UM-Flint
Faculty Research and Creative Activity Summit (FRACAS)

Exchange Viewpoints!

October 18, 2013
Riverfront Event Center
Welcome From the FRACAS Planning Team!

It is our pleasure to welcome you to the 1st University of Michigan-Flint Faculty Research and Creative Activity Summit (FRACAS). Today you’ll get a glimpse into the variety of topics explored by our faculty. For instance, have you ever wondered about the city of Flint and how to improve quality of life for the residents? Are you curious about other cities, or other countries, now or perhaps at other times in history? Are you concerned about children and youth, and how best to support them? Would you like to learn more about healthy living for yourself and your loved ones? Do you think technology is a blessing or a curse? Maybe you wonder whether women and men see the world differently. And you can even learn a bit about the world we inhabit, but don’t really ‘see’. All this and more is yours here at FRACAS!

On behalf of the Office of the Senior Vice Provost, the Office of Research, and the University at large, thank you for supporting this celebration of faculty research and creative activity. We hope FRACAS will encourage future interdisciplinary collaborations, ultimately benefitting the university and the greater community.

Marianne McGrath, Psychology
Kazuko Hiramatsu, English/Linguistics
Yener Kandogan, School of Management/Marketing
Andre Louis, Office of Research
Mary Mandeville, Office of Research
Mary Jo Finney, Education
Friday, October 18, 2013
Riverfront Event Center

**SCHEDULE OF EVENTS**

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School of Management Classroom Floor Map
Morning Oral Sessions (10:00 am – 10:50 am)

Session A1: Teaching and Learning: Online Learning (2307 Riverfront)
Moderator: Yener Kandogen (International Business)

**Paper Title:** Writing center partnership-improve online writing

**Presenters:** Marilyn Filter (Nursing), Connie Creech (Nursing), Marilyn McFarland (Nursing), Jacob Blumner (English)

**ABSTRACT:** The University of Michigan-Flint has initiated the development of a collaborative effort with the Writing Center to improve DNP students scholarly writing. Students were assigned to work with writing center tutors on papers assigned within the research course. This was repeated in a subsequent semester. Two cohorts of DNP students at the University of Michigan – Flint were required to participate in online discussion boards with tutors who were graduate students in Composition and Rhetoric. The writing center tutors were chosen by the director of the writing center and instructed in techniques to improve writing skills including grammar, syntax, and format. Students were required to submit their papers to an online discussion board group comprised of five DNP students and one tutor. Each group member had to edit each paper submitted. Each DNP student used the five sets of comments to create a final draft of the paper, which was then submitted to the faculty for grading. Data was collected by obtaining the final paper grades of six students and examining them for percent change in final grade before and after working with tutors and peers. All students showed improvement in writing skills from the baseline semester to the first semester with a tutor and continued improvement during the second semester with tutoring. This model can be used by all online courses with a writing component.

**Paper Title:** The World of Online Educational Resources: A Boon or Curse for Effective Learning

**Presenters:** Stephen W. Turner and/or Suleyman Uludag (Computer Science, Engineering, & Physics)

**ABSTRACT:** Technological advances open up many new directions, opportunities and paradigms to augment and improve the classroom experience for a more effective and more lasting learning experience. In particular, classroom instruction is now undergoing a massive transformation, with the increased adoption of research-driven instruction methods, experiential learning, and online learning. With a bona fide approach by both instructors and students, there is no doubt that all will benefit. At the same time, like a double-edged sword, the very same technological advances in the pedagogy of content delivery has facilitated different forms of cheating in classes. Like never before, cheating has become easy and ubiquitous. In this Internet age, it has become almost too tempting for students to examine and experience behavior that can easily fall under the category of academic integrity policy violations, subsequently getting hooked into and addicted to the practice in their studies. Educators, university administrators, concerned parents, and the general public are getting more concerned about the impact and implications of students cheating while earning college degrees. In this study, we are surveying college students with the goal of gaining greater understanding of the many different dimensions of academic integrity violations. Another goal is to reveal some preliminary delineation of gray and white zones from among generally agreed-upon clear academic integrity violations. As part of the study, we seek students’ anonymous and candid responses related to the acceptability of cheating in different life and social settings, as well as in the classroom, together with their awareness and perception of such behavior. We expect that our study will be a contribution toward understanding the extent of today’s students’ exposure, awareness, and perception of academic integrity violations. As part of our study, we are in the process of conducting surveys of students from a variety of different computer science and engineering classes on our campus. We will also address our popular Virtual Lab (VLAB) environment’s impact on the students’ tendency towards cheating, using it as a concrete
example to examine any correlation between technological change in delivery (or online teaching in general) and any manifestation of integrity violations by the students. We will be reporting detailed and in depth statistical analysis of the results and provide discussions. This is a beginning step of our longer term, and wider in scope, study of the same topic. As part of our future work, we are going to be expanding this study to other colleges across the US as well to international universities.

Paper title: Teachers and Computer-Adapted Testing
Presenter: Elaine Makas (Education)

ABSTRACT: Computer adapted testing (CAT) has entered the realm of curriculum systems within the assessment component. The introduction of this testing for education and curriculum has broad ramifications that are not yet known. One of these ramifications is the interaction between computer adaptive testing and the key stakeholders of curriculum – the teachers. As teachers are primary in the process of education and its goal of student achievement, according to systems thinking, it is critical for them to be included in any systems change. Research with teachers and high stakes computer adapted testing is timely and important as the educational community moves forward with CAT for the measurement of standards as assigned by states. The objective of this study is twofold: the primary question is, “What do teachers understand about computer-adapted testing?” and secondary, “How will this understanding (or lack of) affect the assessment component of the curriculum system?” Specifically, the study will demonstrates, in the three districts (urban, suburban and semi-rural), a connection between teacher understanding of computer-adapted testing and its effect on curriculum systems. It will propose to identify what districts and states can do to help prepare teachers for a change in assessment practices. Methodology will be an online survey tool.
Morning Oral Sessions (10:00 am – 10:50 am)

Session A2: Environment: Our Worlds, Big and Small! (2317 Riverfront)
Moderator: Michael Witt (Entrepreneur-In-Residence)

**Paper title:** Serological Survey of Suburban White-Tailed Deer  
**Presenter:** Karmen Hollis-Etter (Biology)  
**ABSTRACT:** The role of diseases in wildlife conservation and management has been underestimated and, therefore, efforts to limit diseases in wildlife populations have often lagged. Wildlife populations have been considered a link in the chain of disease emergence by forming amplifiers and/or reservoirs for zoonotic pathogens. With growing and overlapping populations of wildlife, humans, domestic pets, and livestock there is a need to understand and monitor for zoonoses. We obtained >400 serological samples from radio-collared and harvested white-tailed deer (Odocoileus virginianus) in Cook County (Chicago), IL forest preserves. Seroprevalence for Toxoplasma gondii was 55.9% (n=443), Leptospira spp. 16.2% (n=444), Neospora caninum 43% (n=400) Jamestown Canyon (JC) virus 38.1% (n=404), and LaCrosse (LAC) virus 6.7% (n=404). Prevalence varied by site, age, sex, and seasonality. The increased emergence of wildlife diseases may impact human health by amplifying transmission rates and threaten wildlife populations. Surveillance of wildlife diseases becomes a growing issue in Michigan as we deal with Tuberculosis, Chronic Wasting Disease, and West Nile Virus. We must take a proactive role in implementing disease monitoring and response plans into our wildlife management programs, make recommendations to decrease disease prevalence in wildlife populations, and reduce transmission to vulnerable populations.

**Paper title:** Nature versus Nurture: The Biggest Black Holes in the Universe  
**Presenter:** Rajib Ganguly (Computer Science, Engineering, & Physics)  
**ABSTRACT:** At the centers of galaxies, the biggest black holes in the universe lurk. These black holes are many millions to billions of times more massive than our own Sun. They can’t be born that way. They must be bred. But how? Do they suck in everything in sight with reckless abandon? Or do their parent galaxies have them on strict, regulated diets? Is it possible to overfeed a black hole? Do they throw up? In this talk, inspired by true life events, we’ll journey into the hearts of galaxies where these objects live, and grow. We’ll find that truth may be stranger than fiction - black holes don’t suck. They are temperamental beasts that remain tame unless perturbed, and when angered, they throw the worst temper tantrums in the Universe. These tantrums potentially have profound effects on their parents, limiting how big they can get, and how quickly those parents age.

**Paper title:** Strings, Holograms, and Superconductors  
**Presenter:** James Alsup (Computer Science, Engineering, & Physics)  
**ABSTRACT (revision coming soon):** String Theory has offered a new path to understanding strongly-coupled superconductors. Instead of working with quantum mechanics in four dimensions, the physics can be phrased in terms of a five-dimensional black hole. I will discuss the recent successes and open issues with this approach.
Morning Oral Sessions (10:00 am – 10:50 am)

Session A3: Environment: What’s Happening in the Neighborhood? (2315 Riverfront)
Moderator: Jacob Peng (Accounting)

Paper title: Improving Downtown in a Shrinking City: A Case Study of Flint, Michigan
Presenter: Victoria Morckel (Earth and Resource Science)
ABSTRACT: The City of Flint has lost nearly half of its population since 1960. Severe population loss is a significant problem for cities since it results in challenges like abandoned buildings and deceased tax revenue. As revenue sources decline, the level of services provided declines. At the same time, the demand for services typically increases as problems like crime and poor quality schools escalate. Thus, even more people may find it prudent to leave the city, as their quality of life continues to deteriorate. To break this cycle of population loss and decay, it is vital for cities like Flint to retain current residents, attract new residents, and encourage new investment. The question, of course, is how to do it. Despite the City of Flint’s continued population loss as a whole, downtown Flint experienced a population increase from 2000 to 2010. While the increase was a modest 189 people, it was the largest increase of any neighborhood in the city. More importantly, the increase might be reflective of a national trend of increased interest in urban, downtown living. There is growing evidence that the Millennial generation is attracted to urban living in small cities. Baby-boomers may also become more interested in urban, walkable living as they age and relinquish the car. Thus, with the right policies, the City of Flint may have some success in trying to attract even more people to its downtown. This may be especially true considering that Flint is the only significant urban center in the metropolitan area. Therefore, it may be able to offer amenities that cannot be easily found elsewhere. Likewise, the purpose of this study is to provide policy recommendations that might be effective at attracting more people and investment to the downtowns of cities facing population loss. A lively downtown is important because it can spur jobs for residents, attract new residents, increase the city’s tax base, and improve the quality of life for citizens both in and outside of the city. To identify policies, the principal investigator will survey metropolitan area residents to determine who is and is not visiting downtown, why people are or are not visiting downtown, what would make them visit more frequently, and what factors might encourage them to live downtown. The results of this study will then be shared with the city’s planning department and Downtown Development Authority (DDA). Armed with this information, these organizations can pursue strategies that potential visitors and residents have identified as effective.

