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**ACF 2013 April – June Presentations**

**Al Shikh Dawood, Ibrahim**

April – June FY13

245th American Chemical Society (ACS) National Meeting & Exposition: Chemistry of Energy & Food

"Microwave-assisted Cu-free cross-coupling of terminal alkynes with aryl sulfonates and vinyl sulfonates"

We investigated a microwave-assisted, copper-free Sonogashira-type cross-coupling of terminal alkynes with aryl sulfonates and vinyl sulfonates. The reaction generally completed in 20-40 minutes using various cominations of Pd-species and ligands. The corresponding alkyne and enyne products are produced in fair to good yields. A broad spectrum of aryl sulfonates, vinyl sulfonates and terminal alkynes was used. Preliminary results of the synthesis will be presented.

**Baggett, Vincent**

April – June FY13

American Society for Biochemistry and Molecular Biology (ASBMB) Annual Meeting 2013

"The N152T mutation in the class C beta-lactamase, AmpC, can serve as a substrate selectivity switch"

The class C ²-lactamase, AmpC, is a main cause of antibiotic resistance to cephalosporins in many species of bacteria. While some active site residues have been characterized to be involved in the recognition and breakdown of the substrate, many of their specific roles in substrate selectivity are not fully understood. Previous work on the Enterobacter cloacae P99 cephalosporinase demonstrated that a mutation of a highly conserved residue in the active site (N152) can result in substrate selectivity changes. Here, we investigate the role of the active site residue asparagine-152 (N152) in E. coli AmpC by mutating it to a threonine (T) residue and examining the effect that this mutation has on kinetic and structural properties with different ²-lactam drugs. We discovered that although the N152T mutation caused higher Km values with all substrates, N152T exhibits over 150 fold higher kcat value against cefotaxime. In addition, the N152T mutation provided the enzyme the ability to break down oxacillin, which is not a viable substrate for the wild type AmpC. To probe the mechanism behind the observed substrate selectivity switch, the crystal structure of AmpC N125T was determined at 2.05 Å. In comparison to the wild type AmpC structure, the small structural differences in the active site have been associated with the changes in the Km and kcat kinetic values as a way to uncover the specific role of N152 in the function of AmpC.

**Brown, Andrew**

April – June FY13

East Central Writing Centers Association Annual Conference

"Self-Efficacy in the Writing Center"

Because research shows that increasing a writers self-efficacy can increase overall writing performance, understanding and implementing it can help consultants have a greater impact on students. In this workshop, consultants will learn various ways of improving writers self-efficacy and how it can effectively develop the writers strengths and writing process.

**Burrell, Lindsey**

April – June FY13

IMPACT 2013 American Academy of Physician Assistants (AAPA) 41st Annual Physician Assistant Conference

"Physician Assistants Views of HPV Vaccine"

The Food and Drug Administration has approved two vaccines that protect against the Human Papilloma Virus (HPV), and uptake of the vaccines has been unimpressive. It has been identified that health care providers have positively influenced vaccine uptake and that a clinicians recommendation is key in a patients decision to be vaccinated. The purpose of this study was to evaluate physician assistants perceptions about the HPV vaccinations, and their role as influencers in vaccine uptake. Materials and Methods: Two hundred practicing physician assistants, who were alumni of the Physician Assistant Program at Grand Valley State University, were invited to participate in a cross-sectional quantitative pilot study using an on-line, self-report questionnaire. The 15 question survey evaluated participant demographics, informational sources about HPV vaccines, and the physician assistants beliefs and barriers in recommending or administering HPV vaccines to their male and female patients. A Mann-Whitney test was performed to examine the relationship between these influencers. Results: Twenty-seven participants completed the survey. The majority of participants were female (81.5%) and between the ages of 20-29 (59.3%). Results indicated 66.6% of the participants graduated after 2006. Family medicine was the most prevalent clinical specialty cited (37%). Results indicated that participants were more likely to recommend or administer the vaccines to female patients as compared to male patients of the same age. Potential barriers to HPV vaccination administration and recommendation were determined utilizing age, gender, year of graduation, and clinical specialty. The clinical specialty was found to be statistically significant (P-value 0.042). Conclusion: This pilot study concluded that physician assistants are more likely to recommend or administer the HPV vaccine to a female patient than a male patient of the same age group. Age, gender, and year of graduation of the participants were not found to be statistically significant influencers on whether or not physician assistants recommend or administer the vaccine. Primary barriers to recommendation or administration of HPV vaccines included: insurance coverage, safety and efficacy of the vaccine, patient compliance in completing the vaccination series, and requirement of vaccines for school attendance.

**Conigliaro, Katie**

April – June FY13

East Central Writing Centers Association Annual Conference

"Taming the Beast: Creativity in Academic Writing"

When writing early drafts, students often attempt to focus on all aspects of writing and editing at once, from general organization to finding the perfect word. The combination of attempting to brainstorm, formulate thoughts into coherent sentences, and editing those sentences to sound scholarly, intelligent, and impressive often results in unorganized shallow drafts and anxiety-wracked students. In this presentation we will discuss how separating students from the physical paper can relieve this pressure of producing a perfect product. This low-stressed atmosphere allows the student to articulate their thoughts in a conversational setting, which results in more efficient brainstorming, clearer organization of ideas, and a better understanding of their personal writing process.

**Cooley, Tyler**

April – June FY13

245th American Chemical Society (ACS) National Meeting & Exposition: Chemistry of Energy & Food

"Direct Cu-free Sonogashira cross-coupling reaction of activated phenol derivatives with terminal alkynes"

We have developed a direct copper-free Sonogashira cross-coupling reaction of activated phenol derivatives with terminal alkynes. The stereoelectronic properties of the substituents in the phenol and terminal alkynes, in relation to successful Sonogashira cross-coupling have been investigated. The effect of the ligand, base, solvent, and Pd-species on the outcome of the cross-coupling was investigated. Different sulfonyl chlorides were used for the activation of the C-O bond and their effectiveness evaluated. The optimum catalyst loading for effectiveness cross-coupling was also investigated. The results of our preliminary studies will be presented.

