



Eighteenth Annual Southeast Missouri State University

Student Research Conference

Wednesday, April 14 and Thursday, April 15, 2010

*Promoting and Recognizing Research by Undergraduate and Graduate
Students in All Academic Disciplines*

Sponsored by Psi Chi and the Psychology Department
Co-Sponsored by the Jane Stephens Honors Program

Keynote Speaker:

Dr. Dennis Papini

Middle Tennessee State University

“The Role and Value of Undergraduate Research”

Common Hour * Wednesday * 12:00-1:15 pm
Glenn Auditorium, Dempster Hall

2010 SRC Conference Committee Chairs:

Summer Payne & Elizabeth Holshouser

SRC Conference Committee Advisors: Dr. Rickard A. Sebby & Laura Delgado

Special Thanks to: Dr. Craig Roberts and Louise Bodenheimer

Poster and Program Art Work by **Shaun Prenger**

SUPPORTED BY A GRANT FROM FUNDING FOR RESULTS AND PHI KAPPA PHI

WEDNESDAY, APRIL 14, 2010, GLENN AUDITORIUM

****BREAKFAST AVAILABLE INSIDE GLENN AUDITORIUM AT 8:00****

8:00-8:15 *Opening Remarks-Summer Payne and Elizabeth Holshouser, 2010 SRC Student Co-Chairs*

10:15-10:30 *Emily Huelsmann, Asperger's Syndrome*

10:30-10:45 *Nicole L. Egelhofer, Conduct Disorder*

PAPER SESSION:

WEDNESDAY, GLENN AUDITORIUM
8:15 – 8:45

8:15-8:30 *Laura L. Herrejon Ayala, Gender and Religious Differences in Perceptions of Relationship Violence*

8:30-8:45 *Jacqueline E. Heath, Resistive and Structural Properties of a NiMnIn System of Alloys*

PAPER SESSION:

WEDNESDAY, GLENN AUDITORIUM
9:00 – 9:45

9:00-9:15 *Nicholas Cato, Misrepresentation and Imagery in *A Passage to India**

9:15-9:30 *Luke Nickelson, Jon McGuirt, Shannon Meyer, Rakeem Shelby, Jian Peng*, and Santaneel Ghosh*, Oscillating Magnetic Field Induced Temperature Control of Magnetic Nanoparticles*

9:30-9:45 *Michael Havard, Should the US (and the rest of the world) cut their Carbon Output?*

CONCURRENT SESSION, PAPERS

WEDNESDAY, GLENN AUDITORIUM
10:00 – 10:45

10:00-10:15 *Kevin Ivan McCarty, International Nationalism: Retaining Ethnic Identity While Abroad In Japan*

CONCURRENT SESSION, POSTERS

WEDNESDAY, ROOM 102-DEMPSTER HALL
10:00 – 10:45

Emilie Stephens, Ashley Johnson, & Jennifer Paes, Consumption of Calories in College Students

Lindsey Fitzgerald, Lauren Gean, & Whitney Ransom, Calorie Comparison of School Lunch Menus in Public and Private Missouri Schools

Kayla Mabery, Emily Bowers, Chris Yuen, Tuan Nguyen, Thomas Boyd, Elwood Gidney, Thomas McAllister, Alexandria Theisen, Lucinda Swatzell, & Santaneel Ghosh*, Cytotoxicity Assessment of Novel Hydrogel Encapsulated Quantum Dot Nanospheres*

Elizabeth A. Rogers, Eating Behaviors in Individuals with Dementia: A Study on Quality of Life

Christine R. Paige, Campus Smoking Policies

Stefanie Barnes, Ashley Runion, & Don Williams, Delayed-Onset Muscle Soreness in College Female Students

Joy M. Ashley, Chiropractors and Injury Prevention of Athlete's Injuries

Kenna Moats, Treating Voice Disorders in a Client with Unilateral Vocal Fold Paralysis: A Case Study

PAPER SESSION:

WEDNESDAY, GLENN AUDITORIUM 11:00 – 11:45

11:00-11:15 *Jessica L. Welker, Frankenstein: A Psychoanalytic and Gender Approach*

11:15-11:30 *Kim Stuckenschneider, Katie Leible, Danielle Schmidt, Amy Smothers, Meagan Westendorf, Margo Greicar*, & Sean Collins**, Influence of the Nike Sports Arm Band on Running Economy in Non-Competitive and Competitive Runners

11:30-11:45 *Jonathan McGuirt*, A look at Competitive Learning in Artificial Neural Networks

****LUNCH AVAILABLE INSIDE
GLENN AUDITORIUM AT 11:45****

KEYNOTE ADDRESS

GLENN AUDITORIUM 12:00 – 1:15

12:00-12:05 *Introduction of Keynote Speaker—2010 SRC Student Co-Chairs Summer Payne & Elizabeth Holshouser, Dr. Dennis Papini*, Chair, Department of Psychology Middle Tennessee State University, Murfreesboro, TN

12:05-1:15 **Keynote Address: “What is the Role and Value of Undergraduate Research”**

PAPER SESSION:

WEDNESDAY, GLENN AUDITORIUM 1:30 – 2:45

1:30-1:45 *Shravani Madabhushi & Mohammed Ali**, Direct synthesis of 2-aryl benzothiazoles

1:45-2:00 *Amy Christine Nickless*, A Society Changed: The Effects of the Italian Risorgimento in the Mezzogiorno

2:00-2:15 *Hannah Groom, Jacqueline Heath,*

Brian Henderson, & Scott Pauley,
Epidemiological Model

2:15-2:30 *Brandon Ferguson, Ryan Weeks, & Scott Brandhorst**, Sexual Awareness and Peer’s Sexual Frequency

2:30-2:45 *Tara Raddle*, The Healthcare Crisis

****SNACKS AVAILABLE INSIDE
GLENN AUDITORIUM AT 2:45****

****CONCURRENT SESSION,
PAPERS****

WEDNESDAY, GLENN AUDITORIUM 3:00 – 4:30

3:00-3:15 *Joshua de Vries*, Distilling the Feminine Center of T.S. Eliot’s *The Waste Land*

3:15-3:30 *Ben Castelli*, U.S. Companies Expanding into Russia

3:30-3:45 *Lucas Greten*, Robot Navigation Using Teleoperation and Autonomous Modes

3:45-4:00 *Rachel Kahle & Courtney Bays*, Fischer Esterification using Phosphomolybdic Acid as a Catalyst

4:00-4:15 *James Minner*, Killed in Combat: A Qualitative Analysis of a Parent’s Grief Process

4:15-4:30 *Gil Flores, Victoria Perez, & Ron Williams**, Perceptions of Nintendo Wii among Elderly Patients and Physical Therapists

**CONCURRENT SESSION,
POSTERS**

WEDNESDAY, ROOM 102-DEMPSTER HALL 3:00 – 4:30

Tiffany Hutson, Katie Surman, & Janelle Wiegmann, The Effects of Fruits, Vegetables and Fortified Foods on Overall Well-Being

Dusha Cecil, The Effects of Resegregation

Lauren Crouch, What You Should Know About Conduct Disorder

Sherry A. Ash, Jennifer L. Nelson, & Lainie J. Bohnsack, Experiencing Diversity and Multicultural Awareness as Counseling Graduate Students in a Cultural Experience in Fortaleza, Brazil: An initiative implemented by the Master's Program in Counseling at Southeast and the Master's Program in Psychology at University of Fortaleza (UNIFOR)