Paper title: Bicycling and Walking Renaissance at the University of Michigan-Flint?: Evidence from a Stated Preference Survey
Presenter: Greg Rybarczyk (Earth and Resource Science)
Abstract: This study conducted a cross-sectional analysis of walking and bicycling preferences of faculty, students, and staff at the University of Michigan-Flint with the objective to ascertain what conditions will likely increase walking and bicycling levels on or near campus. The three groups were mapped based on their residential location using Geographic Information Systems (GIS) and then categorized spatially into walking and bicycling zones based on their distance from campus. Statistical tests indicated that there was a general group agreement regarding proposed bicycling conditions within the bicycling zone and the converse was found for all groups living beyond a bikeable distance and those persons from each group that lived beyond a walkable distance from campus varied significantly towards proposed walking conditions. A binary logit model was then used to decipher what barriers and motivators would cause a modal shift for groups living within the walking or bicycling zone versus those that do not. Findings point to bicycle safety measures and bicycle education as having the greatest...
effect on faculty bicycling, whereas staff are driven by economic motivators, and a visible bicycle culture increases students’ propensity to bicycle. The probability of faculty walking is increased when driving costs are raised. Staff and students are more likely to walk when enhanced safety measures are in place. These results have revealed that faculty, staff, and students perceive walking and bicycling conditions differently based on their classification and distance from campus. Therefore, a comprehensive transportation policy should incorporate the diverse needs of the entire metropolitan university population in order to successfully increase walking and bicycling transportation modes.

**Paper title:** A Socio-Spatial Analysis of Pedestrian Behavior on the Streets of Flint, Michigan  
**Presenter:** Laura MacIntyre (Sociology): Streetwalking  
**ABSTRACT:** Academic interest in pedestrian behavior is certainly not a new phenomenon. Charles Baudelaire, Georg Simmel, Walter Benjamin, and Jane Jacobs all expounded on the symbolic use of public streets and urban space. Most recently, Mitchell Duneier analyzed one sidewalk, in particular, for over a decade in his groundbreaking ethnography, "Sidewalk". I expand on these previous works in order to look at contemporary “street walking” in a socio-historical perspective. I examine the people who currently use the streets and sidewalks of Flint, Michigan, and the public and private discourse surrounding this activity. Flint is a city virtually synonymous with the production of automobiles. However, in this city, a person who does not have access to a personal vehicle is at an extreme disadvantage. Public transportation exists, but it is limited in design and accessibility. It is time consuming, inconvenient, poorly planned and poorly implemented. One could argue that the public transportation system of Flint, Michigan was designed precisely to discourage all but the most tenacious passenger. As a result, it is possible to identify a stratified caste system of travelers. It is not a matter of access to the streets, but rather an inaccessibility to a private vehicle that determines the status of someone who is subjected to walk on the streets. Many people who 'choose' to walk the streets operate under specific social codes. My research seeks to examine some of the conditions under which these codes operate, occur, and are spoken about. Of particular interest is the racial and gender segregation / stratification of this current pedestrian caste system. Specific emphasis is placed on institutional racial discrimination and how it is played out in the discourse of who, and under what conditions, one is allowed to walk freely within the city. I introduced my initial ideas and research in a preliminary paper presented at the annual 2012 Michigan Sociological Association Conference. This research is ongoing. For the FRACAS, I will present additional ethnographic observations from recent interviews, as well as interviews that will be conducted this summer.
Morning Oral Sessions (10:00 am – 10:50 am)

Session A4: People and Relationships: Gender and Diversity (2319 Riverfront)
Moderator: Kazuko Hiramatsu (English/Linguistics)

Paper title: Most Women Remember People, and Some Men Remember Things
Presenters: Marianne McGrath (Psychology) and Terry Horgan (Psychology)

ABSTRACT: What do women and men remember about people and places? In the present study, we were particularly interested in people’s memory for people and objects when they were not explicitly told to pay attention to their surroundings. Specifically, we investigated how gender and aspects of personality relate to memory for the environment. One such personality style is self-monitoring. High self-monitors care about social image and how they appear to others, so people high in self-monitoring look to others in their environment to see how to behave (Snyder, 1974, 1979, 2000). The context we created was not genuinely ‘interpersonal’—we had an assistant posing as a statistics instructional aide, and she appeared preoccupied with her work and too busy to talk with the participant. They shared a large office while participants watched a video. Results indicated that females had better memory than males for the person in the video and for some features of the statistics instructional aide—replicating the earlier work of Horgan et al. Additionally, we also found a statistical interaction between gender and self-monitoring; high self-monitoring males had the best memory for the objects in the office. We will focus on this particular result in our presentation—it may be the case that high self-monitoring males scan their surroundings, and in the process of looking around the room and realizing the female is not interested in social interaction, they have also gained considerable information about the contents of the room.

Paper title: Gender and Racial Diversity among Corporate Directors in 2005
Presenter: Roy C Barnes (Sociology)

ABSTRACT: One of my current research projects investigates the level of gender and racial diversity within a specific population of US corporate directors in 2005. In addition to providing a census of the proportions women and racial minorities among the 2,452 unique directors in my study, this paper also explores the structural roles women and racial minorities play within the network of interlocking corporate directors. Interlocking directorates occur when the same director simultaneously serves on the boards of directors of two or more corporations. This overall of organizational affiliations creates both a web of corporate connections based on shared directors, as well as an interpersonal network of corporate directors through corporations. A dramatic example from the 2005 data is that of Shirley Ann Jackson. Ms. Jackson served on the boards of directors of five different corporations in 2005 — FedEx Corp., IBM Corp., Marathon Oil, Medtronic Inc., and United States Steel Corp — thereby connecting these major firms in the US economy. Similarly, Ms. Jackson also created a common link between the directors of these firms. So, not only is this individual very important within the structure of the social network, it is also the case that Ms. Jackson is an African American woman. The presentation will describe the method to define the population, to collect the names and characteristics of the various corporate directors. In addition, I will introduce basic network methods and provide non-technical explanations of two popular measures of network centrality and cohesion. The analytic payoff of this research is that one can both assess the relative presence of women and racial minorities within the population of corporate directors important and also determine the network characteristics of these individuals.
ABSTRACT: The large majority of books in England at the close of the Middle Ages occupied the shelves of wealthy and powerful monastic libraries. When Henry VIII dissolved the English monasteries between 1535 and 1541, his agents confiscated the monastic lands and treasuries, and smashed the altars, statues, and windows. The fate of the libraries remains unclear—some books were burned or left to ruin, but many came into the possession of expelled monks, Henry’s commissioners, local families, or Henry VIII himself. Book historians have become increasingly interested in the function of those newly circulating books as objects energized by pious, antiquarian, nationalist, and academic desires. I examine England’s Queen Catherine of Braganza, whose reading life, royal library, and relationships with the members of the London book-trades between 1662 and 1705 supported, not only the collection of medieval manuscripts but the intellectual re-engagement with England’s pre-Protestant religious literatures. It has long been circulated that while her libertine husband, Charles II, filled his court with mistresses and their children, Catherine, the “long-suffering” and “barren” Catholic Portuguese émigré, consoled herself in “foreign” and “regressive” devotional reading. The Catherine I have begun to unearth was not passive at all, but actively participated in the underground trade in Catholic, and therefore illegal, books, both medieval and contemporary, and served as a literary agent for religious and intellectual dissent. She patronized and protected members of the illicit London book-trades in direct opposition to royal, parliamentarian, and guild-based attempts to regulate the production, sale, and circulation of seditious books. Before the Fracas, I will have spent three weeks in the court archives seeking to substantiate or negate the image of Catherine that has emerged from my initial investigation of the published legal records. I will examine books bound by her personal binder, her correspondence, her household accounts, the architectural plans of her residences, and the records of her lawyer, secretary and bedchamber woman during her reign as queen and queen dowager. If she employed editors, printers, and booksellers to produce illegal books under her legal protection, then her household accounts and the accounts of her privy purse may indicate who these individuals were, how much she paid them, when, and for what services. If she was a collector herself of illegal books, and we have some evidence to suggest that she was, then the records of her personal secretary may include a library catalog that would not only substantiate that claim but also help us to trace her now-dispersed library in order to examine the books themselves and determine the effect of her collecting choices on the larger circulation of medieval texts during the Restoration era. I would love to share the results of that archival work with the UM-Flint community. One caveat: archives almost always answer different questions that the one that brought the researcher to them.
Poster title: Primary care NPs and competency in caring for clients diagnosed with autism

Presenter: Denise Will (Nursing)

ABSTRACT: The purpose of the study was to determine the perceived level of competency of primary care NPs as well as perceived barriers to providing care to children with autism spectrum disorders (ASD).

Review of the Literature: Autism Spectrum Disorders are present from birth or very early in development, and share three core features: delays in social interaction, impairments in language and restricted and repetitive behaviors. Comorbidities can include but are not limited to sleep disorders, learning disabilities, epilepsy, gastrointestinal problems, motor impairments and a variety of psychiatric conditions such as aggression, depression, anxiety and obsessive-compulsive disorders. The Center for Disease Control (2012), estimated that autism occurs at the rate of 1 in 88 children nationwide and the rate is expected to increase. NPs in primary care will play an integral role in providing and coordinating care for these patients. A number of studies acknowledge physicians’ uneasiness and lack of confidence in diagnosing and treating children with ASD. No research was found that addressed this issue concerning NPs.

Methodology: A convenience sample was obtained from NPs attending a national NP conference held in June 2011. Nurse practitioners who provide primary health care to patients <18 years were invited to participate. A self-report survey developed by Golnik et al. (2009) was used to obtain data for measures of competency and barriers when providing care for patients with ASD, chronic/complex (CC), and neurodevelopmental (ND) disorders. Lower scores indicated lower autism competency. Higher scores indicated more perceived barriers to providing primary care to patients with ASD. Descriptive statistics were examined for each item in the survey including demographic variables. Data were analyzed using a paired t-test to determine the competency scores when caring for patients with ASD and those patients with CC or ND medical conditions. McNemar’s test was used to determine perceived barriers to care.