**DeVries, Byron**

April – June FY13

The International Conference on Computational Science (ICCS) 2013

"Parallel implementations of FGMRES for solving large, sparse non-symmetric linear systems"

The Flexible Generalized Minimal Residual method (FGMRES) is an attractive iterative solver for non-symmetric systems of linear equations. This paper presents several methods for parallelizing FGMRES for a variety of architectures including multi-core CPU, Graphics Processing Units (GPU), and multi-GPU systems. The parallel implementations utilize OpenMP and CUDA kernels, and are organized according to thread scope. The linear systems employed in this study correspond to the discrete analogues of realistic three-dimensional convection-diffusion problems, and range in size to nearly 10^7 linear equations. All of the parallel implementations, particularly the novel hybrid approach, show a significant speedup over the sequential version. Theoretical insight and performance data is provided to allow informed decisions as to the most effective parallelization method for a given architecture.

**Doman, Gina**

April – June FY13

IMPACT 2013 American Academy of Physician Assistants (AAPA) 41st Annual Physician Assistant Conference

"Predictors of Post-Concussion Syndrome Manifestations after a Minor Traumatic Brain"

There is a high prevalence of individuals who experience post-concussion syndrome, but there is little data that correlates pre-injury factors to specific PCS manifestations. The intent of this retrospective study is to identify a possible association between pre-injury variables and the physiological, psychological, and behavioral indicators expressed in the post-concussion syndrome. Methods: This study involves a secondary data analysis of information obtained from the post-concussion clinic at Mary Free Bed Rehabilitation Hospital. The retrospective chart review was collected on 510 patients with post-concussion syndrome who were treated at the mild brain injury clinic between 1999-2004. The data collected was examined using exploratory data analysis, with consultation of the Statistical Consulting Center at Grand Valley State University. The analysis involved the use of backwards logistic regression, multiple regression, predicted odds and predicted odds ratio. Results: Multiple regression determined the significant predictors of specific PCS manifestations. For the PCS manifestation of pain it was determined that both the mechanism of injury (p<0.001) and sex (p=0.031) were significant predictors. Subsequent data analysis determined both socioeconomic status (p=0.04) and LOC (p=0.039) as being significant predictors of PCS cognitive changes. For PCS dizziness/vertigo there was a significant association with social support (p=0.021), MOI (p=0.027), and socioeconomic status (p=0.03). PCS headaches had a significant association with ethnicity (p=0.041), LOC (p=0.04), and socioeconomic status (p=0.047). LOC was established as being a significant predictor of PCS balance (p=0.048). Results also concluded pre-injury psychological comorbidities (p<0.001) was a predictor of PCS anxiety depression. Conclusions: Although risk stratification has been explored in the past, few studies have been able to create risk stratification criteria to enable health care providers to efficiently treat patients with mTBI and limit the amount of PCS symptoms post-injury. In today's practice there are no protocols for patients suffering from a mTBI and a vast majority of PCS treatment occurs when patients have already expressed symptoms. By identifying certain pre-injury factors and performing early intervention techniques may prevent PCS symptoms in the future.

**Fisher, Nicole**

April – June FY13

East Central Writing Centers Association Annual Conference

"Can I Borrow the Car?: Explaining Rhetoric to Students"

Consultants spend a lot of time advising students how to write a goodessay, with advice like: include an introduction, a thesis, supporting evidence, a counterargument, etc. What gets in the way, weve found, is that students dont always understand why these basic tenants of essay-writing create effective arguments. Rather, they view these requirements as a set of arbitrary rules assigned to them by their professor. In our experience, weve found that bringing rhetorical discussions down to real-world examples help students better understand argumentation. The goal of our presentation will be to provide consultants some strategies for combatting this problem. We will present these strategies via PowerPoint, supplementing each with anecdotes from our own experience. We will also include handouts so consultants are able to take the information back to their respective writing centers. The three strategies we will discuss are: 1) Asking students why they believe a particular element of essay writing is important. (Why do you think you need a counterargument?) 2) Drawing a parallel to argument that happens in the real world, to help students understand they are already good at argumentation, they just didnt know how to apply it to their writing. Here, we will employ an essay weve written called Can I borrow the car? 3) Discussing the rhetorical situation (i.e. reader, writer, and purpose) After presenting these strategies and anecdotes, we will open the floor to discussion, encouraging participants to talk about their own experiences describing rhetoric to students.

**French, Lauren**

April – June FY13

East Central Writing Centers Association Annual Conference

"Effectiveness of Grand Valley State University Service-Learning Project in the Grand Rapids Public Museum"

The purpose of this qualitative study was to explore the effectiveness of a service-learning project completed by Grand Valley State University occupational therapy students in collaboration with the Grand Rapids Public Museum. This study sought to discover the perceptions of service-learning projects from community collaborators perspective. A qualitative focus group was used to gather data about the museums role in the community and in learning, occupational therapys role within community settings like the museum, and the use of service-learning projects to integrate the two. Overall themes from the qualitative data analysis included: Occupational Therapy in Museums, Learning Environment, and Service-Learning. Data analysis revealed information concerning museum staff perceptions about the GVSU student service-learning project as well as their overall comprehension of the field of occupational therapy and its relevance to the museum environment. The results suggested that the collaborative project was a highly successful experience. Additionally, staff vocalized excitement and anticipation for future projects within the museum and generated additional ideas about other community institutions that might benefit from occupational therapy. Further research should be conducted to evaluate service-learning projects and perceptions of community partners, as well as occupational therapy and its role in community settings.