THURSDAY, APRIL 15, 2010, GLENN AUDITORIUM

****BREAKFAST AVAILABLE INSIDE GLENN AUDITORIUM AT 8:15****

8:25-8:30 *Opening Remarks-Summer Payne and Elizabeth Holshouser, 2010 SRC Student Co-Chairs*

10:00-10:15 *Nicole D. Trankle, Mathematics Learning Disorder*

10:15-10:30 *Luke Nickelson, Jon McGuirt, Shannon Meyer, Rakeem Shelby, Jian Peng*, & Santaneel Ghosh*, Oscillating Magnetic Field Induced Temperature Control of Magnetic Nanoparticles*

PAPER SESSION:

THURSDAY, GLENN AUDITORIUM
8:20 – 8:50

8:30-8:45 *Nathan Reynolds, Frankenstein's Creation as Religious Man*

8:45-9:00 *Rachel Thorne, Lacy Upchurch, Chelsea Niswonger, Nutrition Knowledge of College Students*

9:00-9:15 *Luke Clippard, and Seth Koehler, 1, 3-Dibromo-5,5-Dimethylhydantoin Catalized Esterification Synthesis From Carboxylic Acids And Carboxylic Acid Derivatives*

PAPER SESSION:

THURSDAY, GLENN AUDITORIUM
9:30 – 10:45

9:30-9:45 *Heather O'Connor, Expression of the Metalloprotease cc18_08353 from *Coprinopsis cinerea**

9:45-10:00 *Victoria L. Forester, Comparison of Prosody Training and Articulatory Cueing in Acquired Apraxia of Speech: A Case Study*

PAPER SESSION:

THURSDAY, GLENN AUDITORIUM
11:00 – 12:15

11:00-11:15 *Zarah Ahmad, An Overview of Dark Matter and Gravitational Lensing*

11:15-11:30 *Andrea N. Layden, Not Just Male and Female: Getting the "Transgender Leagues" Straight*

11:30-11:45 *Theresa A. Orlovsky, No Way Out: Escapism in Shakespeare's *A Midsummer Night's Dream**

11:45-12:00 *Caitlan Hester, The Relevance of Clifford Geertz's, *Notes on the Balinese Cockfight**

12:00-12:15 **AWARD CEREMONY: Best Paper and Best Poster Presentation. Awards Supported by Phi Kappa Phi and the Student Research Conference Funding for Results Grant**

****LUNCH AVAILABLE INSIDE
GLENN AUDITORIUM AT 12:15****

**CONCURRENT SESSION,
PAPERS**

***THURSDAY, GLENN AUDITORIUM
12:30-1:30***

- 12:30-12:45** *David Jenkins*, Micronutrient levels of foragers compared to nonforagers in the ant *Temnothorax curvispinosus*
- 12:45-1:00** *Eric Rexroat*, Chemical Dependence and Withdrawal: Examining Drug Use in *The Death of Ivan Ilych*
- 1:00-1:15** *K. A. Loucks, D. R. Hoffman, A. R. Stephens, A. N. Theisen, and L. J. Swatzell*, *Cheilanthes lanosa* spores Initiate Germination without Imbibition
- 1:15-1:30** *Chris Yuen, Tuan Nguyen, Thomas Boyd, Kayla Mabery, and Emily Bowers*, Dose Dependent Cytotoxicity Evaluation of a Quantum Dot Based, Multifunctional, Nanoscale System for Biomedical Applications
- 1:30-1:45** *Steven Haar*, Pattern Recognition Through Neural Networks

**CONCURRENT SESSION,
POSTERS**

***THURSDAY, ROOM 102-DEMPSTER HALL
12:30 – 1:30***

- Seth Koehler*, Perceptions and Beliefs of the Recreational College-Aged Athlete on Dietary and Performance Enhancing Drugs
- Amanda L. Gallatin*, Conduct Disorder
- Martha L. Goodrum*, Oppositional Defiant Disorder
- Carrie Greer*, ADHD in Children

*** AUTHORS WITH AN ASTERISK
AFTER THEIR NAME ARE
FACULTY.**

****PAPER ABSTRACTS, IN ORDER OF APPEARANCE****

Glenn Auditorium

Wednesday, April 14, 2010

Authors: **Laura L. Herrejon Ayala**
Title: **Gender and Religious Differences in Perceptions of Relationship Violence**

Majors: Psychology
Faculty Sponsor: Dr. Leslee Pollina, Psychology

Abstract: Gender and demographic differences in perceptions of relationship violence were examined. One hundred and ninety college students answered a survey which included 192 items from the Conflict Tactics Scales (Straus, 1979) and 15 items about women's role (Gaylor, 1993). Men agreed more with perceptions of women's traditional roles (PWTR) than did women ($r(190) = .24, p < .001$). Parent's marital status was positively associated with Emotional Violence (EV) $r(190) = .17, p < .02$; and Physical Violence (PV) $r(190) = .15, p < .04$. Students with single parents had higher tolerance of EV and PV. Greater attendance of religious services (ARS), was negatively associated with PWTR ($r(190) = -.31, p < .001$). Longer relationships were associated with higher expectations of EV ($r(190) = .15, p < .04$) and PV ($r(190) = .16, p < .03$). Larger population size of setting while growing up was positively correlated with Personal Perception of Treatment ($r(190) = .18, p < .02$). Regression analyses revealed significant contributors to PWTR: gender and ARS, $R(177) = .45, p < .001, R^2 = .20$. The findings reinforce earlier research suggesting that relationship violence is a multifaceted issue, indicating several potential targets for intervention.

Authors: **Jacqueline E. Heath**
Title: **Resistive and Structural Properties of a NiMnIn System of Alloys**
Majors: Physics and Applied Mathematics
Faculty Sponsor: Dr. Margaret Hill, Physics

Abstract: Shape memory alloys exhibit the ability to regain certain shapes through martensitic and austenitic transitions after being deformed and subsequently reheated past a characteristic transition temperature. A specific system of Ni_{50-x}Mn₃₅In_{15+x}

was chosen in order to study the effects of varying the stoichiometry on structural transition temperatures. Ni₅₀Mn₃₅In₁₅ samples were prepared by arc-melting. X-Ray diffraction was performed to examine the crystal structure, Scanning Electron Microscopy (EDS) was performed to determine the precise composition of a sample and to check homogeneity. Resistivity measurements were also made to look for changes in electrical properties due to magnetic or structural transitions. An analysis of these results and a discussion of possible future directions in research will be presented.

Authors: **Nicholas Scott Cato**
Title: **Misrepresentation and Imagery in A Passage to India**

Majors: Master's of Art in English
Faculty Sponsor: Dr. Deborah Raschke, English

Abstract: Forster's A Passage to India may not seem very Modern when compared to classics like The Portrait of the Artist as a Young Man, or To the Lighthouse. Indeed, Forster's text could easily be mistaken for a Dickens-esque social critique of Imperialism. The narrative is easy to follow, the storyline seems clear, and the content is definitely socio-political. However, an astute read of Passage does not create any lasting impressions of hope; Forster does not create an ending in which any solution seems prevalent. Forster does, however employ a meticulously crafted subtext of imagery and misrepresentations to create a modernist text which criticizes British imperialism of Africa and cultural stereotypes.

