results from the media enhanced fact recall (Bohannon, Grat & Symons, 2007). Many flashbulb studies are done on horrific world events (Er, 2003). Our study focused on pleasant recollections for the announcement of Barack Obama’s election.

Undergraduate students (n = 334) at Butler University answered a questionnaire (two weeks; 10 months after the election) consisting of discovery and fact narratives and probes about the election results. The narratives were scored for the presence of flashbulb canonical features (see Julian, et al., 2008) and the presence or absence of answers to our detailed probe questions.

Effects of race were found, such that nonwhites reported greater arousal than white participants, $F(1,321)=25.782, p<.0001$. An effect of arousal by delay was found, $F(1,321)=3.604, p<.06$, such that nonwhite participants remembered more ten months after the election than two to three weeks after the election, whereas white participants’ memory decreased over the same time.

The significant source by information interaction, $F(1,280)=10.893, p<.0011$ supported the contention that flashbulb memory results from an encoding mechanism. Subjects who were watching the media during discovery remembered more facts of the election whereas subjects hearing the news from another person had more extensive personal circumstance memories.

11:30AM
Collaborative Inhibition: A Counterintuitive Phenomenon. Lauren McClure, John Bohannon. Butler University, Indianapolis, IN. Sponsor: John Bohannon

Recollection is frequently social; people tend to remember with others and when they do, their joint recollection is enhanced (Meudell, Hitch & Kirby, 1992). However, according to Weldon et al. (1997), recalling with peers can have negative effects on the retrieval of unique items. This phenomenon, collaborative inhibition, occurs when pairs of subjects recall fewer correct “unique” items than others recall in isolation. McClure et. al (2008) found that collaborative inhibition disappears when the total possible number of unique items were equal in groups and individuals randomly put into pairs. This study examined whether collaborative inhibition would still disappear when the total possible number of unique items were equal in groups and individuals randomly put into pairs when the participants are not forced to answer each question.

The method Weldon et al. (1997) used gave nominal groups (actually tested in isolation) extra guesses at each memory question whereas their grouped subjects had but one mutual chance to get the question correct.

Recollection was frequently social; people tend to remember with others and when they do, their joint recollection is enhanced. (Meudell, Hitch & Kirby, 1992). However, according to Weldon et al. (1997), recalling with peers can have negative effects on the retrieval of unique items. This phenomenon, collaborative inhibition, occurs when pairs of subjects recall fewer correct “unique” items than others recall in isolation. McClure et. al (2008) found that collaborative inhibition disappears when the total possible number of unique items were equal in groups and individuals randomly put into pairs. This study examined whether collaborative inhibition would still disappear when the total possible number of unique items were equal in groups and individuals randomly put into pairs when the participants are not forced to answer each question.

The method Weldon et al. (1997) used gave nominal groups (actually tested in isolation) extra guesses at each memory question whereas their grouped subjects had but one mutual chance to get the question correct. When grouped subjects were given the same number of tries as the nominal subjects, results showed that total items recalled in groupings exceeded the nominal scores. This led us to believe that the phenomenon of collaborative inhibition is not a memory failure, but an artifact of the testing procedure.

Session D Leadership, Gender and Sexuality
Jordan Hall, Room 216
Moderator: Dr. Ali O'Malley

01:00PM
Could you do it? Would you do it? Confronting discrimination may depend on self-efficacy and perpetrator power. Shawn Peters, Laurie Ferrell, Sairah Safdar. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Leslie Ashburn-Nardo

Research has indicated that the likelihood of confronting prejudice is based on an analysis of the costs and benefits associated with confrontation. The Confronting Prejudiced Responses Model identifies factors that facilitate or inhibit confrontation, such as perpetrator power and perceived self-efficacy (Ashburn-Nardo, Morris, & Goodwin, 2008). The proposed study will examine prejudice confrontation as a function of the perpetrator’s power relative to the observer and the observers’ perceived confrontation self-efficacy. Participants (N=120) will take part in two ostensibly unrelated studies. In the first, they will complete a measure of confrontation self-efficacy, or beliefs about whether one has the skills necessary to execute confrontation behaviors (Bandura, 1982). In the second, participants will complete a leadership questionnaire, presumably administered to determine participants’ power relative to other (fictional) participants. In reality, participants will be randomly assigned to a condition in which the perpetrator is higher or equal in power relative to participants. Participants will then read and discuss an article about
Confrontation is an effective strategy in reducing prejudice (Czopp, Monteith, & Mark, 2006), yet people are often hesitant to confront perpetrators (Swim & Hyers, 1999). Power, the ability to influence others through the control of resources, is one factor that may contribute to people’s hesitancy. Low-power individuals may perceive the costs of confronting as outweighing the benefits. Perpetrator intent, however, is essential in perceiving an individual as prejudiced (Swim et al., 2003) and may moderate power’s effects on confrontation. To investigate this possibility, 54 female participants (thus far) viewed an Internet chat between two fictitious participants ostensibly working together on an evaluative task via networked computers. During this discussion, one of the fictitious participants, either equal or higher in power than the actual participant, articulated a sexist comment framed with harmful or humorous intentions. Participants were asked whether and why they would like to meet with the fictitious participants. Preliminary findings reveal that participants are more likely to be motivated to meet the perpetrator to express anger when the perpetrator is higher rather than equal in power, regardless of intent. However, whether participants choose actually to meet with the perpetrator varies as a function of power and intent. Participants are more likely to meet with a higher-power perpetrator only when intent is harmful, whereas humorous intent increases the likelihood of meeting an equal-power perpetrator. While it appears that people experience greater anger when higher-power individuals engage in prejudicial treatment, power tends to inhibit confrontation unless intent is clear and harmful.

Confrontation is effective in reducing prejudice (Czopp, Monteith, & Mark, 2006), yet people are often hesitant to confront perpetrators (Swim & Hyers, 1999). The Confronting Prejudiced Responses Model (Ashburn-Nardo, Morris, & Goodwin, 2008) outlines obstacles people must overcome to confront prejudice; among them is taking responsibility for responding. Research in other domains indicates that leaders may be more willing to take on responsibility than average bystanders (Baumeister, Chesner, Senders, & Tice, 1988). Additionally, whether leaders are person-oriented (e.g., caring about their subordinates) or task-oriented (e.g., emotionally distant from their subordinates) (Fleishman, 1953) may have an effect on their confrontation goals. To investigate this, 150 participants will be primed for one of three leadership conditions (person-oriented, task-oriented, or non-leader) and asked to provide feedback to a scripted chat conversation in which one of their fictitious subordinates will make a racist remark. The feedback will then be analyzed for evidence of confrontation. Participants will also answer several questions about their goals and perceived responsibility for confronting. We hypothesize that participants in a leadership role will more readily take responsibility and confront prejudice than those in a non-leadership role. Additionally, we hypothesize that the confrontation goals for person-oriented leaders will focus on aiding the target member in the group, while the confrontation goals for task-oriented leaders will focus on reprimanding the perpetrator of the prejudiced remark. Expected results will yield important implications for leadership training and diversity education in the workplace while contributing to the growing body of confrontation literature.

Given strong egalitarian norms in our culture, awareness of anti-prejudice norms should be positively related to commitment to confronting prejudice. The more people perceive social norms to proscribe prejudice, the more they should commit to confronting it when it occurs. In contrast, concerns over potential backlash (Kaiser & Miller, 2001) should be negatively related to commitment to confront prejudice. Eight-hundred-and-three psychology students (604 White) reported their perceptions of anti-prejudice norms (e.g., “According to predominate social norms, it is not acceptable to express racial prejudice in our society.”), social costs of confronting prejudice (e.g., “I worry that others might not like me if I were to confront racial prejudice.”) and commitment to confronting racial prejudice (e.g., “How personally important is it to you to challenge racial prejudice?”). Participants also completed the Attitudes Toward Blacks (ATB) scale. There were no differences between White participants and all other participants’ perceptions of anti-prejudice norms or the costs of confronting prejudice. However, Whites (M = 4.14) reported less commitment to confronting prejudice than other participants (M = 4.75), F (1, 804) = 27.77, p < .001. With regard to predicting commitment, race (b = -.13, p < .001) and ATB scores (b = -.47, p < .001) were significant predictors. When controlling for these factors, anti-prejudice social norms significantly predicted commitment (b = .19, p < .001); the more participants perceived norms to proscribe racial prejudice, the more they reported. Contrary to our hypotheses, perceived social costs were unrelated to commitment. Results are discussed with regard to recent models of prejudice confrontation.
This study was designed to determine whether magazine advertisements in high fashion and beauty magazines affect people’s perception of women’s abilities in leadership positions. Participants answered a set of questions from the Gender Authority Measure (GAM) Questionnaire, which was followed by a series of ten advertisements from one of the following categories: sexualized, heroin chic, doll-like/artificial, neutral, or athletic. Upon completion of viewing the ads, the participants answered a second set of questions from the GAM. The researchers expect to find that after viewing advertisements from the sexualized, heroin chic, and doll-like/artificial category, participants are likely to have a more negative view of women’s abilities in leadership roles, while there will be little change for participants who viewed athletic or neutral advertisements.

Research on mortality salience shows that when people are faced with the awareness of their eventual death their thoughts and behaviors change. In one recent study, participants’ self-esteem was damaged through negative feedback and their tendency to stereotype increased. The purpose of this study is to determine if the thought of death increases stereotypical thinking, more specifically attitudes toward gender roles. Participants completed one of two writing prompts about either their ideal date or their own death. The goal of the writing prompts was to have a negative and positive emotion elicited. The participants were scored on their responses to a gender roles questionnaire as either traditional or nontraditional. It is expected that those participants who wrote about their own death will display more traditional thinking about gender roles than those who wrote about their ideal date.

This study is designed to investigate the effect of physiological arousal on attraction when faces are accompanied by mitigating information. Approximately 40 participants will be asked to report their level of attraction to pictures of faces that are accompanied by positive or negative traits. We will manipulate the level of physiological arousal of those in the experimental group, while those in the control group will not be aroused. We expect participants who are aroused to report being more attracted to the attractive faces, regardless of the information accompanying them, than participants who are not aroused. We also expect participants who are aroused to report being less attracted to unattractive faces, regardless of the information accompanying them, than participants who are not aroused. The misattribution effect, in which subjects are more attracted to attractive faces when aroused than when not aroused, has been widely researched. While many studies support the theory of misattribution and related theories, we hope to contribute knowledge about the effect of psychological characteristics on arousal and attraction. Findings that support our hypotheses may help to explain why negative traits are often overlooked in the beginning stage of a relationship (the passionate stage), when high levels of arousal are present. Conversely, in the later stages of a relationship (the companionate stage), lower arousal is present, and positive traits become more important.

There are several explanatory theories for how mate preferences are established. Evolutionary psychologists have shown that gender role appropriateness is important; Information Integration Theory (Anderson, 1965) showed that combinations of traits affect impressions of others. It was expected that those traits aligned with gender roles would be rated higher than those roleypical, and aligned traits would be combined as averages to explain mate desirability ratings. Unexpectedly, 91 college students did not rate role-appropriate behaviors higher. Three of those traits (honesty, faithfulness, and attractiveness) rated at high levels were used in factorial combinations of levels (hi, moderate, lo) by 74 participants who rated mate desirability. High levels of each trait alone received higher ratings then varied combinations, supporting an averaging model for rating mate desirability.

In the present study, bisexuality will be defined in five different ways (i.e., self-identification, attraction, behaviors, fantasies, and all of the above). Bisexuals will then be compared to heterosexuals on several different measures related to hypersexuality and psychopathology. Approximately 800 college students, most of whom identified as heterosexual, Christian, Caucasian, and aged 18-22 completed a number of personality and sexuality-related surveys during the Spring and Fall 2009 semesters. Hypersexuality was assessed through half of the measures (e.g., sexual compulsivity, frequency and types of sexual activities), while the remaining measures assessed variables associated with psychopathology with one’s sexuality (e.g., Depression, Anxiety, Stress, sexual depression, and sexual esteem). Students completed the surveys individually in an online condition. Data for each participant was stored anonymously. A MANOVA will be conducted, comparing bisexuals and heterosexual, independent variables will be self-identification of sexual orientation, attractions, sexual behaviors, and sexual fantasies looked at separately and grouped together, with hypersexual and psychopathology measures being our dependent variables.
03:30PM  
Influence of Contact on Grounded Attitudes towards Homosexuality. Rachel Jacks, John Bohannon, Eric Massey. Butler University, Indianapolis, IN. Sponsor: John Bohannon

Past research has shown that a majority of people hold a negative attitude toward homosexuality, but there is a liberalizing trend. We sought to determine whether contact with homosexuals has an impact on attitudes towards homosexuality. 249 individuals (73 males, 174 females) completed an online questionnaire about their contact with homosexuals and their attitude towards homosexuality. We ran correlations to examine the relationship between total number of activities participants had engaged in with a homosexual, past environmental attitude measure, present participant attitude measure, people that have come out to the participant, age someone first exposure, and length and nature of association. Several results were significant. If an individual’s past environmental attitude was positive, then his/her current attitude towards homosexuality tended to be positive as well (r = .487, p < .01). The greater the number of people that came out to participants, the more likely their current attitude was to be negative (r = -.356, p < .01). The more activities that are shared with homosexuals, the more negative attitudes were towards homosexuality (r = -.215, p < .01). Younger ages were associated with more positive present attitudes (r = -.146, p < .05). Positive interactions with homosexuals was associated with more positive attitudes towards homosexuality (r = .656, p < .01). None of the other correlations provided significant results. The attitude of the environment surrounding individuals when they are younger is the best predictor of current attitude, regardless of the amount of contact with homosexuals. Exposure at a younger age related to more positive attitudes.

Session E Sexuality and Health  
Jordan Hall, Room 236  
Moderator: Dr. Brian Giesler

01:00PM  
Religiosity, sexual attitudes, and sexual participation in college students. Kaleigh Nelson, Ian SerVaas. Marian College, Indianapolis, IN. Sponsor: Faye Plascak-Craig

Past studies have shown that sexual attitudes and behaviors differ by religious factors. Students (125) completed a religiosity and sexual attitudes measure, adapted from Allport & Ross (1967), and sexual behaviors frequency scales. It was hypothesized that those with higher levels of intrinsic religiosity would report lower levels of sexual behaviors and more conservative sexual attitudes. Females were more attitudinally conservative and reported less frequent sexual behaviors compared with males, but there was no interaction effect of sex X religiosity on sexual participation frequencies; female intrinsic religiosity did not affect attitude conservatism or behavior reports as expected.

01:15PM  
The Effects of Short Term Exposure to Sexually Explicit Material on Emotion and Attitudes towards Relationships and Sex. Heather Morgan, Saffron Redwine. Hanover College, Hanover, IN. Sponsor: Stephen Dine Young

This study was designed to investigate short term exposure to sexually explicit material and the effects on emotional reactions and attitudes towards relationships and sex. It is predicted that pre-existing attitudes about sexuality and about romantic relationships in general will have an immediate impact on how people experience depictions of sexuality in visual media. Participants responded to a Sexual Attitudes Scale (SAS) (e.g., “Casual sex is acceptable”) and a Relationship Scales Questionnaire (RSQ) (i.e., “I often worry that romantic partners don’t really love me”). Participants then viewed the same sexually explicit clip from a movie. After viewing the clip, participants filled out a brief questionnaire (PANAS) regarding their current emotional state (i.e., “distressed,” “enthusiastic,” “alert”). We expect to find that participants who have more negative emotional reactions will have more conservative attitudes toward relationships and sex. This research will shed light on the factors that lead to positive and negative emotional reactions to depictions of sexuality and may have implications for ratings and other communications with potential audiences about sexual content in the media.

01:30PM  
The Effect of Varied Social Situations on Attitudes Toward Diverse Populations Among College Students. Sara Tucker, Hailly Wakeland, Carl Hufford. Valparaiso University, Valparaiso, IN. Sponsor: Matthew Ringenberg

This study surveyed approximately 200 students from Valparaiso University in Valparaiso, Indiana. Valparaiso University is a predominately white, Lutheran, private school in the Midwest. Participants were taken from randomly selected classes chosen from various, common areas of study such as science, math, nursing, business, and psychology. Participants were given a survey questionnaire to complete during their scheduled class time. The questionnaire was made up of two sections. The first section asked questions about the details of the participants’ demographics, including age, gender, race/ethnicity, and hometown. The second section assessed the level of comfort felt when in the presence of specific races and/or members of the lesbian, gay, bisexual, transgender, and questioning (LGBTQ) community. Those who participated were given a verbal explanation of the study and what was planned to be done with the results. The participants were assured of their anonymity. All participants of this study had to be at least eighteen years of age and enrolled at Valparaiso University. Researchers administered the survey over a week long period at the designated class time. The survey was created by the researchers with influences from the Quick Discrimination Index (QDI) (Ponterotto, et al., 1995) as well as the survey that was used in the study that was done at the University of Maryland at College Park, Maryland (Sedlacek, Helm, & Prieto, 1997). The survey was scored with a Likert-type scale with some questions that were reverse-scored.
01:45PM


The purpose of this study was to investigate how sexual behavior double standard, which refers to traditional rules that give men more sexual freedom than women, might have changed over time. This study hypothesized that males and females, who might have internalized this double standard, would display different attitudes towards sexuality, different amount of actual sexual behavior, and different patterns of alcohol consumption and its effects on sexual experience. Participants (18-22 years old) came from a small mid-western Catholic college. The surveys in this study included a demographic questionnaire, the Sexual Attitude Scale (Hudson, Murphy and Nurius, 1983), the Heterosexual Experience scale and the Homosexual Experience scale portions of the Human Sexuality Questionnaire (Marvin Zuckerman, 1988), and the Alcohol and Sexual Experience Survey. Results showed no statistically significant difference between males' and females' perceptions on sexuality, experiences on heterosexual erotic activities, the amount of alcohol ingested in a week, and the amount of sexual intercourse after consuming alcohol. However, females were statistically more likely than males to report differences on homosexual activity and regrettis sexual intercourse the following week after a night of drinking. It seems that the sexual behavior double standard has changed somewhat because females’ and males’ perceptions on sexuality were similar, but females were still more likely than males to regret a casual sexual encounter after a night of drinking.

02:00PM

Sociobiological Theory and Casual Encounters on Craigslist. Christine McLean. Ball State University. Muncie, IN. Sponsor: Dr. George A. Guthrie

The purpose of this study is to shed light on the evolutionary ramifications of postings on casual encounter forums, as well as reveal the risks of participating in such forums. Data was collected by downloading all postings from 12AM to 5PM for M4W and W4M on Craigslist.com in five major U.S. cities: Atlanta, Boston, Chicago, Phoenix, and Seattle. The study will look at such variables as STI risk and contraceptive use, as well as evolutionary variables such as desire for perceived fertility and/or status/resources. If found that a low number of individuals on these forums are concerned with contraception or disease, or that a vast number of individuals plan to use drugs during these encounters, then it will be clear that these encounters are risky and that steps must be taken to increase the safety of the users. Especially in light of recent events (i.e. the case of Stipe, a Craigslist.com user, and his malicious actions toward an ex-girlfriend via the use of this site), research must be done to discover the risks posed so that ideas for decreasing these risks may be developed. While contributing to the overall knowledge-base of internet culture, the study will also demonstrate the usefulness of such sites in sexuality research and evolutionary research. Especially if the information revealed in this study is made available to Craigslist users, they can become better informed of what they are getting involved in and take the necessary steps to protect themselves from disease, assault, or unwanted pregnancy.

02:30PM

Religiosity Predicts Physical Health in Young Adults. Katie Watterson, Nicole Ehlert, Claire Brownson, Leta Hunt. Butler University, Indianapolis, IN. Sponsor: R. Brian Giesler

Although positive associations between religiosity and physical health have been found in numerous studies, the vast majority of prior work has focused on relatively older or health-impaired populations. To investigate this relationship in young adults, a cross-sectional questionnaire study was conducted using a convenience sample (n=117) of undergraduate students. The current study used four physical health measures: 1) a symptom count, based on self-reported common illnesses (e.g., runny nose, cough, etc.) during the past two weeks; 2) a single, like-type item of self-reported physical health; 3) self-reported number of recent health care provider visits; 4) a single, like-type item assessing the extent to which illness interferes with desired activities. Religiosity was assessed using a modified version of Hoge’s (1972) measure of religious commitment. No linear relationship was found between religiosity and physical health. However, regression analyses revealed a significant quadratic relationship between religiosity and the physical health measures (p<.03). To investigate this relationship further, participants were categorized into four groups by level of religiosity. A repeated measures ANOVA, with health measure as the repeated factor, indicated significant differences across the groups (p <.04): higher religiously committed individuals tended to show the best health (i.e., fewer symptoms, better self-rated health, etc.), followed by moderately committed religious individuals, followed by the least committed religious individuals. However, individuals who were not at all committed (i.e., primarily non-religious individuals such as agnostics and atheists) experienced relatively high levels of physical health that most closely approximated those of the moderately religiously committed.

02:45PM

The Effect of Priming on Health-Related Choices. Katie Wainwright, Elliot Spengler, Elliot Spengler, Katie Watterson, Nicole Ehlert, Katherine Adams. Butler University, Indianapolis, IN. Sponsor: R. Brian Giesler

The primary purpose of this study is to determine whether priming techniques can be used to activate health-related goals non-consciously. There is substantial empirical support for the notion that goals can be activated and drive behavior outside of a person’s awareness (e.g., Bargh, et al., 2001; Fitzsimons & Bargh, 2003; Shah & Kruglanski, 2002), although little work has addressed this possibility in the context of health related behaviors. To investigate this possibility, participants recruited from psychology classes for extra were invited to take part in a study purportedly examining reactions to different types of word search puzzles. To non-consciously prime participants’ health-related goals, each participant was first asked to complete a word search puzzle that contained words that were either positive health-related words (e.g., exercise, healthy, thin, etc.) or neutral words (e.g., sofa, table, chair, etc.). After completing the puzzle, participants were invited to select a snack from a box that contained both healthy and unhealthy snacks. We hypothesized that participants exposed to the positive, health-related words would make a healthier choice when presented with a range of food options. Moreover, we expected that participants would be unaware of the influence of the puzzles on their
snack choice. Data analysis is currently underway. Potentially, this study could equip us with knowledge regarding whether or not non-conscious priming techniques could be used to help individuals achieve healthier life-styles.

