

# DCHS SCHOLARSHIP SYMPOSIUM

FRIDAY FEBRUARY 3, 2017  
2:00- 4:00 P.M.  
ALLIED HEALTH  
PROFESSIONS BUILDING



**SAINT LOUIS UNIVERSITY**

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**DOISY COLLEGE OF HEALTH SCIENCES**



# ABOUT THE SCHOLARSHIP SYMPOSIUM

The purpose of the Doisy College of Health Sciences Spring Scholarship Symposium is to showcase ongoing faculty research as well as emerging scholarship and research projects that further the College's mission of serving humanity through education, research, and engagement. By providing a space to highlight projects that connect to the College's mission, the Symposium aims not only to raise awareness about College members' activities but also to promote collaboration, disseminate knowledge, and provide an opportunity for networking and continued growth of research and scholarship.

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# 1. Student Perceptions of the Faculty Response during the Civil Unrest in Ferguson, Missouri

**Author(s):** W. Linsenmeyer, MS, RD, LD, Department of Nutrition and Dietetics; T. Lucas, MPA, MA, Office of Military and Veteran Enrollment Services

**Abstract:** Crisis events are historic in the lives of higher education institutions, and may elevate the role of faculty to leaders, counselors, and supporters of their students. The civil unrest in Ferguson, Missouri during the 2014-2015 school year impacted Saint Louis University students as the Occupy SLU movement witnessed demonstrations surrounding the university's central clock tower. In this mixed methods study, 19 Saint Louis University students were interviewed regarding their perceptions of how faculty addressed the events in the classroom. Six themes emerged: Active faculty participation, passive faculty participation, course relevance, altered academic experience, business as usual, and deference for faculty position. These findings serve to capture student perceptions during a historic period of time and may support faculty facing crisis events in the future. This study concludes with considerations for faculty regarding their role in the classroom, the relevance of their course during a crisis, and the potential impact on student life.

## 2. Social Communication Performance in Children Adopted Internationally

**Author(s):** D. Hwa-Froelich, Ph.D., CCC-SLP, Department of Communication Sciences and Disorders

**Abstract:** Children adopted internationally (CAI) demonstrate poorer social communication performance on standardized tests but have not been compared to nonadopted peers. Social communication includes the ability to identify/infer mental states of self and others, interpret facial expressions, and appropriate pragmatic language. Typically children learn these skills through social interactions with loving caregivers within a family context. Differences in amount and quality of preadoptive social interactions such as exposure to institutional care, may influence their social communication development. In this quasi-experimental design study, 33 four-year-old CAI were compared to 35 U.S. nonadopted peers on false belief tasks, emotion identification of facial expressions, and a pragmatic language test. The nonadopted group outperformed the adopted group across all measures. Significant relationships were found among foster care, expressive language performance, pragmatic language and emotion identification of facial expressions. Speech-language pathologists need to assess social communication of children adopted internationally. A manuscript describing this study is in process.

### 3. Development Of An Instrument To Measure Collaboration Skills

**Author(s):** E. Toomey, MS, Department of Psychology; L. Hinyard, PhD, MSW, Center for Health Outcomes Research; A. Breitbach, PhD, ATC, Department of Physical Therapy and Athletic Training; K. Eliot, PhD, RD, FAND, Department of Nutrition and Dietetics

**Abstract:** The impact of interprofessional education (IPE) on student learning outcomes has been widely studied; however, the majority of these studies use measures of student attitudes and beliefs towards IPE, indicating a lack of instruments devoted to measuring the development of collaboration and teamwork skills needed for interprofessional practice. This study aims to develop and assess the psychometric properties of a measure of collaboration skills for use in research contexts by modifying and adapting a previously published collaboration skills rubric using likert-type scaling for each item (Collaborative Self-Assessment Tool; CSAT). Three pilot studies sampling from students enrolled in IPE courses at SLU were conducted. In the first two pilot studies, factor analysis with Promax rotations was used to reduce the number of items and to determine the number of factors in the measure. In the third pilot study, confirmatory factor analyses were conducted to confirm the factor structure suggested in the previous pilots. A series of three pilot studies confirm that collaboration is a multidimensional construct representing information sharing, team support, and learning.