Authors: **Luke Nickelson, Jon McGuirt, Shannon Meyer, Rakeem Shelby, Jian Peng*, and Santaneel Ghosh***
Title: **Nazi Oscillating Magnetic Field Induced Temperature Control of Magnetic Nano-particles**
Majors: Engineering Physics, Computer
Faculty Sponsor: Dr. Santaneel Ghosh, Physics / Engineering Physics

Abstract: Biocompatible magnetic nanoparticles possessing core-shell structure hold great therapeutic potential. The polymeric shell acts as the reservoir of the drug, while the magnetic core acts as nano source of heat, and thus, initiates release of imbibed drug from the tunable excipient by causing volumetric shrinkage of the polymer network when exposed to the oscillating magnetic field. This study reports the design of the oscillating field generator and the heating characteristics of hydrogel nano-composites. The results are compared to baseline water samples to separate magnetic actuation. The heating device consists of a frequency generator, voltage amplifier, current amplifier, capacitor bank, and a coil that produces the magnetic field. The setup is optimized to generate the desired field intensity for nano-particle heating.

Authors: **Michael Havard**
Title: **Should the US (and the rest of the world) cut their Carbon Output?**
Majors: Philosophy
Faculty Sponsor: Dr. Hamner Hill, Political Science, Philosophy, and Religion

Abstract : This essay addresses the question many people in America are asking themselves: will a reduction in the greenhouse gases emitted in America in any way impact the rising temperatures globally, or have current levels of emissions in the atmosphere from humans already passed the point of no return, with a two degree warming worldwide already inevitable, resulting in catastrophic climate change? This essay also addresses any current political, environmental and ethical issues that rise from the global warming debate and it explores some of the current attempts by different groups to rein in emissions on a smaller level.

Authors: **Kevin Ivan McCarty**
Title: **International Nationalism: Retaining Ethnic Identity While Abroad In Japan**
Majors: Anthropology
Faculty Sponsor: Dr. Warren Anderson, Foreign Languages and Anthropology

Abstract: International nationalism is not simply the patriotism that one shows toward their country but how that patriotism is being shown while abroad. This runs a close line to acculturation and ethnic

islands but in this paper I will focus on how immigrants and foreigners in Japan maintain their nationalism or ethnocentricity. I plan to clearly distinguish the differences in the present ethnical diffusion of Eastern and Western cultures in Japan and how two populations handle things such as acculturation and assimilation into the Japanese culture and society. Through this essay I will present two areas in Tokyo, Shin-okubo and Roppongi, which support my theories of international nationalism and provide a better understanding of the ethnical diffusion which occurs.

Authors: **Emily Huelsmann**
Title: **Asperger's Syndrome**
Majors: Communication Disorders
Faculty Sponsor: Dr. Gail Overbey, Psychology

Abstract: Asperger's Syndrome (AS) is a developmental disability characterized by deficits in socialization and communication as well as limited behaviors and interests. The first part of this presentation will examine the diagnostic criteria of AS as provided by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision. Secondly, this presentation will investigate the causes of AS and available treatments, such as behavioral, educational, and psychopharmacological interventions. The presentation will conclude by examining the similarities and differences between AS and Autistic Disorder.

Authors: **Nicole L. Egelhofer**
Title: **Conduct Disorder**
Majors: Psychology and Criminal Justice
Faculty Sponsor: Dr. Gail Overbey, Psychology

Abstract: Conduct Disorder (CD) in children and adolescents is characterized as a pattern of behavior in which the child repeatedly shows disregard for and violation of the well-being of others or the rules of society appropriate for his/her age. The primary diagnostic features of CD include aggression, crimes against property, deception and stealing, and intentional and significant rule-breaking. Children and adolescents with CD show a decline in various areas of functioning, including school, work, and interactions with others. A comprehensive description of Conduct Disorder, including the various risk factors, associated features, gender differences, prevalence and course of the disorder, related conditions, and available treatments will be discussed.

Authors: **Jessica L. Welker**
Title: **Frankenstein: A Psychoanalytic and Gender Approach**
Majors: Secondary English Education
Faculty Sponsor: Dr. Christopher Rieger, English

Abstract: I am combining Freud's theory of unconscious desires (id, ego, and superego) with a gender approach to look at Mary Shelly's "Frankenstein". Ultimately, I will use several direct quotes from the text to make the analysis that Victor is in fact confused about his sexuality. Using Freud's theory of unconsciousness, I will conclude that Victor's homosexual feelings are directly shown through the creature's actions.

Authors: **Kim Stuckenschneider, Katie Leible, Danielle Schmidt, Amy Smothers, Meagan Westendorf, Margo Greicar*, and Sean Collins***
Title: **Influence of the Nike Sports Arm Band on Running Economy in Non-Competitive and Competitive Runners**
Majors: Athletic Training
Faculty Sponsor: Dr. Margo Greicar and Dr. Sean Collins, Health, Human Performance, and Recreation

Abstract: The purpose of this study was to investigate if the Nike Sports Arm Band influenced the running economy in both non-competitive and competitive runners. Twenty-eight participants, 17 female and 11 male, completed two treadmill sessions. In each session, VO₂ was measured and participants ran for 10 minutes at a velocity of their choice under random conditions: running with the arm band (VO₂wb) and running with no arm band (VO₂nb). Data obtained by averaging relative VO₂ values across sessions (38.11±5.10; 37.82±5.19) indicated no significant (p<.05) difference in running economy. These results suggest that wearing the Nike Sports Arm Band has no detrimental effects on running economy.

Authors: **Jonathan McGuirt**
Title: **A look at Competitive Learning in Artificial Neural Networks**
Majors: Computer Science
Faculty Sponsor: Dr. Xuesong Zhang, Computer Science

Abstract: In the field of computing, artificial intelligence is an expanding area. There are many methods of instituting artificial intelligence. An artificial neural network is a unique technique of modeling computer learning after the human brain. There are three kinds of neural networks: supervised, unsupervised and recurrent. One aspect of supervised is that it allows the computer to learn on it's own in competitive learning. While this is a good start, it's relatively basic. Kohonen Maps are a more advanced form of competitive learning that focus on a neuron and its neighbors. Many real world processes use self-learning neural networks, to visualize and mine data, to be more efficient and accomplish things that might otherwise be impossible for a human alone.

Authors: **Shravani Madabhushi and Mohammed Ali***
Title: **Direct synthesis of 2-aryl benzothiazoles**
Majors: Chemistry
Faculty Sponsor: Dr. Mohammed Ali, Chemistry

Abstract: Direct synthesis of 2-aryl benzothiazoles using 2-amino thiophenol and respective aldehydes. The reaction is carried out under heat using ethanol as solvent without any catalyst. 2-aryl benzothiazoles are potent and selective antitumor agents. These classes of compounds are important in medicinal and organic chemistry.

Authors: **Amy Christine Nickless**
Title: **A Society Changed: The Effects of the Italian Risorgimento in the Mezzogiorno**
Majors: History
Faculty Sponsor: Dr. David Cameron, History

Abstract: This paper examines the effects of the Italian Unification (Risorgimento) process in Southern Italy (the Mezzogiorno). After a brief sketch of the unification process, the positive and negative changes to the region are assessed. Positive changes included infrastructure improvement and the rise of public education. Negative changes included land distribution, mandatory conscription, higher taxation, rise of banditry and the Mafia, a major revolt, and mass emigration. After the assessment, alternative unification ideas are presented and the effects of the changes on the society are examined. This work is an excerpt from the senior honors paper "A Tale of Two Sicilies: The Italian Risorgimento in the Mezzogiorno and Its Effects."