**Goodrich, Erica**

April – June FY13

2013 Society for Research in Child Development (SRCD) Biennial Meeting

"Emotion Displays in Media: A Comparison Between Romanian, Turkish, Hispanic- and Euro-American Children Books"

Children acquire cultural models of appropriate emotion expressions through socialization. Children books may be an important resource of culturally appropriate emotions. Tsai, Louie, Chen and Uchida (2007) demonstrated that the desired positive affective state varied between Taiwanese Chinese and European Americans, and this difference was also reflected in children books. This study aims to expand the study by Tsai et al. (2007). We aim to broaden the cultural background by comparing Euro-American, Hispanic-American, Turkish, and Romanian children books and displays of negative emotions. Caucasians favor an individualistic emotion model, i.e., expressing emotion in a more open way, whereas Hispanics may favor a relational emotion model, i.e., expecting more moderate expressions (Friedlmeier, Corapci, & Cole, 2011). Similar to Hispanic-American cultures, Turkey and Romania are qualified as group-oriented countries (Schwartz et al., 2010), thus may also favor the relational emotion model. Three hypotheses are tested: First, all children books highlight positive emotions in a dominant way as adults aim mostly to encourage positive emotions in young children (Cole & Tan, 2007). Second, Euro-American books will display negative expressions more often than Hispanic-American, Turkish, and Romanian children books. For example, Matsumoto (1993) found that Caucasians compared to Hispanics were more willing to express disgust and fear but there were no differences found for positive emotions. And finally we predict that the displayed expressions are more intense in the Caucasian books compared to the other books. A content analysis was performed on illustrations in 40 popular Euro-American, Hispanic-American, Turkish, and Romanian children books to determine facial expressions, body posture, intensity of emotion, arousal, gender, protagonist, social partners and environmental context. Facial expressions were coded according to action units (Ekman & Friesen, 1975). Posture was coded according to Kudoh and Matsumoto (1985). Finally, 18 different types of emotions were coded and grouped into three categories: positive (e.g., joy, surprise), negative powerful (e.g., anger, jealousy), and negative powerless emotions (e.g. sadness, fear) (Timmers, Fischer, & Manstead, 1998). Independent coders from different countries and different ethnic backgrounds coded the books and interrater agreement was sufficiently high. Preliminary analyses based on loglinear modeling and ANOVAs showed that overall positive emotions were displayed the most by all of the cultures. Turkish, Romanian and Hispanic books displayed negative powerless emotions more often than negative powerful emotions, whereas Euro-American books displayed negative powerful emotions as often as negative powerless emotions. Regarding the intensity of expressions, Euro-American books displayed emotions significantly more intense in comparison to the other three cultures. Interestingly, the intensity of negative emotion expressions was higher compared to positive emotion expressions across all four cultures. To conclude, the study demonstrates some cultural differences of emotional displays in children books. These results confirmed our hypotheses and reflect the emotion models. More detailed analyses that take context, social partners, and arousal into account will provide better insight into each individual culture.

**Gore, Vanessa**

April – June FY13

International Business Model Competition

"Soletics"

No Abstract.

**Hasso, Samantha**

April – June FY13

IMPACT 2013 American Academy of Physician Assistants (AAPA) 41st Annual Physician Assistant Conference

"Predictors of Post-Concussion Syndrome Manifestations after a Minor Traumatic Brain"

There is a high prevalence of individuals who experience post-concussion syndrome (PCS), but there is little data that correlates pre-injury factors to specific PCS manifestations. The intent of this retrospective study is to identify a possible association between pre-injury variables and the physiological, psychological, and behavioral indicators expressed in the post-concussion syndrome. Methods: This study involved a secondary data analysis of information obtained from the post-concussion clinic at a rehabilitation hospital. The retrospective chart review was collected on 510 patients with post-concussion syndrome who were treated at the mild traumatic brain injury clinic between 1999 and 2004. The data collected was examined using exploratory data analysis, with consultation from an academic statistician. The analysis involved the use of binary logistic regression, binary multiple regression, predicted odds and predicted odds ratio. Results: Binary multiple regression determined the significant predictors of specific PCS manifestations. For the PCS manifestation of pain it was determined that both the mechanism of injury (p<0.001) and sex (p=0.031) were significant predictors. Subsequent data analysis determined both socioeconomic status (p=0.04) and loss of consciousness (p=0.039) as being significant predictors of PCS cognitive changes. For PCS dizziness/vertigo there was a significant association with social support (p=0.021), mechanism of injury (p=0.027), and socioeconomic status (p=0.03). PCS headaches had a significant association with ethnicity (p=0.041), loss of consciousness (p=0.04), and socioeconomic status (p=0.047). Loss of consciousness was established as being a significant predictor of PCS balance (p=0.048). Results also concluded pre-injury psychological comorbidities (p<0.001) was a predictor of PCS anxiety depression. In addition predicted odds ratios were calculated for these associations. Conclusions: Although risk stratification has been explored in the past, few studies have been able to create risk stratification criteria to enable health care providers to efficiently treat patients with mTBI and limit the amount of PCS symptoms post-injury. Our study identified certain pre-injury factors that could predict subsequent PCS manifestations. By identifying certain pre-injury factors and performing early intervention techniques may prevent PCS symptoms in the future.

**Holtrey, Nathan**

April – June FY13

IMPACT 2013 American Academy of Physician Assistants (AAPA) 41st Annual Physician Assistant Conference

"Predictors of Post-Concussion Syndrome Manifestations after a Minor Traumatic Brain"

This presentation will explore different aspects of assisting students with creative writing, including: common misconceptions, benefits, tips for writers, consultants, and instructors, and we will bring up possible ideas on creating a creative writing culturein the Writing Center.