Results: Responses totaled 126. Most participants were FNPs (n=106, 84%) and reported their highest level of education as MSN. The competency score of 4.76 was significantly lower (p=.0001) for ASD compared to the CC score of 5.35 (Likert scale where 1=poor and 7=excellent). Cronbach’s alpha for the competency scale was 0.79. NPs reported that primary care for children with ASD needed improvement when compared to children with CC (p=.0001) and ND (p=.003) medical conditions. Of the 9 possible barriers comparing ASD to CC and ND, NPs reported most barriers were significant (p<.05) for ASD. NPs did not report significant barriers of care related to lack of coordination for ND patients, seeing other providers for CC patients and lack of provider education for ND patients. NPs desired further training in primary care of children with ASD as well as the use of complementary and alternative medicine.


This research was done as partial fulfillment of the DNP degree at UM-Flint.
Poster title: Excessive Cell Phone Use: A Quantitative Measure of the Motivation to Use a Cell Phone  
Presenter: Julie Broadbent (Psychology)  
ABSTRACT: Cell phone use, when excessive, has frequently been characterized in the media and in the research literature as "addictive." Clearly, inappropriate use of a cell phone can lead to problems ranging from fatal car crashes to inattention in the classroom. However, very few studies have examined if the behavioral characteristics of excessive cell phone use resembles those associated with drug addiction, and even fewer studies have examined the strength of the motivation behind the use of cell phones. The overall goals of this project are to identify the frequency with which excessive cell phone use occurs as measured by the Mobile Phone Problematic Use Scale (MPPUS), and to measure the strength of the motivation behind cell phone use (using behavioral economic measures). Correlations between excessive cell phone use and behavioral economic measures will also be assessed. Students enrolled in Psychology classes at the University of Michigan-Flint will be recruited to complete a survey to address these questions. The survey questions are based on the diagnostic criteria for drug addiction but have been modified to specifically address cell phone use. This study will provide a quantitative measure of the drive to use a cell phone and will constitute the first step in establishing if excessive cell phone can be characterized as an addictive behavior.

Poster title: The Impact of Attachment and Companionship Needs on Parasocial Relationships with Liked and Disliked Television Characters  
Presenter: Sarah Rosaen (Communications and Visual Arts)  
ABSTRACT: Studies that have examined the links between the need for companionship and parasocial relationships (PSRs) have produced mixed results. The current research attempts to clarify these links by attending to whether the mediated persona is liked or disliked and the attachment orientation of the viewer. A cross-sectional survey (N = 371) revealed that the strength of PSRs with liked characters are stronger than with disliked characters. Consistent with previous research, anxiously attached individuals sought out PSRs with liked characters regardless of their companionship needs and avoidant attachment was unrelated to PSRs with liked characters. Conversely, the likelihood of a PSR with a disliked character increased when the individual was lonely and had attachment orientations that were either anxious or avoidant. Additionally, avoidant individuals were also more likely to develop a PSR with a disliked character if they were socially anxious and/or depressed.

Poster title: Retinal Degeneration Alters Expression of Neurotrophins in the Visual Cortex  
Presenter: Mark Webster, Chelsea A. Dixon, Steffanie K. Anderson, Adam P. Butcher, Michael K. Jarvinen, and Joseph F. Sucic (Biology)  
ABSTRACT: Development of the central nervous system continues beyond birth and can be dependent upon sensory input, which may provide stimuli necessary for the establishment of crucial neural circuitry. This is especially true during postnatal maturation of the visual cortex, where visual cues promote the establishment of new neural connections. Disruption of sensory input during early postnatal development can abrogate the formation of necessary neural circuitry, with consequences for both the acuity of the impacted sense and for brain remodeling. The process of brain remodeling involves establishing new neural connections that can compensate for the loss of other activities in the central nervous system. Molecules called neurotrophins (NTs) are critical for normal central nervous system development and maintenance as well as for remodeling. NTs are major signaling molecules for
cells of the central nervous system, as they have the ability to regulate proliferation, differentiation, and apoptosis (“programmed cell suicide”) in these cells. Interestingly, NT expression can be influenced by sensory input, which has implications for both maturation of the central nervous system and remodeling that may occur in response to altered sensory input. We examined NT expression in the visual cortex in response to retinal degeneration. When retinal degeneration occurs, sensory input to the visual cortex is lost. We employed a well-characterized mouse model system in which specific genetic mutations cause loss of function of a visual signaling molecule called phosphodiesterase 6β (PDE6β). Loss of PDE6β function leads to retinal degeneration and loss of visual acuity in all mice by postnatal day (PND) 49. We hypothesized that this would impact the expression of NTs in the visual cortex and perhaps in other areas of the brain where remodeling might occur. Using a technique called Q-PCR, we showed that expression of several NTs was altered at the mRNA level in response to retinal degeneration, with the expression of Brain-Derived Neurotrophic Factor (BDNF) showing a marked decrease at PND 49. We also examined the expression of BDNF at the protein level using a technique called western blotting. The alterations in NT expression could have implications for remodeling in response to the loss of sensory input to the visual cortex.

**Poster title:** Relationship between core muscle strength, pulmonary function, balance and physical performance in persons with Multiple Sclerosis

**Presenter:** Min H. Huang, Becky Rodda, Donna Fry, Luncinda Pfalzer (Physical Therapy)

**ABSTRACT:** Purpose/Hypothesis: Multiple sclerosis (MS) can cause weakness of muscles in the limbs and trunk, and ventilation. Abnormal findings of pulmonary function tests and pulmonary muscle strength are common in persons with MS. Our previous research showed that static balance significantly improved following a respiratory muscle strengthening program in persons with MS compared to a non-treatment control group of persons with MS. The improvement in balance may have resulted from increased core muscle strength secondary to the respiratory muscle strengthening. Therefore, the purpose of this study was to determine the relationship between core muscle strength, respiratory muscle strength, balance and physical function in persons with MS. We hypothesized that there would be a high correlation between the core muscle strength, pulmonary muscle strength, and measures of balance and physical function.

Methods: Twenty-one adults (age = 55 ± 10 years) were recruited. Inclusion criteria were a physician confirmed diagnosis of MS, age 18-69 years, and ability to ambulate at least six minutes with or without assistive devices. Kurtzke Expanded Disability Status Scale (EDSS) was determined by the researcher after the participants gave consent. Pulmonary muscle strength was determined indirectly through measurement of maximal inspiratory pressure (MIP) and maximal expiratory pressure (MEP). Cores muscle strength was assessed by YMCA half sit-up test, standing pelvic tilt test, and the reclined sitting test. Balance was assessed by Static Standing Balance Test, Four Square Step Tests (FSST), and Maximum Step Test (MST). Physical performance tests included Sit-to-Stand (STS), Functional Stair Test (FST), and 6 Minute Walk Test (6MWT). Pearson product moment correlation coefficients were used to examine the relationships between the pulmonary muscle strength tests, core muscle strength tests, balance and physical performance tests. Significance level was set at an alpha level of p < .05.

Results: The EDSS mean was 3.8 ± 1.8 (range 1.5 to 6.5). Pulmonary function tests were not significantly correlated with any other tests. Tests of core muscle strength were significantly correlated with all balance tests (r = 0.48 to 0.60, p < 0.05) and the STS test (r = 0.57 to 0.72, p < 0.05), but not the FST or 6MWT. Tests of balance were significantly correlated with all physical function tests (r = 0.48 to 0.88, p < 0.05).
Conclusions: The low correlation between balance and respiratory muscle strength in this study contradicts findings from an earlier study by Pfalzer & Fry (2011). Core muscles strength may contribute to balance control and is important during tasks that involve proximal muscles and trunk, e.g. sit to stand. On the other hand, factors other than core muscle strength, such as coordination or balance, may account for the performance of physical functions that involve ambulation.

Clinical Relevance: Interventions to improve balance and physical function in persons with multiple sclerosis should incorporate exercises targeting core muscles.

Poster title: Test-retest reliability, validity, and minimal detectable change of balance evaluation system test in community-dwelling older adults: A pilot study

Presenters: Min H. Huang, Kara A. Miller, Kristin Schrag, Kayle Fredrickson, Alex Borja (Physical Therapy)

ABSTRACT: Purpose/Hypothesis: Balance deficits are the leading risk factor for falls in older adults. Utilization of standardized tools to assess balance problems is a critical step in the development of effective interventions. Currently only the Balance Evaluation System Test (BESTest) can locate the impaired systems underlying postural control. The primary purpose of this study was to determine the test-retest reliability, validity, and minimal detectable change (MDC95) of the BESTest as a measure of balance impairments in community-living older adults. The secondary purpose was to examine the relationships between each system category of the BESTest with the Berg Balance Scale (BBS). We hypothesized that: (1) The BESTest would be a reliable test of balance in older adults and would correlate well with the BBS, Five Times Sit to Stand (FTSTS), Activities-specific Balance Confidence Scale (ABC), and usual gait speeds. (2) All system categories of the BESTest would be correlated with the BBS.

Materials/Methods: Community-living adults aged 60 years and older, with intact cognition, normal low-contrast vision, able to walk 50 ft and stand for 2 minutes at a time without support, and no history of neurologic diagnoses were recruited. Participants received tests including the BESTest, FTSTS, BBS, ABC scale, and 4 meter usual gait speed. Within 2 weeks, participants returned for a re-test of the BESTest. Test-retest reliability of the BESTest was calculated using intraclass correlation coefficient (ICC (3,1)). Spearman correlation coefficients were used to assess validity of the BESTest with other tests, and the relationships between each system category of the BESTest with the BBS. Minimal detectable change was calculated using a 95% confidence interval (MDC95). The significance level was set at p<0.05.