Authors: **Hannah Groom, Jacqueline Heath, Brian Henderson, and Scott Pauley**
Title: **Epidemiological Model**
Majors: Physics, Mathematics
Faculty Sponsor: Dr. Wai Y. Chan, Mathematics

Abstract: We studied a non-linear system of differential equations mathematical model to describe the spread of disease within a population. In this population, there are three different classes of people; those are susceptible to the disease, those are infected, and those are recovered. The size of these classes at time t are represented by $S(t)$, $I(t)$ and $R(t)$, respectively. This model is referred to the Susceptible-Infected-Recovered, or SIR, model. Depending on their ability to fight the disease and their interactions with infected individuals, the people move from between the susceptible, infected and recovered classes. In this talk, we will discuss the numerical solutions to this problem.

Authors: **Brandon Ferguson, Ryan Weeks, and Scott Brandhorst***
Title: **Sexual Awareness and Peer's Sexual Frequency**
Majors: Psychology
Faculty Sponsor: Dr. Scott Brandhorst, Psychology

Abstract: This study examined the influence of peer sexual frequency on sexual awareness in college students. Three hundred twenty-two (157 male, 165 female) undergraduate students completed a sexual knowledge measure and demographic information. The researchers hypothesized that an individual's self-reported sexual awareness would be influenced by their peer's sexual frequency, and that participants received sexual knowledge from their parents than any other source. As expected, parents were the most reported source of sexual information, and peer's sexual frequency had a significant influence on an individual's sexual awareness; especially those on the "low" end of the frequency spectrum. This study shows that parents are typically the original source of sexual knowledge, but not the last or most influential on individual sexual awareness.

Authors: **Tara Raddle**
Title: **The Healthcare Crisis**
Majors: Psychology
Faculty Sponsor: Dr. M. Gerber, Political Science

Abstract: With 45 million individuals in the United States lacking health insurance, and the costs of healthcare rising rapidly, healthcare reform has become a frequent topic of political debate. The purpose of this paper is to examine the current healthcare situation in the U.S., as well as the history that led up to this point. For the sake of comparison, both Great Britain and Canada were examined, as both hold potential clues for what should be done to reform healthcare in the U.S.

Authors: **Joshua de Vries**
Title: **Distilling the Feminine Center of T.S. Eliot's *The Waste Land***
Majors: English
Faculty Sponsor: Dr. Debrah Raschke, English

Abstract: The Waste Land is a multifaceted look into a crumbling civilization at the human level. Voices mumble, not expecting an answer and relics of past civilizations drift in and out of comprehension, contributing nothing. At the center of the poem is a tortured, ineffectual feminine consciousness, a sort of barren Eve figure, which manifests itself in different voices throughout the poem. Indeed, one way in which the fragments of this poem can be organized into some kind of understandable whole is by analyzing these non-traditional female voices and fitting them together. Three, in particular, stand out: the clairvoyant, Madame Sosotris, the frustrated mother, Lil, and the elemental sea, an ancient feminine symbol of genesis, which is now empty and destructive.

Authors: **Ben Castelli**
Title: **U.S. Companies Expanding into Russia**
Majors: Accounting and International Business
Faculty Sponsor: Dr. Kevin Dickson, Management and Marketing

Abstract: This study is composed of two U.S. based companies expansion into Russia. Payless ShoeSource is has begun their expansion this year while Pepsi has been in Russia over 50 years. The presentation begins with Payless ShoeSource. The study then covers the motives of the Payless expansion along with the beginning move into Russia. The work the company researched before expanding is included in a culture study slide along with their implementation strategy. Finally, the future expansion plans of Pay-

less are discussed. Next, the presentation covers the expansion of PepsiCo. into Russia. The motives of the companies move and an overview of its expansion over the past 50 years is included. Finally, the future plans of PepsiCo. In Russia are discussed.

Authors: **Lucas Greten**
Title: **Robot Navigation Using Teleoperation and Autonomous Modes**
Majors: Engineering Physics
Faculty Sponsor: Dr. Jian Peng, Physics/Engineering Physics

Abstract: The most fundamental capability of a mobile robot is the robot's navigation capability. The goal of this study is to be able to control a robot to navigate to goals on its own and also have the ability to be controlled by a human. The robot platform was the Pioneer 3-DX by MobileRobots, Inc. The software used in this study included ARIA and ARNL. A prepared environment map was drawn to scale using Mapper3 (Basic). The client program had a teleoperation mode and an autonomous mode. Each mode would run its own thread and if the user wished to change modes, the thread would be stopped and the user would choose from a menu.

Authors: **Rachel Kahle and Courtney Bays**
Title: **Fischer Esterification using Phosphomolybdic Acid as a Catalyst**
Major: Biomedical Sciences
Faculty Sponsor: Dr. Mohammed Ali, Chemistry

Abstract: Our green chemistry project involves the process of esterification using solid phosphomolybdic acid. In this experiment, the variables include different types of alcohols and acids while still maintaining the constant catalyst. Phosphomolybdic acid is greener because it is non-toxic and capable of coming out of solution easier than it would be using another catalyst. The products are identified using IR and NMR. Our results are then compared to known IR and NMR data.

Authors: **James Minner,**
Title: **Killed in combat: A Qualitative Analysis of a Parent's Grief Process**
Major: Family Studies
Faculty Sponsor: Dr. Tony Faber, Human Environmental Science

Abstract: This longitudinal qualitative-phenomenological study describes the grief process of parents who lost a son in combat during Operation Iraqi Freedom. The couple was interviewed three times over the year following the death of their son. Four main themes were found: coping strategies, sources of support, stressors, and grief over time. The parents had different coping strategies in which the mother coped with her loss by trying to keep her son psychologically present where as the father avoided the stress by isolating himself. The support the parents received came from members of their late son's military unit. The parents reported feeling the most stressed during the holiday season. After a year, both parents reported still grieving the loss of their son.

Authors: **Charles Gil Flores, Victoria Perez, and Ron Williams***
Title: **Perceptions of Nintendo Wii among Elderly Patients and Physical Therapists**
Major: Exercise Science / Pre-Physical Therapy
Faculty Sponsor: Dr. Ron Williams, Jr., Department of Health, Human Performance, & Recreation

Abstract: Use of video games for non-recreational purposes, such as military training and physical rehabilitation, has increased recently. The purpose of this study was to examine perceptions of the Nintendo Wii as a form of rehabilitation in older therapy patients. Physical therapists (n=4) and patient's (n=10) perceptions of the success of the Nintendo Wii were recorded. The results indicated that both physical therapists and patients found the use of the Nintendo Wii as form of rehabilitation to be successful. Both groups believed that the use of the Nintendo Wii was beneficial on a physical as well as social level. Results show that video games may yield positive rehabilitation results for patients, even those with little to no prior gaming experience.