**Horvath, Renata**

April – June FY13

Urban Affairs Association, Annual 43rd Conference (2013)

"Planning For Transformational Change: A Comparison of London, Sydney and New York's Sustainable Development Strategies"

The United States' experience with sustainable development is contrasted with the roots and current practices of the British and Australian approaches. This research identifies the convergence and divergence of sustainable development policies in London, Sydney and New York City, the lexicon of sustainable development tools and practices and the complex interplay of federal, state and local legislation and actions. Each city has launched its own version of a comprehensive sustainability plan in the last decade, setting ambitious goals to be achieved by 2025 or 2030, with important milestones established along the way.

**Jackson, Christopher**

April – June FY13

245th American Chemical Society (ACS) National Meeting & Exposition: Chemistry of Energy & Food

"Preparation of benzofuran trifluoroborate salts"

Benzofuran-containing natural products and synthetic derivatives exhibit a broad range of pharmacological activity including anticancer, antiviral, and antifungal behavior. Due to the significant biological activity, the benzofuran skeleton has been a synthetic target of several research groups. As a result numerous synthetic approaches are available to researchers. These methodologies include intramolecular McMurry coupling, dehydration of a-phenoxy ketones, transmetallation of 3-zinciobenzoheteroles, and electrophilic cyclization. In an effort to extend the breath of benzofuran chemistry and provide a new handle for further modification, we have developed novel method for preparing benzofuran trifluoroborate salts by electrophilic cyclization.

**Joffre, Kevin**

April – June FY13

East Central Writing Centers Association Annual Conference

"Can I Borrow the Car?: Explaining Rhetoric to Students"

Consultants spend a lot of time advising students how to write a good essay, with advice like: include an introduction, a thesis, supporting evidence, a counterargument, etc. What gets in the way, we've found, is that students don't always understand why these basic tenants of essay-writing create effective arguments. Rather, they view these requirements as a set of arbitrary rules assigned to them by their professor. In our experience, we've found that bringing rhetorical discussions down to real-world examples help students better understand argumentation. The goal of our presentation will be to provide consultants some strategies for combating this problem. We will present these strategies via PowerPoint, supplementing each with anecdotes from our own experience. We will also include handouts so consultants are able to take the information back to their respective writing centers. The three strategies we will discuss are: 1) Asking students why they believe a particular element of essay writing is important. (Why do you think you need a counterargument?) 2) Drawing a parallel to argument that happens in the real world, to help students understand they are already good at argumentation, they just didn't know how to apply it to their writing. Here, we will employ an essay we've written called Can I borrow the car? 3) Discussing the rhetorical situation (i.e. reader, writer, and purpose) After presenting these strategies and anecdotes, we will open the floor to discussion, encouraging participants to talk about their own experiences describing rhetoric to students.

**Klauer, Allison**

April – June FY13

American Society for Clinical Laboratory Science (ASCLS) Michigan 2013 State Convention

"Comparison of Pre-albumin Concentrations in a Lithium Heparin Tube versus a Serum Separator Tube on a Roche 8000 Analyzer"

This study compares prealbumin test results in a gold top serum separator tube versus a green top lithium heparin tube on a Roche 8000 analyzer. Most patients have a green cap-lithium heparin tube drawn for their chemistry tests. If prealbumin is ordered as an add-on test, being able to perform the analysis on the green top, rather than redrawing into a gold top, will significantly improve turnaround times in the chemistry department. Paired samples of green and gold top tubes from 20 high and 20 low prealbumin patients will be manually de-identified, brought to room temperature, and tested on the Roche analyzer. We hypothesize that there will be no clinically significant difference between the two tubes so that Spectrum Health hospital will be able to add on the prealbumin test to existing patient orders and run them on the green top plasma tube. This will help lower supply costs, prevent patients from having additional blood draws, and will lower turnaround times.

**Klein, Kristin**

April – June FY13

American Society for Clinical Laboratory Science (ASCLS) Michigan 2013 State Convention

"Hyaline Cast Validation on the Clinitek AUWi at Metro Health Hospital"

The AUWi by Siemens at Metro Health Hospital is over-reporting hyaline casts. A research project is being initiated to determine if the quantification of hyaline casts could be consolidated, such that 0 to 10 hyaline casts would be reported as 0 casts. Investigative research has determined hyaline casts in high numbers are significant, while small numbers are not significant. Samples will be run through the AUWI and manual microscopic exams will also performed on the urines. The results of the study will indicate the cut-off value where the AUWi begins reporting false positives, and this value will be the lower limit of the range reported by the instrument.

**Kurley, Michael**

April – June FY13

International Business Model Competition

"Soletics"

No Abstract.

**Michalek, Jason**

April – June FY13

East Central Writing Centers Association Annual Conference

"The Pen of Poeisis: Creative Consulting in Poetry"

The writing center is a common place for varied forms and genresincluding narratives, reports, case studies, and business documents. By experiencing elements of writing that are similar, and obtaining complementary materials for the center, consultants are prepared to address new genres and styles that writers may introduce. However, a form of creative text that is often marginalized for its difference stands alone: poetry. The narrative essay is the basis for most creative writing. Though the essay does not prime consultants to encounter the most abstract description of poetic forms, most writing contains the same creative elements necessary to function in a poetry consultation. Comparing the elements of consulting on poetry to the more academic model of workshopping, this presentation seeks to differentiate the setting of a consultation so that a consultant can be prepared to negotiate the value of the session. In addition, this difference demonstrates the necessity of poetic preparedness to bridge a gap in the appeal of writing centers to creative writers. In a hands-on workshop model, attendees will collaborate to compose and analyze poetry, as well as learn and discuss ways of connecting with creative elements. By talking through the appeal of the center to creative writers, participants will be more equipped to engage with poetic genres as well as being better prepared to discuss the stylistic qualities of traditional academic genres in general consultations.