03:00PM

Our research group will be presenting a qualitative research analysis on the topic of women dealing with chronic illnesses. Our research focuses on how the views, attitudes, and opinions of individuals within the women’s environment influence whether she succumbs to the illness or thrives within it. The topic of thriving with a chronic illness has previously been the subject of theoretical and empirical articles (Park, 1998; Carver, 1998; Charmaz, 1995); however, this analysis addresses how the attitudes of others can affect one’s experience and perceptions of their chronic illness. By conducting this qualitative research, we hope to find connections within the data that will ultimately benefit women suffering from a chronic illness. Data was analyzed from three previously conducted interviews of 2.5 hours in length. The interviews were first recorded via cassette tape, transcribed verbatim by research assistants, and lastly coded with the use of a qualitative data management software program called Qualrus. Data for this particular analysis had not been previously analyzed from this perspective and was coded using indicators of life success (i.e. Status/Wealth, Contribution to Society, Personal Fulfillment) as operationally defined by Parker and Chusmir (1992). The results and discussion will center on the key roles played by (a) individuals in the medical field, and (b) members of her social circle.

03:15PM
Health Behaviors and Self Esteem. Austin Boon. Anderson University, Anderson, IN. Sponsor: Linda Swindell

The purpose of the present study was to investigate the relationship between health behaviors and self esteem. Specifically, it was predicted that health behaviors would be positively correlated with self esteem. In addition, it was predicted that athletes would have higher self esteem than non-athletes, and females would have lower self esteem than males. One hundred eleven college age students completed six demographic items, ten Gutman scaled items on the Rosenberg Self Esteem Scale (Rosenberg, 1965), and thirty-six Likert scaled items from the Lifestyle Assessment Inventory (Anspaugh, Rosato, Hamrick, 2008). Data will be analyzed and discussed.

Session F Clinical
Jordan Hall, Room 238
Moderator: Dr. Joel Martin

01:00PM
A Moment for Movement: What is Dance and Movement Therapy. Amanda Tuohy. Purdue University Calumet, IN. Sponsor: Tom Pavkov

News coverage of young children with cerebral palsy in dance class has brought Dance and Movement Therapy out of the shadows of obscurity and into the light. Many of these children participate and benefit from increased emotional state, stability, strength, awareness, and impulse control. Different uses for DMT include developmental and emotional programs, constraint-induced therapy, preventative health measures, and Brain Integration for developmentally disabled children and adults using rhythm, movement sequence and speech. Methodology has sprung forth from the earliest roots of Jungian emotional expression and connection between mind/ body to in-depth psychiatric study and development. Studies have included DMT and student text anxiety, cancer patient preventative and rehabilitative health measures, anorexia, emotionally or behaviorally disturbed populations, the chronically ill, Dementia and Alzheimer’s clients, and the effects on various developmentally disabled populations such as Downs, Autism and Cerebral Palsy. DMT differs from Physical Therapy in that PT manipulates and interprets physical functioning in order to rehabilitate, and DMT connects this to Mind-Body awareness and a whole body approach to movement. The researcher will view current and historical literature and studies. She will develop a research presentation including historical, educational and methodological information on the general benefits of DMT within populations; focusing on the role of movement therapy for children with developmental disabilities.

01:15PM
Jumping to Conclusions Bias and Attitudes Towards Body Image and Food. Heather Sperry. Butler University, Indianapolis, IN. Sponsor: Joel Martin

Since both negative body image and dysfunctional eating habits are key factors in the potential development of an eating disorder, it is important to understand how these dysfunctional attitudes toward food and body image occur. If disordered eating is on the continuum of delusions, understanding jumping to conclusions (JTC) bias in individuals with dysfunctional eating habits and a negative body image is important. The purpose of this study is to examine the continuum of attitudes toward food and weight and determine if there is a relationship to a jumping to conclusions decision making style. My first hypothesis is that as beliefs about food and weight becoming increasingly distorted, jumping to conclusions will become increasingly evident. Furthermore, negative comments regarding body image may trigger a heightened JTC bias. This leads to my second hypothesis: individuals who complete the body image task with a negative word first will jump to conclusions more than those who are presented with a positive word first.
01:30PM
A Qualitative Exploration on the Effects of Martial Arts and the Lives of Individuals. Nicholas Beaty. Ball State University, Muncie, IN. Sponsor: Heather Adams

This study is a qualitative examination of how martial arts have impacted the lives of individual persons in an attempt to gain a better understanding of certain psychological impacts that a person might experience. Current literature shows positive support for the idea that there are positive benefits, as well as promising possibilities for use of martial arts in certain types of therapy (Lantz, 2002; Zivin, Hassan, DePaula, Monti, Harlan, Hossain, et al., 2001). Individuals who participated in this study were met for an initial interview, a follow-up interview, and have at least one year of martial arts experience. Data for this study was collected through an initial and a follow-up interview which lasted a maximum of two hours each for each of the three participants. The interviews were recorded with a digital audio recording device and transcribed verbatim. The qualitative data management program Qualrus was used to facilitate a general thematic analysis. Discussion of results will focus on connections perceived by practitioners regarding various possible psychological benefits that can be gained through martial arts.

01:45PM
Analyzing Religiosity and Sexual Fantasies in Relationship to Depression and Anxiety. Rebecca Haley, Alison Cariello, Dr. George A. Gaither. Ball State University, Muncie, IN. Sponsor: Dr. George A. Gaither

In this study we compared the variables of religiosity and sexual fantasizing in relationship to depression and anxiety. Subjects included 864 college students enrolled in a Psychology 100 course. Subjects participated by either completing the online version or computer lab version of the survey. Analyses were made by using only results from those students who participated during the spring semester of 2009. We hypothesized that individuals rating high in religiosity that also experienced a wide range of sexual fantasies were more likely to experience depression and anxiety.

02:00PM
Alcoholics Anonymous Affiliation and Faith Development. Alicia Horst, Maggie Hartgraves. Indiana Wesleyan University, Marion, Marion, IN. Sponsor: Doug Daugherty

Alcoholics Anonymous (AA) is a fruitful recovery program that has inspired researchers to investigate the growing fellowship of AA. Many researchers have devoted their studies to different aspects of spirituality and how spirituality relates to the recovery program of Alcoholics Anonymous. Unfortunately, spirituality’s definition varies between these studies, with no clear definition available. As a result, the present authors decided to look into faith development, as defined by James Fowler. Fowler believed people progress through six stages of faith, although the sixth stage is rarely attained. In Fowler’s theory, faith is understood to be an individual’s relationship to a transcendent center or to their center of values. With this working definition, we are interested in seeing if there is a relationship between one’s level of involvement with AA and their style of faith. To assess the member’s faith development, we will be administering the Faith Development Scale developed by Barnes, Doyle, and Johnson (1989). To assess the member’s commitment level to AA, we will administer the Alcoholics Anonymous Affiliation Scale. By analyzing the data collected from these two scales, the study will perhaps contribute to growing knowledge regarding the fellowship of Alcoholics Anonymous.

02:30PM
The Effect of Gender on Perception of Individuals in Counseling. Renee Bader. Anderson University, Anderson, IN. Sponsor: Linda Swindell

This study investigated the effects of gender on affective responses to individuals seeking counseling. Past research has suggested there is a stigma associated with individual in counseling (Sibicky and Dovidio, 1986). Specifically, research has found that males seeking counseling are judged more harshly than females seeking counseling (Good and Wood, 1995). Two hypotheses were proposed for this study: 1) Participants will respond more negatively to an individual who is seeking counseling than one who is not seeking counseling; (2) participants will respond more negatively to males seeking counseling than females seeking counseling. Participants read a short scenario in which a student describes her or his emotional and physical distress; half of the scripts concluded with the student saying that he or she has begun counseling. Participants then completed the Affective Reaction Scale (Penn, et al., 1994), a ten-question Likert-type scale ranking emotions based on pairs of opposite adjectives. Data will be analyzed and discussed.

02:45PM
The Influence of Sex Role Orientation and Counseling Experience on Client Expectations about Counseling. Josh Novak. Anderson University, Anderson, IN. Sponsor: Linda Swindell

The purposes of this study was to investigate the influence of sex role orientation (masculine, feminine, androgynous, and undifferentiated) and prior counseling experience (those who have been to counseling and those who have not) on client expectations about counseling. One hundred sixteen college-aged students from two general psychology courses from a private Midwestern university participated. Participants completed the Bem Sex Role Inventory (Bem, 1974), and the Expectations about Counseling-Brief Form (Tinsley, 1982). Data revealed significant main effects for counseling experience and sex role orientation. Implications will be discussed.
Animal Assisted Therapy (AAT) is a growing field in the treatment of various physical and mental ailments. There is evidence to suggest that long-term AAT is an effective method of decreasing patient’s depression and anxiety, as well as improving their self-esteem. The purpose of this study is to assess whether short-term AAT is an effective alternative. Approximately 30 participants at a children’s hospital will be administered questionnaires to measure their self-reported depression, anxiety, and self-esteem levels. After answering the first group of questionnaires, the participants will interact with an AAT companion animal for approximately 10 minutes. Following the AAT session, the participant will answer another set of inventories that measure depression, anxiety, and self-esteem levels. In addition to the quantitative data collected by the questionnaires, we will collect observational data such as the type of interaction with the animal (petting vs. playing), the extent of interaction with the animal handler, and the duration of the visit. We anticipate that participants will report lower levels of depression and anxiety and improved levels of self-esteem following interaction with the AAT companion animal. If this hypothesis is supported by our data collected, short-term AAT could be used in non-traditional settings where long term AAT is not possible (e.g., pre-op situations in hospitals or immediate interventions by first responders following traumatic events).

Sociology
Session A Criminology and Criminal Justice
Jordan Hall, Room 348
Moderator: Dr. Krista Cline

Historical Awareness of Child Abuse in our Society. Tatiana Sarduy. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The history of child abuse is a nightmare from which we have only recently begun to awaken. Physical, emotional, neglect, pornography, and sexual abuse of young children is currently recognized as a serious problem. This paper examines historical awareness of child abuse in our society as measured by articles appearing in popular magazines and scholarly journals over the past five decades. The articles that will be analyzed are the ones that discuss child abuse from the years 1965, 1970, 1975, 1980, 1985, 1990, 1995, 2000, 2005, and 2010.

Domestic Violence: The Affect on Children. Samantha Newton. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The purpose of this research was to determine if the presence of domestic violence in the household has an effect on children. Previous research suggests that there is in fact an effect on children including many negative short term and long term consequences. However, the previous research does not give a clear picture of whether or not having a strong support system at the time the violence is present could reverse these effects. For this research, a survey was given to 100 students at a private south east university.

Prolific discipline: Developing the restraint and juvenile delinquent attitude scale. Nicholas Comotto. Butler University, Indianapolis, IN. Sponsor: Katherine Novak

The central purpose of this study was to create a valid and reliable scale measuring one’s attitudes toward juvenile delinquency, the restraining of juveniles, and the juvenile justice system as a whole to be used for current and entering employees in juvenile correctional and care centers. Students from Butler University, as well as Butler staff and other participants from the greater Marion County area, were asked questions concerning demographic information, familiarity with juvenile justice and delinquency, and their attitudes toward delinquency and restraint in juvenile populations. Butler students were then given the attitude questions after a two-week period to assess test-retest reliability. Construct validity was assessed through the advisement and analysis of experts on the subject material. Factorial validity was examined by performing an experimental factor analysis, assessing the predictive value of the demographic and familiarity dimensions with the measured attitudes. Through the review of past research and the current hypotheses, I expect to find that demographic information, such as gender, ethnicity, political affiliation, socioeconomic status (SES), age, and level of education will have a significant effect on attitudes. More specifically, middle-aged, and
A quantitative research methodology was used to gain insight into the illicit use of prescription Attention Deficit Disorder (ADD) and Attention Deficit Hyperactivity Disorder (ADHD) stimulants on a college campus. The research investigates students' perceptions, the prevalence, and the motives concerning the illicit use of these prescription medications. The present study surveyed 110 undergraduate students at a small liberal arts college campus in the United States to assess the strengths of various motives for illicit use of prescription stimulants and the popularity of illegal stimulant use on their campus.

Inmate Reentry into society after release from jail or prison is a crucial part of our American society. In 2002, over 600,000 individuals left state and federal prisons, four times as many that were released in 1975. However, according to a national study, within three years, almost 7 in 10 will have been rearrested and back in prison, either for a new crime or for violating conditions of their release. According to a recent study, inmates released over the past seven years have re-offended at the rate of 8%. Of the 800,000 inmates currently out on parole approximately two-thirds of them will be rearrested, and over half will return to prison within three years. In fact, parolees accounted for more than 35 percent of the people entering prison in 2000, almost double the proportion from two decades ago. The questions of how to respond to those being re-released is prominent in our society. Reentry programs differ based upon the state. In this research, programs throughout the United States will be compared to current reentry programs within Louisville, Kentucky. In this research, the effective means of reentry will be uncovered, and how Louisville Corrections does, or does not, properly reenter inmates into society, as well as how potential problems may be rectified.

The purpose of this study is to explore ex-offender’s viewpoints on how their lives were affected because of incarceration. Prior research on this population has largely focused on the effect of drug rehabilitation on the likelihood of returning to prison or whether not prison time deters future offending. As a result, most of these studies are quantitative in nature. Unlike these studies, my study will offer insight into the minds of those directly affected by incarceration, the ex-offenders themselves. In-depth qualitative interviews will be conducted with ex-offenders and will examine how incarceration and the stigmatization associated with it, has affected their family life, employment opportunities, and community.

I hope that this study will serve the purpose of creating a better understanding of the challenges faced by ex-offenders upon re-socializing into society. In the future this increased awareness could potentially lead to evaluations of the current justice system and terms of incarceration.

The purpose of this research was to determine if police gratuities would affect the officers’ behavior. It looked specifically at the relationship between police behavior and family owned Chinese restaurant businesses. There was a convenient sample survey given to restaurants within the Gene Snyder Freeway. Some police officers will help a citizen speed through the judicial system with friendly gestures of gratuities. This study will present questions to the people giving the gratuities and see what they have benefitted from it.

The questionnaire used in this research consists of twelve questions pertaining to demographic characteristics of the officers’ spouse, the officers’ position within the police department, and some questions duplicated from the Maslach Burnout Inventory. The survey was constructed to identify the source of occupational stressors and their effects. The survey was given to each of the officers in a closed envelope during their shift meeting by their supervisor with instructions to ask their spouses to fill out the survey and return it in its original envelope. The subjects were completely aware that the survey was anonymous and that no answers to the survey are revealed to the department, supervisors, or other officers within the department.
Session B Inequality and Differentiation
Jordan Hall, Room 340
Moderator: Dr. Katherine Novak

09:00AM

Many scholars and hobbyists alike believe there is a dichotomy when it comes to the question of why people collect sports cards. Some individuals collect in the hopes of making a profit and are motivated by primarily extrinsic considerations, while others have more intrinsic motivations for engaging in the hobby. In sociological terms, the former sounds like a rationalization perspective and the latter a more symbolic-interactionist outlook. For my study, I observed and interviewed patrons (at three trading card shows) in the hopes of determining major developments within the industry as well as behavioral trends at the trading card show itself. Ultimately, I found that at the macro-level, the sports card and memorabilia industry parallels the rational system of market capitalism. At the micro-level I came to the conclusion that Peter Blau’s exchange theory model best explains the wide range of behaviors exhibited by consumers and retailers.

09:15AM
Our Economy is in a recession: How are we reacting. Jacob Efman. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

A secondary data analysis was performed using the General Social Survey (GSS) to determine what demographic and attitudinal variables seem to contribute most strongly to personal satisfaction with one’s financial situation. Cumulative data from the early 1970’s to the present contained in the GSS were used to identify those variables which over time and throughout different national economic conditions seem to be associated with satisfaction/dissatisfaction with one’s personal financial situation. The results can be useful to policy makers in predicting how various subpopulations in society will react to differing economic conditions in the future.

09:30AM
Attitudes Towards Interracial Relationships. Shelby Pile. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The purpose of this study was to determine the attitudes people have on interracial dating relationships. Further, by examining the characteristics of people who have opinions on the topic in the year of 2010. The study was done using a convenience sample of students at a small mid-western university.

10:00AM
Attitudes toward homosexuality influenced by Traditional Gender Role Beliefs. Corissa Foster. Butler University, Indianapolis, IN. Sponsor: Katherine Novak

Previous research has found that those with traditional gender role attitudes are less accepting of homosexuality than are individuals with less traditional attitudes about gender. While homosexuality has become more acceptable in the larger society, the existing research also indicates that Blacks, conservatives and highly religious individuals tend to hold traditional gender role attitudes and are less tolerant of homosexuality. The vast majority of these studies, however, have examined general attitudes toward homosexuality. The main purpose of this study is to further investigate the effect of gender role attitudes toward homosexuality by examining attitudes toward gay men and Lesbians, separately. A survey containing the Attitudes Toward Lesbians and Gay men scale (ATLG), the Traditional Family Ideology scale (TFI) and questions measuring religiosity, political ideology, gender and race will be given to a convenience sample of college students. It is expected that those with traditional gender role beliefs, those who are more conservative, those who are more religious, and blacks will have more negative attitudes toward homosexuality, than their counterparts. Whether or not there are differences in the effect of these factors on attitudes toward Lesbians and gay men will be explored.

10:15AM
Gender Inequity in Catholic High Schools. Autumn Fisher. Bellarmine University, Louisville, KY. Sponsor: Hank Rothgerber

This research looks at the gender inequity in academic achievement at a large Midwestern city’s Catholic high schools. Academic achievement is measured in a variety of ways, including average standardized test scores, percentage of students in AP classes, and percentage of students recognized by National Merit Scholarship Corporation. The study looks at the difference between the males in Catholic and the males in public high schools compared to the difference between females in Catholic and the females in public schools. In this way the study takes into account that males and females perform differently and that both sexes may perform better in one type of school. This comparison looks specifically at if one sex is benefiting more from Catholic schools than the other. This research is important, as the Catholic religion has been associated with sexist beliefs and because Catholic Schools are often assumed or shown to be superior to public schools, though, little research has looked at whether Catholic Schools provide the same benefits for females as they do for males.
10:30AM
Latino Bilingual Education: The Teacher's Perspective. Melissa Alm. Butler University, Indianapolis, IN. Sponsor: Katherine Novak

Each year nearly half a million Latino students drop out of school. A number of theories have been investigated for why Latino adolescents are increasingly ending their education. Many theories and researchers point to the importance of early education and the necessity to improve the education of young children. This study looks specifically at elementary bilingual education. However, instead of focusing on the Latino children, the study are centers on the teachers of ELL students and the effect these teachers have on the future of Latino students. This study interviews ten teachers from two separate Indianapolis Public Schools in order to further investigate Latino ELL education from the view of the teachers. It is found that teachers come into their classrooms with fixed ideas of how they expect their students to react and these then can affect their ELL students, although they are unconscious of their already set views.

10:45AM
Who is the New Generation of White Supremacists. Meredith McCann. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The research will deal with the themes and discussions of the internet blogs of the youth within the internet website Stormfront.Org. This website, created by Don Black (a grand wizard of the Ku Klux Klan) is a newer communication venue for the people involved in the white supremacy movement. This study investigates the commentary being made by the new members of the youth forum on the Stormfront site, a site that seems like a doorway to the growing movement of white supremacist in this country.

11:00AM
Are women’s priorities when choosing a mate influenced by menstrual cycling or hormonal birth control. Jeanie Sozansky. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Dr. Ella Ingram

Humans evaluate potential mates based on perceived reproductive benefits. A woman’s menstrual cycle, her hormonal birth control (HBC) use, and her relationship status may alter how she evaluates a potential mate. Normally cycling women tend to prefer masculine characteristics over feminine characteristics during the follicular phase of their menstrual cycle but HBC users have exhibited a contrasting preference. Women in a relationship show an increased preference for masculinity. We implemented a survey to evaluate the effects of menstrual cycling, HBC use, and relationship status on women’s mate choice preferences, specifically their preferences for genetic quality (GQ), parental investment (PI), interpersonal relationship (IPR), and masculinity. HBC users and nonusers ranked sets of descriptors relating to the categories of GQ, PI, and IPR and chose which of two face images differing in masculinity was more attractive to them. Each woman took the survey once during menstruation and once at midcycle. Overall, respondents ranked IPR descriptors as most preferred, PI descriptors as second most preferred, and GQ descriptors as third most preferred and chose the feminine face 72% more often than the masculine face. The responses given by HBC users and non-HBC users at the midpoint of the menstrual cycle were the same as those given during the time of menstruation. No statistically significant difference in the number of times each category was chosen as most preferred was observed when the responses of HBC users and non-HBC users were compared and the responses of available and unavailable women were compared.

11:15AM
If You Are Not WIth Us, Then You Are Against Us: Factors That Lead Sorority Members to Deactivate or Disaffiliate From Their Greek Organizations. Meghan Lake. Butler University, Indianapolis, IN. Sponsor: Katherine Novak

Past studies of sorority life indicate a number of factors that may play a role in the deactivation/disaffiliation of a sorority member including: value congruence and attribution theories, finance theories, traditional heteronormative views of sexuality and gender, cognitive developmental theories, and women’s developmental theories. However, no one has directly examined why a member would make the decision to deactivate/disaffiliate. The purpose of this study, therefore, was to explore deactivation/disaffiliation and the possible factors that led sorority members to terminate their membership in their sorority. A total of nine women were individually interviewed about their experiences and reasons for deactivating or disaffiliating from their sorority. The results provided support for the hypothesized theories in the literature. The factors and trends found in the study can allow Greek organizations to re-evaluate their internal structure to help decrease the factors found in the current study that could potentially drive active members away from wanting to deactivate or disaffiliate from their Greek organization.

Session C International Sociology
Jordan Hall, Room 348
Moderator: Dr. Krista Cline

11:00AM

The people of the Niger Delta region of Nigeria constitute many different tribal communities which have a variety of qualities. They have however been pinned up against an international oil corporation which threatens not only their livelihood but the very land they call home. In the following paper, the coalition between integrated world capitalism and the state of Nigeria will be explored and how the effects of neo-colonialism still impact the indigenous people. Through peer-reviewed scholarly journals, a formulated in-depth look at the issue is constructed. The conclusion reached after a strategic model is presented for the people of Nigeria. This model considers overcoming the inequalities which
have been imposed on them by restrictive foreign involvement. The citizens within Nigeria’s Niger Delta region must take action within their economy through a strong collective conscious and social movement.

**11:15AM**

Assimilation of Refugees from Burma: An Analysis of Two Groups in Fort Wayne, Indiana. Bryant Crubaugh. Taylor University, Upland, IN. Sponsor: Steve Bird

Significant systematic information about the assimilation of refugees from Burma into the city of Fort Wayne is very important for the Fort Wayne organizations that assist the refugees and to add to the limited scholarship that has been done for this group. An analysis of the assimilation process provides insight into ways to better help these recent immigrants, the city and private organizations that work with them, and other constituencies in Fort Wayne. To assess the assimilation process of the refugees from Burma in Fort Wayne, this study used an original paper survey given to refugees attending local religious services and English language classes. This two channel administration allows for the comparison of the two groups’ acculturation experience. The analysis uses a set of indexes to assess four kinds of assimilation: cultural, structural, identificational, and receptional. Selected demographic attributes of the respondents were also considered to aid our understanding of the patterns of assimilation. The conclusions gained from this study will be particularly helpful to the social service organizations in Fort Wayne seeking to help these refugees.