Results: The ICCs for test-retest reliability of the BESTest was 0.84 (p <0.001). The BESTest was correlated with other tests of balance function, including the BBS (r =0.86, p <0.001), FTSTS (r =0.59, p <0.05), ABC Scale (r =0.78, p <0.01), and usual gait speed (r =0.67, p <0.01). Except for the system categories of reactive postural responses and stability of gait, others system categories were correlated with the BBS (r = 0.55 to 0.82, p < 0.05). MDC95 value for the BESTest was 9%. Conclusions: The BESTest has good test-retest reliability and validity for assessing balance performance in community-living older adults. Although the BBS is a common balance assessment tool, it does not reflect the full spectrum of balance control, e.g. gait and reactive postural responses. This study is first to report the MDC95 of the BESTest in older adults. A real change in the BESTest score requires a difference of more than 9%.

Clinical Relevance: Clinicians should consider utilizing the BESTest as a clinical balance assessment tool to develop more specific rather than generalize balance training programs.
Poster title: Falls, balance performance, and gait speed in older cancer survivors: A pilot study
Presenters: Min H. Huang, Kara A. Miller (Physical Therapy)
ABSTRACT: Purpose/Hypothesis: Falls are associated with increased mortality and morbidity. Cancer and its treatment can cause long-term sequelae that exacerbate the risk factors of falls. Identification of specific balance deficits in cancer survivors could lead to more effective interventions to prevent falls. The purpose of this study was to examine whether a history of cancer can impact falls, balance and gait functions. We hypothesized that: (1) older cancer survivors (OC) would have more falls, poor balance performance and slower gait speed than older adults with no history of cancer (ON); (2) a positive history of cancer would be associated with the status of being a faller.

Materials/Methods: Cross sectional design including community dwelling adults over the age of 55 with (n=10; mean age 69 ± 3 years) and without (n=7; mean age=70 ± 4 years) a history of cancer. Participants in the OC group had completed primary cancer treatment at least 3 months prior to testing and had a cancer diagnosis not involving the nervous, musculoskeletal and hematologic systems. The number of falls occurring in the past 12 months was obtained through interview. Participants completed the BESTest, Berg Balance Scale (BBS), the Activities Based Confidence Scale (ABC), and 4 meter usual gait speed. Mann-Whitney U test was used to compare number of falls, scores of balance tests, and gait speed between OC and ON groups. Fisher’s exact test was used to examine whether the proportion of high-risk fallers, i.e. individuals with 2 or more falls in the past 12 months, was different between groups. All analyses were performed using SPSS. The significance level was set at p<0.05. Results: Performance on clinical balance measures and self-reported number of falls in the past 12 months was comparable between older cancer survivors and older adults without a history of cancer. Among older cancer survivors, 67% reported experiencing a fall in the past year, which is much higher than the average fall rate in the general elderly population. Conclusion/Discussion: In people aged 65 years and older, a history of cancer diagnosis not involving the nervous system and musculoskeletal system may be associated with an increased incidence of one fall over a period of 12 months.

Poster title: Operationalizing vision 2020 through online post-professional physical therapy education
Presenters: Jennifer Blackwood, Carol Daly, Andrea Becker, Jamie Creps, Min H. Huang, Lucinda Pfalzer (Physical Therapy)
ABSTRACT: Background & Purpose: Post-professional physical therapy (PT) education is a tenet of APTA’s Vision 2020 and is central to evidence-based practice. It can lead to the advances in clinical expertise, salary increases and job satisfaction. However, traditional face-to-face education programs present barriers such as fixed class times and geographical locations in urban centers. The purpose of this case report is to describe the development and implementation of the multi-layered online post-professional PT programs at the University of Michigan-Flint (UM-F) to help attain Vision 2020.

Description: The program proposal was granted $200,000 from the UM-F Office of Extended Learning (OEL) in 2009. The program proposed included a transitional-doctorate of physical therapy (t-DPT), certificate and residency, continuing professional development and lifelong learning programs. During the development phase, faculty with ABPTS credentials and post-entry level degrees were trained in teaching pedagogy. Program curriculums were created based on the framework of core APTA documents, e.g. the Description of Specialty Practice. OEL developed online orientations for the
students, and support the faculty in course redesign and the use of course management, web conferencing, and lecture capture applications. UM-F Office of Graduate Programs offers marketing and recruitment assistance. Eleven students were admitted to the t-DPT program in Winter 2010. Enrollment to the residency program began in Fall 2010. Outcomes of the programs are evaluated at meetings while changes are implemented to address issues identified.

Outcomes: Currently 80% of students in the program live outside 50-mile radius of a city in the U.S. or Canada. Eight graduates of the first t-DPT cohort participated in a survey within 6 months of graduation. Most believed that their education at the UM-F contributes highly to satisfaction of professional roles (88% of response), competency at advanced practice (81%), evidence-based practice (100%), communication and professionalism (88%). Areas with perceived lower achievement are the salary increases (50%), compassion (50%), leadership (40%), teaching (50%), and research (64%). Two students have successfully passed the ABPTS exam (100% first time pass rate). Since 2010, 978 clinicians have participated in 6 teleconferences for continuing education. Program strength perceived by Faculty includes the quality of courses, leadership and teamwork, infrastructure and resources of UM-F. Challenges perceived are students’ access to internet in remote areas, support for faculty to develop scholarship and teaching effectiveness, recruitment of qualified clinical mentors and establishing clinical affiliation, and marketing strategies.

Discussion: Overall, the program expectations were met, supporting the values of online education. Our programs operationalize many key elements of APTA’s Vision 2020 by providing doctor of physical therapy education, lifelong learning opportunities, and evidence-based practice through distance education.

Poster title: The relationship between fear of crime and body mass index in a demographically representative sample

Presenters: Gergana Kodjebacheva, Maria Koleilat, Daniel Kruger (Public Health and Health Services)

ABSTRACT: Introduction: The mechanisms through which fear of crime may affect BMI are not well understood. The study investigates the relationship between fear of crime and BMI.

Materials / Methods: The Speak to Your Health Survey was administered among residents aged 18 years and older across all residential Census tracts in Genesee County, MI. Three waves of survey data (2007, 2009, and 2011) were combined into a sample of 3,192 adults. BMI was calculated using respondents’ self-reported height and weight. Fear of crime was assessed with four items. Depressive symptoms were assessed with Brief Symptoms Inventory items. Exercise was self-reported. Path analysis examined the direct and mediated effects of fear of crime on BMI. Self-reported fast food consumption was assessed in 2011.

Results: Controlling for socio-demographic factors, fear of crime was associated with higher BMI both directly and as mediated by depressive symptoms. Levels of moderate exercise mediated the relationship between depressive symptoms and BMI. Both mediated paths were statistically significant (Sobel tests = 3.97, p < 0.001 and 4.26, p < 0.001, respectively). The model had an excellent data fit (RMSEA=0.02). Among 2011 participants, fast food consumption mediated the relationship between depressive symptoms and BMI. Discussion: Depressive symptoms partially explain the relationship between fear of crime and higher BMI. Fear of crime may lead to depressive symptoms, which in turn may reduce exercise and increase unhealthy eating, consequently leading to overweight.
Poster title: Characterization of spatial learning and sickness responses following repeated administration of lipopolysaccharide in aged rats

Presenter: Barbara Kupferschmid, Michael Riviera (Nursing)

ABSTRACT: Administration of Lipopolysaccharide (LPS), an endotoxin which is a component of the cell wall of gram-negative bacteria, has been shown to result in sickness behaviors such as decreased food intake, decreased social exploratory activity, and impairment in spatial learning. Bi-directional communication between the immune and neuroendocrine systems is well established. There is considerable evidence that several cytokines and their receptors are present in the brain and influence function. Indeed, animal studies have established that pro-inflammatory cytokines released in response to a microorganism coordinate adaptive brain responses. In aged animals, peripheral administration of LPS has been shown to result in a longer period of anorexia and weight loss and decreased motor activity and social exploration. While these responses have been noted following a single administration of LPS, there is a paucity of literature related to the effects of repeated administration of LPS on spatial learning and other sickness behaviors in aged animals. Using a repeated measures experimental design, we examined the effects of repeated administration of intraperitoneal LPS on spatial learning and other sickness responses in aged animals. For two consecutive days, 300 µg/kg LPS (n=5) or saline (n=4) was administered to aged (22 months) male Brown-Norway rats. Food intake and weight were quantified daily. Testing in the Morris water maze (MWM), a hippocampal-dependent spatial learning task, was initiated 5 hours after the first LPS injection and continued for six days. Indices of spatial learning, directional heading error (DHE) and swim time (ST) to reach a hidden platform, were averaged across four trials per day by animal. After a 2 week rest, a retention test was administered, followed by the same protocol of LPS injections and testing. During the first week of injections, there was a significant decrease in food intake and weight in the LPS injected animals, especially on days 1 and 2 post injections. While both groups displayed an increased DHE, there were no differences between the groups. At the conclusion of the two week rest period, weight had not returned to baseline in either group. Following the second set of injections, weight was decreased in the experimental group only after the first LPS injection. While there was not a difference in DHE noted during the retention test, there were significant mean differences in DHE detected in the LPS injected animals during the second week of injections. Indeed, the LPS injected animals displayed evidence of impaired DHE over the entire six day period, and DHE remained elevated on day 6. Thus, while the sickness response was greater during the first week of injections, there were no differences noted between the groups in spatial learning. However, although the sickness response was less during the second week of injections, there were deficits in spatial learning, evidenced by poor directional heading error. In conclusion, repeated exposure to LPS resulted in spatial learning impairment in aged animals, despite a decreased sickness response.

Poster title: Effectiveness of intense, activity-based physical therapy for individuals with spinal cord injury in promoting motor and sensory recovery: Is olfactory mucosa Autograft a factor?

Presenter: Cathy A. Larson PT, PhD (Physical Therapy)

ABSTRACT: Background/objectives: Rehabilitation for individuals with spinal cord injury (SCI) is expanding to include intense, activity-based, out-patient physical therapy (PT). The study’s primary purposes were to 1) examine the effectiveness of intense PT in promoting motor and sensory recovery in individuals with SCI and 2) compare recovery for individuals who had an olfactory mucosa autograft
Methods: Prospective, non-randomized, non-blinded, intervention study. Using the American Spinal Injury Association examination, motor and sensory scores for 23 (7 OMA, 6 matched control and 10 other) participants were recorded.

Results: Mean therapy dosage was 137.3 total hours. The participants’ total, upper and lower extremity motor scores improved significantly while sensory scores did not improve during the first 60 days and from initial to discharge examination. Incomplete SCI or paraplegia was associated with greater motor recovery. Five of 14 participants converted from motor-complete to motor-incomplete SCI. Individuals who had the OMA and participated in intense PT did not have greater sensory or greater magnitude or rate of motor recovery as compared with participants who had intense PT alone.