## 4. Additive Effects of Calorie Restriction and Exercise on Insulin Sensitivity as a Diabetes Risk Marker: Research Findings and Future Studies

**Author(s):** E. Weiss, PhD, Department of Nutrition and Dietetics; S. Albert, MD, Division of Endocrinology; K. Kress, MS, RD, LD, Department of Nutrition and Dietetics; U. Ezekiel, PhD, MB(ASCP), Department of Biomedical Laboratory Science; S. Klein, MD, Division of Geriatrics and Nutritional Science, Washington University; D. Villareal, MD, Division of Geriatrics and Nutritional Science, Washington University

**Abstract:** Weight loss induced by dietary calorie restriction (CR) and regular exercise (EX) reduces diabetes incidence by half and is recommended for diabetes prevention. Although the use of both CR and EX for weight loss and diabetes prevention is prudent, their independent and combined effects on diabetes risk are poorly understood. Our recent research demonstrated that CR and EX each provide diabetes-protective effects beyond those attributable to weight loss. In a randomized intervention trial, we demonstrated that men and women who underwent 7% weight loss by using a combination of CR and EX had a striking, two-fold greater improvement in insulin sensitivity (a major diabetes risk factor) than individuals who lost the same amount of weight by using CR or EX alone. These additive effects suggest that CR and EX provide benefits through distinct mechanisms, some of which are not attributable to weight loss. We intend to study the mechanisms for these effects (NIH R01 resubmission on March 6, 2016). Our proposed mechanisms involve skeletal muscle insulin signaling, glucose transporter levels, and intracellular lipid metabolites, and systemic and adipose tissue inflammation.

## 5. Implementation of Knowledge Translation by Physical Therapists with Mild Traumatic Brain Injury

**Author(s):** A. Gaston, SPT, Department of Physical Therapy and Athletic Training; A. Flach PT,DPT, NCS, Department of Physical Therapy and Athletic Training

**Abstract:** Knowledge translation sets out to address the gap between evidence development and use by engaging key stakeholders to an effort to improve and optimize health outcomes. The purpose of this developing project is to use a knowledge to action design to build infrastructure for evidence use in an urban hospital setting and to involve physical therapists in screening patients with a minor traumatic brain injury(mTBI) who are at risk for post-concussion syndrome in emergency and inpatient acute care departments. Data collected from relevant stakeholders including physical therapists will identify current state of knowledge and resources needed to develop training and electronic medical record system structure to best support implementation of standardized assessment. As part of the knowledge to action design, ongoing assessment will aim to determine effectiveness and sustainability of evidence implementation and impact on health outcomes for individuals with mTBI. This will occur through data collection from stakeholders to detect trends of identification of patients with mTBI and referral rates for post-concussion management.

What aspect of project needs additional development:

Project needs funding and potential collaborators. Alicia Flach will be attending a Knowledge Translation Summit (sponsored by the American Physical Therapy Association, Academy of Neurologic Physical Therapy) in February 2017 for additional project refinement and development.

## 6. Micro RNAs as potential mediators of the insulin sensitizing effects of calorie restriction and exercise: a review of existing evidence

**Author(s):** E. Weiss, PhD, Department of Nutrition and Dietetics; U. Ezekiel, PhD, MB(ASCP), Department of Biomedical Laboratory Science; I. Betancourt, Department of Nutrition and Dietetics