**11:30AM**

A critique of Female Genital Mutilation and proposed interventions that address cultural relativism. Amy Lynn. Marian College, Indianapolis, IN. Sponsor: Heather Rodriguez

The practice of Female Genital Mutilation (FGM), also known as female genital cutting, is a ritual done in many countries in Africa, as well as some countries in the Middle East and Europe. Women, mostly small girls are held down so that some, or all, of their external female genitalia are removed for non-medical purposes. FGM is the cause of medical, psychological, and emotional damages to women who have experienced it. It is a method of social control in these countries that reflects existing gender inequalities. The goal of this paper is to discuss culturally appropriate interventions that reduce rates of FGM. These intervention suggestions include education for men and women, harm reduction strategies, and an increase of women’s autonomy. It is important to change the way women are viewed in these societies to change the social dynamics and gender inequalities.

**Session D Identities and Identification**

**Jordan Hall, Room 340**

**Moderator: Dr. Marvin Scott**

**11:45AM**

The Effect Age and Race Have On The Level of Body Dissatisfaction Experienced by Men. Derek Brockus. Butler University, Indianapolis, IN. Sponsor: Katherine Novak

While the topic of body dissatisfaction has received much attention in the research literature, most studies have focused on women—providing insight into how women are affected by this problem. Less attention has been given the problem of body satisfaction among men and to the specific role that race or age may play in the level of body satisfaction among males in society. To examine the effect of race and age on body dissatisfaction among men, a convenience sample of African-American and Caucasian men between the ages of 18 and 45 will be administered a questionnaire to assess their overall level of body dissatisfaction, their concern for muscularity, and levels of self-esteem. Based on the existing research, I expect to find that African American will experience higher rates of body dissatisfaction than their Caucasian counterparts, due to the prevalent stereotype in society that African Americans are to be superior athletes. For African Americans a primary source of upward mobility has traditionally been athletic competition. In contrast, Caucasian men are presented with more avenues for upward social and economic mobility. In addition, I expect to find a negative correlation between age and body dissatisfaction for both African American and Caucasian men. As men age, they are often able to obtain social indicators of masculinity such as an occupation, and therefore, are much less dependent on their body as a source of self-esteem. Findings will be discussed in the context of the existing literature on body dissatisfaction.

**12:00PM**

Sororities and the social identities of members. Sally Miller. Butler University, Indianapolis, IN. Sponsor: Katherine Novak

Throughout life individuals occupy a number of different social roles and in the process of taking on new roles often integrate these new roles into their self-concept or sense of who they are. While studies have examined the organizational structure of sororities and the reasons for why individuals join sororities, there has been little research into how membership in a sorority affects an individual’s social identity and sense of self. To fully understand the sorority experience and the potential impact of this experience on members’ social identity, it is important to explore the perceptions of these women. In-depth interviews will be conducted with women who are currently members of a sorority. These interviews will focus on the following areas: what it means to be in a sorority; whether there is an idealized image of who a sorority girl is and if so, what is this image; the role expectations of a sorority member; and the effect of membership on behavior and self-image. Results will be discussed in the context of role theory and the existing literature on sororities.
When studying issues of sex and gender, the distinction is often made that sex describes the biological makeup of an individual while his/her gender is the social role he/she plays. This forced dichotomy of reality has created deep inequalities within society and constitutes a very significant part of the patriarchal regime. This paper asserts that gender and sex are indistinguishable from each other, and that sex can also be socially constructed. A conceptual model is presented which uses ideas from symbolic interactionism to describe ways in which sex is argued to be a social construction. Anomalies of sexual identity are also analyzed for support of this argument. Finally, this paper suggests directions that the sociology of gender and sex can go to achieve a better understanding of sex-based human interactions.

In this paper, I will test the hypothesis that the level of familiarity between a subject and an observer changes the observer’s perception of the physical features of the subject. To test this hypothesis, subjects were asked to fill out a survey about 10 photos of women, first assessing their level of familiarity with the person in each photo, then assessing their objective opinion of the person’s features. By comparing the responses to each other, I can determine whether there was an effect of the former on the latter. This issue is relevant because it may help determine the objectiveness on which we base our opinion of others’ appearances, which in turn are a large part of our overall impressions of others. Similarly, this research may be linked to issues of stereotyping and projecting value associations onto others.

Session E Culture and Media
Jordan Hall, Room 348
Moderator: Dr. Marvin Scott

01:15PM

Authors Stephanie Lawler and Bethany Bryson use the constructs of music and class to understand how middle-class identities are constructed and how disgust for working-class people is expressed. Bryson says that intergroup conflict is evident in patterns of musical taste. To see if middle-class people would be willing to map their disgust for working-class people onto the culture of country music and its listeners, I created an anonymous online survey in which I questioned participants’ perceptions of a country music video and a website titled, “People of Wal-Mart” in which satirical entries are made alongside photos of real people shopping at Wal-Mart.

I found that many middle-class people were not only willing to map disgust for working-class people onto country music performers and listeners, but they also perceived these seemingly benign representative musical forms as racist, ignorant, and bigoted. My survey data suggests that that middle-class people assumed to know something about the values, morals, and respectability of working-class people, specifically country music performers and fans, through superficial representations, which really gave little information about their actual values.

I concluded that instead of using this middle-class subjectivity to judge working-class peoples, specifically country music performers and fans, a nuanced way of thinking is required in which middle-class values are not used as the criterion of what is virtuous and respectable.

01:30PM

01:45PM

Through my research I plan on finding out whether or not there is a relation or correlation between crime rates, T.V. show ratings, and society’s opinion on what they feel the major social problems are for that given year. I feel that and research shows that, T.V. shows portray or create a
problem of crime in America. These shows are giving, the people who watch them, a perception that crime is happening more often or is more prevalent in society than it really is. I feel that by looking at the crime rates over the last 30 years, then looking at the ratings of the 10 most popular T.V. shows for that year, unparticular Crime related or crime drama shows. Finally, I am going to look the public’s opinion from year to year of the past 30 years to see what society holds as the major issues for that year, and then relate the three variables together. By correlating these three together and running a matrix and regression I have found the best relation of these three variables. What you will see is that even though crime rate may be going down there is some correlation between these three variables.

02:00PM
Young Adults and the Media: Perceptions of Fear of Workplace Violence. Hilary Funk. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

A survey was given to students enrolled in an independent Catholic University. The purpose of the survey was to determine how media coverage of recent instances of workplace violence affected the students and their perceptions of safety while working.

02:15PM

Studies have found that the media does not accurately portray crime in society and that these false portrayals influence both the public’s perceptions of crime and levels of fear. This study adds to our understanding of how the media affects public perceptions by examining the influence of crime-themed television shows, as well as news outlets, on individual’s perception and fear of crime. A systematic random sample of 75 Indianapolis residents were asked questions on their exposure to the media, safety concerns, fear of victimization, and perceptions of crime and offenders. It is expected that those respondents who are most exposed to media outlets will perceive crime to be more serious and common than it is in reality. It is also expected that they will be more fearful of becoming the victim of a crime themselves.

02:30PM

Research has shown that there is a correlation between media and how college students are influenced in behavior. My study will try and determine if influences decrease as students become older, looking specifically for differences between Freshmen and Senior students. The purpose is to find a correlation between exposures to contents in the five mass media; television, movies, music, Internet, magazines, and the influences they have on college students, looking specifically at fashion, speech, relationship/sex, behavior, and stereotypes.

02:45PM
Conflicting Viewpoints: A Study of Media Influences on Students’ Perception of Crime. Justin Burks. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The study includes analysis of college students’ views of crime from a small, private, liberal arts university. Students’ perceptions of crime in their locale were compared to UCR data representative of the area surrounding the university. A survey was used to find potential misconceptions of crime caused by a macro-level influencer, the media. Also included was a pre- survey including questions designed to control for demographic variables and victimization fears that may influence conceptions of crime.

03:00PM
Youth Voter Turnout and Outside Influences. Felicia Mohr. Bellarmine University, Louisville, KY. Sponsor: Curt Bergstrand

The results of a survey that will be given to one hundred to two hundred college students from a liberal arts Catholic university will be discussed. Questions were compiled to inquire about youth voting habits among college students. These questions asked about influences that may have influenced their decision to vote or not vote. These influences include home and parental behavior, peers, religion, get out the vote campaigns, and the media in general. An open-ended question is also included in the survey asking for reasons why the youth did not vote. Implications and limitations of this study will also be included.

Visual Art Display

Group A 11:00am - 1:00pm, Atherton Union Reilly Room


Farmers’ Market Society is about the people, community and life of Indianapolis Farmers’ Markets. Farmers’ Markets are societies that burst from worn parking lots, open buildings, crowded streets and vacant lots for just a few hours a week, a few months a year.

From these places emerges the Farmers’ Market Society: a common ground for a great variety of people, interests, passions and needs. The beauty of these different groups is that each finds a path to one shared element. Whether a one-time experience or scheduled weekly visits, all experiences, people and personalities form the society that explodes with life, passion and spirit.
It is truly a unique experience and one that creates its own culture, relationships and traditions. The union of such elements generates a unique transformative beauty, one that manifests itself in the simple act of buying and selling but reaches much further and deeper into the lives of countless individuals.

2
Enlace. Laura Kramer. Butler University, Indianapolis, IN. Sponsor: Elizabeth Mix

As Americans, we are often wrapped up in our own culture. We assume everyone speaks English. We assume that we, as American citizens, have an overarching control over all aspects of life. The work-obsessed, large-quantity economy becomes a monotonous norm for our country, and the complexity of the world can be forgotten quickly. By becoming aware of the unique citizens of this world through travel and acceptance of other cultures, small steps towards peace can be taken. By branching out and trying to understand other cultures we can build connections and make long-lasting relationships. In my work Enlace the newsprint is a symbol of one of the obvious barriers to acceptance—language. Ivy leaves, symbol of connection and unity, wrap up the right side of the page. The intertwining of these leaves with branches, further reinforcing the idea of connections, demonstrates how language barrier can be overcome by movement, pictures, and symbols that can be understood by every culture. Each leaf is also composed of multiple shades of green magazine clippings. These different shades portray the multiple individuals on this earth, and how their personalities color the planet. The face further implies the intertwined connection between all humans, no matter what their race, ethnicity or gender. Enlace connects everyone, no matter their differences, envisioning a multi-cultured and unified world.

3
FEAR. Eric Ellis. Butler University, Indianapolis, IN. Sponsor: Elizabeth Mix

I have a passion for horror films. In this series of photographs FEAR, I captured elements of my living space using lighting, cropping, and shifting points of view to suggest scenes that might be found in a horror film, or at the very least were thought-provoking and eerie. I am a creative writing major, and while I have never seriously considered a career as a photographer, I discovered during this project that my study of journalism enhanced my ability to create visually engaging photographs. Principles of lighting, the rule of thirds, and other elements of good photography helped me make decisions in the creation of this work. My three photographs, Condensation, The Face, and Static Sea each have qualities that accomplish a feeling of unrest (or at least interest) in the viewer. Condensation, while not necessarily “scary”, captures an often overlooked detail of everyday life and expresses a complex and underappreciated process. The Face takes something many people associate with creepiness (the doll) and magnifying it, so that it takes up a majority of the photograph. Static Sea is reminiscent of horror films like The Ring and Poltergeist, embodying the fear of the unknown into something we use every day, our television.

4
Torva Ferox Collective. Margo Wagner. Purdue University, West Lafayette, IN. Sponsor: Rod Williams

I have a collection of work that is encompassed under the latin motif: Torva Ferox. It is a multi-media project that displays natural and sublime aspects of mother nature. It also includes a variety of surreal visual stimulation.

5

This exhibit will include a variety of photography techniques including black and white, color, and different shot settings. Specialized Alpha Art and portraits will also be displayed.

6

Ever since I was little, I always enjoyed making things look visually appealing. I always loved photography. However, photography isn't necessarily about making things look visually appealing but more so of capturing the truth and rawness of an image. This is my passion. I truly enjoy taking an everyday object- an object people pass by without taking a closer look and transforming them or capturing them in such a way that it makes people stop to look at that object one second longer than before. Photography isn't what meets the eye; it is what the eye doesn't meet. Its seeing things in a new light. This is why I love photography.

Poster Presentations

Group A 9:30am - 10:45am, Pharmacy Building Lower Level Concourse

1
Art In Sight. Kelly Laffin, Michele Manzo, Laura Gilbert, Annalise Hartley. Ball State University, Muncie, IN. Sponsor: Elizabeth Dalton
Art in Sight is a web site written, designed and built in cooperation with Ball State University Museum of Art by students at the Virginia B. Ball Center for Creative Inquiry at Ball State University. The goal of the site is to help high school art and humanities students take a closer look at, appreciate, and understand art.

The web site has four main sections: Art Exploration, Art Timeline, Audio Tour, and Instructor Materials.

The Audio Tour orients students and new patrons to the museum through a tour that emphasizes the organization of the museum.

The Art Timeline helps students understand art history using museum objects to illustrate a variety of art styles and time periods.

The Art Exploration section of the site encourages students to have confidence while looking at art. It provides question prompts that allow students to analyze and understand art.

The Instructor Materials section helps educators maximize the educational value of the museum experience.

The web site can be accessed at www.bsu.edu/artinsight

2 Manipulating the Magi: The Medici’s Pursuit of Power and their Usage of the Adoration Theme. Rachel Sampson. Wittenberg University, Springfield, OH. Sponsor: Alejandra Gimenez-Berger

The work centers upon the Medici family’s ascent to power in the fifteenth century and their usage of the Adoration of the Magi theme. It begins with a discussion of the Magi’s development as icons in regards to religious, social, and general artistic contexts. It then proceeds to explore the history of the Medici and their early influence within Florence. After this, various art works are utilized to display the Medici’s adoption of the theme and utilization of it as an assertion of their power. These artworks are placed within the historical events of the family to better illustrate the Medici’s intent with them as well as the various allusions made within the paintings. The work concludes with the end of the Medici’s usage of Magi iconography after the family’s second exile from Florence. Such a change bases primarily on the family’s eventual return to Florence through force of arms as well as from the influence of Mannerism.

3 Televisión: Chico Rodriguez y George Lopez. Megan Sullivan. University of Evansville, Evansville, IN. Sponsor: Dr. Hanns Pieper

This content analysis of the only two hit television shows to have Hispanic lead characters focused on how Hispanics were portrayed in family, workforce and other social issues. The shows are, “Chico and the Man” and “The George Lopez Show”.

The first season of both shows were viewed and analyzed based upon the same criteria that were previously established. The first season of “Chico and the Man” aired in 1974. The first episode of “The George Lopez Show” aired in 2002, nearly thirty years later.

The two most outstanding findings were that a significant amount of violence was depicted in the most recent show, while an overwhelming amount of today’s stereotypes of the Hispanic population were depicted in the show that aired thirty years ago.


There seemed to be a lost connection between the elderly and young adults. The research aimed to identify ways to assist in bridging the gap within intergenerational communication. This could be achieved by bringing to light the perceptions or misperceptions between the two generations. In some cases, there existed a clash in communication and understanding between the generations. Whether the stress is positive or negative, this dissention could very well have been the cause of some communicational stresses in peoples’ lives. This lack of understanding and communication was the focal point of this research project. The majority of the research consisted of surveying a group of younger adults as well as a group of older adults for this study. The surveys allowed the information to be examined. This permitted the identification of differences within communication between the generations. The results indicate that a disparity does exist within the communication between younger and older adults.


Across college campuses in today’s society, student-athletes are faced with a number of stressors. This study focused on Division I and II student-athlete’s main stressors and the ways in which they managed them. Respondents were drawn from the populations of two private Universities in Midwestern cities. One university was a Division II facility, while the remaining university was a Division I university.

In general, differences between student-athletes at the Division I and II levels were apparent. Concerning academic aspects, it was evident that more D2 students responded that academics were of extreme importance and caused a higher stress level. In contrast, a small difference was observed between D2 respondents and D1 respondents in the area of athletics, with a slightly larger number of D1 students believing athletic achievement held extreme importance in their lives. Lastly, time management caused D1 students less stress than the majority of D2 students. Overall, both levels of student-athletes reported similar stressors, stress levels, and management techniques.
6 Young Adults’ Relationship with the Divine Predicts Psychological Health. Stephanie Guetig, R. Brian Giesler, Toni Maraldo, Elizabeth Kaiser. Butler University, Indianapolis, IN. Sponsor: R. Brian Giesler

Past investigations have demonstrated that the construct of attachment style (i.e., type of relationship between a child and caregiver) can be extended to symbolic relationships between adults and God in religions where the Divine is viewed as a personal figure. Although some previous investigations have suggested that type of attachment to God may predict psychological outcomes in older adults (e.g., bereavement), very little work has addressed these issues in young adults. The current study was conducted to investigate whether young adults’ relationship with God predicts both positive and negative aspects of mental health. As part of a larger questionnaire study, several scales addressing the targeted variables were administered to a convenience sample of undergraduates (n=98). Attachment to God was assessed using a modified form of the Distant God Scale (Kilpatrick & Shaver, 1990); negative and positive aspects of psychological health were assessed using the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) and the Satisfaction with Life Scale (SL; Diener et al., 1985), respectively. Bivariate correlations revealed significant relationships: the more participants perceived God as close, personal, comforting, available and responsive, the less depression they experienced (r = -.21, p<.05) and the more life satisfaction they reported (r=.23, p<.03). However, after controlling for level of religiosity, attachment to God no longer predicted depression, but still marginally predicted life satisfaction (p<.07). These findings suggest that young adults’ perceived relationship with the Divine may independently affect positive aspects of psychological health, with more secure attachments engendering better health.

7 Experience with Junk Food: Effects on Diet Weight Loss and Weight Recovery. Elyse Ream. Wittenberg University, Springfield, OH. Sponsor: Dr. Josephine F. Wilson

Junk food in the diet causes weight gain, and restriction of any appealing food leads to overconsumption by people and rats. This study compared weight loss during food restriction and weight recovery in control rats and rats that had consumed junk food their entire lives. Twelve control rats were raised on chow, and twelve junk-food rats were raised on a junk-food diet plus chow. Junk-food rats weighed more at the beginning of the food-restriction diet and lost weight less rapidly. However, when food restriction ceased, junk-food rats regained their body weight more rapidly.


How do we detect rare auditory events? Without this function, it would be very difficult to pay attention to specific sounds and distinguish between important (foreground) sounds and unimportant (background) sounds. To study this process in the brain, we can measure the Event-Related Potentials (ERPs) in response to auditory stimuli. When the auditory system differentiates rare (deviant) events from common (standard) events, an increased response, called auditory Mismatch Negativity (MMN), is evoked. MMN is the difference obtained by subtracting the brain’s response to standard stimuli from its response to deviant stimuli. In our study, we were interested in the auditory system’s detection of rare durations of sounds. ERPs were recorded over the frontal lobe (AF3 and AF4) and parietal lobe (Cz) using Ag/AgCl electrodes. I compared the MMN amplitude and latency evoked by deviant frequency stimuli (Standard: 500 Hz; Deviants: 300 Hz, 700 Hz, and 900 Hz, all 100 ms) and deviant duration stimuli (Standard: 100 ms; Deviant: 300 ms). Of the 3600 total trials, during which participants viewed an unrelated silent subtitled movie, 58% of trials were standards and 8.2% of trials were each deviant. Unlike the frequency deviants, the duration deviants are physically identical to the standard for the first 100 msec. If the MMN represents the auditory cortex’s “change detection system,” it should then respond later to the duration deviants than the frequency deviants for this reason. We hypothesize then that there will be a longer MMN onset latency for the duration deviants than the frequency deviants.


This study focused on the adult roles teenagers assume in their homes in the last three years of high school. Do children have to be more responsible at an earlier age by doing such activities as helping pay bills, looking after younger siblings, and doing more household chores instead of the parents doing them.

Respondents for the survey were taken from two universities in Southern Indiana. One group of students answered the questionnaire directly on an Internet survey site while the second group’s surveys were typed in manually.

Overall, students showed great amount of growing up from having to help care for younger siblings, do many chores around the house, helping parents in financial times, and being an emotional support. While they showed signs of having to grow up, the majority did not feel they were forced to grow up quicker than normal.

10 The Effects of Societal Constructs on Perceptions of Masculinity and Femininity. Neal Janssen, Tia Kolasa, Katie Harris. Valparaiso University, Valparaiso, IN. Sponsor: Matthew Ringenberg
Society has always been an enforcer of strict gender roles that guide the perception of what is acceptable for each. The purpose of this study is to explore the relationship between personal and social factors and views on one’s own masculinity and femininity. This study will address three research questions: 1. How do societal views compare to personal views in relation to masculinity and femininity? 2. How do social involvements (sports, church, leadership roles, Greek life) affect a person’s perceptions of his or her own masculinity and femininity? 3. How do demographics (sex, race, religion, sexual orientation, age) affect a person’s perception of his or her own masculinity and femininity? To conduct this research, 180 to 200 current Valparaiso University students will participate by completing a survey. Consisting of two Likert Scales, individuals will rank their perception of their own masculinity and femininity, a word bank of descriptive terms, and also a section containing demographic information. Each student must be 18 years of age and consent prior to taking the survey. To provide societal perception, each member of this group will, by a set of specific categorical guidelines, rate each participant on the same Likert Scale regarding masculinity and femininity.

11 Mental Health Services Usages among Low-Income Women. Lindsie Hammans. Ball State University, Muncie, IN. Sponsor: Greta Slater

Low-income women often lack the necessary funds to seek needed mental health service treatment. The purpose of this study is to examine mental health service usage of low-income women, taking into account variables that would make the women more or less likely to follow a referral, initiate an appointment or decide not to consult a mental health professional despite the benefits treatment may provide. Data analyzed will include prevalence of depression or other forms of psychological stress, demographics of the populations affected, details on what services are available and what services are accessed. Analyzing federal and state level data will indicate whether women in low-income situations are able to meet their needs through available health service options.

12 Societal Pressures and the Effects on College Age Females. Lauren Vos. University of Evansville, Evansville, IN. Sponsor: Hanns Pieper

This research study focuses on the pressures felt by high achieving college age females at a Midwestern university in comparison with the pressures they felt in high school. Females were questioned on perceived stress in the areas of academics, athletics, relationships, beauty and employment.

Respondents were randomly selected from a sample of female students who had achieved a position on the University’s Dean’s List at least once in the past four semesters. Selected females received a link to the survey through an Internet survey site.

Female students overall felt an increase in pressure to succeed from their time in high school. If female students did not meet a satisfactory balance in achievement in the areas of academics, athletics, relationships, beauty and employment, the majority of the female students felt some sense of disappointment in themselves. Perceived pressure to succeed currently in academics was the highest pressure felt by respondents. Overall, students reported feeling internal pressure to succeed as the strongest pressure source.