Conclusion: This study provides encouraging evidence as to the effectiveness of intense PT for individuals with SCI. Future research is needed to identify the optimal therapy dosage and specific therapeutic activities required to generate clinically meaningful recovery for individuals with SCI including those who elect to undergo a neural recovery/regenerative surgical procedure and those that elect intense therapy alone.

Poster title: Promoting Positive Development within Youth Services and Relationships
Presenter: Hillary Heinze (Psychology)
ABSTRACT: The positive youth development approach asserts healthy development occurs within relationships and settings in which youth are embedded, enhanced by youth participation within these relationships and settings (Benson, 2006; Lerner et al., 2005). Enriching environmental conditions, such as supportive relationships with adults and engaging activities, help build individual strengths and skills, like positive identity and social competence (Lerner et al., 2005). Enhancement of youth strengths and skills can facilitate youth-directed environmental changes, such as civic engagement or leadership, which provide greater access to people and experiences that further promote positive developmental processes (Lerner et al., 2005). Access to positive supports and opportunities for skill building is particularly important for adolescents from disadvantaged backgrounds, for whom socioeconomic, community, school, and/or family characteristics may limit exposure to these resources. When present, these supports and resources can have a powerful impact, greatly enhancing thriving and reducing risk for problems (Scales et al., 2005; Taylor et al., 2005). My previous work focuses on positive developmental supports and resources and adaptive functioning among youth residing in emergency shelters. Many of these youth emerge from families and communities characterized by discord and/or limited support, thus necessitating out-of-home placement (Toro, Dworsky, & Fowler, 2007). Emergency shelters can provide structure and opportunities for new relationships, resources, and experiences that can facilitate personal growth and skill building. My early work explored youth perceptions of positive development supports and opportunities within several community-based youth shelters (Heinze & Jozefowicz-Simbeni, 2009; Heinze, Jozefowicz, & Toro, 2010). Results indicated that youth ratings of positive developmental supports within agencies, such as structure and organization and supportive relationships with staff, were strongly related to how satisfied youth were with services overall, above and beyond the number of goods or services youth had obtained. More recently, I examined environmental supports (both inside and outside the shelter) and personal strengths and skills over the course of shelter stay (Heinze, 2013). Results indicated that ratings for positive supports and relationships experienced within the agencies were significantly higher than those concurrently experienced in schools, families, and neighborhoods. Youth completing multiple surveys over the course
of shelter stay reported decreases in distress and increases in life satisfaction, health behavior, positive caregiver relationship, and internal assets (positive identity, commitment to learning, positive values). These findings underscore the value of opportunities for positive development among vulnerable youth and the agencies that serve them. I see my next task as two-fold. First, I hope to explore how external supports and internal strengths and skills impact vulnerable youth over time. I am interested in the nature, timing and intensity of supports and experiences that promote and enhance positive change. Moreover, I hope to examine how positive developmental processes and supports protect youth from environmental risks to facilitate academic success, well-being and successful transition to adulthood (resilience). I see this work as crucial to the future of our community, informing us how we can better engage youth, locally and universally, enhance impactful supports and opportunities, and facilitate continued access to resources and supports over time.

Poster title: Exploring evidence of cultural competencies in an accelerated second degree nursing program

Presenters: Linda Knecht & Connie Creech (Nursing)

ABSTRACT: Supporting the development of cultural competencies in undergraduate students has become increasingly important with expanded diversity within the U.S. population and rapid globalization. Madeleine Leininger (1991), founder of transcultural nursing, stated that “Nurses without preparation in transcultural nursing would be handicapped when working with people from a diverse culture” (p. 16). More than 20 years later, this statement remains relevant as the U.S. population becomes increasingly multicultural and health disparities have become deeply entrenched. A focus on the development of cultural competencies of nursing students is an essential component of nursing education as documented through standards of practice, codes of ethics, professional organizations and accrediting bodies. Curricula related to developing attitudes, knowledge and skills to provide culturally congruent care are integrated throughout the UM-Flint nursing programs. Students are also required to take a course on transcultural health care either as a pre-nursing student or as an admitted nursing student.

This study examined evidence of the development of cultural competencies in the Accelerated Second Degree (ASD) baccalaureate nursing program at UM-Flint. Schim’s Cultural Competence Assessment© (CCA) survey (2009 version) was used to gain an understanding of nursing students’ experiences, attitudes, knowledge, and behaviors related to cultural competencies at entry and exit of the sixteen month ASD nursing program. Thirty graduates of the accelerated second degree BSN program between 2009-2010 with matched pair data were included in the initial analysis. In assessing perceived self-competency, students were asked a single question “Overall, how competent do you feel working with people who are from cultures different than your own?” Responses were noted on a 1-5 scale with a higher number indicating a higher degree of self-reported competence. There was no significant difference in the entry (M=4.10, SD=1.029) and exit (M=4.43, SD=.568) scores. Overall, perceived competency was high and moved in a positive direction. Diversity experience was measured by reported exposure to various racial/ethnic groups and special populations with possible scores ranging from 0-15 with higher scores indicating increased exposure to diversity. Diversity experience scores increased significantly (p=.000) between program entry (M=6.87, SD=2.80) and exit (M=8.87, M=2.15). Pre/post changes in the Cultural Attitudes and Sensitivity scale (CAS) and Cultural Competence Behavioral scale (CCB) were not significant; however, the mean scores on both scales moved in a positive direction. Students who indicated no prior diversity training at program entry (n=7) increased CCB scores by a mean of 16.28 points from program entry to exit. Students who indicated a course or other cultural competency training prior to nursing program entry (n=23) increased CCB scores by a mean of 2.87 points from program entry to exit. Due to the small group sizes and variance, these results
were not significant. Results suggest that students in a 16 month accelerated second degree program may experience positive development in the area of cultural competencies through increased exposure to diverse groups and an integrated transcultural nursing curriculum. This study is a work in progress. Since the analysis of the original 30 matched pairs of entry/exit data, data from approximately 50 additional matched pairs are in the process of being coded and analyzed. The additional data and analysis will be available for presentation and discussion at the FRACAS presentation in fall 2013.

**Poster title:** Use of VirtualPT in Professional Entry Level Physical Therapy Programs  
**Presenters:** Laura LoVasco, Becky Rodda, Amy Yorke: (Physical Therapy)  
**ABSTRACT:** Background and Purpose: Students who are enrolled in a professional entry-level doctor of physical therapy (DPT) program experience a three year curriculum to include didactic and clinical internship learning. The DPT curriculum includes a course in the third year, fall semester entitled Complex Clinical Problems. This course is offered the semester prior to the DPT student experiencing full time clinical internships in which the student must perform in clinical practice similar to a new graduate physical therapist who has practice for six months. Since physical therapists use clinical judgment in all aspects of direct patient care everyday in clinical practice, the student DPT must develop clinical reasoning in order to safely practice as a physical therapist. This study uses technology in the form of a developed software package, VirtualPTClinician (VirtualPT). Faculty in the DPT program enhanced several patient cases to investigate if the higher complexity of the patient case improved clinical decision making in DPT students. Subjects: Third year students enrolled in the professional entry-level doctor of physical therapy (DPT) program.

Methods: VirtualPT is a software program which contains patient cases that allow students to work through a patient case from the initial interview to the planning of the patient interventions and discharge. The DPT faculty developed three complex cases to the Complex Clinic Problem course for the VirtualPT software program. Students used the VirtualPT program for eight patient cases throughout the semester and for the midterm and final examinations. Three outcomes were used for data collection – 1) after each patient case or examination the students were asked to take a survey on the complexity of the patient case; 2) the Clinical Performance Instrument (CPI) midterm and final for the clinical reasoning item was used for two different student cohorts; 3) site visit comments from the students related to clinical reasoning or VirtualPT.

Results: Student surveys on each of the VirtualPT cases that included the complex cases faculty developed revealed overall the cases developed by faculty challenged them the most. Comparison of CPI Item #7 – Clinical Reasoning t-tests showed no significant difference between students who had some complex patient cases to those who had all complex patient cases. Both cohorts demonstrated above average at midterm and expected performance at final for clinical reasoning on the CPI. Site visit comments offered too small of data to appropriately analyze.

Discussion and Conclusion: Using the VirtualPT software in a professional entry-level DPT course as a mechanism to increase clinical reasoning did not show statistical significance. However, there was a higher distribution of student assessment toward entry level and beyond as anchors on the CPI achieved by students who were exposed to more complex patient cases by 7.6%. The contributing factors that occurred during the use of Virtual PT in the faculty enhanced patient case cohort group were the course instructor developed a new process for the flow of the course and students were exposed to all 10 complex patient cases as compared to four complex patient cases.
Poster title: Increasing disadvantaged students' interest in and readiness for nursing as a career choice: Successes and challenges
Presenter: Linda Knecht, Margaret Andrews, Ka’Neesha Allen, Jeneen Hinkle, Annette Patterson, Delma Thomas-Jackson (Nursing)
ABSTRACT: The University of Michigan-Flint Initiatives for Nursing Diversity (UM-FIND) project aims to engage disadvantaged students (including ethnic minorities) indicating nursing as a career interest and provide academic, social, financial, and enrichment services to enhance their potential for success in the UM-Flint’s nursing program. According to the U.S. Bureau of Labor statistics (2012), the number one area for expected job growth between 2010 and 2020 is for Registered Nurses (RNs) at approximately 712,000 new jobs. With retirements/replacements, the total number of new jobs to meet the needs of society is expected to be 1.2 million (AACN, 2012). An ongoing and priority concern for educational programs of nursing, health care institutions, and policy makers is the under-representation of racial and ethnic minorities in the nursing profession. Although the representation of minority nurses among the nation’s total nurse population increased from 7 percent in 1980 to 15 percent in 2006, it remains significantly below the percent of minorities represented in the general population. In Michigan, there is a paucity of diversity in the RN workforce with 89% of active nurses reporting their ethnicity as White. In mid-Michigan, there is even less diversity with 93% of active identifying themselves as White (Michigan Center for Nursing, 2012). Of particular concern is the significant under-representation of African-American/Black registered nurses as compared the African-American/Black population in the city of Flint; 56.6%, and county, 20.9% (U.S. Census Bureau, 2013). Expanding the nursing workforce to mirror the population is an important strategy to decrease inequities and health disparities. With grant support from the U.S. Health and Human Services Health Resources and Services Administration, the Department of Nursing has developed and implemented multiple strategies at high schools and at UM-Flint with the goal of increasing the number of BSN students from underrepresented groups. UM-FIND working in conjunction with community and school partners, engage educationally and/or economically disadvantaged high school students in an array of academic, financial, and social enrichment support services. Services provided aim to enhance science, math, and reading skills, promote personal and professional development, and improve health. Activities include Future Nurses Clubs, field trip and classroom health promotion activities, nursing/health career fairs, and six week summer programs. UM-FIND pre-nursing and nursing students participate in intensive support services to promote individual strengths and decrease barriers for attaining academic, personal and career goals. Financial assistance through stipends or scholarships is provided to eligible full time participants. Cultural competency and leadership development are integrated throughout the grant activities. Programming also addresses various components of Healthy People 2020 initiative through helping to educate students about health promotion and the importance of developing healthy lifestyles. This is a work in progress. The successes, challenges, and lessons learned in working with students toward goals of increasing diversity in the nursing workforce and decreasing health disparities will be presented and provide the foundation for ongoing efforts. Funded by the U.S. Health and Human Services Health Resources and Services Administration Nursing Workforce Diversity Program. Grant # D19HP22225
Poster title: Making Connections -- Using Student Library Assistants at the Reference Desk
Presenter: Laura Friesen (Library)
ABSTRACT: Purpose: To test the value of using student library assistants at the Reference Desk, which potentially would free up librarian time to devote to other projects, and potentially would, in the end, result in better service offered to our students.