Thursday, April 15, 2010

Authors: **Nathan Reynolds**
Title: **Frankenstein's Creation as Religious Man**
Majors: English Writing
Faculty Sponsor: Dr. Christopher Reiger, English

Abstract: Frankenstein's Creation as Religious Man is a discussion and interpretation of the religious themes within the novel Frankenstein by Mary Shelley. Within this approach to the novel, I examined the relationship between Victor and the Creature as the struggle between God and man, with Victor taking the role of God. I examine the way these two beings interact and from that apply the findings to the man and God relationship. Within this novel are many ties to the Judeo-Christian traditions as well as connections to the Deism philosophy. In the examination of the Creature as a religious being I also use his character to determine whether he is of a benevolent or malignant nature. From my reading I have determined that men are of a good and peaceful nature but it is when removed from the influence of his creator that he falls into an evil state of mind. I have also reasoned that Shelley's reasons for inclusion of these elements into her work are to express her own inner views on the matter. Being raised by an atheist father, when her mother had passed, she would have some questions as to the nature of men on earth. Also she was married to Percy Bysshe Shelley, one of the leaders of the Romantic writers and had a great deal of contact with the other writers of the period. Many Romantics often overlooked religion, focusing on nature and many adopted the Deist philosophy of religion. Shelley could also be including some of her own criticism of these trends among her peer.

Authors: **Rachel Thorne, Lacy Upchurch, and Chelsea Niswonger**
Title: **Nutrition Knowledge of College Students**
Majors: Dietetics, Dietetics, Health Promotion
Faculty Sponsor: Dr. Ron Williams, Health, Human Performance, & Recreation

Abstract: It is a well known fact that college students do not make the best food choices, some of these

reasons being lack of knowledge. The purpose of this study was to examine the general knowledge of college students. Data was collected through the administration of a brief nutritional knowledge quiz to a random sample (n=98) of college students. Results revealed that female students were more likely than males to provide the correct responses when asked about various nutritional choices including fats, fruits, vegetables, dairy, and protein. Over all the results showed that nutrition classes did not make a significant impact on nutritional knowledge. This study supports that college students need more nutritional information.

Authors: **Luke Clippard and Seth Koehler**
Title: **1,3-Dibromo-5,5-Dimethylhydantoin Catalyzed Esterification Synthesis From Carboxylic Acids And Carboxylic Acid Derivatives**
Majors: Chemistry
Faculty Sponsor: Dr. Mohammed Ali, Chemistry

Abstract: The purpose of our experiment was to develop a procedure in which to synthesize esters from carboxylic acids and their derivatives paired with an alcohol using a safer and greener catalyst to prevent loss of yield, and maintain a relatively easy procedure. The esterification reaction is both a slow and reversible reaction, causing yields to often be very low. The catalyst is usually concentrated sulfuric acid. Sulfuric acid a very toxic corrosive material can be harmful to both the environment and its handler. We purposed replacing the corrosive sulfuric acid catalyst with the non-corrosive 1,3-dibromo-5,5-dimethylhydantoin a yellowish solid catalyst that can be recovered and reused in the research project will decrease the hazards in the procedure.

Authors: **Heather O'Connor**
Title: **Expression of the Metalloprotease cc18_08353 from Coprinopsis cinerea**
Majors: Biomedical Sciences
Faculty Sponsor: Dr. Walt Lilly, Biology

Abstract: Coprinopsis cinerea is one of several basidiomycete fungi that are commonly used in research as a model organism. It is a good model organism because of its short life cycle, its capability to grow and fruit on artificial media under labora-

tory conditions, and because its genome has been sequenced entirely by the Broad Institute at MIT. Studying the genes that control development in *C. cinerea* is expected to help understand other basidiomycetes that are important in other fields of study. Proteases are enzymes that cut peptides into fragments that fold into proteins. They are selective in that each protease is responsible for cutting specific sequences of amino acids. Studying proteases in *C. cinerea* can provide more information on the regulatory processes in basidiomycetes. In my research, I will be studying metalloproteases. Metalloproteases are one of seven clans of peptidases, meaning all known metalloproteases have arose from a single evolutionary origin of peptidases. They play key roles in many physiological processes in mammals. There are many families of metalloproteases. The metalloproteases are categorized into families based on their amino acid sequence similarity. In *Coprinopsis cinerea* there are a large number of proteases (27) belonging to the M43 family, and specifically the M43 subfamily, M43B. There are more genes for M43B metalloproteases in *C. cinerea* than in any other fungus. However, little is known about this subfamily of proteases, such as their substrate specificity, regulation (when are they active and when are they inactive), or their roles in the life of the organism (Rawlings, Morton, Kok, Kong & Barrett 2008). It is possible to look at the expression of these metalloproteases using microarrays and some of this study is currently happening. However, the most important factor for understanding the roles of these metalloproteases within the organism is knowing what substrates these metalloproteases act on.

Authors: **Victoria L. Forester**
Title: **Comparison of Prosody Training and Articulatory Cueing in Acquired Apraxia of Speech: A Case Study**
Majors: Communication Disorders
Faculty Sponsor: Dr. Jayanti Ray, Communication Disorders

Abstract: The purpose of this retrospective single-subject study was to compare the outcomes of two treatment approaches (prosody training method and articulatory cueing) in a 57-year old female with acquired apraxia of speech and left CVA. The participant engaged in five treatment sessions focused on production of bisyllabic words, trisyllabic words, and

phrase stimuli for each treatment method. Significant differences in speech intelligibility, phonetic deviations within approaches, and generalization scores between approaches were not noted; however, a significant difference was present regarding phonetic deviations between approaches as well as generalization scores for words versus phrase stimuli for the prosody training approach. It was concluded that articulatory cueing was the most effective treatment approach for the participant due to limited verbal expression.

Authors: **Nicole D. Trankle**
Title: **Mathematics Learning Disorder**
Majors: Psychology
Faculty Sponsor: Dr. Gail Overbey, Psychology

Abstract: The purpose of this research project was to compile basic information pertaining to Mathematics Learning Disorder in children, and construct an informative, parent-friendly pamphlet, much like the ones found in physician’s offices. The pamphlet contained information that would educate parents of the possible symptoms that their child may exhibit. The pamphlet also contained the criteria that would be required to get a diagnosis of Mathematics Disorder from a health care professional. It also examined the suspected causes, and possible treatment options for children diagnosed with Mathematics Disorder. And finally, it included the research findings that support the information that was included in the pamphlet. This project was intended to “simplify” what Mathematics Disorder is for parents of any educational equivalency.

Authors: **Luke Nickelson, Jon McGuirt, Shannon Meyer, Rakeem Shelby, Jian Peng*, and Santaneel Ghosh***
Title: **Oscillating Magnetic Field Induced Temperature Control of Magnetic Nano- particles**
Majors: Engineering Physics, Mathematics, Computer Science
Faculty Sponsor: Dr. Santaneel Ghosh, Physics/Engineering Physics

Abstract: Biocompatible magnetic nanoparticles possessing core-shell structure hold great therapeutic potential. The polymeric shell acts as the reservoir of the drug, while the magnetic core acts as nano source of heat, and thus, initiates release of imbibed drug from the tunable excipient by causing volumet-

ric shrinkage of the polymer network when exposed to the oscillating magnetic field. This study reports the design of the oscillating field generator and the heating characteristics of hydrogel nano-composites. The results are compared to baseline water samples to separate magnetic actuation. The heating device consists of a frequency generator, voltage amplifier, current amplifier, capacitor bank, and a coil that produces the magnetic field. The setup is optimized to generate the desired field intensity for nano-particle heating.