As society becomes more accepting of gay, lesbian, bisexual, transgender (GLBT) people, there are more GLBT college students joining social Greek fraternities or sororities. This study focused on how accepting members of the social Greek communities were of GLBT students.

The sample included the entire social Greek community of a Midwestern university. The survey was distributed by email to the students within the Greek community. An Internet survey service was used to gather the data and a link to the survey was provided in the email. This survey was completely anonymous and voluntary.

Overall, the students were quite accepting of gay, lesbian, bisexual, and transgender students on the campus. Most Greek students that filled out the survey felt that their own organizations were very accepting of GLBT students. There was a strong difference however in how GLBT students felt that they were accepted within the social Greek community. The GLBT students rated the acceptance of GLBT students overall in the social Greek community lower than that of the straight students.

14 Communication between Parents and Children Concerning Sex Education. Emily Johnson. University of Evansville, Evansville, IN. Sponsor: Hanns Pieper

The entertainment industry has made sex a hot topic in movies, television shows, and music. However, in a society that seems to be over sexed, sex can still easily be thought of as a taboo. Parents are the main resource in a child’s life and are expected to have, “the talk” with their children about sex. This study focused on the impact and content of those discussions. Respondents were randomly drawn from a student population of Midwestern university. Data were collected on an Internet survey web site that assured anonymity.

Almost 7 out of 10 children whose parents did not discuss sex until they were between the ages of 15 and 21 were already in a relationship. Also sixty four percent already knew everything about sex and their parents did not teach them anything new. A surprising finding was that of the 20% of children who never had parents discuss sex with them, half are still comfortable with talking about sex with a romantic partner and none reported not being comfortable at all.
15 Auditory Mismatch Negativity: Attention-Based or Feature-Level Change Detection. Annalise vonderEmbse, Valentina Ghisays, Nicholas A. Del Grosso, Darcy M. Dubuc, Jon-Michael Huber, Jon Pozderac. Wittenberg University, Springfield, OH. Sponsor: Dr. Josephine F. Wilson

We studied a frequency change-detection system generated in the auditory cortex. In oddball experiment designs, Event-Related Potential (ERP) amplitudes are found to be larger for rare auditory stimuli, or “deviants”, than for common stimuli, or “standards,” a phenomenon called Mismatch Negativity (MMN), which arises from the activation of the frequency change-detection system. While there is evidence that this system directly measures rarity of physical auditory features, it is still debated whether this effect may instead be due to increases in overall attention when exposed to a rare event. In order to compare these two theories, we used a within-subject, multiple-deviant oddball paradigm called Optimum-1 to compare ERPs during the early MMN (100-250 msec post-stimulus) and the attention-based p300 (300-450 msec post-stimulus) between deviants of different sound frequencies. We compared ERPs of twelve participants to standard stimuli (500 Hz), which were randomly presented in 58% of the 3600 trials, and two deviants (300 Hz and 700 Hz), which were each in 8.2% of the trials. ERPs were measured using Ag/AgCl electrodes at F3, F4, and Cz of each participant. Because high-pitched sounds elicit more attention, differences in MMN amplitude between the two (high and low) deviants will indicate attention-related MMN. Since detection of rare events is key to interpreting important auditory events throughout a person’s life, it is important to understanding what mechanisms this system utilizes in order to perform that function and how the auditory cortex itself is implicated.

16 Understanding Ethical Needs in Underserved Communities. Dominique Edwards. Purdue University North Central, Westville, IN. Sponsor: Nancy Marthakis

Health providers often lack formal training in how to approach medical ethical dilemmas. For this reason, a three credit hour course entitled “The Biology and Controversy of Medical Ethics” was developed. The course was designed with a priority to partner with organizations whose mission is to collaborate with facilities committed to meeting the health care needs of the underserved communities. The Indiana Area Health Education Center (AHEC) was chosen as a course collaborator since the mission of AHEC is to partner with organizations immersed in meeting the needs of regional underserved communities, thus providing students with an added civic dimension. As such, the facility sites served to provide powerful service learning experiences for health professions students. Each student had the unique opportunity to take the medical ethical theory outside of the classroom and participate in hands-on learning experiences by evaluating actual patient ethical dilemmas. AHEC affiliated partners included several Federally Qualified Health Clinics that provide care for the underserved, an area hospice, nursing home and hospitals. Patient cases were pre-selected to include those with health diversity and disparity issues. Students from different disciplines of study were placed on interdisciplinary teams that mimic actual ethics committees thus allowing students to perform panel presentations detailing real ethical issues. The collaborator facilities evaluated the student driven panel presentations, allowing the service learning site to reflect upon the student resolutions to the patient medical ethical dilemma. Pre and Post course surveys were administered to students providing assessment of the course, which demonstrated students have gained better insight in understanding and providing solutions to the ethical needs facing the underserved communities.


This study focuses on the job satisfaction of probation and parole officers within the state of Indiana. Factors that would affect job satisfaction were compared between the Probation and Parole officers. Overall the rating for job satisfaction was high for both probation and parole officers. Probation officers felt better paid for the work they do in comparison to parole officers. When compared, the overall job satisfaction for probation officers was higher than that of parole officers.

Some of the major findings in this study were that those officers that had a realistic view of what their work entailed before beginning work experienced higher job satisfaction. By having adequate training for their jobs, a higher job satisfaction rate was achieved for both groups. These and other findings are discussed.

18 Factors Affecting Students’ Drug Use. Deanne Caldemeyer. University of Evansville, Evansville, IN. Sponsor: Hanns Pieper

This study looks at the relationship between students’ drug use, their knowledge of the dangers associated with them, and whether they thought those dangers would affect them. Students often may feel invincible; that while bad things are out there and bad things happen, it will not happen to them or anyone they know. This feeling may influence the receptiveness of drugs and alcohol that is pushed so forcefully by pop culture and other students.

The sample was randomly drawn from the student body of a Midwestern university. The data were gathered by means of a questionnaire that was uploaded onto an on-line survey website. Students received a link to the survey through email. Generally students knew the dangers associated with drugs and harbored little or no belief that the dangers would not affect them.

Is it possible for students to learn while playing a game that is legitimately fun? Through an immersive learning group at Ball State University, we have been working on a game to inform fourth grade students about Confederate general John Hunt Morgan’s Raid through Indiana and Ohio. This game was inspired to be played in fifteen to twenty minutes, while creating a positive expansion of knowledge and understanding of Morgan’s Raid. Throughout the sixteen weeks of our class we have designed, tested, and improved multiple game ideas in an attempt to maximize the ratio between fun and learning. Our poster will outline the design process, testing process, and where we are in production. Our design team includes individuals from a wide variety of majors, such as history, education, and computer science, all of which have brought their own expertise and experience to the table. We began with a handful of physical board-game prototypes and have since moved on to implement these designs into computerized games. Our designs have undergone rigorous internal and external playtesting by both the design team. We have also applied these games to our target market—a fourth grade classroom—in order to maximize the learning experience while retaining the elements which make them fun. We feel that through our very intricate testing process, we can narrow down the essence of what makes a game fun and apply it to something that most students typically glaze over in the early years of their schooling.


Discovering the link between words and objects is critical for language learning. In the cross-situational learning paradigm, to learn word to referent mappings, learners track statistical regularities across ambiguous trials between words and objects. Learners may also be sensitive to additional cues in a learning environment such as consistent spatial locations and local temporal contiguity. We hypothesized that associative learning can be improved with additional spatial and temporal cues. To examine the effects of these cues, subjects will be given 27 training trials with each of the 4 possible cue combinations; a 2x2 design, i.e., spatial x temporal (with and without). In conditions with spatial and temporal cues, 4 visual objects will be displayed in 4 locations in a 3x3 grid and 4 words will be played such that the first word was the last word in the previous trials. We will also keep track of eye movement data generated by a statistical learning in the course of learning which gives us a window to continuously measure how the learner may use those cues in real-time learning.

21 The Psychological Effects of Diet. Jami Boyle, Micah Whitted. Hanover College, Hanover, IN. Sponsor: Bill Altermatt

This study was designed to measure the psychological effects of diet on mood, body esteem and energy level. Participants (N=27, 82.8% female) completed a mood and body esteem questionnaire, were randomly assigned to eat a healthy or unhealthy diet for 24 hours, and completed the mood and body esteem questionnaires again. A significant interaction was found between time and diet group for each dependent variable: mood (p=.008), body esteem (p<.001) and energy (p=.021). All three increased for the healthy condition over time and decreased for the unhealthy condition. Eating a healthy diet not only contributes to physical health but also psychological health.

22 NFAT Expression in the 1st Branchial Arch of the Ts65Dn Mouse Model for Down Syndrome. Brady Harman, Josh Blazek. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Randall Roper

Down syndrome is a genetic disorder caused by three copies (trisomy) of chromosome 21. Craniofacial anomalies are among the most common and distinguishing phenotypes in individuals with DS. Genetically engineered mice have been used to effectively study Down syndrome (DS) phenotypes. Ts65Dn mice are a model for DS craniofacial phenotypes and Dscr1 and Dyrk1a are among the roughly 100 genes found in three copies that are orthologous to human chromosome 21. Nuclear factor of activated T-cells (NFAT) are a group of transcription factors involved in several developmental processes, including the nervous and skeletal systems. Dscr1 and Dyrk1a triplication has been found to reduce NFAT nuclear localization, reducing transcriptional activity in several tissues. Our lab has shown that at E9.5, Ts65Dn mice display a smaller mandibular precursor (BA1) with fewer neural crest (NC) and proliferating NC than euploid littermates. We hypothesize that reduced nuclear localization of NFAT in the trisomic BA1 causes reduced proliferation and altered function of NC in Ts65Dn embryos. To test our hypothesis, we are using immunohistochemistry to quantify the cellular localization of NFAT within the BA1 of the E9.5 Ts65Dn embryos. This study will help us determine the molecular mechanism causing NC deficits that lead to craniofacial anomalies in individuals with DS.

Group B 11:00am - 12:15pm, Pharmacy Building Lower Level Concourse

1 An ATR-FTIR analysis of trans-fat content in gas station unpackaged food products. Cyd Van Orman, Jasmine Dixon, Cameron Weaver, Jose Haro, Patty Campbell. Purdue University North Central, Westville, IN. Sponsor: Sharron Jenkins

Studies linking high trans-fat diets to coronary heart disease (CHD) have prompted the need to either regulate, limit, or completely ban trans-fat from all commercial food products, including fast foods. Although most packaged food products must contain trans-fat labeling, unpackaged snacks such as cookies, donuts, and muffins at gas station convenience stores often do not contain nutrition fact labels. Hence, consumers are not aware of the trans-fat content in these type of unpackaged foods and are not able to make healthy and informed food choices at these convenient
establishments. In addition, there are no U.S. federal regulations of trans-fat labeling for unpackaged foods sold at gas stations and convenience markets. The purpose of this study is to determine the amount of trans-fat in unpackaged food products obtained from gas station convenience stores. To accomplish this objective, we determined the % trans-fat in oil extracted from unpackaged foods obtained from several gas stations within Michigan City, Indiana. Rapid attenuated total reflection-Fourier transform infrared (ATR-FTIR) spectroscopy was used to assess the trans-fat content of oil extracted from food samples. In this paper, we present our preliminary findings.

2 Effect Of Polymerase Mutations On The Efficiency Of Break-Induced Replication In Saccharomyces Cerevisiae. Alexandra Vayl, Anna Malkova. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Anna Malkova

Any damage to DNA is very dangerous since it can result in genomic alterations or loss of genetic material if not properly repaired. One type of impairment that could occur in DNA is a double strand break (DSB). DSBs are most lethal to DNA due to the high risk of mutations and loss of DNA material that can potentially occur. It is therefore very important to understand the mechanisms of the various pathways at which DNA repairs itself. One pathway that has been established is break-induced replication (BIR). BIR is a significant repair pathway in which one end of the broken molecule invades a homologous sequence in the genome and copies large regions of DNA. It is not the ideal repair pathway since it can cause a loss of DNA material and other tribulations that could lead to serious problems, including cancer. To better understand the pathway, several polymerases were mutated in order to observe their roles in BIR. It was observed that pol3-Y708A, a mutation of the Pol d complex, had a significant effect on BIR. Further research will be done on various other polymerase mutations as well as on the identification of how specifically pol3-Y708A mutation effects BIR.

3 Effects Of Polymerase D Mutations On Mutagenesis And Chromosomal Rearrangements Related To BIR. Tiffany Blackgrove. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Anna Malkova

One of the most lethal forms of DNA damage is double-strand breaks (DSBs), which might lead to cell death, chromosome loss, or chromosomal rearrangements. Cells can repair DSBs through several different pathways, and each pathway carries with it different genetic consequences for the cell. Break-induced replication (BIR) is an important DSB repair pathway in which one end of the broken molecule invades a homologous sequence in the genome and copies large tracts of genetic information. This large-scale duplication of DNA can lead to destabilization of the genome linked to birth defects and disease. Recently, our lab used a new experimental system in yeast, Saccharomyces cerevisiae, to study the genetic control of BIR. We concluded that deletion of POL32, encoding a non-essential subunit of polymerase d, dramatically decreased the efficiency of BIR. In addition, our studies suggested that BIR defects in pol32? cells lead to a particular type of chromosomal rearrangement: half-crossover (HCO) molecules in which a piece of the broken chromosome fuses to a piece of the donor chromosome, while other chromosomal fragments are lost. I will be presenting preliminary data from other polymerase d mutants in which the POL3 and POL31 subunits are altered, which also exhibit decreased BIR efficiency and increased HCO frequency. Eight additional candidate proteins with known endonuclease activity are also being tested for their potential role in half-crossover formation. Finally, as our lab has recently shown BIR to be a highly mutagenic process, I will present data describing the effects of various polymerase d mutants in BIR-related mutagenesis.

4 Are Long John Silver’s “Trans-Fat” Claims Accurate? An ATR-FTIR Analysis. Nicholas Ullmann, Jesse Cartagena, Lauren Frank. Purdue University North Central, Westville, IN. Sponsor: Sharron Jenkins

Many U.S. fast food chains now claim that their food items, particularly French fries, have “no trans-fat”. Our lab tested the validity of trans-fat claims made by several popular fast food restaurants by experimentally determining the %trans-fat in oil extracted from fast food French fries. In some cases, we found trans-fat content to be nearly twice as high as the amount reported by the restaurant in their literature. Long John Silver’s, for example, reported a trans-fat content of 30% in their French fries, while our lab actually found over 40% (41.70 ± 1.5, n=3) trans-fat. The purpose of this study is to broaden our study of Long John Silver’s trans-fat claims by analyzing a variety of their food items and comparing our findings with the % trans-fat report by the restaurant in their literature (nutrition fact tables). Rapid attenuated total reflection-Fourier transform infrared (ATR-FTIR) spectroscopy was used to assess the trans-fat content of oil extracted from the food samples. In this paper, we present our preliminary findings.

5 Are White Castle’s “Trans-Fat” Claims Accurate? An ATR-FTIR Analysis. Lakiska Flippin, Chelsea Sieradzki, Bianca Daisy. Purdue University North Central, Westville, IN. Sponsor: Sharron Jenkins

Many U.S. fast food chains now claim that their food items, particularly French fries, have “no trans-fat”. Our lab tested the validity of trans-fat claims made by several popular fast food restaurants by experimentally determining the %trans-fat in oil extracted from fast food French fries. We found that some restaurants had trans-fat content much higher than the amount reported in their literature, while others reported trans-fat levels much higher than what our study revealed. White Castle, for example, reported a trans-fat content of 32% in their French fries, while our lab found 14.68 ± 2.4%, n=3) trans-fat. The purpose of this study is to broaden our study of White Castle’s trans-fat claims by analyzing a variety of their food items and comparing our findings with the % trans-fat reported by the restaurant in their literature (nutrition fact tables). Rapid attenuated total reflection-Fourier transform infrared (ATR-FTIR) spectroscopy was used to assess the trans-fat content of oil extracted from the food samples. In this paper, we present our preliminary findings.
Kir2.1 is a member of the inward rectifying potassium channel family and is important in maintaining the resting membrane potential in excitable cells. We examined how the intracellular regions of the channel are important in channel gating specifically, the C-terminal residue L330. Using potassium channel crystal structures, we identified a specific residue on the N-terminus that is thought to associate with L330 to maintain channel function, through intracellular domain associations. We utilized site-directed mutagenesis to alter the specific residues (F47R, F47L, L330R, L330F) and then co-expressed the mutated subunit domains in COS-7 cells. Co-immunoprecipitation was then performed to analyze termini interactions. Our results have demonstrated that these mutations in the isolated intracellular domains do not affect subunit interactions, although these residues have been identified as being critical in whole channel function.

The brain is the most complex organ in the human body. The brain is the most complex organ in the human body. What sets the brain apart is that the roughly 100 billion nerve cells must make an astounding number of specific cell-cell contacts to create the intricate patterns of neural circuitry that define and control our very being. The goal of our research is to develop the technology for the reprogramming of neural circuits in vivo in a user defined manner.

Kir2.1 subunits

Kir2.1 is a member of the inward rectifying potassium channel family and is important in maintaining the resting membrane potential in excitable cells. We examined how the intracellular regions of the channel are important in channel gating specifically, the C-terminal residue L330. Using potassium channel crystal structures, we identified a specific residue on the N-terminus that is thought to associate with L330 to maintain channel function, through intracellular domain associations. We utilized site-directed mutagenesis to alter the specific residues (F47R, F47L, L330R, L330F) and then co-expressed the mutated subunit domains in COS-7 cells. Co-immunoprecipitation was then performed to analyze termini interactions. Our results have demonstrated that these mutations in the isolated intracellular domains do not affect subunit interactions, although these residues have been identified as being critical in whole channel function.
Myelin and node characterization in a Caridean shrimp. Grant Adams. Denison University, OH. Sponsor: Caroline Wilson

Myelin has a profound effect on the ability of an organism to respond to its environment, and is a key innovation that has driven the success of vertebrates. Invertebrates also contain myelinated nervous systems, albeit with variations in both structure and biochemistry of the layers. In this study, we examined myelin features of the Caridean sand shrimp, Crangon septemspinosa, with particular emphasis on the nodes. Nodes are regions of the nerve fibers found between myelin processes and are dense with organelles and transmembrane proteins, including voltage-gated sodium channels (NaV). Through a combination of immunohistochemistry, electron microscopy, and sequencing of the NaV, we have characterized the C. septemspinosa node and compared it to other invertebrate and vertebrate features.

Suspension of Deposit Remittance during the Banking Panic of 1907: An Examination. Jacob Wishart. Oberlin College, OH. Sponsor: Ellis Tallman

The financial crisis of 1907 exemplifies the fragility of the banking system during the National Banking era (1864 to 1913). The Panic of 1907 pummeled the New York City financial institutions, the trust companies, financial intermediaries that were outside the New York Clearing House organization. The New York Clearing House, which acted as a pseudo lender of last resort during the National Banking era, made key mistakes while attempting to restore financial stability and confidence (Wicker 2000). This paper aims to identify the negative real effects on the economy arising from the New York Clearing House decisions. Specifically, the New York Clearing House imposed suspension. Wicker and Sprague (1910) claim that the suspension of cash payments was both unnecessary at the time and also extremely costly. This paper attempts to isolate the costs due to the suspension of deposit remittance, and highlight the related negative effects on the real economy. I examine several coinciding effects from the suspension of cash payment: payroll difficulties in the New York area, dislocation of the domestic and foreign exchanges, an increase in cash hoarding, and the development of currency premiums (Sprague 1910). I also explain how these factors can increase the cost of economic transactions. For data, I examine the high frequency measures of real output along with indicators of financial stringency.

References

Investigating the glial cell response around microelectrodes in brain tissue. Himanshi Desai. Purdue University, West Lafayette, IN. Sponsor: Dr. Kevin J. Otto

Devices for chronic micro-stimulation of brain tissue, such as implantable microelectrode arrays, are actively being studied for their potential to treat disorders such as paralysis, epilepsy, and Parkinson’s disease, among others. These devices could also provide insights into neural processes such as memory formation. However, tissue damage upon implantation, as well as the presence of these devices in the brain, induces a poorly characterized tissue response by the glial brain cells. Over time this immunoreactive tissue response forms a tight glial sheath around the implanted devices. This sheath acts as a barrier between the device and the healthy brain tissue which decreases the ability to stimulate and record from brain neurons over time. Understanding this reactive tissue response therefore is crucial for developing effective methods for the use of these implantable microelectrode arrays in medical treatments.

Here we investigate the role of the oligodendrocytes glial cells, which myelinate axons in the central nervous system. Oligodendrocytes are injured during device insertion and may play a role in the subsequent tissue response. We study the oligodendrocytes, using novel immunohistochemical methods around the site of microelectrode device implantation into rat cerebral cortex. Preliminary results show unexpected and highly reactive oligodendrocyte activity around some of the implanted devices. Our results suggest that oligodendrocytes may play a role in the response to microelectrode implantation in brain tissue, and thus must be considered in developing a comprehensive approach to improving chronic neural interfaces.

Recycled Rubber as an Aggregate in Concrete. Matthew Teschke. Purdue University Calumet, IN. Sponsor: Jose Pena

Engineers are constantly looking for new ways to design structures and roads using recycled material and this would afford them a great chance to do this. Concrete mixes using rubber could also be used in structures that may be subjected to earthquakes and explosions. The idea behind this is the rubber may absorb some of the energy generated by an earthquake or explosion and keep the structure standing instead of crumbling beyond repair. The study examines the effect of using recycled-nitrogen-powdered rubber as a partial replacement of fine aggregate in concrete. Concrete cylinders will be cast and tested for compressive strength using American Society for Testing and Materials (ASTM) Standard C39. A total of five mixes will be prepared; a control mix with regular aggregate, two mixes with partial replacement of fine aggregate of 25% and 35% by volume using untreated-surface-powdered rubber and two mixes with partial replacement of fine aggregate of 25% and 35% by volume using surface-treated-powdered rubber. 30 cylinders are being prepared for each different mix and tested at six different ages: 1, 3, 7, 14, 21, and 28 days. The compressive strength of the control mix will be compared with those mixes containing partial replacement of treated and untreated rubber. The Stress-Strain curves will also be compared to determine the effect that the substitution of fine aggregate will have on the ductility of
15 Metallothionein Expression In Fish In Response To Copper. Ian Kratzke, Jonah Kreniske, Brian Buesing, Ben O'Brien. Earlham College, Richmond, IN. Sponsor: Mike Deibel

Copper is commonly added to ponds and lakes, usually in the form of copper sulfate, as an algicide. These oddly blue bodies of water can be found both locally and abroad, even though it can be lethal to all the aquatic life. In this experiment, locally raised fish were used. Copper was added in concentrations of 0 ppm, 1 ppm, and 10 ppm to the water in tanks containing Red Ear, Bass, Catfish and Blue Gill fish. The liver, kidney, gill and heart were dissected from the fish, sectioned, put on slides and stained. Immunohistochemistry (IHC) was performed on the slides. The remaining tissue was homogenized, weighed, and run through a Bradford Assay to determine protein concentration. It was then added to gels for a Western Blot and well plates for an ELISA. Kidney and gill showed more Metallothionein (MTI) expression than heart and liver in the 1 ppm samples. The 10 ppm fish died too quickly for significant protein expression to occur.