**Mokdad, Ariel**

April – June FY13

East Central Writing Centers Association Annual Conference

"Next Gen Leaners and the Knowledge Market: What Writing Consultants Can Learn"

The Knowledge Market is a new and exciting project that has been years in the making at Grand Valley State University. This presentation will highlight how writing consultants can facilitate learning in this flexible space where students have access to a variety of resources and information.

**Munster, Susan**

April – June FY13

93rd Annual Meeting of the American Society of Mammalogists

"Differential Dispersal of Two Codistributed Species of Pteropus in the South Pacific"

Pteropus samoensis and P. tonganus (Chiroptera: Pteropodidae) are two species of flying fox bats found on southern Pacific islands, with regions of sympatry in the Samoan and Fijian archipelagos. Although their roosting habits differ significantly, with P. samoensis roosting singly or in small family groups and P. tonganus roosting colonially, both are dietary generalists with 61% overlap in their food plants. Furthermore, both species have experienced repeated population bottlenecks as a result of periodic cyclones. Based on these similarities in their geographical distributions, ecological niches, and recorded demography, we explored the null hypothesis that the two species have experienced similar evolutionary histories. Using mitochondrial sequence data and microsatellite genotypes, we reconstructed the genetic demography of the two species, focusing on patterns within and between Samoa and Fiji. Descriptive analyses of the two datasets show very different patterns, including patterns consistent with male-biased dispersal in P. samoensis but not in P. tonganus. Using coalescent-based ABC analyses, we will illustrate the extent to which the two species have experienced different evolutionary trajectories. Additionallly, we will use these data to estimate the effective size and spatial limits of populations for these two threatened species. This study will address the extent to which similarities in extant populations are generalizable into the past, and help to illustrate how two species might arrive at similar traits through distinct evolutionary pathways.

**Noonan, Lindsay**

April – June FY13

International Business Model Competition

"Soletics"

No Abstract.

**Norkus, Peter**

April – June FY13

Association for Psychological Science (APS) 25th Annual Convention

"Religious and conservative charitable giving reflects ingroup preferences"

In order to determine whether religiosity and conservatism are associated with generalized versus particularistic charitable giving, we offered participants a hypothetical array of charities across several domains. Regression analyses indicated that religious participants allocate more funds to religious charities. Conservatives show the same preference even controlling for religiosity.

**Patel, Heenashree**

April – June FY13

IMPACT 2013 American Academy of Physician Assistants (AAPA) 41st Annual Physician Assistant Conference

"Beliefs and Barriers to HPV Vaccination Recommendation and Administration by Physician Assistants- A Pilot Study"

The Food and Drug Administration has approved two vaccines that protect against the Human Papilloma Virus (HPV), and uptake of the vaccines has been unimpressive. It has been identified that health care providers have positively influenced vaccine uptake and that a clinicians recommendation is key in a patients decision to be vaccinated. The purpose of this study was to evaluate physician assistants perceptions about the HPV vaccinations, and their role as influencers in vaccine uptake. Materials and Methods: Two hundred practicing physician assistants, who were alumni of the Physician Assistant Program at Grand Valley State University, were invited to participate in a cross-sectional quantitative pilot study using an on-line, self-report questionnaire. The 15 question survey evaluated participant demographics, informational sources about HPV vaccines, and the physician assistants beliefs and barriers in recommending or administering HPV vaccines to their male and female patients. A Mann-Whitney test was performed to examine the relationship between these influencers. Results: Twenty-seven participants completed the survey. The majority of participants were female (81.5%) and between the ages of 20-29 (59.3%). Results indicated 66.6% of the participants graduated after 2006. Family medicine was the most prevalent clinical specialty cited (37%). Results indicated that participants were more likely to recommend or administer the vaccines to female patients as compared to male patients of the same age. Potential barriers to HPV vaccination administration and recommendation were determined utilizing age, gender, year of graduation, and clinical specialty. The clinical specialty was found to be statistically significant (P-value 0.042). Conclusion: This pilot study concluded that physician assistants are more likely to recommend or administer the HPV vaccine to a female patient than a male patient of the same age group. Age, gender, and year of graduation of the participants were not found to be statistically significant influencers on whether or not physician assistants recommend or administer the vaccine. Primary barriers to recommendation or administration of HPV vaccines included: insurance coverage, safety and efficacy of the vaccine, patient compliance in completing the vaccination series, and requirement of vaccines for school attendance.

**Petzke, Linnea**

April – June FY13

American Occupational Therapy Association (AOTA) 93rd Annual Conference & Expo

"Service Learning: Preparing future practitioners through active learning experiences"

Service-learning in OT education provides students with active learning opportunities. This course will provide participants with the core knowledge needed to understand the benefits of service learning and how to plan, implement, and evaluate best practice elements with existing OT courses.

**Piligian, Daniel**

April – June FY13

IMPACT 2013 American Academy of Physician Assistants (AAPA) 41st Annual Physician Assistant Conference

"Predictors of Post-Concussion Syndrome Manifestations after a Minor Traumatic Brain"