**Abstract:** Calorie restriction (CR) and endurance exercise (EX) have additive beneficial effects on insulin sensitivity, suggesting mechanistically independent effects. MicroRNAs (miRNAs) are post-transcriptional regulators of gene expression. They suppress translation by binding to messenger RNAs (mRNAs) to block translation and/or to target mRNA for degradation. The purpose of this project was to review the literature for miRNAs that may be involved in the insulin sensitizing effects of CR and EX. The review targeted miRNAs in skeletal muscle that have been implicated as regulators of (a) insulin receptor levels, (b) intracellular insulin signaling, (c) GLUT4 transporter system, (e) AMP-activated protein kinase pathway, and (f) PPAR $\gamma$  and lipid metabolism pathways. Additionally, because adipose tissue inflammation affects insulin sensitivity, miRNAs involved in adipose tissue inflammatory pathways were evaluated. Results from this review will be presented during the DCHS symposium and will also be used to justify measuring specific miRNAs in a future investigation of the distinct and common mechanisms by which CR and EX improve insulin sensitivity and reduce diabetes risk.

## 7. Implementation of an Advocacy Program to Increase Physician Assistant Student Clinical Placement in Rural Missouri

**Author(s):** G. DelRosario, MHS, PA-C, Department of Physician Assistant Education; J. Storm, PA-C, Department of Physician Assistant Education; C. Danter, MPAS, PA-C, Department of Physician Assistant Education; Patrick Kelly, PhD, Doisy College of Health Sciences; C. Werner, PhD, PA-C, RD, Department of Physician Assistant Education; K. Lewis, JD, Department of Physician Assistant Education; K. Ervie, MPAS, PA-C, School of Medicine, University of Missouri - Kansas City

**Abstract:** A lack of optimal clinical placement sites among health profession students poses an increasing threat to the education of graduates. The number of PA and other health professions programs continues to grow at an unprecedented rate; while there were a mere 54 PA programs in 1991, the number of programs in 2020 is anticipated to be 273. In a 2013 survey, 95% of PA of program directors were concerned about a lack of adequate training sites. Thus, the need for collaborative and innovative solutions to this problem continues to rise. One response to this problem is to expand the geographic placement area. However, Missouri ranks 48th in the number of PAs per capita; thus, placing students in an expanded region would likely include the utilization of regions that have not previously been exposed to the PA model. Our project has worked to educate hospital system leaders across the state with the objectives of increasing student placement and ultimately, the number of practicing physician assistants in Missouri. Preliminary data will be shared showing very promising results, particularly in the area of family medicine clerkships.

## 8. Task-Specific Movement Training: Effect on Lower Extremity Kinematics, Pain, and Function in Females with Patellofemoral Pain

**Author(s):** G. Salsich, PhD, PT, Department of Physical Therapy and Athletic Training; B. Yemm, PT, DPT, OCS, Department of Physical Therapy and Athletic Training; A. Reitenbach, PT, Department of Physical Therapy and Athletic Training; C. Lang, PT, PhD, Department of Neurology, Washington University; L. Van Dillen, PT, PhD, FAPTA, Department of Orthopaedic Surgery, Washington University

**Abstract:** This recently-completed, double-baseline, feasibility intervention study investigated whether a novel, task-specific movement training intervention would improve hip and knee movement patterns (kinematics), pain, and function in females with chronic patellofemoral pain. The 6-week physical therapy intervention consisted of supervised, high-repetition practice of daily weight-bearing and recreational activities with a focus on correcting pain-producing movement patterns. Outcomes were assessed before (two baselines), after, and 4 weeks after the intervention. Hip and knee kinematics, pain, and self-reported function improved following the intervention when compared to the control (baseline) phase, and improvements were retained at the 4 week time-point. Our findings suggest that a physical therapy intervention comprised solely of task-specific movement training during patient-selected activities may yield positive outcomes in people with patellofemoral pain. A larger clinical trial to substantiate these findings is warranted.