Oxidative DNA damage is responsible for many mutations associated with cancer, aging, and a host of physiological disorders. Thus, prevention of oxidative damage is an important factor in cancer prevention and overall health. Selenium compounds exhibit antioxidant activity, however the mechanism by which selenium compounds minimize oxidative damage is unclear. Two prevalent methods for determining antioxidant activity are measuring DNA strand breakage and monitoring production of the widely accepted oxidative DNA damage maker 8-hydroxy-2’-deoxyguanosine (8-OH-dG). Previous work in the area of selenium compounds as antioxidants has focused on monitoring the degree of DNA strand breakage. We present the results of a study in which we monitored production of the 8-OH-dG marker to better understand the mechanism by which selenium compounds function as antioxidants. We combined the metal ions Cu(II), Fe(II) and Cr(III) with H2O2 to generate reactive oxygen species (ROS) in the presence of the mononucleotide 2’-deoxyguanosine-5’-monophosphate (dGMP); a simplistic model for nucleic acid polymers. We monitored the production of 8-OH-dG in the presence of selenium species known to exhibit varying degrees of antioxidant activity (SeO2, SeO32- and SeO42-). Preliminary results show a direct correlation between the degree of DNA strand breakage and production of 8-OH-dG, indicating that both processes take place in oxidative DNA damage. Our results also indicate that the antioxidant behavior of selenium compounds is dependent on their ability to chelate metal ions, which prevents them from catalyzing the reduction of peroxide to form ROS.

17 Cladistic Analysis Of 19 Species In The Suborder Conulariina Miller And Gurley. 1896. Matthew Burkey. Hanover College, Hanover, IN. Sponsor: Heyo Van Iten

This paper presents an unweighted cladistic analysis of the suborder Conulariina Miller and Gurley, 1896, which is an extinct group of cnidarians whose closest extant relatives are Coronatid scyphozoans. The analysis was performed to test previously published hypothesis on phylogenetic relationships among conulariid species. A total of 15 binary morphological features were scored for the following 19 ingroup species: Adesmoconularia byblis, Archaeoconularia insignis, Australoconularia borenorenis, Baccacconularia robinsoni, Circonularia eosilurica, Climacoconus quadrata, Conularia quadrirugulata, Conulariella robusta, Conularina triangularata, Ctenocunularia hispida, Eoconularia loculata, Exoconularia exquisita, Garraconularia multicotostata, Hoconularia hummeli, Metaconularia aspersa, Paraconularia inaequicotostata, Paraconularia feldmanni, Pseudocunularia grandissima, and Reticulaconularia penouili. Coronatid scyphozoans served as the sole outgroup. Four of the fifteen characters appear to be autapomorphies but underwent reversals in subsequent species. Conulariids lacking transverse ribs form a monophyletic group (Archeoconularia insignis, Baccacconularia robinsoni, Exoconularia exquisita, Metaconularia aspersa, Pseudocunularia grandissimam). Another clade (Conularina triangularata and Eoconularia loculata) is supported by the presence of sinusoidal transverse ribs. Both of the aforementioned clades together make a monophyletic group defined by the absence of trochodial transverse ribs. A fourth clade (Adesmoconularia byblis, Australoconularia borenorenis, Circonularia eosilurica, Climacoconus quadrata, Conularia quadrirugulata, Ctenocunularia hispida, Garraconularia multicotostata, Hoconularia hummeli, Paraconularia inaequicotostata, Paraconularia feldmanni, and Reticulaconularia penouili) is united based on the alteration of ribs or node rows on the periderm. Many of the traits found in conulariids underwent reversals or developed independently.

18 Meaning Tracking System. Bryon O’Conner. Ball State University, Muncie, IN. Sponsor: Brad King

The purpose is to develop a framework for a "meaning tracking system", a desktop application that will attempt to track how content within an individual's social network is being used.
To accomplish this, we are first completing an analysis of the APIs for eight different types of services to determine what types of information can be tracked and how quickly it can be assembled.
Next, we are building a series of small prototypes that test the functionality of such a system. Thus far we have analyzed the APIs for Google Reader, Twitter, Digg, Delicious, Facebook, and Youtube. Prototypes have been developed for Google Reader, Twitter, and Digg.
19
The impact of curriculum visualization on decision making among students. Austin Toombs, Gunnar Hoffman, Jordan Turpen. Ball State University, Muncie, IN. Sponsor: Paul Gestwicki

Working with course catalogs, the DAPR system, the course shopping cart, and the course request system is confusing for most students. With these resources it is difficult for students to make good decisions about which courses to enroll in, the order in which to take a sequence of courses, which minor to choose, and which major or option to switch to. CurricVis is a system that utilizes curriculum visualizations to help students build more accurate mental models of curricular programs. This study will determine whether or not CurricVis functions as a positive aid to the decision making process among students. No other research on curriculum visualization has included such a study on usability. The purpose of the study is to measure the effects a curriculum visualization tool has on students’ abilities to make decisions. We will be comparing these findings with the effects of using only traditional, text-based curricular data. The hypotheses being tested in this study are: Hypothesis 1 – students will build more feasible plans with the aid of the curriculum visualization tool; Hypothesis 2 – students will be more confident about their decisions with the tool; and Hypothesis 3 – students will make their decisions more quickly with the tool.

20
Steroid-induced Fetal Programming Increases Reactive Oxygen Species within the Cell Nucleus. Amanda Rood, Mark Chappell, TanYa Gwahney, James Rose. Berea College, KY. Sponsor: Mark Chappell

The Renin Angiotensin System (RAS) is a metabolic system in that regulates fluid volume, blood pressure and salt retention. Previous studies with sheep brain and renal cortical nuclei show that when Angiotensin II binds to the AT1 receptor there is an increase production of reactive oxygen species (ROS) through the assembly of a NOX complex. This study investigates the affects of glucocorticoids (betamethasone) on the production of reactive oxygen species within kidney cortical nuclei of sheep. The results showed there was an increase in ROS in renal cortical nuclei of sheep treated with betamethasone compared to those who were not treated. Western-blot analysis showed that NOX components did not contribute to this increase in ROS because when the treated and non-treated sheep renal cortical nuclei were compared to the standard beta-actin there was no significant difference in the densities of the bands.

21
Recombineering - Making High-Copy Number Dna Vectors Without Restriction Enzymes And DNA Ligase. Zachary Robbins. Indiana University-East, Richmond, IN. Sponsor: Hitesh Kathuria

Recombineering is a powerful method for fast and efficient construction of vectors. It is a homology based recombination-mediated genetic engineering technique that is not only precise but also independent of the presence of restriction sites and the size of the DNA molecule to be manipulated - typical problems previously incurred by traditional DNA engineering techniques.

Recombination occurs through homology regions, which are stretches of DNA shared by the two molecules that recombine. Since the sequence of the homology regions can be chosen freely, any position on a target molecule can be specifically altered. Homologous recombination allows the exchange of genetic information between two DNA molecules in a precise, specific and faithful manner, qualities that are optimal for DNA engineering regardless of size. In Red/ET Recombineering, also referred to as θ-mediated recombination, target DNA molecules are precisely altered by homologous recombination in strains of E.coli which express phage-derived protein pairs, either RecE/RecT from the Rac prophage, or Reda/Redß from ? phage. These protein pairs are functionally and operationally equivalent.

In our lab, we have standardized the Recombineering technique to manipulate high-copy number plasmids. Using this technique, we have generated several constructs that would not have been possible with the conventional approach to manipulate DNA as the sites where we have inserted or deleted specific DNA fragments lack a unique restriction site. All the constructs have been made using a restriction enzyme free, ligase free approach.

22
Circle the Cat: A Modern Adaptation and Analysis of a Classic Mathematical Game. Alex Youngman, Owen Prough, Timothy Olson, Kirk Baly. Valparaiso University, Valparaiso, IN. Sponsor: James Caristi

Circle the Cat is an adaptation of the classic mathematical puzzle Qudraphage in which a cat attempts to escape a hexagonal board, but after each turn one square is blocked. We have coded a simulation of this classic puzzle. The result of our development allows for the implementation of varying strategies to computationally examine their effectiveness. The code itself, though extensive, is open enough for additions/extensions to be added fairly easily. Analysis of the simpler strategies has allowed for improvement of both Cat and Player AI systems.

Group C 12:30pm - 1:45pm, Pharmacy Building Lower Level Concourse

1

In Western society, there appears to be a new face in the never ending cycle of discrimination. Muslims have faced increasing prejudice since 9/11, their religion and culture thrust into the limelight. Despite the fact that people hear a lot about Muslims and Islam, few people actually have any real factual knowledge about Muslims to base their opinions on. This lack of factual knowledge can lead to people having many preconceived ideas about Muslims, which can then lead to fear. It is often thought, as a sort of “common sense”, that the unknown breeds fear.
The less we understand something, the more likely we are to be afraid of it. This same mindset can easily be applied to the situation Muslims are in. The less the general public understands Islam, the more likely the general public is to be prone to Islamophobia which can be manifested through discrimination.

This study was preformed to determine whether the amount of knowledge a person has about Muslims predicts the level of comfort the person will have when around Muslims. The study was conducted using a questionnaire that was designed to gauge the amount of knowledge and level of comfort, along with experiences and stereotypes the participants may have had. After analyzing the data, it was found that there was no significant relationship between knowledge and level of comfort, conflicting with the research hypothesis. It can be determined from this study that any relationship between these variables is not significant enough to be influential.

2 Relationship between Twitter use and Extroversion in College Students. Harry Sibert. Manchester College, North Manchester, IN. Sponsor: Marcie Coulter-Kern

Twitter is a social networking site that has gained vast popularity in the past couple of years. This study investigates the relationship between Twitter use and extroversion in college students. Few studies have been done on Twitter, but many on similar sites like Facebook and Myspace. Facebook and Myspace studies have shown that extroverted people are more likely to use the website than introverted people. This conclusion led to the current hypothesis that students who are more extroverted would more actively use Twitter. An introduction to psychology class was used as the sample for the study. The participants filled out a personality inventory that measured extroversion on a scale of 9-45, with a higher score representing a more extroverted person. The study followed these students for a 20-day-period as they recorded their Twitter use in a Twitter journal designed to measure Twitter use quantitatively. Extroversion was then correlated to Twitter use in order to assess the relationship. In the end participant cooperation became a problem and the results that were obtained did not support the hypothesis. However, statistically significant results were obtained that showed a negative relationship between extroversion and Twitter use.

3 The Relationship Between a Newman Club Member’s Faith, Attitudes and Behaviors. Tim Cleaver. University of Evansville, Evansville, IN. Sponsor: Hanns Pieper

This study focuses on the relationship between a Newman Club member’s beliefs and how these relate to the behaviors and attitudes that they have about their faith and about others. Specific connections were made between private and public students and the type of high school they attended.

Subjects were chosen from a list of all registered Newman Club members at three universities in southern Indiana. This study was very specific in the populations being surveyed. Newman Club consists solely of Catholic College students.

There is a moderate relationship between being a leader in the Newman Club and views about premarital sex. There is a very strong relationship between being a Newman Club member and a participant’s faith changing since they joined Newman Club. The data has also shown that there is a strong relationship between a person’s perception of faith and their cumulative GPA. This is due to people that view their faith as important also view their academic performance as important.

4 The Caveman Diet: From the Hunt and the Gather to the Drive-THru Window. Alexandra Duryea. Indiana University-Bloomington, Bloomington, IN. Sponsor: Dr. Sarah Phillips

Today’s modern diet consists of antibiotic-filled meat, refined carbohydrates (sometimes with a scrumptious bleach additional), as well as hydrated fatty oils, high fructose corn syrup, trans-fatty acids and enough sodium to kill a horse. About some 15,000 years ago things were entirely different. The cavemen’s diet was centralized around hunting for a form of protein, which was essentially “free range” meats and eating three times as more fruits and vegetables as the average American. In my research I have discovered what the ideal foods are for the cavemen and have replaced the United States’ Department of Agriculture nutrition pyramid with a “Cavemen’s diet dwelling”. It effectively outlines what components are in the prehistoric diet and the benefits of the foods. Unlike today’s modern diet, it is chalked filled with the vitamins and minerals, the good fats, and the wheat carbohydrates that are missing in most Americans’ diets. This examination allowed me to discover what nutrients are evolutionarily important to the human diet and compare the findings to the American food way. There is a startling conclusion as to the benefits of the cavemen diet and this allows room for pondering how to live this lifestyle, thus I have provide an “ideal Paleolithic-American diamond”. This research shows the comparison of the modern American diet to the Cavemen diet and provides an understanding of the Cavemen's diet benefits. Additionally, I have provided Cavemen recipes.

5 Fungicide spraying results in the reduction of symbiotic microbes necessary for production of bee bread. Brady Christensen, Jay Yoder, Travis Croxall. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

The development of the honey bee (Apis mellifera) depends upon the conversion of stored pollen into bee bread by fungus that is then fed to larval bees. A combination field-ecological study was done studying 21 hives in orchards representing various levels of fungicide treatment to determine the amount of fungi present and affected in bee bread. All bee bread samples were characterized by a regular mycoflora dominated by Aspergillus spp. and Penicillium spp. and to a lesser extent Cladosporium spp. and Rhizopus spp. Minor components were Alternaria spp., Aureobasidium spp., Bipolaris spp., Colletotrichum spp., Fusarium spp., Mucor spp., Paecilomyces spp., Scopulariopsis spp., Stigellia spp. and Trichoderma spp. (mixed composition), most likely on account of habitat differences. Bee colonies having direct fungicide spraying resulted in an
overall decrease of all present fungus, not a select group or single kind of fungus. This decline is associated with a 3-4 fold suppression in conidia production, 16 hours or 68 hours after spraying. Colonies within 3.2km Even if not sprayed within of bee flight range of sprayed areas showed similar reductions in fungal loads as shown in bee bread from areas sprayed directly. Surprisingly, this included colonies from an organic orchard. We conclude that direct and indirect fungicide exposure is disturbing the bee- fungal community, with implications for death by production of nutritionally-poor food. Beekeepers report increased incidence of chalkbrood disease after fungicide spraying that we now attribute to the pronounced reduction of mold-inhibitors Aspergillus spp. and Penicillium spp., resulting in increased incidence of disease.

6 Cave orb weaver Spiders in northern Kentucky cave as a cause of fungal pathogens to cave crickets. Travis Croxall, Jay Yoder, Brady Christensen. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

Healthy cave orb weaver spiders, Meta ovalis, had nine genera of fungi identified from body surfaces indicating an abundance of fungus can be handled without any visible negative effects or changes in spider appearance or behavior. Spiders were embedded in molten agar and resulting hyphae were recovered and subcultured; identification of internal fungi occurred in a similar fashion except spiders were surface-sterilized and sectioned before embedding. Most prevalent were Aspergillus spp., Mucor spp., Penicillium spp. and Rhizopus spp., each comprising greater than 14% of total isolates. Less frequent fungi, 4-8%, were Absidia spp., Beauveria spp., Cladosporium spp., Paecilomyces spp. and Trichoderma spp. All fungi found are typical of the cave environment and are general soil saprobes, except Trichoderma spp. (mycoparasitic), characterized by copious conidia production that enhances their spread. No fungi were recovered from internal body tissues, suggesting that none of them act as natural regulators of cave orb weaver spider populations. A topically-applied amount of entomopathogens Beauveria spp. and Paecilomyces spp. isolates killed cave crickets, Hadenococcus cumberlandicus (a keystone species), but these fungi were not pathogenic when applied to spiders; the spiders were resistant. The following recovery of Beauveria spp. and Paecilomyces spp. internally from dead cave crickets confirmed mycoses. Our conclusion is that cave orb weaver spiders carry and perpetuate fungi that are known to kill insects, namely cave crickets. Given the close spider/cricket co-occurrence by sharing same habitat sites within the cave, there is a potential for cross infection that poses a risk for cave cricket populations.

7 Effect of a common fungicide on growth of pathogenic and beneficial honey bee (Apis mellifera) colony fungi. David Kolakowski, Jay Yoder, Brady Christensen. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

Stored pollen is converted into bee bread by symbiotic fungi found in the bee colony, satisfying a necessary dietary requirement for developing bee larvae. Fungicides are brought into the bee colony via contaminated pollen by bees. This study explores effects of fungicide on bee bread fungi in vitro by radial growth rate determination of 12 bee bread fungal isolates with Pristine® (BASF), a broad spectrum fungicide frequently applied to various commercial crops. Natural comb cell conditions were simulated by conducting the experiment on bee-bread supplemented non-nutritive agar, 30oC, darkness, and 5% CO2. Radial growth rates for each fungus were characteristic and were reduced 12% - 80% by fungicide, depending on species and concentration, in a dose-response. No two fungi responded in the same way, percentage reduction in growth rates, mortality, and least effective concentration differed among the 12 fungi and did not correlate with whether the fungus was a slow/moderate- or fast-grower. Effectiveness of Pristine is species (likely strain)-specific and is not a function of slow growth retaining fungi on treated surfaces longer or decreased exposure times by faster growers that spread rapidly. Most tolerant fungi to Pristine were Rhizopus sp., Mucor sp., and Absidia sp. Also, Penicillium sp. and Aspergillus niger were the most sensitive. Pristine had a controlling effect on bee fungal pathogens, Ascochaeta apis (chalkbrood) and Aspergillus flavus (stonebrood). Fungicides alter bee bread fungi differently which could have a detrimental effect on colony fitness by changing the composition of mycoflora used to process and store bee food.

8 Fish Habitat in the Little Kankakee River. McKenzie Kelly. Valparaiso University, Valparaiso, IN. Sponsor: Grayson Davis

The Little Kankakee River (LKR) in LaPorte County, Indiana contains a naturally-decomposing, abandoned beaver dam; the purpose of this study is to monitor its impact upon upstream and downstream silt levels. Excellent water quality, average July temperatures below 64ºF, diverse populations of macroinvertebrates, and a reproducing population of brown trout reveal the LKR to be an uncommon example of a good cold-water fishery in northwest Indiana. However, the river has variable sedimentation levels; deep silt often covers gravel and sand, smothering invertebrates. This research intends to identify/eliminate a possible source of variability in silt levels, benefiting restoration teams in determining affects of dam removals. Furthermore understanding the impact and pattern of silt levels could guide selection of a single site forecasting system, developed to ease the monitoring of silt levels and general river health. Currently, measurements are taken at seven sites: one above the dam and six below spanning approximately a mile downstream. Water depth, silt depth, flow rate, and a description of the river bed are recorded; flow rate fluctuations are to be charted against monthly precipitation, noting changes in flow. We predict that the beaver dam causes fluctuating siltation by collecting silt upstream and then releasing variable amounts during its decomposition. This research could prove valuable for greater understanding of the river system and for identification of potential forecasting system indicator sites.

9 Affiliation with Targets of Prejudice Affects Evaluations of Racism and Sexism. Laura Spice, Kristen Malone. Butler University, Indianapolis, IN. Sponsor: Kathryn Morris

Research shows that people generally respond more negatively to racism than to sexism (Fiske & Stevens, 1993). One factor that may reverse this trend is affiliation with the target of prejudice. That is, people may perceive sexism more negatively than racism when they are particularly identified with the target of sexism (and vice versa). The 2008 presidential election presented a unique opportunity to investigate this hypothesis. Prior to the election, 294 Ps were asked to imagine a scenario in which a classmate made a derogatory racist remark about presidential candidate
were long healthy, well

Underwater photographs taken of Andros Island, Bahamas patch reef locations from 1979

Temporal Changes in Herbivory from the late 1970s to Present on Selected Patch Reefs of the Androsian (Bahamas) Barrier Reef

13

suggest that Ps diffuse responsibility for confronting prejudice to targets and authority figures. Thus, one reason people might refrain from confronting prejudice is that they assume someone else is responsible for confronting. Ps who reported more negative affective (e.g., more anger), cognitive (e.g., develop a negative view of the person who said it), and behavioral (e.g., ask the person not to say things like that) reactions to the sexist remark than to the racist remark. Ps who intended to vote for the republican ticket, on the other hand reported more negative affective, cognitive, and behavioral reactions to the racist remark than to the sexist remark. These findings suggest that people’s subjective reactions to racism and sexism can be affected by their affiliation with the target of prejudice.

10

Do Role Play Games Increase Anger and Anxiety. Jennifer Petty, Rochelle Healy. University of Evansville, Evansville, IN. Sponsor: Elizabeth Hennon

Previous research with role play games has investigated the relationship between aggression and these types of games with mixed results. This study looked for possible gender differences in anger and anxiety induced by a live action role play game. Forty participants, 23 females and 17 males, engaged in a live action role play game that followed precedents created by similar games, such as Mafia and Assassins, played across the University of Evansville’s campus. The participants completed a survey prior to and following game play reporting their general anxiety and anger levels. However, after high attrition, only one moderately significant result was found – assessed anxiety appeared to decrease overall across both genders, despite observed high anxiety during game play. There were several possible confounds (e.g. several of these types of games, that were unrelated to this research, were being played at this time by various student groups) that could have skewed the data. It is suggested that further research with live action role play games not only follow a pre-post design, but have participants complete at least one other survey while playing the game and surveys that directly measure the types of anxiety and anger more closely related to what this type of game would most likely induce.

11

Cold tolerance characteristics based on water balance of hairworms combined with winter population monitoring from an Ohio stream. Daniel Whonsletor, Jay Yoder, Horton Hobbs. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

Hairworms (Nematomorpha: Gordioidea) are ecologically relevant as natural regulators of cockroach, locust, cricket, and grasshopper populations and are being considered as biological control agents. This study explores whether these worms are modified for low temperature that may prove to be useful in a new geographic application. The subject of this study is Paragordius varius. The life history of these worms revolves around water, primarily freshwater streams, and worm-infected arthropods are killed when the long, typically 30cm in length, slender non-feeding adult worms burst out of the body when the host is close to water. Once in water, adult worms sometimes group together, tangling into large knots, and drift with the current. Short-term low temperature exposure (one-hour exposure/one hour recovery) indicates that males tolerate temperatures down to 3oC: response is all-or-nothing with no intermediate injury. Field studies conducted for the first time in mid-winter (hourly collections from drift nets at night, 1700-2200h, when worms are most active, average ambient temperature of -12oC and water temperature of 4oC) show little, if any, worm activity in water. Gravimetric analysis of water balance characteristics reveals that males have a high percentage body water content, reflecting an emphasis on elimination in their hyperosmotic freshwater environment, and feature low water loss rate with suppressed activation energy, suggesting the presence of a protective, thickened cuticular barrier that restricts water entry that likely contributes to their ability to survive in sediment while overwintering.