There is a high prevalence of individuals who experience post-concussion syndrome, but there is little data that correlates pre-injury factors to specific PCS manifestations. The intent of this retrospective study is to identify a possible association between pre-injury variables and the physiological, psychological, and behavioral indicators expressed in the post-concussion syndrome. Methods: This study involves a secondary data analysis of information obtained from the post-concussion clinic at Mary Free Bed Rehabilitation Hospital. The retrospective chart review was collected on 510 patients with post-concussion syndrome who were treated at the mild brain injury clinic between 1999-2004. The data collected was examined using exploratory data analysis, with consultation of the Statistical Consulting Center at Grand Valley State University. The analysis involved the use of backwards logistic regression, multiple regression, predicted odds and predicted odds ratio. Results: Multiple regression determined the significant predictors of specific PCS manifestations. For the PCS manifestation of pain it was determined that both the mechanism of injury (p<0.001) and sex (p=0.031) were significant predictors. Subsequent data analysis determined both socioeconomic status (p=0.04) and LOC (p=0.039) as being significant predictors of PCS cognitive changes. For PCS dizziness/vertigo there was a significant association with social support (p=0.021), MOI (p=0.027), and socioeconomic status (p=0.03). PCS headaches had a significant association with ethnicity (p=0.041), LOC (p=0.04), and socioeconomic status (p=0.047). LOC was established as being a significant predictor of PCS balance (p=0.048). Results also concluded pre-injury psychological comorbidities (p<0.001) was a predictor of PCS anxiety depression. Conclusions: Although risk stratification has been explored in the past, few studies have been able to create risk stratification criteria to enable health care providers to efficiently treat patients with mTBI and limit the amount of PCS symptoms post-injury. In today's practice there are no protocols for patients suffering from a mTBI and a vast majority of PCS treatment occurs when patients have already expressed symptoms. By identifying certain pre-injury factors and performing early intervention techniques may prevent PCS symptoms in the future.

**Porambo, Alexander**

April – June FY13

American Society for Biochemistry and Molecular Biology (ASBMB) Annual Meeting 2013

"The X-ray crystal structure of the Acinetobacter-Derived Cephalosporinase, ADC-7, at 1.7 Å"

²-Lactam resistance in Acinetobacter baumannii presents one of the greatest challenges to contemporary antimicrobial chemotherapy. The Acinetobacter-Derived Cephalosporinases (ADCs) are class C ²-lactamases found in A. baumannii and other Acinetobacter species that are responsible for resistance to penicillins, cephalosporins, and ²-lactam-²-lactamase inhibitor combinations. In order to probe the mechanism of substrate turnover, as well as to design novel ²-lactam antibiotics, it was important to elucidate the protein structure of an ADC enzyme. Here, we report the successful purification, crystallization, and determination of the crystal structure of ADC-7 at 1.7 Å. This complete structure allows for the critical comparison of the overall structure and active site architecture of ADC-7 with the known cephalosporinase, AmpC. Hopefully, our work will contribute to the development of a structure/function relationship for ADC-7 that will provide insight into bacterial antibiotic resistance.

**Raab, Kelsey**

April – June FY13

American Society for Clinical Laboratory Science (ASCLS) Michigan 2013 State Convention

"A Case of Extended Allopurinol Use and Drug-induced Macrocytic Anemia"

The purpose of this study is to determine the causative relationship between long term Allopurinol therapy and macrocytic anemia. The objective is to provide findings to the patient for his better understanding of his condition and to promote awareness of a relationship between long term Allopurinol treatment and macrocytic anemia in health care professionals and researchers. With the patients consent, his medical records were obtained to review prescription drug history and hematology laboratory findings. Peer-reviewed journal articles from scientific databases were used to research a link between prolonged Allopurinol use and macrocytic anemia, and more generally, the relationship between drug therapy and macrocytic anemia.

**Rogers, Cody**

April – June FY13

245th American Chemical Society (ACS) National Meeting & Exposition: Chemistry of Energy & Food

"Preparation of benzofuran trifluoroborate salts"

Benzofuran-containing natural products and synthetic derivatives exhibit a broad range of pharmacological activity including anticancer, antiviral, and antifungal behavior. Due to the significant biological activity, the benzofuran skeleton has been a synthetic target of several research groups. As a result numerous synthetic approaches are available to researchers. These methodologies include intramolecular McMurry coupling, dehydration of a-phenoxy ketones, transmetallation of 3-zinciobenzoheteroles, and electrophilic cyclization. In an effort to extend the breath of benzofuran chemistry and provide a new handle for further modification, we have developed novel method for preparing benzofuran trifluoroborate salts by electrophilic cyclization.

**Sanchez Gonzalez, Mayra**

April – June FY13

2013 Society for Research in Child Development (SRCD) Biennial Meeting

"Emotion Displays in Media: A Comparison Between Romanian, Turkish, Hispanic- and Euro-American Children Books"

Children acquire cultural models of appropriate emotion expressions through socialization. Children books may be an important resource of culturally appropriate emotions. Tsai, Louie, Chen and Uchida (2007) demonstrated that the desired positive affective state varied between Taiwanese Chinese and European Americans, and this difference was also reflected in children books. This study aims to expand the study by Tsai et al. (2007). We aim to broaden the cultural background by comparing Euro-American, Hispanic-American, Turkish, and Romanian children books and displays of negative emotions. Caucasians favor an individualistic emotion model, i.e., expressing emotion in a more open way, whereas Hispanics may favor a relational emotion model, i.e., expecting more moderate expressions (Friedlmeier, Corapci, & Cole, 2011). Similar to Hispanic-American cultures, Turkey and Romania are qualified as group-oriented countries (Schwartz et al., 2010), thus may also favor the relational emotion model. Three hypotheses are tested: First, all children books highlight positive emotions in a dominant way as adults aim mostly to encourage positive emotions in young children (Cole & Tan, 2007). Second, Euro-American books will display negative expressions more often than Hispanic-American, Turkish, and Romanian children books. For example, Matsumoto (1993) found that Caucasians compared to Hispanics were more willing to express disgust and fear but there were no differences found for positive emotions. And finally we predict that the displayed expressions are more intense in the Caucasian books compared to the other books. A content analysis was performed on illustrations in 40 popular Euro-American, Hispanic-American, Turkish, and Romanian children books to determine facial expressions, body posture, intensity of emotion, arousal, gender, protagonist, social partners and environmental context. Facial expressions were coded according to action units (Ekman & Friesen, 1975). Posture was coded according to Kudoh and Matsumoto (1985). Finally, 18 different types of emotions were coded and grouped into three categories: positive (e.g., joy, surprise), negative powerful (e.g., anger, jealousy), and negative powerless emotions (e.g. sadness, fear) (Timmers, Fischer, & Manstead, 1998). Independent coders from different countries and different ethnic backgrounds coded the books and interrater agreement was sufficiently high. Preliminary analyses based on loglinear modeling and ANOVAs showed that overall positive emotions were displayed the most by all of the cultures (see Figure 1). Turkish, Romanian and Hispanic books displayed negative powerless emotions more often than negative powerful emotions, whereas Euro-American books displayed negative powerful emotions as often as negative powerless emotions (see Figure 1). Regarding the intensity of expressions, Euro-American books displayed emotions significantly more intense in comparison to the other three cultures (see Figure 2). Interestingly, the intensity of negative emotion expressions was higher compared to positive emotion expressions across all four cultures (see Figure 2). To conclude, the study demonstrates some cultural differences of emotional displays in children books. These results confirmed our hypotheses and reflect the emotion models. More detailed analyses that take context, social partners, and arousal into account will provide better insight into each individual culture.