Authors: **Zarah Ahmad**
Title: **An Overview of Dark Matter and Gravitational Lensing**
Majors: Physics, Mathematics
Faculty Sponsor: Dr. John Tansil, Physics

Abstract: In this paper we will discuss the history of dark matter since it was postulated in 1933, and how general relativity relates to it. We will then go on to discuss the various sources of dark matter, including baryonic dark matter and non-baryonic dark matter. We will then discuss different mapping techniques, focusing on weak gravitational lensing.

Authors: **Andrea N. Layden**
Title: **Not Just Male and Female: Getting the “Transgender Leagues” Straight**
Majors: Anthropology
Faculty Sponsor: Dr. Carol Morrow, Anthropology

Abstract: RuPaul once said that Americans have difficulty differentiating between transgender, transsexual, and drag queen, yet there seems to be no confusion between the American Baseball League and the National Baseball League. The purpose of this presentation is to demonstrate this difference as well as discuss the five semi-independent attributes of sexual identity and behavior (genetic identity, gender identity, physical gender, brain gender, and brain sex) and how they apply as described by Carl W. Bushong, Ph.D. The goal of this presentation is also to increase awareness of a largely ignored piece of American culture.

Authors: **Theresa A. Orlovsky**
Title: **No Way Out: Escapism in Shakespeare’s A Midsummer Night’s Dream**
Majors: English, Spanish
Faculty Sponsor: Dr. Stephanie Chamberlain, English

Abstract: The idea of momentary escape seems universal to all humans, especially when times are significantly difficult. When a father does not approve of his daughter’s boyfriend, when love is unrequited, when aggressively amorous attention is unwelcome, when spouses squabble, and when one cannot move up in life—these are all problems that one might like to escape, perhaps into a fleeting dream. William Shakespeare, ever the examiner of the human condition, explored this desire to escape in his aptly titled A Midsummer Night’s Dream. Shakespeare illustrates how this ephemeral evasion does not resolve ones problems; life’s woes are inescapable.

Authors: **Caitlan Hester**
Title: **The Relevance of Clifford Geertz’s, “Notes on the Balinese Cockfight”**
Majors: Anthropology
Faculty Sponsor: Dr. Carol Morrow, Anthropology

Abstract: This paper aims to cover the Relevance of Clifford Geertz’s pivotal piece, “Notes on the Balinese Cockfight.” The field of anthropology will be looked at prior to Geertz and after. This particular piece will be examined as a contribution and marker for the field of symbolic/interpretive anthropology with regards to deep play, thick description describing culture as narrative, and borrowing from other fields in ethnography. The paper aims to answer the questions, “Has borrowing from other disciplines affected Geertz’s theory of interpretive anthropology? How has this piece changed ethnography? And, what are some of the major criticisms of this particular piece?.”

Authors: **David Jenkins**
Title: **The Micronutrient levels of foragers compared to nonforagers in the ant Temnothorax curvispinosus**
Majors: Biology
Faculty Sponsor: Dr. Timothy Judd, Biology

Abstract: Temnothorax curvispinosus are a colonizing species that have to forge for their food. Little is known about the micronutrients in colonizing insects that have a role in their foraging behavior. This experiment using ICP elemental analysis, investigated micronutrient content in T. curvispinosus. Twelve colonies of T. curvispinosus were collected from Juden Creek in Cape Girardeau, Missouri. A Bhatkar diet was used to initiate feeding in the colonies and then five foragers were randomly collected. Also five nesting ants were randomly collected from the colony. These samples were then dried and weighed so they could be digested for elemental analysis. The results of the ICP elemental analysis data were compared between two groups, foraging and nesting, in order to gain insight on which of these minerals is more prevalent in the foraging group and which are not prevalent in the nesting group. Our results indicated that foragers had higher potassium levels but lower zinc levels than nesters. Further studies as to what role potassium and zinc play are warranted by these findings.

Authors: Eric Rexroat
Title: Chemical Dependence and Withdrawal: Examining Drug Use in *The Death of Ivan Ilych*
Majors: History
Faculty Sponsor: Dr. Pennie Pflueger, English

Abstract: The focus of this research is the analysis of the themes of drug tolerance, withdrawal, and addiction in Leo Tolstoy's novel, *The Death of Ivan Ilych*. These themes are examined from the historical setting and context of the novel, and Ivan's use of opium, morphine, and other opiate drugs which are explicitly mentioned in the text support the thesis that Ivan's intense suffering is magnified by the drug addiction he develops after doctors carelessly prescribe him numerous drugs. By placing Tolstoy's novel in the historical context of the medical knowledge and its use during the period, readers are more aware of Ivan's suffering and have a greater ability to empathize with his plight.

Authors: K. A. Loucks, D. R. Hoffman, A. R. Stephens, A. N. Theisen, L. J. Swatzell*
Title: *Cheilanthes lanosa* Spores Initiate Germination Without Imbibition.
Majors: Biology
Faculty Sponsor: Dr. Lucinda Swatzell, Biology

Abstract: *Cheilanthes lanosa*, like *Cheilanthes feei*, is a species of xerophytic fern that appears to germinate without the presence of a visible source of water. However, this phenomenon has only been observed and not characterized. Furthermore, it is unclear how this would be possible, since imbibition typically precedes germination in fern spores. Using autofluorescence of chlorophyll as a marker for physiological activation, spores were assessed for any volume changes that occur prior to the expression of chlorophyll. Spores were incubated in sterile culture, viewed and measured with epifluorescence microscopy, and evaluated with digital image capture and analysis. Results confirm that there is no change in spore size before chlorophyll is expressed. This information may suggest that a physiological change in the spore occurs, such as an alteration in cytoplasmic concentrations of solutes, rather than an imbibition event.

Authors: Chris Yuen, Tuan Nguyen, Thomas Boyd, Kayla Mabery and Emily Bowers
Title: Dose Dependent Cytotoxicity Evaluation of a Quantum Dot Based, Multifunctional, Nanoscale System for Biomedical Applications
Majors: Biology
Faculty Sponsor: Dr. Lucinda Swatzell, Biology

Abstract: Hydrogel based Quantum dots (QDs) have become an interesting subject of study for labeling and drug delivery in biomedical research due to their unique responses to the external stimuli. Uncoated QDs made of CdTe core are toxic to cells because of release of Cd²⁺ ions into the cellular environment. This problem can be partially solved by encapsulating QDs with a polymer, poly(N-isopropylacrylamide) (PNIPAM). The toxicity of uncoated QDs is known; however, we are unaware of any study especially designed to assess the toxicity inside the intracellular environment caused by the tunable

hydrogel encapsulated QD nanospheres, capable of delivering medical agents to the targeted cells. We present the assessment of dose dependent cytotoxicity of a Forster Resonance Energy Transfer based nano-scale system. QD-hydrogel nano-spheres were synthesized at different QD packing density based on PNIPAM biopolymers. Thermo-responsive behavior and luminescence efficiency were characterized. We are currently assessing the toxicity by Live-Dead assay and using image analysis on fibroblast model cell system. Preliminary experimental results on a model cell system on Escherichia coli (E. coli) bacteria demonstrates that coated CdTe QDs induce much less or negligible toxicity to the model cell system. Tunable packing density has the potential to control the system efficiency and may be suitable for various biomedical applications.