Design/methodology/approach: It has been observed that students who need questions answered in the library prefer to ask at the Circulation Desk, where the front line customer service staff is primarily student workers. The Reference Desk is staffed only by professional librarians, and the sign above the Reference Desk says "Reference and Information." This project will test the hypothesis that staffing the Reference Desk with student library assistants as the front line staff would take the "fear factor" away from approaching the Reference Desk, and would encourage more students to go ahead and ask their reference questions, when possibly they wouldn't have asked if it were one of the professional staff they had to approach. This would potentially increase the number of students who get their reference questions answered, and increase the number of students who are comfortable talking to professional librarians. In this way, more connections would be made between librarians and students, more students would learn about using library resources, and thus UM-Flint would graduate better-educated students. The plan at this point is do the study at the beginning of Fall semester, 2013, and compare the reference statistics with those of Fall semester, 2012.

Research limitations: We acknowledge that there is always fluctuation in statistics on reference services. There may be a need to continue the study over a longer period of time, or repeat it several semesters in a row to get conclusive results.

Poster title: Lapeer County Community Mental Health Project: A qualitative study to assess sustainability of "In Shape" program outcomes
Presenter: Marsha Lesley (Nursing)
ABSTRACT: A promising new health promotion program for individuals with serious mental illness called “In SHAPE” has been implemented at Lapeer County Community Mental Health. The program includes individualized physical fitness training with one-on-one sessions between the participant and a “health mentor/trainer,” and use of community recreation resources for physical fitness activities. Enrollment began in January 2011, and 20 participants have completed the year-long program. This pilot study explores “In SHAPE” participants’ physical fitness experiences as they transition out of the program. The objective of the research is to gain insight into what factors contribute to or detract from persistence with behavioral changes that are expected to occur during the year in the “In SHAPE” program. The overall purpose is to improve our understanding of what can help to sustain physical fitness behaviors over time for individuals with serious mental illness. The researcher is interviewing “In SHAPE” participants nine months into the program, and, again, nine months later to explore their thoughts about the “In SHAPE” program, their past and present experiences with physical activity, and expectations for physical activity in the future. This research will add to knowledge gained from quantitative evaluations of the “In SHAPE” program which will make use of data being collected at baseline and three month intervals throughout the participant’s year in the program.
Afternoon Oral Sessions (1:00 pm – 1:50 pm)

Session B1: Teaching and Learning: Best Practices of Learners and Teachers (2319 Riverfront)
Moderator: Mary Jo Finney (Education)

Paper title: Using Six Sigma to Improve Quality in Higher Education
Presenter: Quamrul H. Mazumder and/or Ulan Dakeev (Computer Science Engineering, & Physics)
ABSTRACT: The research is focused on developing a higher education quality improvement models that consists of a systematic assessment of the mechanical engineering program using Six Sigma methodology. This approach to assessment will provide UM-Flint engineering program with valuable information regarding many important curriculum decisions. Assessment of the Accreditation Board of Engineering and Technology (ABET) outcomes in mechanical engineering courses will be used as a case example to evaluate the six sigma model.

Paper title: A Dialogic Approach to Implementing General Education Assessment at the Department Level
Presenter: Sarah Rosaen (Communications and Visual Arts)
ABSTRACT: This paper discusses a research study that evaluated ways in which departments can increase the understanding of, the commitment to, and the confidence in performing general education assessment. These strategies are based on conversations devoted to assessment that occur across full and part-time faculty responsible for assessment. These conversations are especially useful when faculty feel free to express varying expectations and interpretations of general education assessment. This process seemingly allows faculty to discern how a diverse set of individuals can all evaluate the same student learning in meaningful ways. Additional information: This study was a faculty project in our program. My co-authors are Rebecca Hayes, Marcus Paroske, and Danielle De La Mare. The paper will be published in the next issue of the Journal of Assessment and Institutional Effectiveness.
Paper title: Making the Urban Alternatives House Idea a Reality
Presenter: Richard Hill-Rowley (Earth and Resource Science)
ABSTRACT: The University of Michigan-Flint has partnered with the Genesee County Land Bank to establish the Urban Alternatives House (UAH) at 924 Eddy Street in Flint’s Central Park Neighborhood. The renovated house maximizes energy efficiency and employs sustainable ways to provide energy and manage water use on site. It is now a LEED certified home for two individuals, a classroom space and a learning tool for the University and the Land Bank. Understanding the value of the UAH as learning tool will come when the house monitoring system is installed and operational, and when we are able to compare its performance with other buildings through participation in the WegoWise program. Data from both these initiatives will be available in October.
Getting to this outcome illustrates the difficulties and rewards of building a partnership with a local institution, promoting an idea within the University that involved a non-campus building and sustaining the momentum to accomplish the objective of actually building the project over an extended period. The presentation will illustrate the renovation of the UAH, a brief review and comment on the process of making it happen and advocacy for its potential as an instructional space and field laboratory for students and faculty at UM-Flint.

Paper title: Flint and Racial Residential Segregation
Presenter: Charles Thomas (Sociology)
ABSTRACT: I plan to discuss some interesting, creative and useful approaches to measuring some variables in ongoing research on racial residential segregation in Flint. For this purpose, I will share information from a conference presentation I and two colleagues (Roy Barnes and the late Wil Marston) authored a few years ago. The abstract for that presentation follows. Using 1990 and 2000 census data, our paper begins by examining patterns of racial residential segregation in the Flint area. After mapping changes in residential segregation, we introduce four innovative measures of social dissimilarity which measure tract-level differences between blacks and whites in terms of their household type, age structure, income, and education. The analyses are motivated by our belief that decreasing residential segregation is a necessary, but not sufficient, condition for the development of important kinds of meaningful social relations among all people, regardless of race. In addition to living with each other, individuals of different races must also have substantive similarities in terms of their household type, age, income and education. Therefore, we explore whether decreases in residential segregation are associated with decreases in social dissimilarities or whether increases in residential segregation are associated with increases in social dissimilarities. Our finding of a link between racial residential segregation and social dissimilarities should matter because this finding deepens understanding of the consequences of a major manifestation of social inequality in our society (racial residential segregation).
Afternoon Oral Sessions (1:00 pm – 1:50 pm)

Session B3: People and Relationships: Glimpses from Abroad (2317 Riverfront)
Moderator: Joe Sucic (Biology)

Paper title: “Their Children’s Blood is Red, too”: Kurdish Narratives of Political Death and Grief in Turkey
Presenter: Hisyar Ozsoy (Anthropology)
ABSTRACT: The Turkish state has suppressed several Kurdish rebellions over the last century, except for the still ongoing one that was initiated in 1984. The death toll has been grave. Thirty thousand Kurds have been killed in the last two decades alone. One contentious issue amidst such violence is the treatment of dead bodies of Kurdish rebels. Turkish state authorities often refuse to deliver them for proper burial, prohibit funerals or punish mourners as parts of a sovereign policy to annihilate the politico-symbolic power of the dead rebels – a process that Judith Butler defines as “the dehumanization of death.” In response, the Kurds resurrect their dehumanized dead through discourses of self-sacrifice and national martyrdom, reclaiming them into respected and sacred human lives. This rehumanization via nationalization often channels the pain and suffering stemming from loss into a parochial and highly militant struggle against state oppression. Yet, not all Kurdish forms/narratives of grief work in the same way. In fact, some of them invoke a cultural and political ethics that foregrounds the shared loss and vulnerability of the families of Turkish soldiers who are killed by Kurdish fighters. This paper explores such Kurdish narratives with the following questions: What do the Kurds make of loss and vulnerability besides promoting a militant struggle against state oppression? What do such narratives mean and do culturally and politically? How do class, gender, Islam, human rights and peace discourses shape the content and form of such narratives? And how do these narratives promote cross-national and/or post-national solidarities based on shared loss and vulnerability and toward new political futures?