## 9. Physician Assistant Alcohol Education and SBIRT Training Program in Missouri

**Author(s):** G. DelRosario, MHS, PA-C, Department of Physician Assistant Education; K. Lewis, JD, Department of Physician Assistant Education; L. Tenkku Lepper, PhD, MPH, School of Social Work, University of Missouri; K. Ervie, MPAS, PA-C, School of Medicine, University of Missouri - Kansas City; T. Cleveland, EdD, PA-C, Department of Physician Assistant Studies, Missouri State University; D. Sprague, MA, Missouri Institute of Mental Health; C. Link, Department of Social Work, University of Missouri; A. Elfagir, Department of Public Health, University of Missouri

**Abstract:** The Physician Assistant (PA) Alcohol Education and SBIRT Training Program in Missouri is a three year grant funded by SAMHSA led by the University of Missouri-Columbia with faculty from University of Missouri-Kansas City, Missouri State University, and Saint Louis University. Our goal is to design and implement an alcohol education and SBIRT training curriculum utilizing an avatar-based virtual-world environment for Missouri PA programs, the statewide PA society, and the Society for Physician Assistants in Pediatrics. Regional trainings will be held and training will be implemented in local clinical settings. We expect to train over a thousand students and practitioners. Through doing so, we hope to foster relationships between PAs and alcohol and drug treatment providers to facilitate referrals and ensure a continuum of care. Other goals include providing evidence for broad system changes in health policy and funding and facilitating policy change to sustain SBIRT within PA education, CME training for PAs and integration into community practice. We are currently approximately half way through the grant cycle, and will share preliminary data at the symposium.

## 10. Endurance Exercise for Individuals with Parkinson's Disease: A Meta-Analysis

**Author(s):** R. Hasler, Department of Physical Therapy and Athletic Training; A. Flach, PT, DPT, NCS, Department of Physical Therapy and Athletic Training; L. Jaegers, PhD, OTR/L, Department of Occupational Science and Occupational Therapy; E. Bixler, ATC/L, Department of Environmental and Occupational Health; Patrick Kelly, PhD, Doisy College of Health Sciences; E. Weiss, PhD, Department of Nutrition and Dietetics; O. Ahmad, OTD, PhD, Department of Occupational Science and Occupational Therapy

**Abstract:** Current evidence has shown that exercise can reduce symptoms of Parkinson's disease (PD). However, previous studies have had mixed results, possibly because of variability in terms of the nature of the exercise interventions. The purpose of this study was to systematically review current evidence from aerobic exercise intervention studies for effects on the United Parkinson's Disease Rating Scale (UPDRS) in individuals with Parkinson's Disease. A literature search in six electronic databases was performed and two independent reviewers screened the title and abstract of 1,106 records captured by the initial search. Inclusion criteria for full-text review were (A) peer-reviewed English-language publications, (B) randomized controlled trials that compared an aerobic exercise intervention group to a non-exercising control group, and (C) an outcome measure which included the UPDRS section III subscore. From the title/abstract screening, the same independent reviewers assessed 245 full-text articles for eligibility. Data analysis is currently underway with results to be presented at symposium.

## 11. Mobilizing an Occupational Perspective to Connect Public Policies and Everyday Activities

**Author(s):** R. Aldrich, PhD, OTR/L, Department of Occupational Science and Occupational Therapy; D. Laliberte Rudman, PhD, OT Reg (ON), School of Occupational Therapy, The University of Western Ontario

**Abstract:** Long-term unemployment continues to be a pervasive problem in North America, affecting over 2 million people in the United States despite reports of broader economic recovery. The purpose of this community-engaged, two-site ethnographic study is to understand possibilities and boundaries in policy, service provision, and everyday life responses to long-term unemployment in the United States and Canada. This 4-phase, 3-year study has generated interview, observational, time diary, and mapping data with a variety of participants, including support service program managers, front-line support service providers, and people who identify as being long-term unemployed. In the project's current 4th phase, the research team is focusing on analyzing data and determining how best to communicate the findings to non-academic groups who may be able to change current approaches to and experiences of long-term unemployment. This presentation will describe knowledge mobilization efforts that focus on connecting the project's findings to various stakeholders in the arena of long-term unemployment, including policy makers, employers, support service providers, and workforce development partnerships.