12


Confrontation is effective in reducing prejudice (Czopp, Monteith, & Mark, 2006), yet people often fail to take action when they witness it (e.g., Swim & Hyers, 1999). The Confronting Prejudiced Responses Model (Ashburn-Nardo, Morris, & Goodwin, 2008) outlines obstacles people must overcome to confront prejudice; among them is taking responsibility for responding to prejudice. We hypothesize that when people witness prejudice, they may diffuse responsibility for confronting it to other bystanders. We predict people are especially likely to diffuse responsibility for confronting prejudice to targets of prejudice (i.e., African Americans or women) or authority figures (e.g., student leaders). To test this hypothesis, 330 Ps read scenarios in which a student made a racist vs. sexist remark in the presence vs. absence of a target person and in the presence vs. absence of an authority figure. Ps indicated how they would respond in the scenario. Responses from the 258 Ps who reported their reactions were coded for internal reactions (e.g., “I’d assume somebody else would do something”) and external reactions (e.g., “I’d tell him that’s not cool”). Both internal and external reactions were consistent with CPR Model predictions. Ps were more likely to diffuse responsibility when a target was present. In addition, Ps reported fewer external responses when a target or authority figure was present. Together, these results suggest that Ps diffuse responsibility for confronting prejudice to targets and authority figures. Thus, one reason people may refrain from confronting prejudice is that they assume someone else is responsible for confronting.

13

Temporal Changes in Herbivory from the late 1970’s to Present on Selected Patch Reefs of the Androsian (Bahamas) Barrier Reef Complex. Vanessa Herman, Aaron Myers. University of Saint Francis, Joliet, IN. Sponsor: Larry Wiedman

Underwater photographs taken of Andros Island, Bahamas patch reef locations from 1979 -82 were collected by haphazard sampling indicating a healthy, well-groomed reef complex diverse hermatipic corals and sponges. Prior studies indicate principle herbivores throughout the region then were long-spined urchin, Diadema antillarum and several taxa of parrotfish. In the early 1980’s, a mass mortality of over 99% (source unknown), nearly eradicated the Caribbean of Diadema, leaving the reef without its dominant herbivore. Green, macro algae, including Dicytota, Padina, and
Turbinaria soon appeared in greater concentrations. Anecdotal evidence from additional photos seem to show coral colonies shrinking or dying off. Remaining groomers seemed unable to maintain the pre-1980 equilibrium and continued until the recent, natural reintroduction of Diadema, (first local sightings in 2003). At that time, a project to systematically document relative changes in coral, sponge and macro algae was begun by the University of Saint Francis (Fort Wayne, IN). Future algal levels, coral and sponge expansion, and recruitment will be monitored for 15-20 years. Anecdotal evidence in the interim years make note of steadily declining reef health from 1981 to the Diadema return and noted temporal increases in both rock boring urchins and parrotfish. This was especially observed on patch reefs that appeared least affected by the lack of long-spined urchins. It is believed that these taxa attempted to fill the niche left vacated by Diadema. Physical limitations of size and mobility for the rock boring urchins seem to have hampered their efforts.

14 Conditioned Place Preference in Caenorhabditis elegans. Carly Guest-Williams. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Bethany Neal-Beliveau

The purpose of this study is to develop a conditioned place preference (CPP) model to investigate the rewarding effects of methamphetamine and the subsequent relationship to dopamine (DA) in Caenorhabditis Elevans (C. elegans) worms. C. elegans provide for an ideal invertebrate model for the study of addiction due to a completely sequenced genome of ~19000 genes and 302 neurons making 5000 synapses and short three day generation time. C. elegans have been able to show associative learning with varying pHs and odorants; however, a CPP drug model has yet to be developed. N2 wild type worms and CB1112 (tyrosine hydroxylase lacking mutant) worms will be used in order to analyze DA content via high performance liquid chromatography (HPLC). A known attractant (vanillin) will be used to initially develop the model with pairings with two bacterial food sources (NA22 and OP50). The attractant would be the unconditioned stimulus and the food source is the context/conditioned stimulus. They will learn to associate the food source with the attractant, so if they “like” the attractant, they will go back to the food source that it was paired with. If this methodology proves successful, it will be applied to use with methamphetamine (MAP). Expected results should show the worms having a preference for the food source paired with vanillin and preference for food source paired with MAP. This would thereby indicate the rewarding effects of MAP and can lead to further pharmacological research in possible drug treatment.

15 Black Uniforms and Aggressive Play in College Athletics. Ashley Bright, Holly Morris. Manchester College, North Manchester, IN. Sponsor: Marcie Coûler-Kern

This study explores the effects of black uniforms on aggressive play in sports. Participants from three college athletic teams (i.e. women’s soccer, men’s soccer, and men’s football) were surveyed regarding their attitudes about the influence of uniform color. Statistics were also gathered from the Manchester sports website to see how many penalties were recorded while wearing black uniforms versus non-black uniforms. Most participants reported that they perceive a black uniform as more aggressive; however no significance was found, which could be due to a small sample size.

16 Growth, larval development, and metamorphosis in Small-mouthed Salamanders (Ambystoma texanum). Nicholas Zellmer. Butler University, Indianapolis, IN. Sponsor: Travis Ryan

The small-mouthed salamander (Ambystoma texanum) is a common salamander species in the Midwestern United States that lays its eggs in temporary ponds during mid to late March once they have filled with water from the melting winter snow or early spring rains. My research followed the growth of small-mouthed salamander larvae in temporary ponds between hatching, which occurred in early spring (mid-April), and metamorphosis, which occurred in midsummer (early June to mid-July). The research focused on the growth, larval development, and timing of metamorphosis with special attention on the age and body size at metamorphic climax. The data shows a minimum period of 1.5 months for metamorphosis completion for some individuals, with the full cohort finishing the transformation by 3-3.5 months. For its relative abundance in the Midwest, there is little known about the life history of this species and further research and descriptive studies such as this one will be needed to truly understand the specifics of development for this species and the implication this has on its conservation.

17 The Determination of Algae Taxonomy and Percent Coverage on Andros Island, Bahamas. Megan Selking. University of Saint Francis, Joliet, IN. Sponsor: Larry Wiedman

In recent years on Andros Island, Bahamas the marine ecosystem was disturbed. The Diadema antillarum was a common herbivore on the local reefs and was responsible for the majority of the work done to control the algae growth. It is thought to be a disease that spread among the Diadema antillarum that killed off the mass majority of the population through a widespread area. Since the disappearance of the Diadema antillarum the algae growth has been out of control. This attracted a large population of parrotfish because algae is their food of choice. The parrot fish; however, are damaging the coral as they bite the algae off of it. This is greatly damaging the life of the coral reefs. Even though the parrot fish also eat the algae, they do not make the same impact on the ecosystem as the Diadema antillarum. In our research we took samples of the algae that grows there to determine what type it is. We also determined algae densities using a half-meter square. This information, combined with data collected from our other research groups is used to find if there is a correlation between the density of algae and the number of parrot fish or Diadema antillarum present at each research location at the reefs on Andros. The type of algae found helps to make connections between the research groups because Diadema antillarum and parrot fish may prefer different types, resulting in their different grazing abilities and different impacts on the marine ecosystem.

Mismatch negativity (MMN) of the auditory cortex is a well known component that is measured by event-related potentials (ERP) of the brain and occurs after exposure to rare auditory events. MMN can be visualized and measured using the auditory oddball paradigm, in which auditory evoked potentials (AEPs) elicited by rare, “odd” auditory stimuli are subtracted from AEPs from common, “standard” auditory stimuli. How the auditory cortex determines an event’s rarity is currently unknown. The purpose of this study was to compare two rarity measurement models: a short-term model that compares time between subsequent exposures of same events, and a long-term model that “learns” an auditory feature’s rarity over time through repeated exposure. Twelve participants listened to pure tones while we made electroencephalographic (EEG) measurements over their frontal and parietal cortices (Ag/AgCl electrodes, at F3, F4, and Cz, nose reference). Standard stimuli (500 Hz, 100 msec) were presented in 59% of trials while 5 deviants (300 Hz, 100 msec; 700 Hz, 100 msec; 900 Hz, 100 msec; 500 Hz, 300 msec; 700 Hz, 300 msec) were each presented in 8.2% of the 3600 randomized trials. A correlation of MMN amplitude for each deviant type with inter-trial intervals of same-deviants will support the short-term rarity model, and a correlation between MMN amplitude and trial number of deviants will support the long-term rarity model.


Researchers conducted interviews to determine the impact of self-esteem on life stories. Elderly individuals were given the Rosenberg Self-Esteem Scale, and then asked a series of 7 questions. The interviews were transcribed and coded for positivity and negativity of affect and content. We hypothesized that individuals with higher self-esteem would tell stories with more positive affect and content than individuals with lower self-esteem. Our results showed no significant correlation between self-esteem and affect, nor self-esteem and content. While our quantitative results were not significant, we did find fascinating and meaningful qualitative data. Future research should use a larger and more diverse sample, and create more neutral interview questions.

A new protocol for documenting temporal changes in the effects of large-scale herbivory on barrier reef structures; a case study of Andros Island, Bahamas. Melissa Boyle, Ashley Everhart. University of Saint Francis, Joliet, IN. Sponsor: Larry Wiedman

Since a 1982 mass mortality of the Caribbean long-spined urchin, Diadema antillarum, no other herbivore has kept pace. Green, macro algae has overrun the Andros Island, Bahamas reef, hindering coral and sponge growth and recruitment. Monitor study areas were chosen within the Androsian Land/Sea National Park to study effects on the reef during Diadema’s natural reintroduction. Protocols were limited, they must: provide meaningful, testable, and quantifiable data, be able to be passed “seamlessly” from one undergraduate student generation to the next, be inexpensive and use available technology, require minimal training needs, must be unobtrusive to the reef inhabitants, and leave no short term or permanent traces or scars in the newly designated protected areas (a Bahamian Government mandate in the Park). Remote sensing will be keyed later into the study, but is too coarse for semi-annual visits. Underwater, digital photography was selected using sites in shallow water (<12 feet depth), thus eliminating need for the entire team on scuba, allowing for maximal light and saved training and site costs. It also allowed for a broader base to select student participants. Photo montages from 70-100 images taken along uniform lines 6-8 feet along the reef were created using Photoshop II. Known scale values of blue, red, and yellow were used for color control. Shareware program, Image J, allowed for unlimited sided polygons to be created around coral colonies or other features and provided surface area data for the enclosed forms. The expected duration is 15-20 years. Current sites include reefs where no Diadema have returned and those where Diadema is well established. Challenges encountered thus far will be discussed.

Can you spot the fake? The effects of mood on smile detection. Ryan Abraham, Nathanael Keiser, Alyssa Abbate, Paul Allison. Valparaiso University, Valparaiso, IN. Sponsor: Jennifer Winquist

The primary purpose of this study is to determine if training and feedback improve participant’s ability to detect false smiles. Participants in the training group will watch a slideshow that provides information about how to determine if a smile is genuine or false. Participants in the control condition will watch a slideshow about smiles, but the presentation will not provide information about detecting false smiles. Before training, participants will complete a test asessing their knowledge about detecting false smiles. In addition, they will view videos of ten smiles and determine if the smile is genuine or false. Participants then will again complete the smile knowledge test, watch the same ten videos and indicate if the smile is genuine. After watching each video, participants in the feedback condition are told whether each smile is genuine or false. Participants in the no feedback condition will not receive this information. Following this manipulation, participants will watch 10 new videos, determine if the smile is genuine or false, and rate their confidence in that judgment. We expect that participants who receive training and/or feedback will show more improvement in performance than participants who do not receive training and/or feedback. A secondary goal of this study is to determine if affect is associated with performance on the smile detection test. To assess affect, the Brief Mood Introspection Scale (BMIS) will be completed prior to training. We expect that people in neutral moods will be able to distinguish between genuine and false smiles with more accuracy.
22


Although there are currently no specific teaching methods outlined for instructing all college students, there is an increasing awareness for facilitating supportive relationships and making interdisciplinary connections in the classroom as a means of increasing academic achievement and retention on college campuses. The current study focuses on the objective to discover what distinguishes the Learning Community (i.e. two or three classes with collaborative and interdisciplinary themes) from freestanding classes.

Data that was collected from the year 2009 revealed a difference in behavior of students who were part of the Learning Community (LC) on topics relating to retention and student success. For example, students in the LC reported that they:

1) Studied more regularly with their classmates
2) Socialized more regularly with others in the class
3) Talked more often with other members of the class about an assignment
4) Knew more people in their LC class than in other classes
5) Knew the professor better in the LC class than in other classes

When asked how the Learning Community class was different from other classes, students said:

1) “I feel more comfortable in this class and more divided in other classes”
2) “We know each other by name”
3) “Better connections with people”
4) “We know each other better and there seems to be more interaction between students”
5) “More people to talk to about assignments and if assignments are missed it is easier to find out what happened”
6) “We do more activities”

Group D 2:00pm - 3:15pm, Pharmacy Building Lower Level Concourse

1


A high-field tabletop electromagnet is designed and constructed based on the Bitter electromagnet concept. The device is capable of producing magnetic fields greater than 5 Tesla with a duty cycle of 0.1% using a 12 kW power source. Using a pulse-power circuit and kapton insulation, the design overcomes prohibitively high power requirements and the need for water-cooling. The apparatus is constructed to fit around a cryostat extension and is thus appropriate for high magnetic field generation in low-temperature experiments.

2

Radiation Exposure To A Family Member In The Injection Room During Dose Administration. Catherine Henderson. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Judy Kosegi

Often a family member accompanying a patient during the nuclear medicine procedure comes into the injection room to support the patient during their procedure. This study evaluated the safety of the accompanying patient’s family member by determining the radiation exposure they might have received if present in the injection room. Within the medical community, imaging using ionizing radiation has become imperative for diagnosing and treating diseases. When an individual is in the area of a radioactive source, there are possible health risks involved. The goal of this study was to determine if the patient’s family member would receive significant radiation exposure.

Exposure rates were measured with an electronic pocket Geiger Muller dosimeter. The dosimeter was placed one and a half meters away from the injection area. Background was recorded and was consistent with one working day. Readings from the dosimeter were recorded daily for fifteen days. The procedure, isotope, dose administered, and time in the room were recorded when a dose administration occurred within the injection room.

Out of the fifteen days, only two days went above background level. On these two days I-131 thyroid therapy doses were given. When comparing the mean exposure to the maximum radiation exposure limit for the general public of 1 mSv (p-value less than 0.001), the data was significantly lower than this set limit. Comparing the mean exposure to background activity, the data was equivalent to background.

Radiation exposure readings to family members did not exceed background levels unless I-131 therapy was administered.

3

A Quantification of Gradients of Turgor Induced Elastic Cell Wall Strain in Growing Plant Organs. Kelli Luttman. Indiana University/Purdue University at Fort Wayne, Fort Wayne, IN. Sponsor: Winfried Peters

The cell walls of plant cells counteract the turgor pressure within the cells, and therefore are under tensile stress. This stress stretches the walls, and this turgor induced elastic strain in the walls which can be visualized by abolishing turgor in plasmolysis experiments. Because turgor stresses acting on cell walls are generally considered to provide the driving force for cell growth, we were interested to see whether turgor induced strain
correlated with growth rates along linear growth zones in stems and roots. We compared gradients of growth rate and wall strain in corn roots and castor bean seedlings and found that they paralleled each other only partly. We conclude that factors other than the degree of elastic wall strain also contribute to the regulation of the growth rate profile along plant organ growth zones.

4 Comparison of responses to temperature and soil fertility variation for eight varieties of Bok Choy (Brassica rapa L. ssp. chinensis (L.) Hanelt). Nicholas Troiani. Bellarmine University, Louisville, KY. Sponsor: Dr. Robert Kingsolver

Eight different varieties of bok choy were grown in composted and uncomposted beds to compare interactions of genotype and soil nutrient levels on plant growth. The plants were exposed to cold temperatures and when the plants were covered by a plastic sheet all the plants grew drastically. The yields in the composted bed had more above ground growth and below ground growth and had the largest difference in growth rates of the eight varieties. The below ground growth was measured by massaging the plants out of the ground and drying them and using the dry weight data to determine the below ground growth. The Long Green Petiole had the most above ground growth in the uncomposted bed. The Hybrid Summer Boy grew the most in the composted bed. The beds were covered with plastic with a week and a half left in the experiment. The nutrients in the soil and temperature affected the growth of the plant and the Long Green Petiole has a gene that resists cold and causes them to grow the best in colder weather.

5 Effects of trisomy on neural crest derived Meckel’s and hyoid cartilage. Abby Newbauer, Randall Roper, Cherie Billingsley. Indiana University/Purdue University at Indianapolis, Indianapolis, IN. Sponsor: Randall Roper

Trisomy 21 results in the most common human aneuploidy compatible with survival, which causes phenotypes collectively referred to as Down syndrome (DS). DS results in phenotypes such as craniofacial dysmorphology, which include a small mandible and oral cavity. Mouse models are used to understand the phenotypes associated with DS, and the most common, Ts65Dn, is trisomic for about half of the genes found on human chromosome 21. Ts65Dn adult and newborn mice show craniofacial dysmorphologies, including a small mandible. Our lab has previously demonstrated that Ts65Dn embryos at day 9.5 (E9.5) display a hypoplastic 1st pharyngeal arch and fewer neural crest NC cells in this mandibular precursor as compared to normal littermates. The E13.5 mandibular precursor continues to be smaller in Ts65Dn mice than their euploid littermates. We hypothesized that the Meckel’s and hyoid cartilages are smaller in Ts65Dn as compared to euploid embryos at E13.5 due to the trisomic NC deficit. To test this hypothesis we quantified the volume of the Meckel’s and hyoid cartilages on sectioned E13.5 trisomic and euploid embryos. Results from 20 Ts65Dn and 21 euploid E13.5 embryos show a reduction in size of both Meckel’s and hyoid cartilage in trisomic as compared to euploid embryos. The trisomic deficits may be a template for subsequent alterations in the developing mandible and other structures. These and other specific quantitative phenotypes will help us to determine the molecular and genetic mechanisms causing craniofacial differences.

6 Changes in Body Fat Percentage and Anthropometric Measurements as a Result of a Vigorous Exercise Program. Molly Miller, William Tereshko, Dr. Barbara Wahl. Hanover College, Hanover, IN. Sponsor: William Tereshko

The purpose of this study was to determine gains in fitness (VO2max), loss of body fat, and anthropometric changes in a female arising from a vigorous exercise program. Methods: A college-aged female underwent a 16-week vigorous exercise training program consisting of 4-7 days/week of 30-45 minute sessions of cardiovascular exercise. The subject underwent a pre- and post-training maximal Modified Bruce Protocol treadmill test. Each week on the same day and time, the subject underwent a submaximal treadmill test as above, hydrostatic weighing, body weighing, skinfold measurements, and anthropometric measurements. Results and Discussion: Data collection is ongoing and nearing completion. Vigorous exercise caused decreases in body weight (1±2 lb/wk) for a total thus far of 14lbs. Changes in body fat percentages have not demonstrated a weekly pattern of reduction in either hydrostatic weighing or skinfold measurements. This suggests that body fat percentage may decrease in spurts rather than symmetrically each week. Hydrostatic data showed an overall decrease in body fat percentage of 6% and skinfold measurements showed a decrease of 4%. Anthropometric measurements of the abdomen showed a decrease of 5cm. A final VO2max test will reveal overall changes in cardiorespiratory fitness. The present findings demonstrate that exercise alone can have a substantial impact on the loss of body weight and body fat.


The purpose of this study was to determine the accuracy of fourteen predictive formulas for the 1 RM bench press when sub-maximal percentages of 60% and 80% are used. This study is significant to coaches and athletes who want to test maximal strength without risking the injury potential associated with a maximal effort. The logic of such tests is simple: the more repetitions accomplished at a given percentage of maximum, the greater the maximum weight that can be lifted. Methods: Three experimental sessions were conducted. One, subjects performed a true one repetition max (1RM). The second and third sessions were randomly assigned and consisted of either a 60% or 80% repetition prediction of the 1 RM. Results and Discussion: Data collection is ongoing and nearing completion. Initial findings and pilot data have revealed that using the 80% test more accurately predicted 1 RM. In the data collected so far only 1 prediction equation was found to have a predictive power that was sufficiently accurate for effective use, within 5.5% of the subject’s actual 1RM.
Faraday Rotation in Non-Linear Crystals. Chad Wine, Nathan Young. Rose-Hulman Institute of Technology, Terre Haute, IN. Sponsor: Sergio Granieri

Faraday rotation refers to the rotation of the polarization vector of light as it passes through a sample, in the presence of a magnetic field. FR is due to an interaction between light and magnetic field in a medium and manifests itself as circular birefringence. The angle of rotation of the polarization vector depends on the magnetic flux density, the length of the medium, and the material’s Verdet constant. FR has been an active area of research in linear, isotropic substances where the effect is well understood. This study plans to investigate a variety of substances that have not been closely examined, particularly non-linear, highly anisotropic materials. The first phase of this study will focus on Lithium Niobate (LiNbO3). The challenge of investigating this material is twofold. The anisotropy inherent in the material will require careful understanding of the various symmetry axes in the crystal and their relationship to the direction of propagation of light. Additionally, our samples have incorporated magnetic impurities which would require careful consideration. Initially the experiment will be conducted under dc fields and discrete wavelengths (633 nm and 514 nm). We hope to present results from this phase of our investigation. Upon successful completion of this phase we will also examine Faraday rotation as a function of wavelength of the light, by using a white light source, and extend the scope of our investigation to other non-linear crystals.

Relationship between Salivary IgA and Steroid Hormones in Women throughout the Menstrual Cycle. Emma Raver. Bellarmine University, Louisville, KY. Sponsor: Thomas Bennett

Salivary Immunoglobulin A (sIgA) is secreted by plasma cells in the submucosal layer of the buccal cavity and is the primary line of defense against infection. Low concentrations of sIgA are considered a risk factor for Upper Respiratory Tract Infections (URTI) in the general population. Under acute stress, when cortisol hormone levels spike, sIgA levels rise. If cortisol levels remain chronically elevated, sIgA concentrations will drop. Estrogen and progesterone may also have an effect on sIgA levels. Immunocompetent cells, as well as cells of the nasal mucosa, contain estrogen and progesterone receptors. With predictable levels of these hormones throughout the menstrual cycle, it is likely that women are more susceptible to URTIs at certain times of their cycle. A study of vaginocervical IgA levels showed the highest levels of IgA during the follicular phase, when estrogen levels are low; and the lowest IgA levels around ovulation, following the estrogen peak.