Paper title: Insights on the relationships between interpersonal justice and outcomes in Chinese organizations
Presenter: Jie Li (School of Management)
ABSTRACT: Research in organizational justice has pointed out that fair interpersonal treatment by the supervisors often lead to more extra-role performance and higher supervisory commitment from employees. However, some important nuances have yet to be explicated. Using supervisor-subordinate dyad data from China, this study explores the boundary conditions that meaningfully affect how subordinates’ Organizational Citizenship Behaviors and Supervisory Commitment are influenced by the fairness of interpersonal treatment they received from their supervisors. The results show that the subordinates’ identification with the supervisor, the nature of the company’s ownership (state-owned enterprise vs. private business), and the subordinates’ cultural value of traditionality moderate some of the focal relationships. This study extends the literature by bringing social identity perspective, organizational contextual factor, and subordinates’ cultural value into the justice-outcome relationships in Chinese setting. The findings suggest that the nuances in these relationships can be very important for practitioners and future research. Thus, our understanding of these relationships is significantly enriched.
Afternoon Oral Sessions (1:00 pm – 1:50 pm)

Session B4: People and Systems Here and Abroad: Models to Encourage Optimal Relationships and Productivity (2307 Riverfront)
Moderator: Roy Barnes (Sociology)

Paper title: Selection criteria for international assignments
Presenter: Yener Kandogen (School of Management)

**ABSTRACT:** This study will examine how decision makers in multinational companies determine the right person to send to various international assignments. The main goal is to determine the relative significance of various characteristics of potential candidates for assignments that differ in duration, destination, tasks to be performed and the function. Candidates will differ in personal characteristics (age, gender, ethnicity), family situation (marital status, kids), international experience (personal, professional, cross-cultural training, foreign language proficiency, country of origin of self, spouse and parents), professional experience (at company, overall, level, significant achievements) and psychological characteristics (extraversion, agreeableness, conscientiousness, neuroticism, openness). It is expected that selection criteria will be different depending on the various dimensions of the assignments. The study will also examine how the decision makers own characteristics affect the way they assess the suitability of candidates that have similar characteristics (age, gender, ethnicity, marital status, kids, and country of origin of self, spouse and parents).

Paper title: "Teaching and Research Opportunities in Germany"
Presenter: Robert L. Houbeck, Jr. (Library)

**ABSTRACT:** From May-July 2011, the UM-Flint Library Director, Robert Houbeck, taught a course in American history and culture at Bergische Universitaet Wuppertal (BUW, or the University of Wuppertal, Germany). The course was offered through the BUW American Studies Department, and was titled "Foundations of American Civilization". Houbeck will focus on the experience of teaching in a German university, interactions with faculty, students, and administrators, as well as the affinities and differences between American and German academic culture. His main focus, however, will be on the larger consequence of his German visit: the emerging UM-Flint/BUW student and faculty exchange partnership that is developing between the two institutions. In June 2012, UM-Flint and BUW signed a general memorandum of understanding (MOU) that forms the basis for specific, college and program specific MOUs. In April 2013, Provost Voland and BUW Rector Lambert Koch will sign MOUs for Honors and SOM. With the signing of the general MOU, UM-Flint faculty, if they choose, now have, in BUW, a base German institution with which to develop study-abroad courses or teaching/research faculty exchanges. Given the strong similarities in service regions and institutional aspirations and challenges, combined with the enriching cultural and historical differences, an exchange partnership between UM-Flint and BUW promises fruitful learning opportunities for both academic communities. Wuppertal, both town and university, is similar to Flint and UM-Flint in many respects. Located just east of Dusseldorf and Cologne, and on the southern edge of the Rhine-Ruhr industrial region, Wuppertal is a blue-collar town of about 350,000. The home of Friedrich Engels, Wuppertal is one of the historical homes of the German labor movement. Flint, similarly, which gave birth to the UAW, is one of the homes of the American labor movement. The Wuppertal region, like Flint-Genesee region, is seeking to make the transition from reliance on heavy industry to specialized manufacturing and services. BUW, established in 1972, is, like UM-Flint - established in 1956 - a relatively new university. BUW has 17,000 students, as compared to UM-Flint’s 8,500. Also like UM-Flint, BUW is a key institution in the economic and social development of the Wuppertal region. Many BUW students are first-generation college enrollees; and,
like a high percent of their UM-Flint counterparts, many have never traveled much beyond their immediate North Rhine-Westphalia region. Finally, like UM-Flint, BUW is seeking to broaden international study and exchange opportunities, both for its students and faculty. As a result of the April 2013 MOUs, the first UM-Flint student exchanges are planned for Summer 2013. Seven UM-Flint Honors Program students will serve for 6-8 weeks as lab assistants with German faculty on research teams in molecular biology and biochemistry. Another five UM-Flint students, from SOM International Business, will spend 6-8 weeks as administrative interns with a German company (e.g., Bayer, Bosch, Dupont, 3M, Johnson Controls, Delphi, Vossloh Kiepe). In Fall 2013, a dozen BUW students will attend UM-Flint, including several who will assist in the English Language Program. Come consider collaborative research and exchange opportunities with one of Germany's major public universities.

**Paper title:** Optimal Control of a Production-Inventory Manufacturing System  
**Presenter:** Shu-Yi Tu (Mathematics)  
**ABSTRACT:** This purpose of this study is to investigate a failure-prone manufacturing system producing a single commodity at a constant demand rate. The optimal policy of production plan for such a machine system is fulfilled by solving a certain type of Hamilton-Jacobi-Bellman (HJB) equation. It is assumed that the system possesses a two-level operation capacity and the surplus holding cost function is a monomial-type of function. The analytical approach utilized in this proposed scheme originates from Akella and Kumar who solved HJB equation using derived boundary conditions of the value function. To better understand the effect of different operating parameters, such as failure rate, repair rate, maximal capacity level as well as the demand rate, on the optimal inventory level and the value function, numerical computations using the proposed analytical formula are performed. Three types of cost functions, linear, quadratic and cubic, are carried out to approximate cases of arbitrary surplus holding cost with the empirical formula. The effect of parameter variation on the optimal inventory level and total cost are found to be intuitively consistent. This proposed scheme provides an idea to construct the optimal production plan for arbitrary surplus holding costs of monomial type.
Afternoon Oral Sessions (2:00 pm – 2:50 pm)

Session C1: Teaching and Learning: Best Practices of Learners and Teachers (2307 Riverfront)
Stephen Turner (Computer Science)

**Paper title:** Student Attitudes and Retention of Basic Neuroscience Knowledge in Physical Therapy Education

**Presenters:** Steve Myers (Biology) and Donna Fry (Physical Therapy)

**ABSTRACT:** Background and Purpose: This study investigated (1) whether restructuring of the neuroscience curriculum to reduce basic neuroscience credit hours to allow additional credit hours in applied neuroscience would improve students’ knowledge of basic neuroscience and neurology course sequence outcomes, and (2) whether integration of basic neuroscience into a regional cadaver anatomy course would improve student attitudes toward neuroscience topics and improve retention of basic neuroscience knowledge.

Participants: A survey instrument and a neuroscience knowledge-retention test (KRT) were developed and administered to 5 sequential cohorts of physical therapy students.

Methods: The first 2 cohorts (nonintegrated-course group) took a 6-credit-hour regional anatomy course in their first semester and a 3-credit-hour basic neuroscience course in their second semester. The second 3 cohorts (the integrated-course group) took a 6-credit-hour combined regional anatomy and basic neuroscience course in their first semester, followed by a 2-credit-hour applied neuroscience course in their second semester.

Outcomes: Overall GPA performance in subsequent neurology sequence courses improved with the revised neuroscience curriculum. Student attitudes to neuroscience improved markedly in the second cohort of students prior to course integration. No further improvement in attitudes occurred after course integration. These findings suggest that the first cohort by chance had more students with negative attitudes toward neuroscience. Mean KRT scores were not statistically different after the shift in student attitudes or after course integration (P > 0.87, P > 0.35). When data from all cohorts were combined, analysis of student attitudes and demographics revealed that students who reported enjoyment in learning basic neuroscience topics had on average statistically higher KRT scores (52% versus 46%, P < 0.007).

Discussion and Conclusion: Student performance in courses in the neurology course sequence improved and retention of basic neuroscience knowledge remained constant following a shift of 2 credits from basic neuroscience to applied neuroscience courses within the Doctor of Physical Therapy curriculum. Integration of the anatomy and basic neuroscience courses did not impact student attitudes toward basic neuroscience. Those students who enjoyed learning basic neuroscience performed better on the KRT than those students who reported less enjoyment in learning neuroscience content.

**Paper title:** Teaching of Stress and Strain Transformations through Laboratory Experiments

**Presenter:** Olanrewaju Aluko (Computer Science Engineering, & Physics)

**ABSTRACT:** This paper describes a hands-on laboratory solid mechanics project which was supervised as an independent study. The experimental study and analysis was focused on strain and stress
transformation on cantilever beam subjected to bending within elastic range. A combination of five different metals and two types strain rosette arrangements were used in the experimentation. The project involves the design and construction of test facility and experimental analysis of tested piece. The samples of measured data and analysis are reported in this paper. The strains in rectangular and principal co-ordinates which were computed from measured strains enable the stress in both co-ordinates to be determined. This analysis enables the students to determine experimentally that the sum of normal strain and stresses are invariant. The teaching strategy employed to integrate fundamental theories with hands-on experiences is described. The effectiveness of the laboratory project in enhancing student learning of stress-strain transformation and project management skill was demonstrated by monitoring student performance improvements over the duration of the project. The success of this project leads to an experiment for teaching students stress-strain transformation in mechanics of materials laboratory.
**Afternoon Oral Sessions (2:00 pm – 2:50 pm)**

**Session C2: Environment: Substances Amongst Us (2315 Riverfront)**
**Moderator: Shu-Yi Tu (Mathematics)**

**Paper title:** How much do we know about mosquito repellent?
**Presenter:** Jie Song (Chemistry and Biochemistry)

**ABSTRACT:** Mosquito repellents, for example, DEET, have been an important tool to protect human being for decades. Low-toxicity products could smooth the corresponding concerns regarding to human health and food safety. A new group of insect repellents is synthesized from α- and β-pinene in natural terpenoid compounds. Preliminary biological tests show the promising results. In this study, the first goal is to build the statistic modeling using Codessa software in order to reveal the quantitative relationship between the chemical structures and the biological activities (QSAR). The second goal is the repelling mechanism. It is a very broad topic and requires interdisciplinary collaborations. Though a lot of experimental and theoretical efforts have been made, our understanding on repelling mechanism is still ambiguous: some repellents like DEET are attractant when a human host is not present and when the repellents are not applied, mosquitoes could find the human host easily from the skin emanations or breath. It implies that there must be something happening between human host (strictly, characteristic compounds from skin emanations and breath) and repellents. Unfortunately there are a variety of compounds in skin emanation and breath. In this study, the lactic acid, which has the highest concentration in skin emanation, is used to study the interaction with repellents using theoretical chemistry method and QSAR study. The results show that not only the structure of repellents but also the repellent-lactic acid complexes may play an important role. It suggests that further study on interactions between repellents and characteristic compounds from human host may be required in order to understand the repelling mechanism.