## 12. PFA-100 Instrument to Assess the Effect of Energy Drinks on Platelet Function

**Author(s):** K. Newsham, PhD, ATC, Department of Physical Therapy and Athletic Training; T. Randolph, PhD, MT(ASCP), Department of Biomedical Laboratory Science

**Abstract:** Energy drinks have been implicated in cardiovascular health issues. Though the mechanism by which they trigger these adverse events is not clear, two recent studies demonstrated an increase in platelet aggregation in response to energy drink consumption, a condition known as hyper-coagulation. Hyper-coagulation is associated with venous thromboembolic events (VTE), which includes deep vein thrombosis and pulmonary embolism; both, potentially fatal adverse events. Hypercoagulation can be caused by genetic contributors (Thrombophilia); acquired factors (i.e. trauma, surgery, immobility) or behavioral factors (i.e. smoking, inactivity, oral contraceptive use). Identifying physiologic effects of energy drinks may help us to understand how cardiovascular events are triggered and who is at greater risk for adverse events. The purpose of our study was to assess the Platelet Function Analyzer (PFA-100) instrument as a more efficient and cost-effective way of measuring platelet dysfunction in response to energy drink consumption. The findings will inform future research on compounding effects of behavioral factors known to contribute to hyper-coagulation in otherwise healthy individuals.

### 13. Computer-Mediated Interventions for Motor-Speech and Language Decline in Neurodegenerative Disease

**Author(s):** W. Postman, PhD, CCC-SLP, Department of Communication Sciences and Disorders; B. Herrmann, Department of Communication Sciences and Disorders

**Abstract:** Deterioration of speech and language is a prominent but underestimated symptom of dementia. Recent research has shown significant benefits to people living with dementia-related communication deficits when speech-language therapy is provided in early stages of disease progression. Moreover, tablet-based speech-language interventions have been demonstrated as effective, enjoyable, customizable and multifunctional adjuvants. In this exploratory study, iPad-based speech-language therapy will be incorporated into an intervention protocol for people with communicative disorders related to early stages of dementia. Populations of interest are elderly members of St. Louis communities that have traditionally been medically underserved. Participants will engage in therapy sessions at the SLU Neuro-Rehabilitation of Language Lab, and remotely guided iPad-based therapy between lab visits.

This hybrid approach is hypothesized to result in superior maintenance and decelerated decline of patients' communicative capacities, relative to clinic visits alone. Outcomes will be measured as gains in communicative effectiveness, life participation and caregiver burden.

## 14. Penetration of Staphylococcus Aureus Biofilm by the Cinnamon-Derived Compound, Cinnamaldehyde

**Author(s):** A. Peach, Department of Biomedical Laboratory Science; R. Huertz, PhD, MT(ASCP), Department of Biomedical Laboratory Science

**Abstract:** Bacterial biofilms are problematic in treatment of patient infections due to antimicrobial resistance and implication in chronic and medical device-associated infections. Many plant-derived compounds are attributed with anti-microbial properties but biofilm effects are not reported. Staphylococcus aureus is known for its multi-drug resistance (MRSA) and plant-based therapy as an intervention is timely. Our laboratory determined that cinnamaldehyde (from cinnamon) inhibited MRSA biofilm production in a concentration-dependent manner. An assay is herein described that identifies whether a compound penetrates a S. aureus biofilm to produce a zone of inhibition on a lawn of bacterial growth. Briefly, cinnamaldehyde-wetted disks were placed on biofilm-producing S. aureus (ATCC 29213) grown on Whatman 1 filter paper (11  $\mu\text{m}$  pores) and positioned onto agar plates streaked with S. aureus (ATCC 25923) so as to produce a lawn of growth after incubation. Results indicated that cinnamaldehyde penetrated the biofilm to reach a plate of bacteria and inhibit growth as a zone of inhibition.