In this study, thirteen healthy female volunteers (age 18-21) provided saliva samples and completed health-related questionnaires on four days each week for eight weeks. Levels of sIgA and cortisol were determined for seven ovulating women and for six women using contraceptives (control) using EIA kits (Salimetrics, LLC). Estradiol and progesterone EIA kits were used to determine the menstrual phases and the time ovulation occurred. Data analysis is underway so no final conclusions can be made in this abstract. (This study was approved by the IRB of Bellarmine University.)


It has been observed that the deviation of exchange-correlation (XC) energy from the local density approximation (LDA) model in quantum Monte Carlo simulations of several systems correlates to the local Laplacian of the density [1] in a roughly linear fashion. Our purpose is to examine the effects on the calculation of typical material properties of the linear dependence of the XC energy density on the Laplacian of the density. To do this we examine slowly varying systems within LDA and generalized gradient approximation models and compare these models using the Laplacian. We use Abinit to examine selected systems such as the AE6 test set and some typical solids such as Si, Cu, Na and NaCl. We then observe the differences between predictions of properties, particularly atomization energies and bond lengths of molecules and cohesive energies and lattice constants of solids, between standard DFT models and models using the Laplacian.


The Impact of Cross Education in non-dominant muscle training. Emily Merrill, Barbara Wahl. Hanover College, Hanover, IN. Sponsor: William Tereshko

Cross Education (CE) is an adaptation in an untrained limb that occurs when the opposite limb is trained. Previous research supports a unidirectional impact, from dominant to non-dominant limb. However, this could be influenced by the “degree” of dominance in a muscle (how often it is used, for example). This case study examined the effects of CE, as it relates to the degree of dominance in the wrist extensors (more dominant-from greater use) and dorsiflexors (less dominant) muscles.

Methods: One female subject trained the non-dominant wrist extensors and dorsiflexor muscles. Training was performed on the LIDO machine (isometric and isokinetic) and with free weights, three times weekly, for 10 weeks.

Results: Strength gains were substantial in the trained non-dominant wrist extensors (+41%) and dorsiflexor muscles (+29%). This supports the “degree” of dominance hypothesis regarding the training effect. CE occurred in the untrained (dominant) muscles of the opposite limb, with gains of 30% in the wrist extensors and 24% in the dorsiflexors.

Conclusion: CE is possible in the direction of non-dominant to dominant with maximal strength training over an extended period of time. The “degree” of dominance concept appears to have been a factor in the training effect, but did not influence CE.
Success in collegiate team sports like soccer, field hockey, and lacrosse require athletes that possess both high skill levels and high metabolic fitness relative to the position they play. While skill levels are difficult to assess, metabolic fitness levels are routinely tested to determine an athlete’s baseline fitness and to design training programs targeting individual weaknesses. The purpose of this study was to profile and compare the metabolic fitness levels of male and female collegiate soccer, lacrosse, and field hockey players at different positions (forwards, midfielders, defenders, and goalkeepers) while examining the possible impact of psychological stress on these variables.

After approval by the Bellarmine University Institutional Review Board (IRB), forty-eight collegiate athletes (23 males; 25 females) performed a Cooper 12-minute run test and a 300-meter shuttle run on separate days to determine their aerobic capacity (VO2 max) and their anaerobic power (time of completion and power output in watts). Individual stress levels were assessed with both a written questionnaire and by analyzing saliva samples for alpha-amylase (a marker for sympathetic nervous activity) with an ELISA procedure (Salimetrics, LLC).

Preliminary results show statistically significant differences in anaerobic power between male midfielders versus male goalkeepers in time of completion of the 300-meter shuttle. Additionally, power output (in watts) differences were significant between male midfielders versus male defenders/forwards during the 300-meter shuttle run. Further analysis is underway on the remaining data sets so no final conclusions can be made in this abstract.

Ultrastructure of the American Alligator (Alligator mississippiensis) Spermatozoon. Katherine Tourzinsky, Courtney Sumner, Brittany Rubricco. Wittenberg University, Springfield, OH. Sponsor: Georgia Hester

To date, few studies detail the ultrastructure of the spermatozoon in crocodilians. The purpose of this study was to describe and compare the morphology of the spermatozoon of Alligator mississippiensis to that of other reptiles. Six adult male alligators were collected from Rockefeller Wildlife Refuge in Lake Charles, Louisiana, in May of 2003. Vas deferens were removed, fixed in Trumps, and processed for TEM. Preliminary analysis reveals that the spermatozoon of the American Alligator is very similar to that of Crocodylus johnstoni and surprisingly, the slider turtle, Trachemys scripta. The acrosome complex contains a simple subacrosome space and a thin acrosomal vesicle. A slender nuclear apex extends into the subacrosome space and within it and the proximal third of the nucleus rests a single endonuclear can. The canal contains the perforatorial microtubules. There is pericentriolar material around the proximal centriole, which exhibits the nine peripheral microtubule triplets with no central microtubules. There is no neck at the base of the nucleus, where the midpiece mitochondria abut up to the proximal centriole. The midpiece has mitochondria with variable cristae in cross section. There is an annulus at the termination of the midpiece and a fibrous sheath surrounds the principle piece. The end piece lacks the fibrous sheath but retains the 9 + 2 arrangement of microtubule doublets. The ultrastructure of the spermatozoon of the alligator suggests that crocodilians may share a phylogenetic kinship not only with other Archosaurs but also with cheloniens, which has also been proposed by recent molecular data.

Spermatogenesis and the Germ Cell Development Strategy in the Testis of the Green Anole, Anolis carolinensis. Katherine Venable, Georgia Hester, Justin Rheubert. Wittenberg University, Springfield, OH. Sponsor: Georgia Hester

The Green Anole is an arboreal lizard of the Southeastern United States. Adult male were collected (N=48) from buildings on the campus of Southeastern Louisiana University, from January-Dec. 2008. Testes were minced, fixed in Trumps, dehydrated in ethanol, and embedded in Spurr’s plastic. Sections were stained with toluidine blue and examined via light microscopy. January was the only month where spermiogenesis was not observed; however, December had only a few spermatids present within the germinal epithelium. From February to May there was a gradual increase in spermatogenesis leading to massive spermiation in May and June. The July testis was in a rebuilding phase with mostly early spermatids present within the germinal epithelium. August through November testes demonstrated slower spermatogenic activity with only small spermiation events observed. Recent studies in reptiles have shown that a temporal germ cell development strategy similar to amphibians occurs during active spermatogenesis. This is much different than the spatial development found within the testis of other anniotes. A. carolinensis shows a parallel trend with up to 8 generations of germ cells present during heavily active months. Whereas, during regressed months missing spermatocytes or spermatids prevent consistent cellular association from forming. The following data provides more evidence that this temporal germ cell development is common in seasonally breeding reptiles and provides further support that this developmental strategy might be a pleiomorphic characteristic of the reptilian testis.
heavily active months of the year, there are up to 6-8 spermatid generations, which prevent consistent cellular associations between germ cells. Whereas, during regressed months missing spermatocytes or spermatids preclude consistent cellular association formation. The following data provides yet another example of a temperate squamate that practices a temporal germ cell development strategy. This new data provides further support that this temporal germ cell development strategy might be a pleiomorphic characteristic of the male reptilian reproductive tract.

16 Functional Morphology of Secretion by the Large Wax Glands (Sensilla Sagittiformia) Involved in Tick Defense. Brian Hedges, Jay Yoder, Derrick Heydingr. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

As observed in nature, ticks protect themselves against predation by ants through release of an allomonal defense secretion from the large wax glands, or type 2 glands, that line their bodies. The secretion is hydrocarbon-based and functions to hide the tick by mimicking secretions of ants; i.e., ants regard the tick as another ant. This adapted secretion has been shown to act as a pheromonal alarm that alerts other ticks of nearby danger. In order to understand how these large wax glands operate, before and after microscopic observations of the glands (non-secreted versus secreted test groups) and mass determinations were made for brown dog ticks Rhipicephalus sanguineus that had been repeatedly forced to secrete by leg pinching to simulate attack by a predator. Prior to secretion, the glandular organ was observed to be fully intact histologically and matched descriptions of the sensillum sagittiforme, a key taxonomic structure that had been described in the 1940’s. When stimulated by pressure, the large wax gland is innervated and acts as a proprioceptor that in turn stimulates the secretory response. Histological observations of the gland after secretion has occurred showed that the entire glandular contents and associated cells were expelled out of the gland like a syringe. Presumably, the active allomonal ingredients (hydrocarbons) are released when these derived epidermal cells reach and burst onto the cuticular surface of the tick. The glandular cellular components are subsequently regenerated by underlying hypodermal cells within a few days so that secretion can take place again. Our conclusion is that the large wax glands are holocrine and feature intermittent regeneration.

17 Commercially applied antibiotics prove ineffective against honey bee diseases chalkbrood and stonebrood. Derrick Heydingr, Jay Yoder, David Kolakowski, Brian Hedges. Wittenberg University, Springfield, OH. Sponsor: Jay Yoder

Fumagillin (Fumagillin-B®, Medivet), tylosin (Tylan®, Eli Lilly) and oxytetracycline (Terramycin®, Pfizer) were applied to control nosemosis (Nosema apis) and foulbrood (Paenibacillus larvae) in honey bee, Apis mellifera, colonies. The purpose of this study was to explore the function of these antibiotics on the growth of bee breed fungi which convey colony defense (antibiotic producers), provide a source of digestive enzymes in adult bees, and produce food for bee larvae from stored pollen as a developmental requirement. Derived from fungus culturing, the trisecting line method was implemented to determine radial growth rates of the 13 most frequently recovered bee fungal isolates, including Ascosphaera apis (agent of chalkbrood disease) and Aspergillus flavus (agent of stonebrood disease), on media treated with antibiotics (1%, 0.1%, 0.01%), alone, and in combination. To mimic conditions for making bee bread in a capped wax cell, agar supplemented only with bee bread nutrients at 30C in darkness and transferred from 5% CO2 to aerobic conditions was used to measure fungal growth. Under these conditions, antibiotic exposure produced no changes in obverse/reverse pigmentation, colony, conidia, philiae characteristics, and failed to initiate production of telemorphs in any of the 13 fungi. Evidenced by lack of dose-response, no fungi displayed antibiotic sensitivity, mortality, antibiotic synergistic effects, or difference from control growth rates. These results suggest that shifts in composition of the bee colony mycoflora are unlikely to occur by use of these antibiotics. These results are important for commercial beekeepers as the tested antibiotics are ineffective against stonebrood and chalkbrood.

18 Effects of progesterone on the development of beetles. Gideon Avornu, Dominique Edwards. Purdue University North Central, Westville, IN. Sponsor: Kenneth Holford

Endocrine disruptors are chemical compounds that disrupt the endocrine system of organisms by altering levels of natural hormones. In some cases, exposure to naturally occurring hormones can have similar disrupting effects on unrelated animals. Progesterone (pregn-4-ene-3,20-dione), for example, is a common vertebrate hormone. In humans, its action prevents the overgrowth of the lining of the uterus. Furthermore, it has other roles in reproduction. It is not usually found in invertebrates, although in at least one older study trace levels were reported in the hemolymph of crustaceans. In our study, we are examining the effects of the vertebrate hormone progesterone on the development of meal worms (Tenebrio molitor). Towards this end, fifty beetle larvae were randomly selected into a control and experimental group. These specimens were then fed oatmeal that had been treated with progestosterone (pregn-4-ene-3,20-dione) and transferred from 5% CO2 to aerobic conditions. To mimic conditions for making bee bread in a capped wax cell, agar supplemented only with bee bread nutrients at 30C in darkness and transferred from 5% CO2 to aerobic conditions was used to measure fungal growth. Under these conditions, antibiotic exposure produced no changes in obverse/reverse pigmentation, colony, conidia, philiae characteristics, and failed to initiate production of telemorphs in any of the 13 fungi. Evidenced by lack of dose-response, no fungi displayed antibiotic sensitivity, mortality, antibiotic synergistic effects, or difference from control growth rates. These results suggest that shifts in composition of the bee colony mycoflora are unlikely to occur by use of these antibiotics. These results are important for commercial beekeepers as the tested antibiotics are ineffective against stonebrood and chalkbrood.

19 Effectively Exercising Children with Autism Spectrum Disorders. Erin Daugherty, Dr. Bryant Stamford, Dr. Barbara Wahl. Hanover College, Hanover, IN. Sponsor: Dr. Bryant Stamford

Autism is a developmental and neurological disorder, often characterized by delayed motor skill progression and poor communication skills, making it difficult for affected individuals to participate in physical activities. Studies have demonstrated that children with autism and similar disabilities are less active than normally developed children. Statistics show autism diagnoses are rising, whereas adapted physical education in public schools generally remains uncommon. This study was meant to address how caregivers can successfully exercise an autistic child. Beneficial and hindering characteristics associated with exercise were explored. Methods: This was a case study consisting of sixteen sessions with one autistic child. Four aspects of exercise were emphasized: flexibility, strength, aerobics, and balance. Two activities for every area were applied; creating eight exercises, each implemented six times. Sessions involved the subject, instructor, and secondary observer. The instructor and secondary observer rated the subject’s enthusiasm, ability,
cooperation, and overall success of each session. The instructor used the ratings to help determine successful strategies for exercising autistic children.

Results and Conclusion: Data is currently being collected and nearly complete. Gathered data shows an autistic child can successfully exercise when given specific instructions and attention, and motivation. It was revealed that many exercises might be successful upon the first attempt, and not need modification. Data suggests the importance of individualizing an exercise plan for each child. Modifications concerning pre-exercise activity, exercise atmosphere, instruction methods, and motivation tactics may be needed rather than adjusting the exercise itself, increasing the importance of attempting an exercise more than once.

20

Caffeine is a stimulant that has both physiological and psychological effects on the body. Specifically, caffeine increases heart rate and blood pressure via sympathetic pathways and enhances cognitive functions, such as, alertness and concentration. Commercial energy beverages claim to produce an enhanced effect due to the addition of supplements (taurine, glucuronolactone, B vitamins). The purpose of this study was to test the effect of caffeine alone versus an energy enhancing beverage on several physiological, hormonal, and cognitive parameters. Specifically, heart rate and blood pressure were measured with an automatic sphygmomanometer; serum epinephrine levels were determined via salivary a-amylase ELISA procedure; and mental concentration and alertness were assessed with a series of Stroop tests. A questionnaire obtained baseline information on sleep, medications, food/drink intake, BMI, and other parameters. Eighteen students (9 males, 9 females; ages 20-24 yr) participated in this study. Each individual attended 2 one-hour sessions: one compared ingesting plain water versus ingesting a caffeine pill (100 mg) and the other compared ingesting plain water versus consuming 1 can of Sugar-Free Red Bull™ (250 mL). Heart rate, blood pressure and saliva samples were obtained before and after each test substance. A series of Stroop tests were conducted 20 minutes after consuming each test item.

Results showed significant differences between males and females in heart rate and efficiency on the Stroop tests. Other results were inconclusive, preventing a definitive conclusion to be reached. Further studies with larger subject numbers are encouraged. (This study was approved by the IRB of Bellarmine University.)

21
Upper thermal limitations of the sand fiddler crab, Uca pugilator, Sarah Stueber, Megan Heffelfinger, Heidi Wollaeger, Kali Almdale, Matthew Collier, Katherine Winters, Samantha Imfeld, Chloe Hart, Jay Yoder. Wittenberg University, Springfield, OH. Sponsor: Matthew Collier

Of interest in the sand fiddler crab, Uca pugilator, is its ability to inhabit and feed during low tide in intertidal sand flats where near lethal temperatures exist during the warmest months of the year. The purpose of this study was to identify the thermal limitations of U. pugilator and to correlate these limits with optimum foraging time. Crabs were placed in incubators at 10, 20, 30, 40, and 50ºC for one hour at 97% RH (N = 15 crabs/treatment), and were observed using a behavioral scoring system for their ability to crawl five body lengths after one hour, and then again after 24 hours. Damage scores (expressed as percentages of the maximum possible score) for each of the temperature treatments were as follows: 27(10ºC), 37(20ºC), 17 (30ºC), 57(40ºC), and 100(50ºC). Only those crabs with injury responses at 20 and 30ºC (damage score = 3) were able to recover and survive 24 hours after treatment, and there were no differences in damage response between sexes. These data reveal that U. pugilator can tolerate short term heat shock when exposed to temperatures between 30 and 40ºC, and that they show an intermediate injury response with approximately 50% of injured crabs surviving (20 and 30ºC treatments) and 50% dying (40ºC treatment). Results from this study correlate with ideal temperatures present at low tide when these crabs feed. Deviation in temperature above this range, and the lethal response by U. pugilator to these changes, show its importance as a bioindicator of ecosystem health.

22
Anatomically Specific Body Fat Loss during a Low Calorie Diet Combined with a Vigorous Exercise Program. Zachary Giddens. Hanover College, Hanover, IN. Sponsor: William Tereshko

Visceral abdominal fat carries a greatly increased health risk when compared with fat stored subcutaneously and in other regions of the body. The purpose of this study was to determine the impact of diet and exercise specifically on visceral abdominal fat.

Methods: One male subject decreased daily caloric intake (500 kcal, seven days a week) and increase caloric output through cardiovascular exercise (500 kcal, 43.5 minutes at 155 – 160 bpm, 5 – 7 days a week). Hydrostatic weighing, skinfold measurements (at seven sites), and circumference measurements were taken once a week. This approach permitted fat loss to be monitored weekly, and specifically where the loss occurred.

Results and Discussion: Data collection is ongoing and nearing completion. Initial findings demonstrate that when vigorous exercise is combined with an improved, calorically restricted diet, weight loss occurs expeditiously, at the rate of 2.31 lbs per week. Body fatness overall was reduced at the rate of 1.15 % per week, skinfold measurements decreased steadily at the rate of 1.63 mm per week in the lower body, and 1.19 mm per week in the upper body. Most important was the change in waist girth, which demonstrated a weekly rate of 0.32 cm and an overall decrease of 2.9 inches. Overall, it appears that with an improved lifestyle health changes can be made rather quickly.
## Index of Participants

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbate, Alyssa</td>
<td>Back, Stephanie</td>
<td>Cahue, Alisha</td>
</tr>
<tr>
<td>Abraham, Ryan</td>
<td>Bader, Renee</td>
<td>Caldermeyer, Deanne</td>
</tr>
<tr>
<td>Adams, Grant</td>
<td>Baldwin, Charles</td>
<td>Calder, Brigit</td>
</tr>
<tr>
<td>Adney, Danielle</td>
<td>Baltisberger, Jay</td>
<td>Call, Phillip</td>
</tr>
<tr>
<td>Alexander, Ross</td>
<td>Baly, Kirk</td>
<td>Campbell, Kristyn</td>
</tr>
<tr>
<td>Allison, Paul</td>
<td>Baumgartner, Joseh</td>
<td>Campbell, Pattys</td>
</tr>
<tr>
<td>Almdale, Kali</td>
<td>Bazylevych, Maryna</td>
<td>Campbell, Roses</td>
</tr>
<tr>
<td>Alwine, Courtney</td>
<td>Beaty, Nicholas</td>
<td>Carboneau, Bethany</td>
</tr>
<tr>
<td>Alzate, Sandra L.</td>
<td>Beck, Jessica</td>
<td>Cariello, Alisons</td>
</tr>
<tr>
<td>Amsden, Jarrett</td>
<td>Bedard, Lynn</td>
<td>Carlsson, Alexas</td>
</tr>
<tr>
<td>Antosik, Lyndsey</td>
<td>Beiswanger, Kelly</td>
<td>Carlson, Brittanys</td>
</tr>
<tr>
<td>Arwood, Matthew</td>
<td>Belchary, Brittney</td>
<td>Carman, Samanthas</td>
</tr>
<tr>
<td>Asem, Judith</td>
<td>Bellamy, TaNisha</td>
<td>Carney, Terris</td>
</tr>
<tr>
<td>Ashburn</td>
<td>Belt, Jessica</td>
<td>Carodenuto, Elsas</td>
</tr>
<tr>
<td>Aylward, Laura</td>
<td>Bennett, Thomas</td>
<td>Carpenter, Marguerites</td>
</tr>
<tr>
<td></td>
<td>Bercot, Ross</td>
<td>Carpinelli, Marisas</td>
</tr>
<tr>
<td></td>
<td>Berger, Kimberly</td>
<td>Carr, Jessicas</td>
</tr>
<tr>
<td></td>
<td>Binion, Jennie</td>
<td>Carter, Megan</td>
</tr>
<tr>
<td></td>
<td>Blackgrove, Tiffany</td>
<td>Carter, Stephanies</td>
</tr>
<tr>
<td></td>
<td>Blacklock, Brenda</td>
<td>Carter, Tobias</td>
</tr>
<tr>
<td></td>
<td>Blanchar, John</td>
<td>Casperson, Mollys</td>
</tr>
<tr>
<td></td>
<td>Boes, Lindsey</td>
<td>Castle, Jeremiah</td>
</tr>
<tr>
<td></td>
<td>Bohlander, Lindsay</td>
<td>Cerda, Aslees</td>
</tr>
<tr>
<td></td>
<td>Book, Cassie</td>
<td>Cerquitecta, Abigails</td>
</tr>
<tr>
<td></td>
<td>Boon, Austin</td>
<td>Chapman, Chrics</td>
</tr>
<tr>
<td></td>
<td>Boone, James</td>
<td>Chernowsky, Jennifer</td>
</tr>
<tr>
<td></td>
<td>Boroski, Kaylene</td>
<td>Chiu, Jonathans</td>
</tr>
<tr>
<td></td>
<td>Bossi, Rachel</td>
<td>Cleaver, Tims</td>
</tr>
<tr>
<td></td>
<td>Boxell, Amy</td>
<td>Collier, Mathewss</td>
</tr>
<tr>
<td></td>
<td>Boyle, Jami</td>
<td>Collins, Katiess</td>
</tr>
<tr>
<td></td>
<td>Boyle, Melissa</td>
<td>Comotto, Nicholass</td>
</tr>
</tbody>
</table>

Bradley, Kristin ........................................ 13, 91
Branham, Michael ....................................... 7, 40
Brege, Casey Jo ......................................... 10, 63
Breininger, Kaitlins .................................... 7, 39
Bremer, William ......................................... 9, 52
Bright, Ashley .......................................... 17, 124
Briley, David ........................................... 5, 13, 24, 95
Briner, Rebekah ......................................... 9, 51
Briscoe, James .......................................... 3, 50, 62, 63
Brohm, Kyle ............................................. 7, 40
Brooks, David ........................................... 9, 48
Brothers, Josh ........................................... 10, 61
Brown, Jac ................................................ 13, 17, 90, 125
Brownson, Claire ........................................ 14, 100
Buchman, David ........................................... 22
Buck, Melissa ............................................ 11, 74
Buesing, Brian ........................................... 16, 119
Burgess, Jenna ........................................... 11, 76
Burkey, Matthew ......................................... 16, 119
Burkhardt, Alyssa ........................................ 6, 29