**Paper title:** Heavy Metals in an Urbanized Watershed
**Presenter:** Marty Kaufman (Earth and Resource Science)

**ABSTRACT:** Urbanized watersheds present special challenges in water resources. Concentrated and sustained industrial land use within many of the urban areas in the upper-Midwest has also produced a large amount of vacant contaminated properties called brownfields. At many of these sites—of which there may be over 500,000 in the United States—the concentrations of heavy metals are likely to occur at higher levels that their natural levels in the soil and groundwater. Many of these metals such as arsenic, cadmium, chromium, lead and mercury are highly toxic and once in the shallow groundwater can be easily transported to local streams and larger water bodies. This research investigated the occurrence of dissolved heavy metal concentrations in shallow groundwater at 126 sites within an urban watershed in southeastern Michigan. A total of 1,140 samples were collected from the first saturated zone (just below the water table), and the mean concentrations of 11 heavy metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc) were obtained and compared to their corresponding mean concentrations within surface soil. The results suggest that the study region has been significantly impacted as a result of former and current land use processes. Levels of Chromium 20-30 times the drinking water standard known as the Maximum Contaminant Level (MCL) have been detected in the groundwater beneath industrial sites. In addition, Cadmium and Lead have also been found at levels exceeding their MCL where surface soils are clay-rich, and in sandy soils at over 10 times their MCLs. The high levels of Chromium in groundwater strongly suggest the chromium is in a hexavalent form which is highly toxic, and this likelihood is supported by current studies. Given the
hydraulic (direct) connection between the watershed’s surface waters and the Great Lakes, these findings raise significant ecological and public health concerns.

**Paper title:** Effect of liquid and gas velocities on magnitude and location of maximum erosive wear in U-bend

**Presenter:** Quamrul H. Mazumder (Computer Science, Engineering, & Physics) and/or Ulan Dakeev

**ABSTRACT:** Solid particle erosion is a micromechanical process that is influenced by flow geometry, material of the impacting surface, impact angle, particle size and shape, particle velocity, flow condition and fluid properties. Among the various factors, particle size and velocity have been considered to be the most important parameters that cause erosion. Particle size and velocity are influenced by surrounding flow velocities and carrying fluid properties. Higher erosion rates have been observed in gas-solid flow in geometries where the flow direction changes rapidly, such as elbows, tees, valves, etc, due to local turbulence and unsteady flow behaviors. This paper presents the results of a Computational fluid dynamics (CFD) simulation of dilute gas-solid flow through a U-Bend and the dynamics behavior of entrained solid particles in the flow. The effect of liquid and gas velocities on location of erosion were investigated for 50, 100, 150, 200, 250 and 300 micron sand particles. Three different fluid velocities of 15, 30.48 and 45 m/sec were used in the CFD analysis. The magnitude and location of erosion presented in the paper can be used to determine the areas susceptible to maximum erosive wear in elbows and U-bends, along with corresponding rate of metal loss in these areas.
Afternoon Oral Sessions (2:00 pm – 2:50 pm)

Session C3: People and Relationships: Childhood Matters (2301 Riverfront)
Elaine Makas (Education)

Paper title: The Effects of Foster Care Legislation on the Length of Time Spent in Care
Presenter: Amelia M. Biehl (Economics)
ABSTRACT: Foster care is designed to be a temporary placement for children removed from the care of their biological families, many of whom have suffered abuse or neglect. Children live in a foster care placement, which can be a home, group home, shelter, residential facility, or institution, while a state agency determines if they can be reunified with their biological parents. If it is determined that children cannot be reunified with their birth parents, then they wait in foster care longer, until an adoptive family can be identified. Adoptive families are often difficult to find, resulting in some children languishing in foster care for most of their lives. We identify the effects of some recent changes in legislation on the length of time spent in foster care. Using data from the Adoption and Foster Care analysis and Reporting System and a difference-in-difference approach, we estimate a proportional hazard model to identify the effects of this legislation on the length of time children spend in foster care.

Paper title: Preliminary analysis of a bilingual child's language development
Presenter: Kazuko Hiramatsu (English)
ABSTRACT: Recent research has shown that language development in bilingual children is similar to that of monolingual children. However, some studies have shown that there can be cross-linguistic interference from one language to the other. In this project, a Japanese-English bilingual child was video-taped from age 2 years 6 months to 3 years 4 months speaking in both English and Japanese. His utterances in English will be analyzed to determine if his sentence structure exhibits any cross-linguistic influences from Japanese. This talk presents an initial comparison of the English produced by this bilingual child with the developmental patterns typically found in monolingual English-speaking children.
Afternoon Oral Sessions (2:00 pm – 2:50 pm)

Session C4: People and Relationships: Women and Gender (2319 Riverfront)
Sarah Rosaen (Communications)

**Paper title:** The Strange Case of Anne Boleyn and Shakespeare’s Henry VIII  
**Presenter:** Maureen Thum, (English)  
**ABSTRACT:** Critical studies of Shakespeare’s women have dedicated relatively little attention to King Henry VIII (c. 1613). Those who focus on the two major women characters, Queen Katherine, Henry’s first wife, and his second wife, Anne Boleyn (Bullen in Shakespeare’s text), have tended to read Queen Katherine as the sinless ideal and Anne Boleyn as the sinful reprobate. After all, as the audience knew at the time, and as numerous critics and directors have assumed since that time, while Queen Katherine was stainless, Anne was notorious. Convicted of adultery with four men, incest with her brother, and treason by plotting against the life of the king, Anne was duly executed for her proven crimes. Indeed, her assumed guilt for these crimes has remained firmly imprinted in histories of the Tudors as well as in critical studies of Henry VIII. I wish to make the case for a very different view of Anne Boleyn and of her role in Shakespeare’s Henry VIII. Recent historical and biographical studies by Eric Ives and others have exonerated Anne of the charges of adultery, incest, and treason. I would argue that Shakespeare, surprisingly, shared recent historical assessments of Anne. Looking carefully at the comments about Anne and her few lines in the play, it is probable that he based his portrait of Anne Boleyn on the account in John Foxe’s Actes and Monuments (1563) where Anne is praised as a good woman, and a Christian and Reformist martyr. For Shakespeare, Anne Boleyn is not the evil counterpart and antagonist to Queen Katharine. Instead, like Katherine herself, she is celebrated as queen, only to be sacrificed by Henry and his favorites in the Privy Council on the altar of affairs of state. Queen Katherine is not the antagonist, but the model for the trajectory of Anne’s fate. Like Katherine she is innocent, of wrong doing. Unlike Katherine in the play, she is not yet slandered and can voice no protest about her innocence or her fate. Instead, of focusing on Anne Boleyn’s fate, Shakespeare directs the spotlight on Katherine whose powerful voice stands for the silent protest of Henry’s subsequent wives. Shakespeare does not give them a voice, and except for Anne they do not appear in the play. But they are no less present by implication, and Queen Katherine speaks for them all. Anne plays a key role as a cipher in the metatheatrical presentation of numerous pageants, relegated to a position off stage, and commented on critically by lesser characters in the play, demonstrating that the pageantry of the entire play, including the pageantry of the coronation of Anne and the christening of Elizabeth are little more than empty spectacles, alienated from their ostensible purpose, to validate and give public meaning to the claims of royalty. Shakespeare uses the strange case of Anne Boleyn question the spectacle of the court as a show of empty pageantry which does not express value, but instead covers the real machinations, treachery, and intrigue that lie behind the showy and magnificent surfaces.

**Paper title:** Sex doesn’t always sell. The effects of objectifying images on perceivers’ judgments concerning speaker effectiveness and persuasiveness.  
**Presenter:** Terrence Horgan, Melissa Grey, Noelle Looney, and Tiffany Long (Psychology)  
**ABSTRACT:** Women are exposed to images of other women being objectified in advertisements on a daily basis. What effect might these images have on how they subsequently regard a spokeswoman who is trying to promote a cause? Objectification theory suggests that idealized (e.g., very thin) or sexualized images of women might contribute to the devaluation of these women by viewers (Fredrickson & Roberts, 1997). Indeed, research has shown that when people focus on the physical appearance of female celebrities, they perceive them to be less competent and they may even be less likely to vote for
them (Heflick & Goldenburg, 2009; Heflick & Goldenburg, 2010). However, it is not known if seeing objectifying images of women will lead female perceivers to subsequently rate the effectiveness and persuasiveness of a female speaker lower, even if that speaker is not being objectified herself. The current study addressed this limitation by having female undergraduates from an upper Midwestern university (N = 153) view images of women either being objectified (body-objectification condition) or shown using their body in non-sexualized ways (i.e., body-competent condition in which they are shown displaying physical competencies, such as athleticism) as part of an advertising-related task. In an ostensibly unrelated task, participants then listened to a female speaker sharing stories about her experiences with bicycles and discussing the merits of a bicycling route system in the US. While participants listened to the speech, they saw images of the speaker on a computer monitor. In one condition, the speaker was shown with a thin body build, whereas in the other condition, she had, through digital modification, and average body build. Afterwards, participants completed a questionnaire that assessed their impression of the speaker as well as their inclination to support what the speaker was advocating on a 7-point Likert scale, with 4 representing neutrality.

The body type of the female speaker had no impact on participants’ perceptions of her effectiveness and persuasiveness. The speaker was as effective and persuasive with an average body type as she was with a thin body type, even though the topic she was discussing --- implementing a US bicycling route system --- had an element of fitness to it. What impacted participants’ perceptions of the speaker were the images that they were exposed to prior to hearing her speech. Relative to participants in the body-competent condition (M = 5.44), those in the body-objectifying condition rated the speaker as less effective (M = 5.07), F (1, 145) = 4.71, p = .03. Moreover, participants in the body-competent condition tended to express agreement with statements about supporting a US bicycling route system (viz., getting more information about it, voting for it, and discussing this transportation option with their friends and family)(M = 4.3), whereas those in the body-objectifying condition tended to disagree with those statements(M = 3.91), F (1, 145) = 3.86, p = .05. Thus, the persuasive power of the female speaker was reduced among women who had earlier seen idealized, sexualized images of other women.

The implications of these findings are clear: the devaluing qualities of idealized, sexualized images of women can spill over and negatively impact female perceivers’ judgments about non-objectified women.