**Sartain, Hope**

April – June FY13

245th American Chemical Society (ACS) National Meeting & Exposition: Chemistry of Energy & Food

"Synthesis, f-element Complexation, Extraction and Computational Exploration of Multidentate Carbamoylmethylphosphine-Oxide Ligands: In Relation to Nuclear Reprocessing"

Carbamoylmethylphosphine oxides (CMPOs) have been used to complex lanthanides and actinides primarily for the TRUEX nuclear waste remediation process. Currently, CMPOs are also being used to study luminescence spectroscopy, fundamental f-element coordination chemistry, lanthanide and actinide extraction studies and medical contrast imaging. One main goal of this research project is to improve upon current nuclear waste remediation strategies using novel tripodal CMPOs. The research presented in this poster will include the synthesis of multidentate CMPO ligands, as well as their complexes with lanthanides and actinides. Metal extraction and structural computational data of the complexes will also be included.

**Spoelma, Trevor**

April – June FY13

27th National Conference on Undergraduate Research (NCUR)

"Safety in numbers: Exploring the relationship between group involvement and disinhibiton"

It is widely recognized that being a member of a group can influence ones behavior in both prosocial and undesirable ways. Yet, little is known about the cognitive mechanisms related to how and why group contexts influence judgments and actions. Compared to acting and deciding alone, when people make consensus decisions in groups, the level of concern and threat associated with being personally responsible for choices and negative outcomes should be reduced. This is because perceived responsibility can be spread among group members, making them feel less vulnerable to punishment or harm. This has theoretical implications. When perceiving potential threat or punishment, people become inhibited and restrain themselves from acting on impulse to better avoid negative consequences. Inhibition makes people cautious and conservative. If people feel safer in groups when making decisions, they should be less inhibited compared to lone decision makers. Therefore, we predict groups compared to individuals will be more likely to make impulsive decisions, resulting in a tendency for groups to be riskier, greedier, and less ethical. Participants will be university students randomly assigned to work in either a group or individual condition. To test this hypothesis, participants will be asked to navigate a moral dilemma (trolley bridge dilemma) either alone or as a dyad. With the presented scenario, participants must decide whether or not to sacrifice the life of one individual bystander by pushing him onto a train track to save the lives of five others on the track. Past research shows people reflexively want to push the one to save the five, but ultimately restrain that impulse and choose to let the five die. We predict the safety in numbers provided by group consensus will lead dyads more than individuals to choose pushing the bystander onto the track. Participants will also be asked to complete a negotiation task (ultimatum game) as either dyads or individuals. In this task, participants must balance their desire to increase their own rewards with the risk of presenting an unfair offer their counterparts may reject. Participants are informed they only gain rewards if their counterparts accept their proposal. In past research, participants are typically generous anyways because they dont want to be perceived as unfair. We predict group members who can hide in the crowdwill be less concerned with being perceived unfair by others, and will then present less desirable offers to their counterparts. If predictions are supported, results will contribute to further understanding how group dynamics can influence psychological mechanisms and processes when making decisions that impact others. This type of knowledge could also improve our ability to understand and predict how groups and individuals may differ when making ethical and allocation decisions.

**Springstead, Megan**

April – June FY13

IMPACT 2013 American Academy of Physician Assistants (AAPA) 41st Annual Physician Assistant Conference

"The Impact of the Affordable Care Act on Oasis of Hope: A Free Health Clinic in Michigan"

The purpose of this study was to determine the impact of the Affordable Care Act on a free health clinic which provides care to the uninsured with an income of <200% of the poverty level. The new healthcare law will have major changes in 2014 that may influence the type of patients seen by the free clinic. It is necessary to identify the patient population that the clinic will continue to treat, and will no longer treat in order to maintain operations on a financial and personnel basis. Materials and Methods: This retrospective study involved a chart review of financial and demographic information of established patients at a free clinic. The data collected consisted of patient demographics including gender, age, citizen status, education level, family size, and yearly income. The yearly income was used along with family size to determine the income bracket for each patient. This information was then used to predict what the free clinic could expect to occur to its patient sample once the Affordable Care Act goes into full effect in 2014. Results: 499 patients met the inclusion criteria during the time period of May 2011 to June 2012. Of the 499 patients, 219 were males, and 276 were females (4 unknown genger). The household size ranged from one to seven individuals with a mean of 2 individuals per household. 45% (222)of individuals received some type of Social Services with food stamps being the most common at 38% (190) of individuals. Based on the current criteria for Medicaid (1-100% poverty level), 52.3% (261) of individuals qualify but are not receiving the benefit. In addition, an additional 73 (14.6%) would meet the 100-133% requirement. Therefore, under the new Medicaid requirement of 0-133%, 66.9% (334) of the individuals seeking care at the free clinic would qualify for Medicaid in 2014. Of the remaining individuals, 33.1%(165) either do not meet the financial requirements for Medicaid or are not US citizens. Of the 165, 95 individuals have an income greater than 133% of the poverty level which would require them to purchase insurance making them in-eligible to receive care at the free clinic, leaving 70 Non-US citizens who would qualify to receive care in the free clinic (2 Non-US citizens had an income of >200% making them in-eligible). Conclusion: When the Affordable Care Act is fully enacted in 2014, the free clinic will potentially lose 66.9% of its patients to Medicaid, and an additional 95 individuals to mandated health insurance. This would leave non US citizens qualifying for care at the clinic which would dramatically reduce the number of patients. However, based on the data collected, many of the Medicaid patients may remain uninsured, and those mandated to purchase insurance may opt out. Furthermore, most free clinics receive grants based on treating the uninsured. If this source of funding is no longer available (based on everyone being mandated to have insurance) then free clinics will need to seek financial support from other sources.