Cahue, Alisha ............................................ 14, 103
Caldermeyer, Deanne .................................... 16, 114
Calder, Brigit ........................................... 10, 59
Call, Phillip ............................................ 9, 54
Campbell, Kristyn ....................................... 5, 18
Campbell, Pattys ......................................... 6, 7, 16, 31, 32, 38, 115
Campbell, Roses .......................................... 41
Carboneau, Bethany ...................................... 6, 26, 29
Cariello, Alisons ......................................... 14, 102
Carlsson, Alexas ......................................... 11, 69
Carlson, Brittanys ....................................... 7, 39
Carman, Samanthas ....................................... 8, 46
Carney, Terris ........................................... 3, 44
Carodenuto, Elsas ........................................ 8, 14, 46, 96
Carpenter, Marguerites .................................. 44
Carpinelli, Marisas ...................................... 15, 108
Carr, Jessicas ........................................... 13, 94
Carter, Megan ............................................ 41
Carter, Stephanies ....................................... 11, 72
Carter, Tobias ........................................... 6, 34
Caseperson, Mollys ....................................... 8, 43
Castle, Jeremiah ......................................... 9, 50
Cerda, Ashlees ........................................... 8, 46
Cerquitecta, Abigails .................................... 7, 40
Chapman, Chrics .......................................... 9, 49
Chernowsky, Jennifer .................................... 11, 72
Chiu, Jonathans .......................................... 14, 104
Cleaver, Tims ............................................ 16, 121
Collier, Mathewss ........................................ 17, 131
Collins, Katiess ........................................ 15, 109
Comotto, Nicholoss ....................................... 14, 95, 103
<table>
<thead>
<tr>
<th>Name</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooper, Aislinn</td>
<td>14, 103</td>
</tr>
<tr>
<td>Cooper, David</td>
<td>7, 36</td>
</tr>
<tr>
<td>Costello, Kaitlin</td>
<td>6, 30</td>
</tr>
<tr>
<td>Cotton, Meredith</td>
<td>14, 98</td>
</tr>
<tr>
<td>Coulter-Kern, Marcie</td>
<td>17, 111, 120, 121, 124, 126</td>
</tr>
<tr>
<td>Coulter-Kern, Paige</td>
<td>14, 17, 98, 125</td>
</tr>
<tr>
<td>Coulter-Kern, Russell</td>
<td>13, 91, 92</td>
</tr>
<tr>
<td>Crenshaw, Benjamin</td>
<td>9, 48</td>
</tr>
<tr>
<td>Cross, Ian</td>
<td>9, 49</td>
</tr>
<tr>
<td>Cutka, Emily</td>
<td>7, 41</td>
</tr>
<tr>
<td>Cyr, Kelly</td>
<td>13, 88</td>
</tr>
<tr>
<td>Cyrus, Ariel</td>
<td>33</td>
</tr>
<tr>
<td>Daisy, Bianca</td>
<td>16, 116</td>
</tr>
<tr>
<td>Dale, Robert</td>
<td>24</td>
</tr>
<tr>
<td>Dalton, Elizabeth</td>
<td>110</td>
</tr>
<tr>
<td>Danh, Marie</td>
<td>17, 123</td>
</tr>
<tr>
<td>Daniels, Ashley</td>
<td>6, 31</td>
</tr>
<tr>
<td>Das, Nandita</td>
<td>83</td>
</tr>
<tr>
<td>Daugherty, Erin</td>
<td>17, 130</td>
</tr>
<tr>
<td>DeBell, Thomas</td>
<td>10, 61</td>
</tr>
<tr>
<td>DeGeeter, Michelle</td>
<td>11, 66, 68</td>
</tr>
<tr>
<td>Deitz, Samantha</td>
<td>6, 31</td>
</tr>
<tr>
<td>DeVincenitis, Danielle</td>
<td>13, 91</td>
</tr>
<tr>
<td>Devine, Trish</td>
<td>67, 82</td>
</tr>
<tr>
<td>Deyo, Audrey</td>
<td>11, 67</td>
</tr>
<tr>
<td>Dick, Ashley</td>
<td>13, 89</td>
</tr>
<tr>
<td>Digate, Juli</td>
<td>13, 88</td>
</tr>
<tr>
<td>Dine Young, Stephen</td>
<td>99, 103</td>
</tr>
<tr>
<td>Dippold, Emily</td>
<td>9, 52</td>
</tr>
<tr>
<td>Dixon, Jasmine</td>
<td>16, 115</td>
</tr>
<tr>
<td>Dobkins, Joanne J.</td>
<td>30</td>
</tr>
<tr>
<td>Dorland, Kristin</td>
<td>9, 56</td>
</tr>
<tr>
<td>Douglas, Lorna</td>
<td>9, 55</td>
</tr>
<tr>
<td>Drake, Kayla</td>
<td>16, 113</td>
</tr>
<tr>
<td>Drongowski, Eric</td>
<td>9, 48</td>
</tr>
<tr>
<td>Dubuc, Darcy M.</td>
<td>13, 16, 17, 93, 112, 114, 125</td>
</tr>
<tr>
<td>Durcho, Holly</td>
<td>11, 68</td>
</tr>
<tr>
<td>Durys, Alexaandra</td>
<td>16, 121</td>
</tr>
<tr>
<td>Dy, Eliza</td>
<td>12, 84</td>
</tr>
<tr>
<td>Eddie, Ashley</td>
<td>11, 73</td>
</tr>
<tr>
<td>Edwards, Dominique</td>
<td>16, 17, 114, 130</td>
</tr>
<tr>
<td>Edwards, Elise</td>
<td>3, 18, 20, 23, 47</td>
</tr>
<tr>
<td>Edwards, Kelsey</td>
<td>9, 53</td>
</tr>
<tr>
<td>Efman, Jacob</td>
<td>15, 105</td>
</tr>
<tr>
<td>Ellich, Dan</td>
<td>16, 117</td>
</tr>
<tr>
<td>Ellis, Eric</td>
<td>15, 110</td>
</tr>
<tr>
<td>Eoff, Mike</td>
<td>27</td>
</tr>
<tr>
<td>Erbaugh, Betsy</td>
<td>47</td>
</tr>
<tr>
<td>Ethier, Shelly</td>
<td>26, 28</td>
</tr>
<tr>
<td>Everhart, Ashley</td>
<td>17, 125</td>
</tr>
<tr>
<td>Feichter, Ryan</td>
<td>11, 76</td>
</tr>
<tr>
<td>Fishbeck, Valerie</td>
<td>11, 74</td>
</tr>
<tr>
<td>Fisher, Autumn</td>
<td>15, 105</td>
</tr>
<tr>
<td>Flack, Chandra</td>
<td>6, 29</td>
</tr>
<tr>
<td>Flippin, Lakiska</td>
<td>16, 116</td>
</tr>
<tr>
<td>Fogle, Kelly</td>
<td>13, 91, 92</td>
</tr>
<tr>
<td>Francis, Gregory</td>
<td>13, 94</td>
</tr>
<tr>
<td>Frank, Lauren</td>
<td>7, 16, 38, 116</td>
</tr>
<tr>
<td>Frey, Appolina</td>
<td>11, 65</td>
</tr>
<tr>
<td>Friedlund, Matt</td>
<td>8, 42</td>
</tr>
<tr>
<td>Frye, Josselyn</td>
<td>17, 126</td>
</tr>
<tr>
<td>Funk, Hilary</td>
<td>15, 109</td>
</tr>
<tr>
<td>Funke, Katharine</td>
<td>12, 78</td>
</tr>
<tr>
<td>Gann, Lianne</td>
<td>14, 97</td>
</tr>
<tr>
<td>Garden, Niki</td>
<td>11, 71</td>
</tr>
<tr>
<td>Garringer, Matthew</td>
<td>16, 117</td>
</tr>
<tr>
<td>Garver, Lee</td>
<td>3, 54, 55, 58</td>
</tr>
<tr>
<td>Geiss, Brian</td>
<td>12, 86</td>
</tr>
<tr>
<td>George, Jennifer</td>
<td>14, 98</td>
</tr>
<tr>
<td>Gestwicki, Paul</td>
<td>16, 115, 120</td>
</tr>
<tr>
<td>Ghisays, Valentina</td>
<td>13, 16, 17, 93, 112, 124, 125</td>
</tr>
<tr>
<td>Giddens, Zachary</td>
<td>17, 131</td>
</tr>
<tr>
<td>Giesler, R. Brian</td>
<td>16, 100, 112</td>
</tr>
<tr>
<td>Gilbert, Laura</td>
<td>16, 110</td>
</tr>
<tr>
<td>Giordano, Rich</td>
<td>6, 27</td>
</tr>
<tr>
<td>Goetzke, Jordan</td>
<td>11, 75</td>
</tr>
<tr>
<td>Goodwin, Stephanie</td>
<td>17, 97, 123</td>
</tr>
<tr>
<td>Goss, Stephanie</td>
<td>14, 98</td>
</tr>
<tr>
<td>Graft, Kayla</td>
<td>12, 79</td>
</tr>
<tr>
<td>Gray, James</td>
<td>10, 57</td>
</tr>
<tr>
<td>Gray, Rebekah</td>
<td>7, 37</td>
</tr>
<tr>
<td>Green, Kate</td>
<td>9, 10, 54, 58</td>
</tr>
<tr>
<td>Groesbeck, Rebecca</td>
<td>5, 8, 21, 46</td>
</tr>
<tr>
<td>Gryzek, Mary</td>
<td>5, 6, 24, 31, 32</td>
</tr>
<tr>
<td>Guerriero, Sam</td>
<td>44</td>
</tr>
<tr>
<td>Guest-Williams, Carly</td>
<td>17, 124</td>
</tr>
<tr>
<td>Guilkey, Justin</td>
<td>6, 28</td>
</tr>
<tr>
<td>Gutierrez, Charles</td>
<td>6, 30</td>
</tr>
<tr>
<td>Haaker, Maureen</td>
<td>15, 108</td>
</tr>
<tr>
<td>Haley, Rebecca</td>
<td>14, 102</td>
</tr>
<tr>
<td>Hall, Ashley</td>
<td>5, 21, 22</td>
</tr>
<tr>
<td>Hammans, Lindie</td>
<td>16, 113</td>
</tr>
<tr>
<td>Hansen, Erik</td>
<td>11, 64</td>
</tr>
<tr>
<td>Haro, Jose</td>
<td>16, 115</td>
</tr>
<tr>
<td>Harris, Katie</td>
<td>16, 112</td>
</tr>
<tr>
<td>Hartgraves, Maggie</td>
<td>14, 102</td>
</tr>
<tr>
<td>Hartley, Annalise</td>
<td>16, 110</td>
</tr>
<tr>
<td>Harvey, Heather</td>
<td>5, 19</td>
</tr>
<tr>
<td>Hatton, David</td>
<td>11, 75</td>
</tr>
</tbody>
</table>
Little, Laura ........................................... 10, 57
Lohe, Kristen ........................................... 5, 22
Lohr, Ellyn ............................................. 11, 73
Lubrano, Alberto .......................... 6, 7, 29, 36
Lugar, Richard .......................................... 12, 82
Luttman, Kelli ........................................... 17, 126
Lynn, Amy ............................................. 15, 107
Lyvers, Glenn .......................................... 12, 84

Maffeo, Carrie ........................................... 11, 16, 68, 76, 80
Mai, Dang .................................................. 10, 61
Manzo, Michelle ........................................ 16, 110
Marsh, Lindsay .......................................... 13, 94
Marthakis, Nancy ....................................... 114
Martin, Joel ............................................... 3, 14, 101, 103
Marzotto, Lauren ...................................... 11, 70
Massey, Eric .............................................. 13, 14, 95, 99
Matacale, Diane ......................................... 5, 20
Maycock, Katrice ........................................ 6, 30
McBride, Darrin ......................................... 5, 21, 22
McCallum, Jessica ...................................... 13, 95
McCann, Meredith .................................... 15, 106
McCloud, Desiree ...................................... 14, 97
McClure, Lauren ........................................ 14, 96
McFadden, Katy ........................................ 13, 91, 92
McFall, Michael ........................................ 12, 85, 86
McFarland, Annette .............................. 66
McGowan, Richard .................................... 35
McGrath, Carrie ......................................... 14, 97
McKean, Tyler .......................................... 13, 88
McKinney, Jill ............................................ 51
McLean, Christine .................................... 14, 100
McMullan, Jordan ................................... 12, 77
Medley, Kelley .......................................... 14, 104
Mehringer, Elise ....................................... 11, 76
Meints, Samantha ................................... 13, 90
Merrill, Emily .......................................... 17, 128
Messer, Steve ........................................... 47, 48
Michalski, Julie .......................................... 6, 28
Miller, Alisha ............................................ 5, 20
Miller, Danielle .......................................... 7, 39
Miller, Lauren ........................................... 11, 65
Miller, Molly .............................................. 17, 127
Miller, Tarah ............................................ 14, 101
Minton, Janet ............................................. 6, 30
Mion, Angela ............................................ 13, 93
Mishler, Matt ............................................ 12, 81
Mistry, Sheetal .......................................... 12, 82
Mitchell, Bryce .......................................... 11, 72
Mix, Elizabeth .......................................... 3, 23, 110
Mohr, Felicia ............................................ 15, 109
Morgan, Elyse ......................................... 13, 89
Morgan, Heather ...................................... 14, 99
Morgan, Paul ........................................... 38
Morman, Rosemary ................................... 5, 25
Morrill, Thomas ....................................... 10, 61

Morris, Daniel ......................................... 37, 119
Morris, Holly ......................................... 13, 17, 91, 92, 124
Morris, Kathryn ...................................... 17, 95, 122, 123
Morrow, Brian ......................................... 10, 61
Morton, Lucas .......................................... 12, 85
Mudge, Emily .......................................... 9, 52
Murray, Megan ........................................ 7, 39
Myers, Aaron .......................................... 17, 123

Nathan, Nicole ........................................... 5, 22
Nawrocki, Meghan ............................... 11, 67
Nees, Lydia .............................................. 8, 43
Nehring, Rich ......................................... 6, 27
Nelson, Carlee ......................................... 13, 90
Newby, Anne .......................................... 9, 52
Newman, Kathy ........................................ 11, 68
Newton, Samantha .................................. 14, 103
Njoya, Oumarou ...................................... 12, 86
Novak, Josh ............................................. 14, 102
Nowak, Jessica ....................................... 11, 73

Obata, Emma .......................................... 5, 19
O’Brien, Ben ........................................... 16, 119
O’Conner, Bryon ...................................... 16, 119
Oler, Raychelle ......................................... 11, 75
Olson, Timothy ........................................ 16, 120
Olznoi, Maddie ........................................ 11, 69
Ordonez, Gonzalo ................................... 86, 87
Orlovich, Daniel S .................................. 11, 68
Ormerod, Anne ....................................... 12, 82
Osterhage, Jennifer .................................. 6, 29

Pachacz, Greg .......................................... 12, 79
Palma, Cesar .......................................... 17, 126
Palmer, Corey .......................................... 7, 40
Papineau, Emily ...................................... 11, 75
Parsons, Amanda ..................................... 11, 70
Parypinski, Joanna .................................. 10, 58
Patel, Sheel .............................................. 11, 65
Patton, Chelsea ....................................... 13, 90
Peck, James ............................................ 7, 40
Pena, Jose .............................................. 118
Pennington, Miranda ................................ 12, 81
Peters, Shawn .......................................... 14, 96
Petty, Jennifer ......................................... 17, 123
Phifer, Kim ............................................. 12, 85, 86
Phillips, Kacie ........................................ 11, 66, 68
Pile, Shelby ............................................. 15, 105
Plascak-Craig, Faye .................................. 92, 98, 99
Plowman, Kathryn .................................. 12, 79
Plutschack, Ali ........................................... 13, 94
Price, Albert ............................................. 6, 34
Prough, Owen ........................................... 16, 120
Pulliam, David .......................................... 9, 47
Pulscher, Gregory ...................................... 13, 89
Putney, Katherine ...................................... 6, 34
Pylitt, Laurie ............................................. 71
Schmid, Kathy ........................................... 19
Scarpelli, Matthew ..................................... 17, 126
Sampson, Rachel ........................................ 14, 98
Salzman, Matthew ....................................... 5, 25
Salsbury, Carmen ....................................... 71
Searls, Kristen ........................................... 10, 49
Selking, Megan .......................................... 17, 124
Sears, Kirsten ............................................ 8, 45
Selvaas, Ian ............................................... 14, 99
Shah, Pooja ................................................ 11, 75
Shah, Punit ................................................. 11, 66
Shahraki, Sholeh ........................................ 21, 22
Sharp, Eric .................................................. 13, 94
Shea, Christine .......................................... 49
Shepard, Rachel ......................................... 11, 76
Shepherd, Nicole ....................................... 6, 26
Sheltz, Dane ................................................ 83
Sibert, Harry ............................................... 13, 92, 121
Sieradzki, Chelsea ........................................ 16, 116
Sippola, Ben ............................................... 10, 57
Skiver, Robert ........................................... 14, 97
Smith, Brent ................................................ 26, 34
Smith, Crystal ............................................ 10, 59
Smith, James Michael .................................. 8, 44
Soper, Laura ............................................... 8, 45
Sorensen, Amy .......................................... 13, 93
Sozansky, Jeanie ......................................... 15, 106
Spainhour, Brandon ...................................... 6, 34
Speakman, John .......................................... 11, 64
Sprenger, Tracy .......................................... 81
Stamford, Dr. Bryant .................................... 17, 27, 28, 32, 130
Stamp, Walter ............................................. 13, 93
Starkey, Jeffrey .......................................... 12, 82
Stephens, Molly ......................................... 14, 98
Stevenson, Danielle ..................................... 6, 33
Stimler, Greg ............................................. 13, 92
Stoebig, Andrew ......................................... 10, 64
Strikerberga, Robert .................................... 19
Stueber, Sarah ........................................... 17, 131
Summitt, Travis ......................................... 6, 32
Sumner, Courtneyn .................................... 17, 129
Survance, Jamie ......................................... 3, 6, 7, 8, 9, 17, 129, 131
Swank, Daniel ........................................... 11, 71
Swank, Kristine .......................................... 12, 77

S

Salsbury, Carmen ....................................... 71
Salzman, Matthew ....................................... 15, 106
Sampson, Rachel ....................................... 14, 98
Saus, Paulette ........................................... 20, 53, 55, 56, 60, 84
Savage, Ann .............................................. 62
Scarpelli, Matthew ...................................... 17, 126
Schlegel, Randy ......................................... 13, 92
Schmid, Kathy ........................................... 29
Schmidt, Kevin .......................................... 5, 25
Schmidt, Paul ............................................. 43
Schramm, Justin ........................................... 6, 35
Schumacher, Stephanie ................................ 11, 65
Schwartz, Anna .......................................... 7, 37
Scott, Wesley ............................................ 10, 59
Sears, Kirsten ............................................ 8, 45
Selking, Megan .......................................... 17, 124
Searls, Kristen ........................................... 10, 49
Selvaas, Ian ............................................... 14, 99
Shah, Pooja ................................................ 11, 75
Shah, Punit ................................................. 11, 66
Shahraki, Sholeh ........................................ 21, 22
Sharp, Eric .................................................. 13, 94
Shea, Christine .......................................... 49
Shepard, Rachel ......................................... 11, 76
Shepherd, Nicole ....................................... 6, 26
Sheltz, Dane ................................................ 83
Sibert, Harry ............................................... 13, 92, 121
Sieradzki, Chelsea ........................................ 16, 116
Sippola, Ben ............................................... 10, 57
Skiver, Robert ........................................... 14, 97
Smith, Brent ................................................ 26, 34
Smith, Crystal ............................................ 10, 59
Smith, James Michael .................................. 8, 44
Soper, Laura ............................................... 8, 45
Sorensen, Amy .......................................... 13, 93
Sozansky, Jeanie ......................................... 15, 106
Spainhour, Brandon ...................................... 6, 34
Speakman, John .......................................... 11, 64
Sprenger, Tracy .......................................... 81
Stamford, Dr. Bryant .................................... 17, 27, 28, 32, 130
Stamp, Walter ............................................. 13, 93
Starkey, Jeffrey .......................................... 12, 82
Stephens, Molly ......................................... 14, 98
Stevenson, Danielle ..................................... 6, 33
Stimler, Greg ............................................. 13, 92
Stoebig, Andrew ......................................... 10, 64
Strikerberga, Robert .................................... 19
Stueber, Sarah ........................................... 17, 131
Summitt, Travis ......................................... 6, 32
Sumner, Courtneyn .................................... 17, 129
Survance, Jamie ......................................... 3, 6, 7, 8, 9, 11, 17, 129, 131
Swank, Daniel ........................................... 11, 71
Swank, Kristine .......................................... 12, 77

T

Taylor, Natalie ........................................... 13, 90
taylor, redrick .......................................... 13, 94
Templeton, Caroline .................................... 9, 50
Teschke, Matthew ........................................ 16, 118
Thompson, Cam ......................................... 5, 21
Thone, Emma ............................................. 12, 78
Tilbury, Sarah ............................................. 12, 81
Tolen, Megan ............................................. 11, 68
Tonn, Kevin ............................................... 11, 75
Toombs, Austin ......................................... 16, 120
Tori, Wendy ............................................... 5, 25

Q

Quirk, Ann ................................................. 6, 26

R

Ramey, Cathy ............................................. 80
Ramsey, Darin ........................................... 11, 75
Ramsey, Melanie ........................................ 9, 49, 50
Rarity, Andrew .......................................... 12, 79
Raver, Emma .............................................. 128
Read, Ashley ............................................. 10, 60
Read, Katherine ........................................ 13, 91
Ream, Elyse .............................................. 16, 112
Redmond, Noelle ........................................ 81
Redwine, Saffron ......................................... 14, 99
Reeves, Erin ............................................. 13, 86
Ricci, Michelle .......................................... 12, 77
Rice, Colin ................................................. 13, 87
Rice, Tori ................................................... 14, 97
Richey, Carriann ........................................ 11, 70, 76, 80, 83
Richine, Briana .......................................... 7, 35
Ringenberg, Matthew .................................. 52, 90, 94, 95, 99, 112
Robbins, Zachary ....................................... 16, 120
Rood, Amanda ........................................... 16, 120
Roper, Randall .......................................... 6, 17, 26, 31, 32, 115, 127
Rosado, Stephanie ....................................... 6, 30
Rosenthal, Marc ......................................... 7, 36
Rowles, Dane ............................................ 9, 49
Rubisco, Brittnay ........................................ 17, 129
Rubino, Darrin .......................................... 6, 31, 32
Rueker, Laura ............................................ 64, 73
Ryan, Travis .............................................. 24, 25, 124
Ryder, Priscilla .......................................... 71
Ryzak, Arek .............................................. 14, 97