Authors: **Steven Haar**
Title: **Pattern Recognition Through Neural Networks**
Majors: Computer Science
Faculty Sponsor: Dr. Xuesong Zhang, Computer Science

Abstract: This paper evaluates pattern recognition through neural networks. It gives an introduction on the history of pattern recognition by other methods as well as by neural networks. It also gives a review about current applications. The paper introduces the basic concept of neural networks and compares them with human brain functions. The paper also studies the advantages and disadvantages as well as the current application limitations of pattern recognition by neural networks.

****Poster Abstracts, In Order of Appearance****

Dempster Hall 102

Wednesday, April 14, 2010

Authors: **Emilie Stephens, Ashley Johnson, and Jennifer Paes**
Title: **Consumption of Calories in College Students**
Majors: Dietetics
Faculty Sponsor: Dr. Ron Williams, Health, Human Performance, and Recreation

Abstract: The purpose of this study was to evaluate college student's knowledge on the amount of calories they consume throughout a typical day. Questions were targeted towards a student's nutritional knowledge, weekly budget, and weight loss/gain over a given period of time. Students of multiple grade levels, who lived on and off campus, were evaluated. The findings came from undergraduate college students to which we had access. The results of this study were measured by an instrument designed by the researchers, and evaluated to determine correlations between responses. This study could make students more aware of their eating habits and their nutritional status.

Authors: **Lindsey Fitzgerald, Lauren Gean, and Whitney Rasor**
Title: **Calorie Comparison of School Lunch Menus in Public and Private Missouri Schools**
Majors: Dietetics
Faculty Sponsor: Dr. Ron Williams, Health, Human Performance, and Recreation

Abstract: Due to the number of children consuming school lunches on a daily basis, it is imperative that the nutritional quality of meals in both public and private schools meets the age-specific recommendation and requirements made by the U. S. Department of Agriculture. This study consisted of a review of the online lunch menus for five randomly-selected public and five randomly-selected private Missouri schools. Mypyramid was used to analyze the school lunch menus on the calories and extra calories for each food item listed. This study compares the nutritional standards between lunches provided at private elementary and middle schools with lunches served at public elementary and middle schools.

Authors: **Kayla Mabery, Emily Bowers, Chris Yuen, Tuan Nguyen, Thomas Boyd, Elwood Gidney, Thomas McAllister, Alexandria Theisen, Lucinda Swatzell*, and Santaneel Ghosh***

Title: **Cytotoxicity Assessment of Novel Hydrogel Encapsulated Quantum Dot Nanospheres**

Majors: Biology and Physics

Faculty Sponsor: Dr. Santaneel Ghosh, Physics

Abstract: Hydrogel based Quantum dots (QDs) have become an interesting subject of study for labeling and drug delivery applications in biomedical research. Uncoated QDs made of CdTe core are toxic to cells because of release of Cd²⁺ ions into the cellular environment. This problem can be partially solved by encapsulating QDs with a biocompatible polymer, poly(N-isopropylacrylamide) (PNIPAM). The toxicity of uncoated QDs is known; however, we are unaware of any study to assess the toxicity caused by the polymer encapsulated QD nanospheres. Here, we present the assessment of dose dependent cytotoxicity of a Forster Resonance Energy Transfer (FRET) based nano-scale system. We are currently assessing the toxicity by Live-Dead assay and using image analysis on fibroblast model cell line.

Authors: **Elizabeth A. Rogers**
Title: **Eating Behaviors in Individuals with Dementia: A Study on Quality of Life**

Majors: Communication Disorders

Faculty Sponsor: Dr. Jayanti Ray, Communication Disorders

Abstract: This study sought to identify differences in eating behaviors between individuals with moderate and severe dementia, individuals on a normal, mechanical soft and pureed diet, and the relationship between an individual's severity of dementia on their quality of life. The results concluded that there is a weak relationship between severity of dementia and oral intake. Individuals with severe dementia may receive little or no support regarding what he/she can and cannot eat, dealing with psychological effects of the swallowing problem, and treatment options for swallowing problems compared to individuals with moderate dementia. Individuals with severe dementia

also demonstrated more symptoms such as choking while eating/drinking, difficulty chewing, food sticking in the mouth, and food/liquid dribbling out of the mouth.

Authors: **Christine R. Paige**

Title: **Campus Smoking Policies**

Majors: Health Management: Exercise Science

Faculty Sponsor: Dr. Ron Williams, Health, Human Performance, and Recreation

Abstract: Smoking cigarettes is the leading cause of preventable death in the U.S. Second hand smoke (SHS) has caused about 49,000 deaths yearly in the U.S. Methods: Paper survey to members of campus at a State University about the campus smoking policies. Results: 62.6% reported they believe smoking cigarettes should not be allowed on-campus. 60-80% notice SHS on campus and 72.5% are bothered by it. 75.6% believe there would be no change in the number of students that attend the university if campus were to be smoke-free. Conclusions: Campus should take steps at making college campuses smoke-free. A larger percentage of the participants believe campus should be smoke-free and it wouldn't affect the attendance or number of students that live on-campus.

Authors: **Stefanie Barnes, Ashley Runion, and Don Williams**

Title: **Delayed-Onset Muscle Soreness in College Female Students?**

Majors: Health Management/ Exercise Science, Pre Physical Therapy, Exercise Science

Faculty Sponsor: Dr. Ron Williams, Health, Human Performance, and Recreation

Abstract: Delayed-onset muscle soreness (DOMS) refers to the pain or discomfort often felt one or two days after exercise. DOMS frequently result from a strenuous workout or resistance training. The purpose of this study was to examine DOMS in a college female population. A sample (n=60) of physically active college female students ages 18 to 25 were administered a survey which measured perceptions of muscle soreness, treatments used to alleviate DOMS, and exercise frequency. Results showed that most college females who use therapeutic modalities or supplements reported lower perceived muscle soreness. It can be concluded that such treatments may help to ease muscle soreness in

physically active college females. The objective of this study was to see if people would change their eating habits if nutrition information was required to be located on menus at fast-food restaurants. Methods: A survey of 10 questions was compiled and stratified random sampling was used to obtain participants. The participant used pen or pencil to fill out the survey. Results: Fifty Seven surveys that included 27 females and 30 males were compiled. The mean age was 29.24. Seventy-five percent of the subjects reported they would vote yes for a law requiring nutrition information be available on menus. Conclusions: Overall the subjects said that their meal choices would be influenced by nutrition information available on menus.

Authors: **Joy M. Ashley**
Title: **Chiropractors and Injury Prevention of Athletes**
Majors: Health Management: Exercise Science
Faculty Sponsor: Dr. Ron Williams, Health, Human Performance, and Recreation

Abstract: Most people perceive that chiropractors primarily focus on low back and neck injuries acquired from the stresses of activities of daily living. However, chiropractors play a huge role in treatments designed to enhance the prevention of athletic injuries. Chiropractors not only adjust and manipulate the spine in order to reduce the pressure on the nerves, but they also implement exercise to enhance athletic performance and prevent injuries. This study consists of a comprehensive literature review on the role of chiropractors in athletic injury prevention. According to research, athletes benefit immensely from the preventative health promotion techniques implemented by chiropractors. Future research should examine injury prevention techniques practiced by chiropractors in both youth and adult athletes.