Swaney, Abigail

April – June FY13

American Society for Clinical Laboratory Science (ASCLS) Michigan 2013 State Convention

"A Case of Extended Allopurinol Use and Drug-induced Macrocytic Anemia"

The purpose of this study is to determine the causative relationship between long term Allopurinol therapy and macrocytic anemia. The objective is to provide findings to the patient for his better understanding of his condition and to promote awareness of a relationship between long term Allopurinol treatment and macrocytic anemia in health care professionals and researchers. With the patients consent, his medical records were obtained to review prescription drug history and hematology laboratory findings. Peer-reviewed journal articles from scientific databases were used to research a link between prolonged Allopurinol use and macrocytic anemia, and more generally, the relationship between drug therapy and macrocytic anemia.

**Toeller-Novak, Deirdre**

April – June FY13

2013 American Literature Association (ALA) Conference

"Ruby Turpin and O'Connor's Female Landed Gentry"

After 16 years of a highly productive and successful writing career, Flannery OConnor enters a long period in which she agonizes over whether she has exhausted her potential. She expresses the need for grace and new vision. During 1962 and 63, OConnors lupus becomes more debilitating. The national culture, as OConnor and the world around her have known it, is changing in often frightening and unexpected ways. It is then that OConnor meets Ruby Turpin in a doctors office. It is Ruby who becomes the queen of OConnors farm-owning, self-sufficient, prideful Southern women who are blind to their own faults. Only in Revelation do we see the female protagonist, Ruby Turpin, arrive at a place of transcendence not granted by OConnor to her counterparts: Mrs. Cope, Mrs. Hopewell, Mrs. McIntyre, Mrs. Fox, and Mrs. May. Tracing OConnors journey through her awaking to Ruby Turpin and Rubys ascent into grace, we see Ruby, full of pride, injured, and transformed through a purgatorial experience in a pig pen. While OConnors previous land-owner women are each given glimpses of grace and salvation, only Ruby allows her self-love to be sufficiently burned away so that she, and perhaps her author, hear the voice of the Lord.

**Toro, Lauren**

April – June FY13

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**Uldricks, Hillary**

April – June FY13

Pacific University Undergraduate Philosophy Conference

"Beauvoir contra Sartre: Inter-subjective existentialist ethics as a critique to hyper-individuality"

In this paper I explore the implications of assigning an individualistic ontological status to a person as opposed to assigning an inter-subjective, or relational ontological status to a person. I argue there is a direct link between the ontological status of an individual and the articulation of ethics and values made by Jean-Paul Sartre and Simone de Beauvoir. The implications of an individualistic ontological status are: solipsism, objectification of others, and relevancy. In this paper I argue assigning an inter-subjective ontological status to the individual remedies the problems created in an absolutely Subject oriented worldview.

**VanderWindt, Matthew**

April – June FY13

Urban Affairs Association, Annual 43rd Conference (2013)

"Preparing the Nonprofit Sector for Change: The Budget Control Act of 2011"

This paper explores the consequences on the nonprofit sector with the passage of the Budget Control Act of 2011. With this bill, Congress has proposed a drastic reduction in the overall size of the budget deficit and forces cuts of 1.2 trillion from the federal budget over the course of 10 years in exchange for increasing the federal budget debt ceiling limit to $900 billion (Associated Press, 2010). The size and scope of the nonprofit sector and the impact of devolution on the growing responsibilities of nonprofits in providing social, health and welfare and education services at the state and local level make the passage of this bill particularly perilous for cash strapped states. It is unknown at the present time how these drastic cuts will affect the nonprofit sector, thus an exploration of the patterns of collaboration between foundations, nonprofits, state and local governments and the funding provided by the federal government is necessary. In 2006, the nonprofit sector received about 60% of all revenue from the federal government (Garrow, 2006), therefore cuts the overall federal budget as sure to trickle down to nonprofit organizations, and state and local governments alike. Thus the question of providing public services under these dramatic constraints should be posed to the academic community as well as to practitioners. Using Michigan as a case study, this paper discusses the implications of these budget cuts on the nonprofit sector, taking into account the influx of foundation giving as a temporary stopgap measure. Finally, the paper proceeds to suggest steps that states, nonprofit organizations and foundations can take to stave off the dramatic losses in funding predicted by the Budget Control Act. Co-Authors: Davia C. Downey, Grand Valley State University, E. Miles Wilson, Johnson Center of Philanthropy, Matthew VanderWindt, Grand Valley State University

**Witcher, Sarah**

April – June FY13

American Society for Clinical Laboratory Science (ASCLS) Michigan 2013 State Convention

"An Case of Extended Allopurinol Use and Drug Induced Macrocytic Anemia"

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