## 15. Determining Kinetics of Reversible and Irreversible Biofilm Formation by *Staphylococcus aureus* and *Pseudomonas Aeruginosa*

**Author(s):** L. Tran, Department of Biomedical Laboratory Science; R. Huertz, PhD, MT(ASCP), Department of Biomedical Laboratory Science

**Abstract:** Bacterial biofilms are implicated in chronic and medical device-associated infections. This study focused on kinetics of biofilm formation using bacterial models *P. aeruginosa* (Gram negative) and *S. aureus* (Gram positive: included methicillin resistant [MRSA} and susceptible [MSSA] strains). The research design was use of an established crystal violet-based quantitative biofilm microplate assay performed at different time points (2-24 hours) and using number and intensity of wash steps as indicators of strength of attachment/adherence. Fewer and less rigorous wash steps allowed for reversible attachment (and associated minimal biofilm formation) to be maintained whereas greater number and more rigorous washes caused removal of reversibly attached bacteria yet allowed for firmly adherent bacteria and biofilm to be quantitated. Results indicated that overall magnitude of biofilm was much lower when greater number and more rigorous washes were employed than when fewer, less rigorous washes were done. These results indicate that number and rigor of wash steps was critical in quantitation of irreversibly attached biofilm.

## 16. Baby Boomers' Approach to Personal Health Management

**Author(s):** D. Seale, PhD, Department of Health Sciences and Informatics; J. Ohs, PhD, Department of Communication; D. Tao, PhD, Medical Center Library; H. Lach, PhD, RN, CNL, FGSA, FAAN, School of Nursing; K. Jupka, MS, National Center for Parents as Teachers; R. Wray, PhD, Department of Behavioral Science and Health Education; C. LeRouge, PhD, School of Public Health, University of Washington

**Abstract:** The purpose of the study is to understand how personal health management goals, needs, and practices inter-relate and are shaped by contextual factors. The Patient 3.0 Profile, which is composed of three competency domains, was used as a theoretical framework to explore how baby boomers work with healthcare providers, and use health information and consumer health technology in personal health management. In 2014, six focus groups were held with 57 boomers. Iterative thematic analysis found that boomers work collaboratively with healthcare providers, but expect to make final healthcare decisions. They critically assess online health information when learning. They embrace consumer health technologies endorsed by healthcare providers and employer health plans. Findings add credence to the Patient 3.0 Profile and illustrate how competencies are enacted in practice. Refinements to the Profile based upon findings highlight the overlap among domains (patient-provider relationship, health information and consumer health technology), preeminence of the patient-provider relationship, and importance of personal agency as well as supportive process & resources in personal health management.

## 17. Reduced Expression of MicroRNA-200 Family Members Lead to Epithelial-Mesenchymal Transition of a Chemoresistant Colorectal Cancer Cell Line

**Author(s):** K. San, Department of Biomedical Laboratory Science; A. Martino, School of Medicine; U. Ezekiel, PhD, MB(ASCP), Department of Biomedical Laboratory Science

**Abstract:** Colorectal cancer is the fourth leading cause of cancer. Treatment of primary tumors with radiotherapy/chemotherapy increases the rate of metastasis. The process of tumor metastasis consists of multiple steps, all of which are required to achieve tumor spreading. Morphological and molecular changes observed in metastatic cancer cells correlate with those of mesenchymal cell types. Transition of epithelial tumors into metastatic cancer cells after radiation and chemotherapy is well established in cell culture models and has also been observed in patients. The switch from cancer of epithelial origin to metastatic cancer of different cell types occurs by a specific program called epithelial-mesenchymal transition (EMT). Recently, it was demonstrated that EMT transition is induced in colorectal cancer cells by radiation and chemotherapy. Accumulating evidence suggests that chemoresistant cancer cells become metastatic by EMT. The goal of this proposal is to establish and characterize a drug-resistant cancer cell type that becomes mesenchymal and metastatic in nature. The derived metastatic cancer cells will be characterized functionally and by molecular markers.