Authors: **Kenna Moats**
Title: **Treating Voice Disorders in a Client with Unilateral Vocal Fold Paralysis: A Case Study**
Majors: Communication Disorders
Faculty Sponsor: Dr. Jayanti Ray, Communication Disorders

Abstract: Unilateral Vocal Fold Paralysis (UVFP) is the paralysis of one of the vocal folds due to a dysfunction of the vagus nerve, which innervates the larynx. UVFP is often characterized by a harsh/breathy voice, swallowing disability, a weak cough, and the sensation of shortness of breath during speech. With proper medical and behavioral intervention, voice is typically restored. The purpose of this study was to determine an effective treatment paradigm for restoration of functional voice in a client with UVFP. A computer program (Sona-Speech II) was used, and pre-and post-intervention data were analyzed to establish treatment efficacy. Clinical significance and multidisciplinary intervention approaches will be discussed in light of evidence-based practice.

Authors: **Tiffany Hutson, Katie Surman, and Janelle Wiegmann**
Title: **The Effects of Fruits, Vegetables and Fortified Foods on Overall Well-Being**
Majors: Dietetics, Health Promotion
Faculty Sponsor: Dr. Ron Williams, Health, Human Performance, and Recreation

Abstract: The purpose of this study was to observe the effects of increasing consumption of fruits, vegetables, and fortified foods in the daily diets of college students. The data was collected through the administration of a self-developed survey instrument and food inventory. Survey items measured daily intake of fruits, vegetables, and fortified foods, as well as the participants' energy levels and current health. Results of the study showed that overall health and energy improved, however no weight loss was shown. Increasing daily consumption of fruits, vegetables, and fortified foods can be helpful in increasing college students' energy and perceived health.

Authors: **Dusha Cecil**
Title: **The The Effects of Resegregation**
Majors: Social Work
Faculty Sponsor: Dr. Walt Paquin, Social Work

Abstract: There is a recent trend of schools resegregating in America (Orfield & Lee, 2007). Desegregation was first instituted in American through the Supreme Court case Brown v. Board (Orfield & Lee, 2007) . It is through Supreme Court cases that resegregation in America is now reoccurring. This paper examines the correlation between segregation

and education. Over 200 St. Louis City and County public schools were examined using Department of Elementary and Secondary Education (DESE) data to determine if race or educational environments is the key to academic success. The school characteristics examined were; student teacher ratio, standardized test scores, free and reduced lunches, and teacher's experience. The initial analysis shows educational environments, especially teacher quality determines students success more than race or income.

Authors: **Sherry A. Ash; Jennifer L Nelson, and Lainie J Bohnsack**
Title: **Experiencing Diversity and Multicultural Awareness as Counseling Graduate Students in a Cultural Experience in Fortaleza, Brazil: An initiative implemented by the Master's Program in Counseling at Southeast and the Master's Program in Psychology at University of Fortaleza (UNIFOR)**
Majors: Master's in Community Mental Health Counseling
Faculty Sponsor: Dr. Julieta Monteiro-Leitner, Education Leadership and Counseling

Abstract: This cultural experience which happened in the summer of 2009 in Fortaleza, Brazil provided the opportunity to live, for three weeks, in another country as a minority in the dominant culture. Experiencing language barriers and maneuvering through daily tasks were challenging and yet rewarding events for self-discovery. This experience allowed students to compare and contrast differences in cultures within the education system, social projects, and counseling services. This opportunity allowed the participants to learn firsthand what it is like to be a minority in a metropolitan society and have increased their self-awareness, personal opinions and values. Pictures, personal reports and assignments will be displayed to reveal that unique moments of this cultural experience "will be carried with these students for the rest of their lives".

Authors: **Lauren Crouch**
Title: **What You Should Know About Conduct Disorder**
Majors: Psychology
Faculty Sponsor: Dr. Gail Overbey, Psychology

Abstract: Conduct Disorder is characterized by a behavior pattern of continuously causing disturbances to people or objects and failing to obey the rules of society. Conduct Disorder is a problem because children that have it often have trouble making friends and are at risk of health related problems. It is also the most costly mental health problem in the United States. Genetics, environment, parenting behavior, mistreatment while the baby is still in the womb, low IQ scores and poor neighborhoods are all risk factors for Conduct Disorder. Attention-Deficit/Hyperactivity Disorder, Depression, and Anxiety Disorder are examples of other disorders that might influence Conduct Disorder. This poster displays relevant information about the criteria, risk factors, problems, and treatment strategies for Conduct Disorder.

Thursday, April 15, 2010

Authors: **Seth Koehler**
Title: **Perceptions and Beliefs of the Recreational College-Aged Athlete on Dietary and Performance Enhancing Drugs**
Majors: Biomedical Science
Faculty Sponsor: Dr. Ron Williams, Health, Human Performance, and Recreation

Abstract: The purpose of this study was to determine the perception of college-aged, recreational athletes towards performance enhancing drugs (PEDs) and dietary supplements. Data was collected by utilizing the valid and reliable instrument called SPAADSU (Survey to Predict Adolescent Athletes Dietary Supplement use) with minor revisions made for the desired population. Data reveals beliefs of college-aged, recreational athletes towards the use of PEDs and Dietary supplements. Understanding the beliefs of this population can assist in the development of effective education programs and interventions to reduce misconceptions and harmful effects of these substances. While the physical effects of these substances are often studied, the reasons and perceptions of their usages are often forgotten.

Authors: **Amanda L. Gallatin**
Title: **Conduct Disorder**
Majors: Psychology
Faculty Sponsor: Dr. Gail Overbey, Psychology

Abstract: Conduct Disorder is characterized by aggressive, destructive, and manipulative behaviors that cause many problems in the individual's social, academic, or work environment. A diagnosis is given to those under the age of 18 whose behaviors violate what society considers normal or other people's rights, and whose symptoms match the criteria for this disorder found in the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition, Text Revision (DSM-IV-TR). In my research, I explore the various causes and effects of Conduct Disorder. I not only look at the many causes of Conduct Disorder, but also at the various treatment options available.

Authors: **Martha L. Goodrum**
Title: **Oppositional Defiant Disorder**
Majors: Psychology
Faculty Sponsor: Dr. Gail Overbey, Psychology

Abstract: Oppositional Defiant Disorder (ODD) in children can be described as a continuous pattern of negative, defiant, disobedient, and argumentative behaviors. This research examined the symptoms associated with ODD as identified in the latest edition of the Diagnostic and Statistical Manual of Mental Disorders. It also examined the duration of Oppositional Defiant Disorder, the risk factors associated with this disorder, and plans for treatment of this disorder including individual and family therapy, cognitive problem solving training, and parent training techniques. It also includes some local resources for help as well as frequently asked questions..

Authors: **Carrie Greer**
Title: **ADHD in Children**
Majors: Psychology & Criminal Justice (Law Enforcement & Corrections)
Faculty Sponsor: Dr. Gail Overbey, Psychology

Abstract: The area of child psychology is one of particular interest because it allows for the early examination of many disorders that have the potential to continue into adulthood. One such disorder, and also the one most commonly diagnosed in children, is Attention Deficit Hyperactivity Disorder. This paper covers the disorder of ADHD in terms that are parent friendly. It discusses the three different subtypes of the disorder, as well as the symptoms, causes, treatment and comorbidity of the disorder. It also provides information and resources about seeking help for both the child and parent.