## 18. Student Perceptions of Patient-Centered Decision Making on an Interprofessional Team

**Author(s):** K. Eliot, PhD, RD, FAND, Department of Nutrition and Dietetics; I. Ruebling, PT, MA, Department of Physical Therapy and Athletic Training; V. Hendricks-Ferguson, PhD, RN, School of Nursing; T. Howell, EdD, ATC, Department of Physical Therapy and Athletic Training; R. Banks, MSW, School of Social Work; K. Kienstra, MAT, RT(R)(T), Department of Medical Imaging and Radiation Therapeutics

**Abstract:** Background: IPE 4200 Applied Decision-Making in Interprofessional Practice is an interprofessional education program course designed to promote students' knowledge, attitudes, and skills in patient-centered decision-making. Interprofessional teams of 4-5 students work together to address issues and share perspectives regarding patient cases. Students write a final reflection on what they feel they learned from the course and their beliefs of content application in their future professional practice. The purpose of this project is to evaluate students' perspectives of patient-centered decision-making as a member of an interprofessional team.

**Methods:** Data were collected from 32 randomly selected student reflections written in Spring 2015 as a stratified sample from professions represented. Qualitative analysis of the responses was conducted by a team of course faculty.

**Results:** Data are currently being analyzed to identify themes related to: 1) students' view of patient-centered decision making in future practice; 2) students' view of interprofessional team work in their future practice; and 3) students' view of the most important knowledge or insights gained from the course.

## 19. Prepare and Share

**Author(s):** A. Moore, PhD, MPH, RD, LD, Department of Nutrition and Dietetics; Patrick Kelly, PhD, Doisy College of Health Sciences

**Abstract:** Prepare and Share was designed to teach adolescents the lifelong skill of preparing budget friendly meals. Adolescents were sent home with the ingredients to help in recreating the recipes in their own homes. Participants increased exposure to new tastes and cooking techniques.

Prepare and Share was administered in an urban middle school. The CATCH Questionnaire was administered pre and post curriculum to measure self-efficacy and behavioral intent.

Results: Over the course of four year, 515 surveys, 267 pre and 248 post, were analyzed using a chi-square goodness of fit. Significance were found for behavioral intent for lower fat milk ( $p=0.002$ ), healthier snack choice ( $p=.0008$ ), low fat yogurt ( $p=.0001$ ), and healthy fast food choice, ( $p=.0004$ ) along with improved self-efficacy in breakfast choice ( $p=0.016$ ). Self-efficacy was relatively unchanged for the other variables measured.

Conclusions: A school based culinary nutrition program is positively associated with a decrease in dietary fat choices among study participants. Future research should examine implementation into the school day as well as the impact on family meals.

\*Project is ongoing



## 20. Building Total Worker Health-Based Interventions to Support Corrections Workplace Health

**Author(s):** M. Matthieu, PhD, LCSW, School of Social Work; E. Barnidge, PhD, MPH, Department of Behavioral Science and Health Education; O. Ahmad, OTD, PhD, Department of Occupational Science and Occupational Therapy; E. Bixler, ATC/L, Department of Environmental and Occupational Health; G. Scheetz, School of Social Work; S. Nadimpalli, Department of Epidemiology; Patrick Kelly, PhD, Doisy College of Health Sciences; L. Jaegers, PhD, OTR/L, Department of Occupational Science and Occupational Therapy

**Abstract:** Purpose: Corrections officers (COs) are an underserved population of workers who experience high rates of depression, obesity and heart disease. The National Institute for Occupational Safety Health supports an integrated workplace and community strategy called Total Worker Health (TWH) for protecting worker safety and promoting well-being. The purpose of this study was to use a TWH approach to identify evidence-based solutions to address COs mental and physical health needs.

Project Description: In 2015, we formed community based participatory (CBPR) teams at two rural and one urban jail to identify needs assessment questions for self-reported surveys and focus groups. Of the 328 COs who completed surveys, 85% were urban, 53% were female, and 64% scored in the obese BMI category. Workplace health needs identified by focus group participants (N=40) and CBPR teams included policy, workplace culture and communication, safety and training for new hires, and community health resources.

We identified key workplace and community interventions to support COs mental and physical health needs and this work continues. A prospective health study of newly hired COs (N=140) is ongoing.



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